PowerExcel Functions Manual

PowerExcel

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POWEREXCEL

FUNCTIONS MANUAL

Topics

- The PowerExcel Functions

Descriptions, Syntax and Examples

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PowerExcel Functions Manual

NOTE: Although these functions are described reaching or otherwise working with an Olation database, **they work exactly the same way with a Nexus database**, which, from a technical standpoint, is a type of Olation database.

1. OLACalculation

[Note: not available in current version.]

2. OLAConnection

Function Description: This function will allow User 1 to send a spreadsheet to another user(s) so that User 2 (User3, et. al.) can, upon opening the spreadsheet, establish a connection (as defined with this function) to the specified Olation database.

Syntax: OLAConnection (Name, URL, Database, Windows Authentication)

Name: Enter a name for a PowerExcel connection for User2—simple text entry.

URL: Enter the fully path of the URL required to reach the Olation Server where the database exists.

Database: Enter the Database name that User2 will be enabled to reach.

Windows Authentication: Enter “1” or “True” if User2 will use Windows Authentication credentials to reach the Olation database; if “2” or “False” is entered, User 2 will be required to provide Username and Password information.

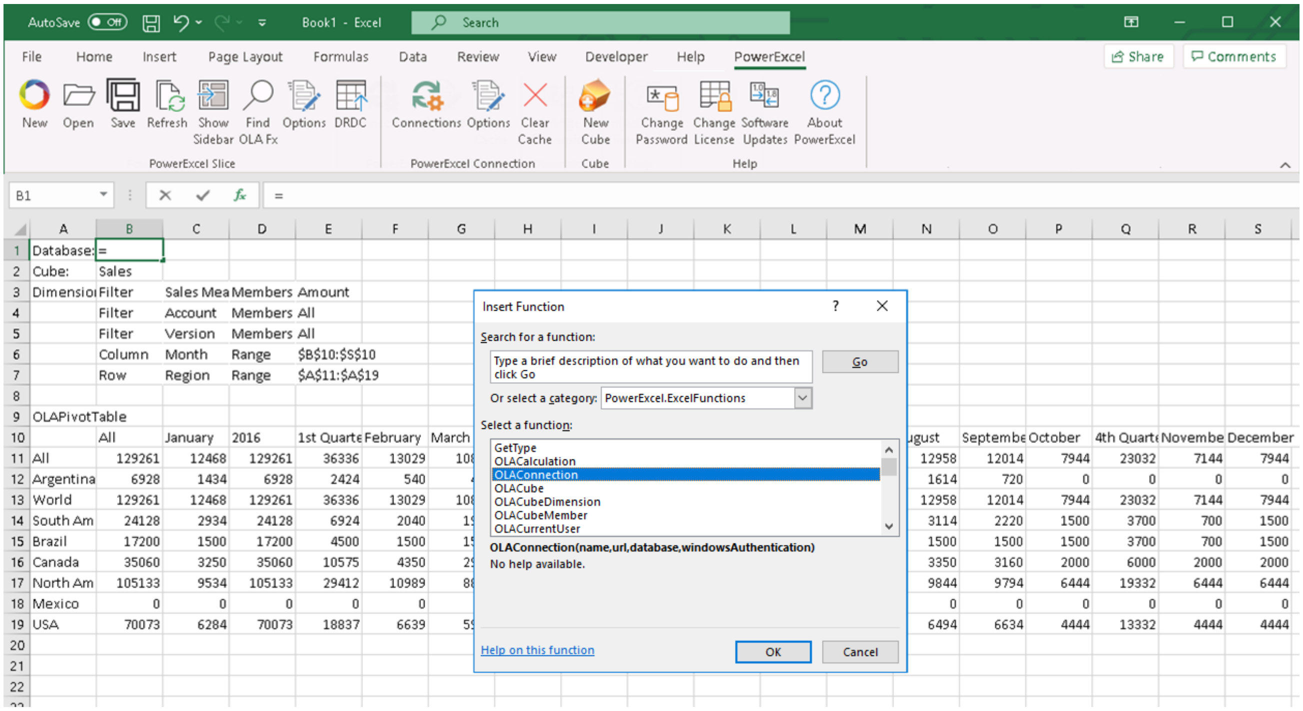
Remarks:

- The Olation Web Service must be running.
- The Database must be opened and running in the specified server as identified by the URL.
- The ‘’Windows Authentication” parameter is compulsory.

.

Example:

- User1 deletes the OLADatabase function in his or her PowerExcel Slice that establishes a valid connection to an Olation/PowerExcel database (in the following image, Cell B1).
- In the Excel formula bar, click on the Insert Function symbol (***f**x*). The Insert Function window will appear.
- In the **Or select a category drop-down**, select **PowerExcel.ExcelFunctions**.
- Select **OLAConnection** (as shown in the following image). Click **OK**.



	A	B	C	D	E	F
1	Database:	=				
2	Cube:	Sales				
3	Dimensioi	Filter	Sales Mea	Members	Amount	
4		Filter	Account	Members	All	
5		Filter	Version	Members	All	
6		Column	Month	Range	$B$10:$S$10	
7		Row	Region	Range	$A$11:$A$19	
8						
9	OLAPivotTable					
10		All	January	2016	1st Quarte	February
11	All	129261	12468	129261	36336	13029
12	Argentina	6928	1434	6928	2424	540
13	World	129261	12468	129261	36336	13029
14	South Am	24128	2934	24128	6924	2040
15	Brazil	17200	1500	17200	4500	1500
16	Canada	35060	3250	35060	10575	4350
17	North Am	105133	9534	105133	29412	10989
18	Mexico	0	0	0	0	0
19	USA	70073	6284	70073	18837	6639

	G	N	O	P	Q	R	S
10	March	ugust	Septembe	October	4th Quarte	Novembe	December
11		12958	12014	7944	23032	7144	7944
12		1614	720	0	0	0	0
13		12958	12014	7944	23032	7144	7944
14		3114	2220	1500	3700	700	1500
15		1500	1500	1500	3700	700	1500
16		3350	3160	2000	6000	2000	2000
17		9844	9794	6444	19332	6444	6444
18		0	0	0	0	0	0
19		6494	6634	4444	13332	4444	4444

Insert Function

Search for a function:

Type a brief description of what you want to do and then click Go

Or select a category: PowerExcel.ExcelFunctions

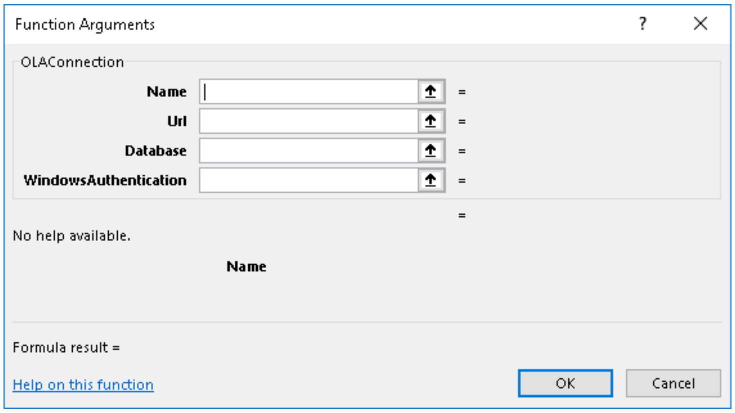
Select a function:

- GetType
- OLACalculation
- OLAConnection
- OLACube
- OLACubeDimension
- OLACubeMember
- OLACurrentUser

OLAConnection(name,url,database,windowsAuthentication)

No help available.

- Click **OK**. The Function Arguments window for **OLAConnection** appears, as shown in the following image.


Function Arguments

OLAConnection

Name		=
Url		=
Database		=
WindowsAuthentication		=

=

No help available.

Name

Formula result =

- For **Name**, you can enter any text that you deem appropriate; for **URL**, enter the full Url path to the Olation database; enter the Database that the next user(s) will be enabled to reach; lastly, enter “1” or “True” to allow the recipient user to reach the Olation database via Windows Authentication credentials.
- Upon receiving the spreadsheet with the information filled in above, User2 (User3…et. al.) will be able to open the spreadsheet and see the same PowerExcel Slice used by User1.
- With the connection established, User2 (et. al.) will be able to create new PowerExcel Slices going forward.

3. OLACube

Function Description: This function will establish connection to and return the name of the source or target Cube by taking the parameters: (a) PowerExcel/Database Connection name or the cell reference that indicates the PowerExcel/Database Connection name; and the (b) Cube name or the cell reference that indicates the Cube name you want to connect to OR the index number corresponding to the Cube you want to return.

Syntax: OLACube(Connection,Cube)

OR

OLACube(Connection,CubeIndex)

Connection: Enter the PowerExcel connection that contains the information about the Olation server URL and the source database name.

Cube: Enter the name of the source/target Cube; or enter the cell reference that contains the name of the Cube that you wish to establish connection to.

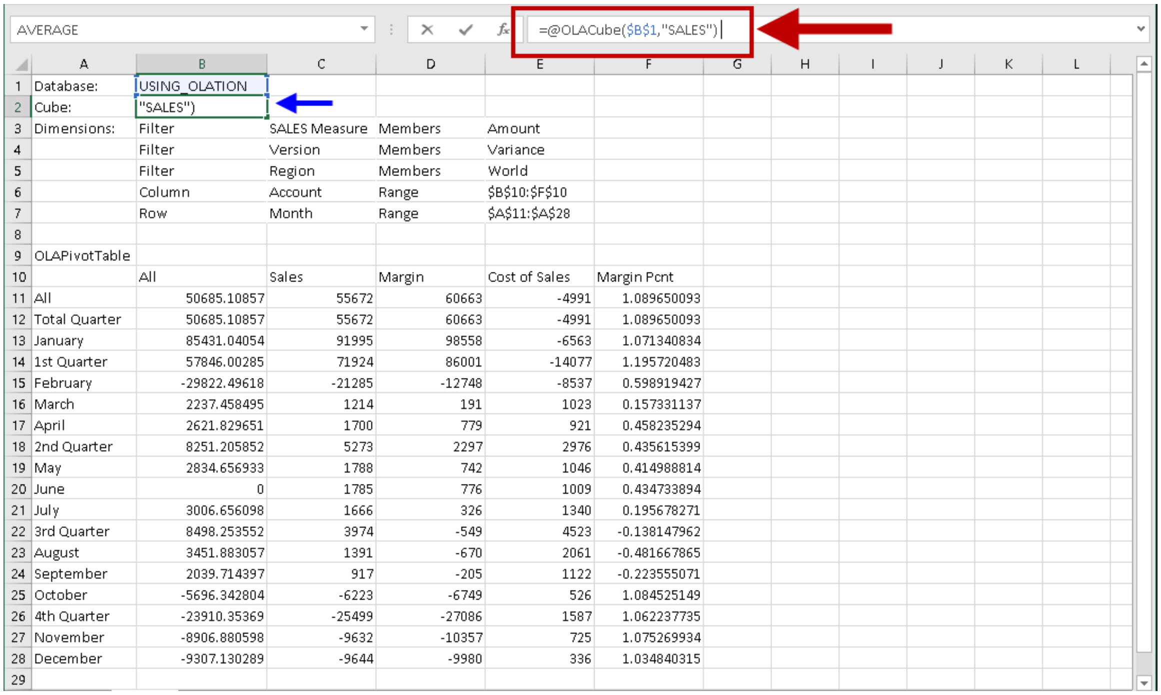
Cube Index: The index number corresponding to the Cube you want to return.

Remarks:

- The PowerExcel Connection must exist.
- The Olation Web Service must be running.
- The Database must be opened and running in the specified server.
- The ‘Connection’ and ‘Cube’ parameters are compulsory.
- Each Cube within the database is assigned an index number starting from 1, 2, 3… and so on. If there is no Cube assigned to that index number, then the function will return a #NAME? error.

It is worth noting that the **OLACube** function exists in all standard Slices. The example Slice below shows a PowerExcel Perspective Slice. When you click on the cell containing the **OLACube** formula, cell **B2**, the Excel formula bar shows the **OLACube** formula and its parameters.

- By clicking in the formula bar area (as can be seen in the screenshot, the mouse cursor is placed at the end of the formula), it will show the cell references corresponding to the **OLACube** function; in this example, the fact data is coming from the Cube called **“SALES”**, and it is using the PowerExcel connection/OLADatabase connection called “*USING_OLATION*”(**$B$1**).



AVERAGE

=@OLACube($B$1,"SALES")

	A	B	C	D	E	F
1	Database:	USING_OLATION				
2	Cube:	"SALES")				
3	Dimensions:	Filter	SALES Measure	Members	Amount	
4		Filter	Version	Members	Variance	
5		Filter	Region	Members	World	
6		Column	Account	Range	$B$10:$F$10	
7		Row	Month	Range	$A$11:$A$28	
8						
9	OLAPivotTable					
10		All	Sales	Margin	Cost of Sales	Margin Pcnt
11	All	50685.10857	55672	60663	-4991	1.089650093
12	Total Quarter	50685.10857	55672	60663	-4991	1.089650093
13	January	85431.04054	91995	98558	-6563	1.071340834
14	1st Quarter	57846.00285	71924	86001	-14077	1.195720483
15	February	-29822.49618	-21285	-12748	-8537	0.598919427
16	March	2237.458495	1214	191	1023	0.157331137
17	April	2621.829651	1700	779	921	0.458235294
18	2nd Quarter	8251.205852	5273	2297	2976	0.435615399
19	May	2834.656933	1788	742	1046	0.414988814
20	June	0	1785	776	1009	0.434733894
21	July	3006.656098	1666	326	1340	0.195678271
22	3rd Quarter	8498.253552	3974	-549	4523	-0.138147962
23	August	3451.883057	1391	-670	2061	-0.481667865
24	September	2039.714397	917	-205	1122	-0.223555071
25	October	-5696.342804	-6223	-6749	526	1.084525149
26	4th Quarter	-23910.35369	-25499	-27086	1587	1.062237735
27	November	-8906.880598	-9632	-10357	725	1.075269934
28	December	-9307.130289	-9644	-9980	336	1.034840315
29						

Cell References:

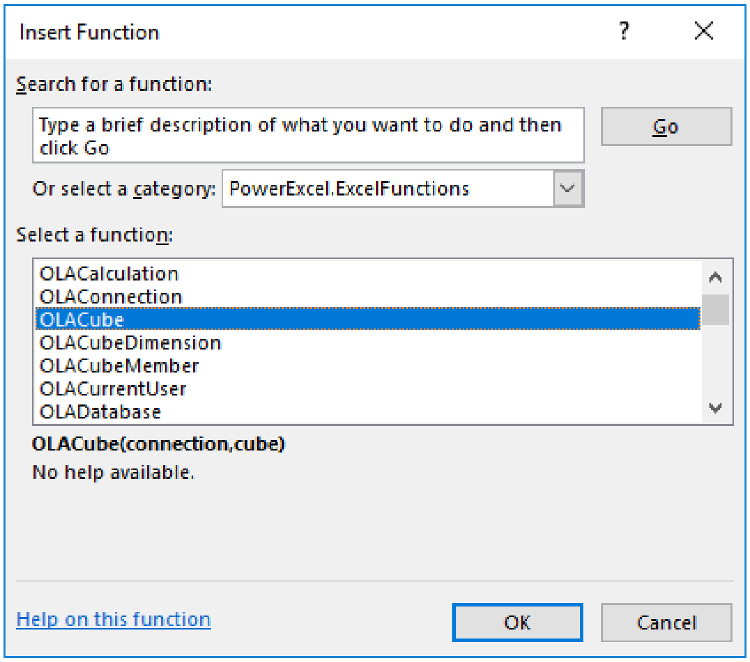
=OLACube($B$1,"SALES")

- $B$1– the Database name or the PowerExcel connection name/cell reference that contains the name of the Database or the PowerExcel connection, i.e., **USING_OLATION**
- "SALES"– the Cube in the Database

We will next provide examples that show the use of this function. The first example demonstrates use of the **OLACube** in an empty cell, i.e., outside the range of fact data returned by the cube.

Example 1: OLACube(Connection,Cube)

- Select a cell to the right of the field of data, e.g., Cell **H5**.
- In the Excel formula bar, click on the Insert Function symbol (***f**x*). The Insert Function window will appear.
- In the **Or select a category drop-down**, select **PowerExcel.ExcelFunctions**.
- Select **OLACube** (as shown in the following image). Click **OK**.



Insert Function

Search for a function:

Type a brief description of what you want to do and then click Go

Or select a category: PowerExcel.ExcelFunctions

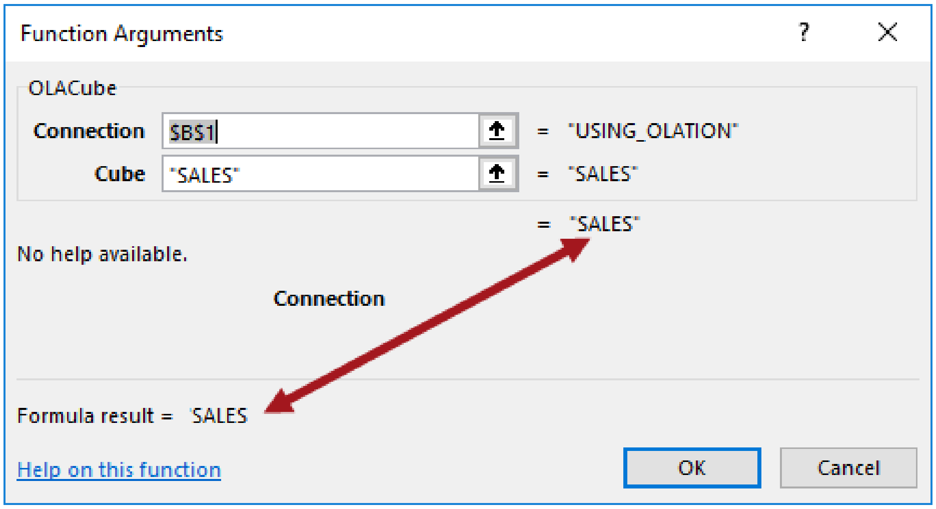
Select a function:

OLACalculation
OLAConnection
OLACube
OLACubeDimension
OLACubeMember
OLACurrentUser
OLADatabase

OLACube(connection,cube)

No help available.

- Click **OK**. The Function Arguments window for **OLACube** appears.
- For Connection, you can reference Cell **B1** from the sample Slice (or type B1); for Cube, reference Cell **B2** (or type SALES), as shown below.



Function Arguments

OLACube

Connection $B$1 = "USING_OLATION"

Cube "SALES" = "SALES"

= "SALES"

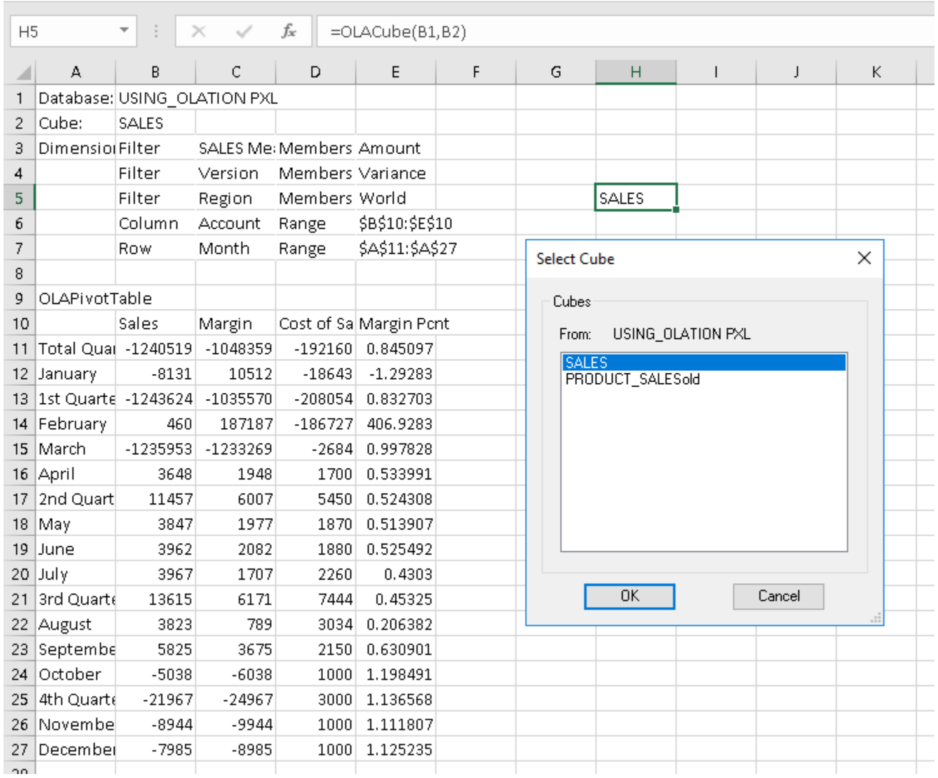
No help available.

Connection

Formula result = SALES

The return value of the formula function is, as expected (and quite obviously) **SALES**—as indicated above; also, upon clicking OK in this window, **SALES** will show in Cell **H5**.

That said, the use of this function can be demonstrated by, next, **double-clicking** on Cell **H5**. Note that a dialog pops up, **Select Cube**:



H5 =OLACube(B1,B2)

	A	B	C	D	E	F	G	H
1	Database:	USING_OLATION PXL						
2	Cube:	SALES						
3	Dimensioı	Filter	SALES Me:	Members	Amount			
4		Filter	Version	Members	Variance			
5		Filter	Region	Members	World			SALES
6		Column	Account	Range	$B$10:$E$10			
7		Row	Month	Range	$A$11:$A$27			
8								
9	OLAPivotTable							
10		Sales	Margin	Cost of Sa	Margin Pcnt			
11	Total Quaı	-1240519	-1048359	-192160	0.845097			
12	January	-8131	10512	-18643	-1.29283			
13	1st Quarte	-1243624	-1035570	-208054	0.832703			
14	February	460	187187	-186727	406.9283			
15	March	-1235953	-1233269	-2684	0.997828			
16	April	3648	1948	1700	0.533991			
17	2nd Quart	11457	6007	5450	0.524308			
18	May	3847	1977	1870	0.513907			
19	June	3962	2082	1880	0.525492			
20	July	3967	1707	2260	0.4303			
21	3rd Quarte	13615	6171	7444	0.45325			
22	August	3823	789	3034	0.206382			
23	Septembe	5825	3675	2150	0.630901			
24	October	-5038	-6038	1000	1.198491			
25	4th Quarte	-21967	-24967	3000	1.136568			
26	Novembe	-8944	-9944	1000	1.111807			
27	Decembeı	-7985	-8985	1000	1.125235			

Select Cube

Cubes

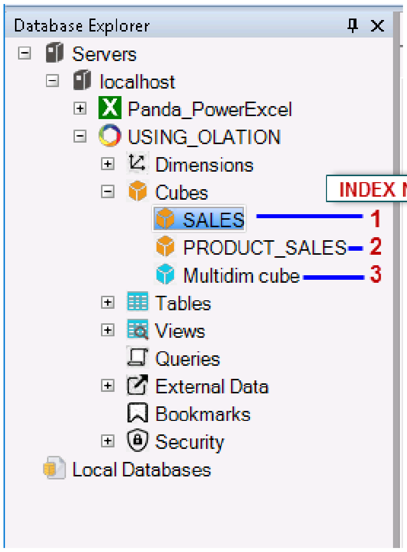
From: USING_OLATION PXL

SALES
PRODUCT_SALESold

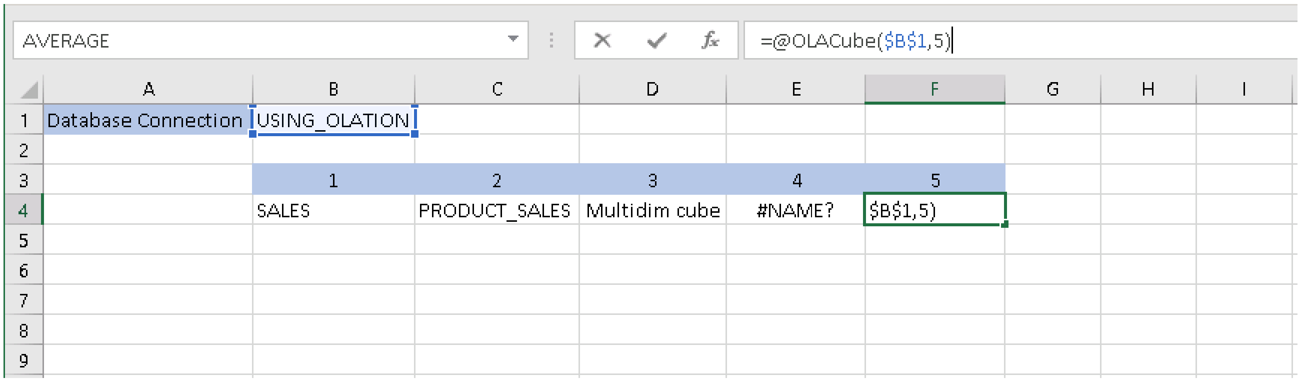
Note here that a Select Cube dialog appears—which can be useful for many reasons, including a visual indication of what cubes are available in the PowerExcel database.

Example 2: OLACube(Connection,CubeIndex)

For this example, use the **OLACube** function to identify all the Cubes that exist within a specific Database and in what order these Cubes are arranged. The index number assigned to each Cube is based on the order they are created into the Database (i.e., the first Cube created will be assigned the index number 1, the second Cube created will be assigned the index number 2, … and so on).



- First establish a connection to the target database: in Cell A1 type in **Database connection** (descriptive—i.e., non-formula-derived—cells are blue-highlighted to easily identify them), then go to cell B1 and use the OLADatabase function to establish a connection to the target database. In the example, we are using the Database connection: =@OLADatabase("USING_OLATION").
- In cells **B3 to F3**, type the numbers **1** to **5** (cells are highlighted in blue per above).
- Now, to use the **OLACube** function to determine the Cubes in the USING_OLATION database: in cell **B4**, type in **=@OLACube($B$1,1)**, with **$B$1** referencing the cell containing the Database connection and **1** corresponding to the index number. Press **Enter**. This will return the first Cube in the Database, i.e., *SALES*.
  Note: You can also use the Function button found beside the formula bar to define your **OLACube** formula.
- **Copy this formula** across cells **C4 to F4**, but change the index numbers with **2**, **3**, **4**… and so on. Once you hit Enter each time, you will see another Cube listed. If there are no more Cube assigned for an index number the function will return a #NAME? error. In this example (see next image), there are only 3 existing Cubes within the 'USING_OLATION' database, i.e., *SALES*, *PRODUCT_SALES* and *Multidim cube*, thus only indexes 1, 2 and 3 have corresponding cubes. Using index number 4 and 5 will return the #NAME? error.



=@OLACube($B$1,5)

	A	B	C	D	E	F	G	H	I
1	Database Connection	USING_OLATION							
2									
3		1	2	3	4	5			
4		SALES	PRODUCT_SALES	Multidim cube	#NAME?	$B$1,5)			
5									
6									
7									
8									
9									

4. OLACubeDimension

Function Description: This function returns the nth/indexed Dimension name of the specified Cube that exists within a specified PowerExcel Connection/Database Connection by taking the parameters: (a) PowerExcel/Database Connection name or the cell reference that indicates the PowerExcel/Database Connection name; and the (b) Cube name or cell reference that indicates the Cube name and (c) Dimension name or the cell reference that indicates the Dimension name you want to connect to /Index number corresponding to the Dimension you want to return.

Syntax: OLACubeDimension(Connection,Cube,Dimension)

OR

OLACubeDimension(Connection,Cube,DimensionIndex)

Connection: Enter the PowerExcel connection that contains the information about the Olation server URL and the source database name.

Cube: Enter the name of the source/target Cube; or enter the cell reference that contains the name of the source or target Cube you wish to establish connection to.

Dimension Name: Enter the Dimension name or the cell reference that contains the name of the Dimension that exists within the specified Database above.

Dimension Index: Enter the index number corresponding to the Dimension within the specified Cube that you want to return.

Remarks:

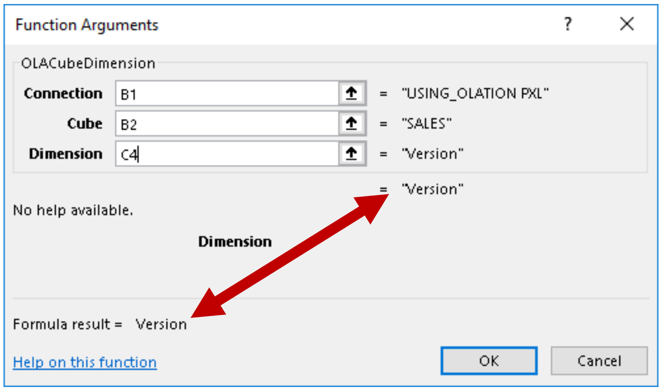
- The PowerExcel Connection must exist.
- The Olation Web Service must be running
- The Database must be opened and running in the specified server.
- The ‘Connection’ and ‘Cube’ parameters are compulsory.
- The last parameter can either be the ‘Dimension name’ or the ‘Dimension Index’ value
- Each Dimension within the Cube within the specified Database is assigned an index number starting from 1, 2, 3… and so on. If there is no Dimension assigned to that index number for the given Cube, then it will return a #NAME? error.
- The index number assigned to each Dimension is based on their order in the specified Cube.

Example 1: OLACubeDimension(Connection,Cube,Dimension)

This first example, like the one for OLACube, will show how to make the function return a selection window for any of the Dimensions in the Cube

- Using an existing Slice, select a cell to the right of the field of data, e.g., Cell **H5**.

- In the Excel formula bar, click on the Insert Function symbol (***fx***). The Insert Function window will appear.
- In the **Or select a category drop-down**, select **PowerExcel.ExcelFunctions**.
- Select **OLACubeDimension** Click **OK**.
- For Connection, you can reference Cell **B1** from the sample Slice (or type B1); for Cube, reference Cell **B2** (or type SALES), and then reference a Dimension name (or type it in) as shown below.



Function Arguments

OLACubeDimension

Connection	B1	= "USING_OLATION PXL"
Cube	B2	= "SALES"
Dimension	C4	= "Version"

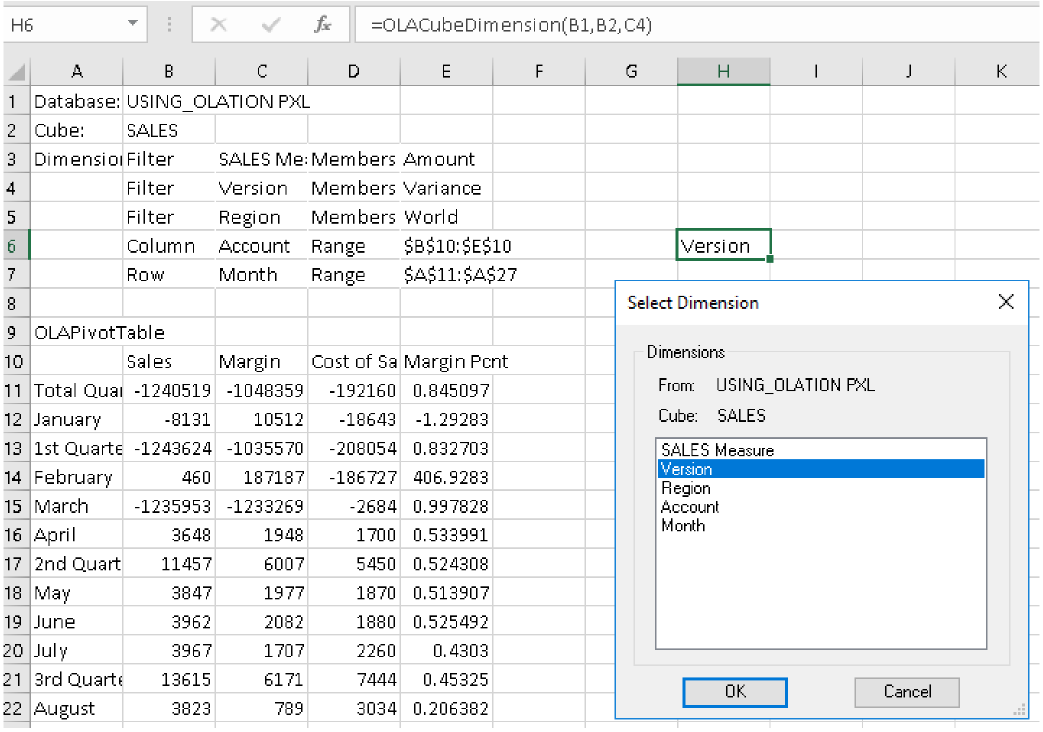
= "Version"

No help available.

Dimension

Formula result = Version

- Note that the Formula result is, as expected, “Version” (as indicated by the arrows, above)
- Click **OK**: the result (Version) will appear in the selected cell (e.g., H5).
- Next, **double-click** on that Cell. The Select Dimension window appears:



H6 =OLACubeDimension(B1,B2,C4)

	A	B	C	D	E	F	G	H	I	J	K
1	Database:	USING_OLATION PXL									
2	Cube:	SALES									
3	Dimensio	Filter	SALES Me	Members	Amount						
4		Filter	Version	Members	Variance						
5		Filter	Region	Members	World						
6		Column	Account	Range	$B$10:$E$10			Version			
7		Row	Month	Range	$A$11:$A$27						
8											
9	OLAPivotTable										
10		Sales	Margin	Cost of Sa	Margin Pcnt						
11	Total Qua	-1240519	-1048359	-192160	0.845097						
12	January	-8131	10512	-18643	-1.29283						
13	1st Quarte	-1243624	-1035570	-208054	0.832703						
14	February	460	187187	-186727	406.9283						
15	March	-1235953	-1233269	-2684	0.997828						
16	April	3648	1948	1700	0.533991						
17	2nd Quart	11457	6007	5450	0.524308						
18	May	3847	1977	1870	0.513907						
19	June	3962	2082	1880	0.525492						
20	July	3967	1707	2260	0.4303						
21	3rd Quarte	13615	6171	7444	0.45325						
22	August	3823	789	3034	0.206382						

Select Dimension

Dimensions

From: USING_OLATION PXL

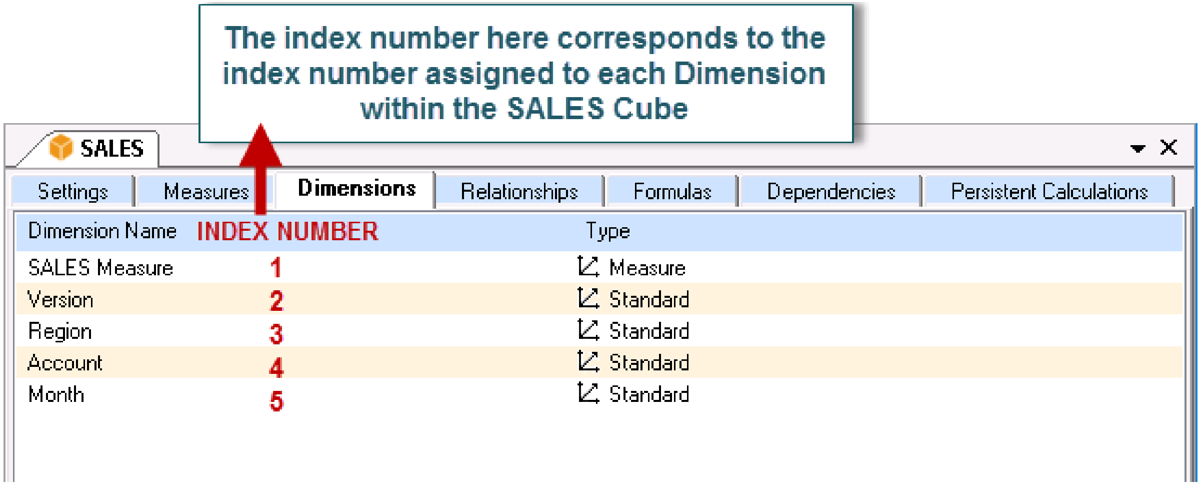
Cube: SALES

- SALES Measure
- Version
- Region
- Account
- Month

Example 2: OLACubeDimension(Connection,Cube,DimensionIndex)

For this example, use the **OLACubeDimension** function to identify all the Dimensions that exist per Cube in the *USING_OLATION* database based on their index number. (Note that DimensionIndex will be the last argument in the function.)

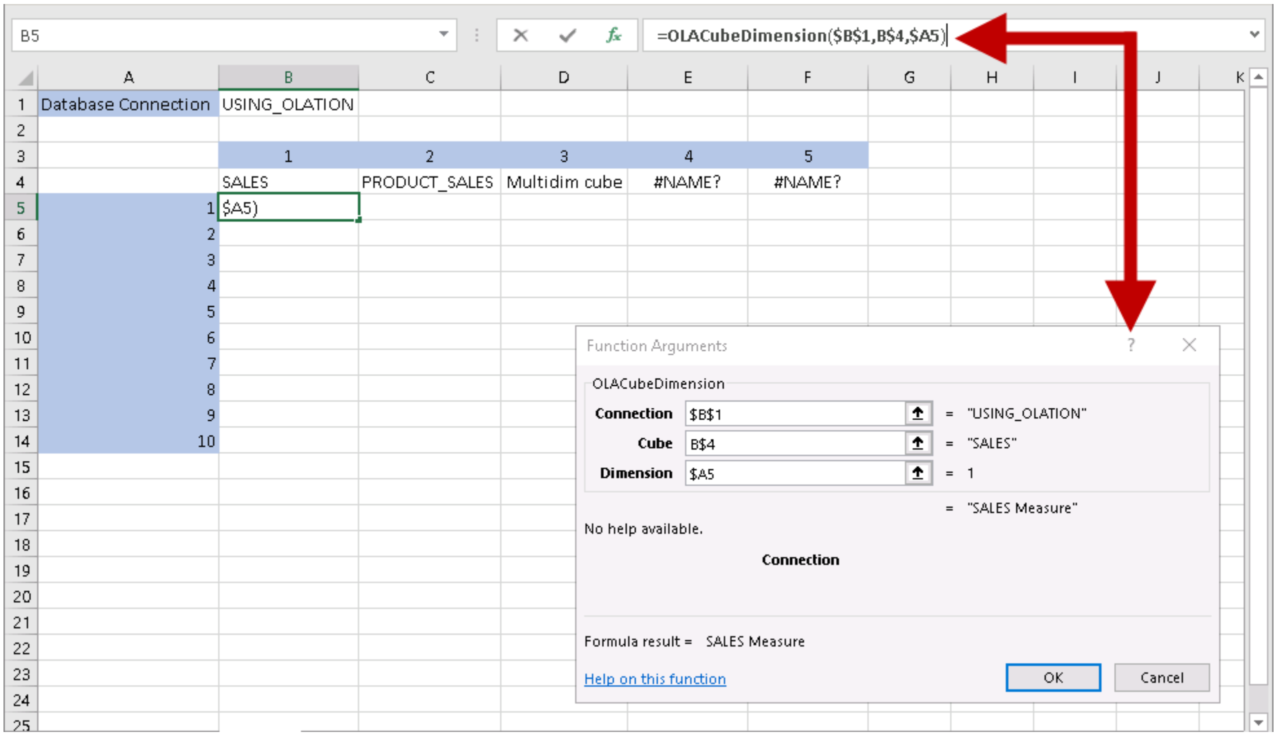
A sample screenshot below shows the *SALES* Cube and its component Dimensions. This screenshot indicates also how index numbers are assigned per Dimension based on how they are ordered within the Cube.



The index number here corresponds to the index number assigned to each Dimension within the SALES Cube

Dimension Name	INDEX NUMBER	Type
SALES Measure	1	Measure
Version	2	Standard
Region	3	Standard
Account	4	Standard
Month	5	Standard

- First establish a connection to the target database. In cell A1 type in **Database connection** (in the next image, cells that are descriptive—i.e., non-formula-derived—are blue-highlighted for easy identification), then go to cell B1: use the OLADatabase function to establish a connection to the target database. In the example, we are using the Database connection: =@OLADatabase("USING_OLATION").
- In cells **B3 to F3**, type the numbers **1 to 5** (blue-highlighted, per above). Use the OLACube function to in Cells B4 to F5 to return the Cube names. Or you can just type in the Cube name/s, making sure that they are spelled correctly.
- In cells A5 to A14 type the numbers 1 to 10 and blue-highlight them (as they are descriptive, per above).
- Use the **OLACubeDimension** function to return the complete list of Dimension for each Cube: Click on cell **B5;** then click the **Function button**. The Insert Function dialog appears. In the Function Category drop-down menu, select **PowerExcel.ExcelFunctions** then select **OLACubeDimension** from the Function list and click **OK**. The Function Arguments dialog appears. This is where you will define the formula.



B5

=OLACubeDimension($B$1,B$4,$A5)

	A	B	C	D	E	F
1	Database Connection	USING_OLATION				
2						
3		1	2	3	4	5
4		SALES	PRODUCT_SALES	Multidim cube	#NAME?	#NAME?
5	1	$A5)				
6	2					
7	3					
8	4					
9	5					
10	6					
11	7					
12	8					
13	9					
14	10					

Function Arguments

OLACubeDimension

Connection $B$1 = "USING_OLATION"

Cube B$4 = "SALES"

Dimension $A5 = 1

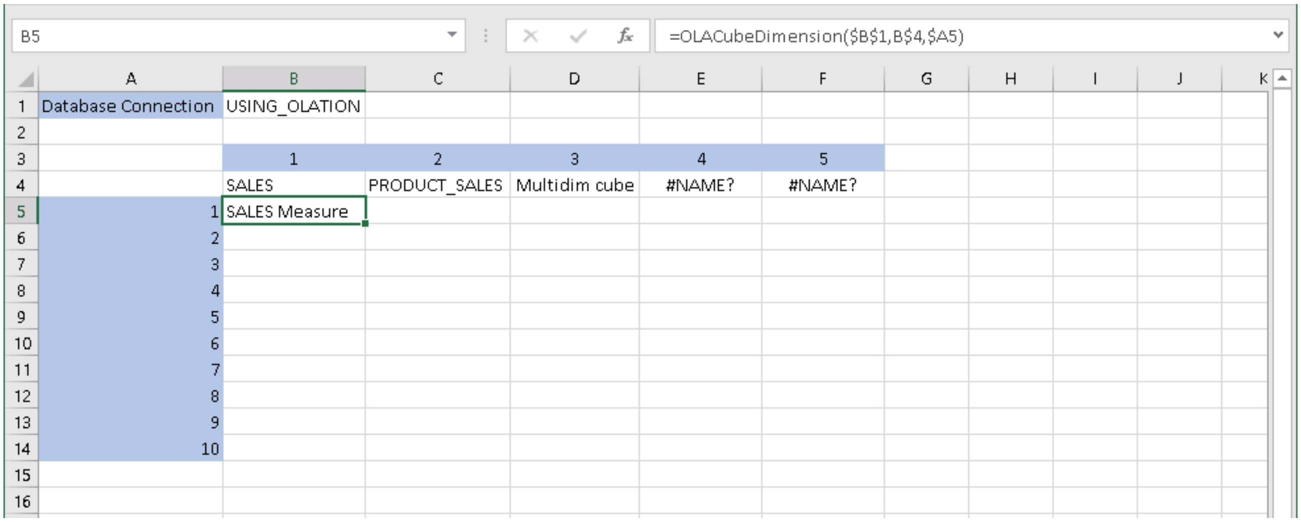
= "SALES Measure"

No help available.

Connection

Formula result = SALES Measure

- In the Function Arguments dialog, click on the **Connection** field; then click on cell **B1**, which contains the Database connection reference. Notice that the Database connection name “USING_OLATION” appears beside the connection field.
  Note: Use an absolute reference (**$B$1**) so that the formulas can be copied across to other cells.
- Click on the **Cube** field, then click on cell **B4**, which contains the Cube reference. Note that the Cube name “SALES” appears beside the Cube field.
  Note: Use an absolute reference for this formula (**B$4**).
- Click on the Dimension field then type the index number (1). Or, an easier way would be to click on A5, making the column absolute (result is **$A5**).
- Click **OK**. The first Dimension is returned (i.e., **SALES Measure**), per the following image.

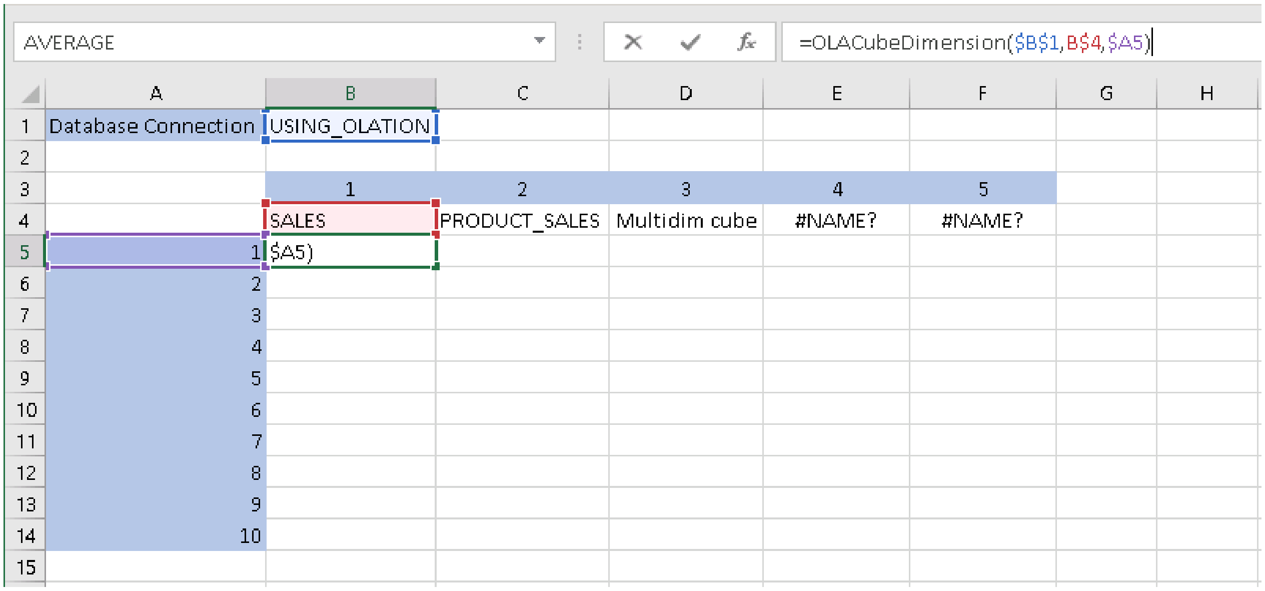


B5

=OLACubeDimension($B$1,B$4,$A5)

	A	B	C	D	E	F
1	Database Connection	USING_OLATION				
2						
3		1	2	3	4	5
4		SALES	PRODUCT_SALES	Multidim cube	#NAME?	#NAME?
5	1	SALES Measure				
6	2					
7	3					
8	4					
9	5					
10	6					
11	7					
12	8					
13	9					
14	10					
15						
16						

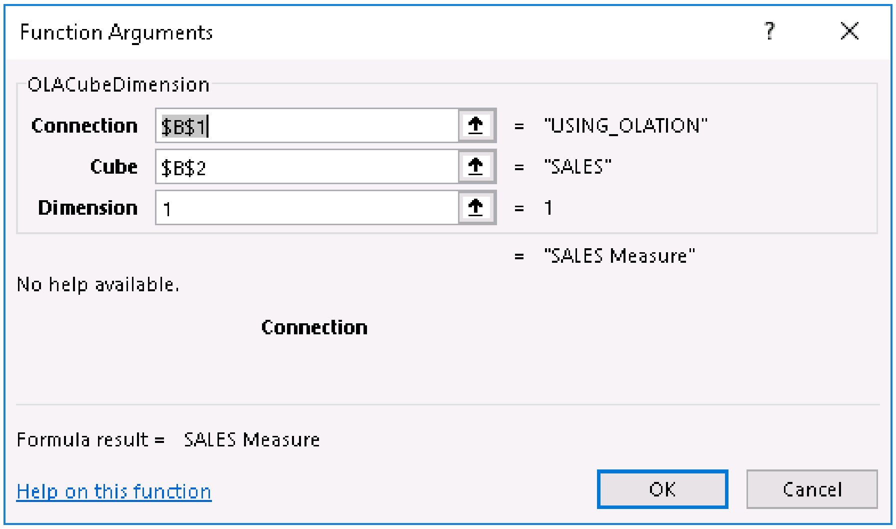
- To review the cell references:



AVERAGE

=OLACubeDimension($B$1,B$4,$A5)

	A	B	C	D	E	F	G	H
1	Database Connection	USING_OLATION						
2								
3		1	2	3	4	5		
4		SALES	PRODUCT_SALES	Multidim cube	#NAME?	#NAME?		
5	1	$A5)						
6	2							
7	3							
8	4							
9	5							
10	6							
11	7							
12	8							
13	9							
14	10							
15								



Function Arguments

OLACubeDimension

Connection	$B$1	= "USING_OLATION"
Cube	$B$2	= "SALES"
Dimension	1	= 1

= "SALES Measure"

No help available.

Connection

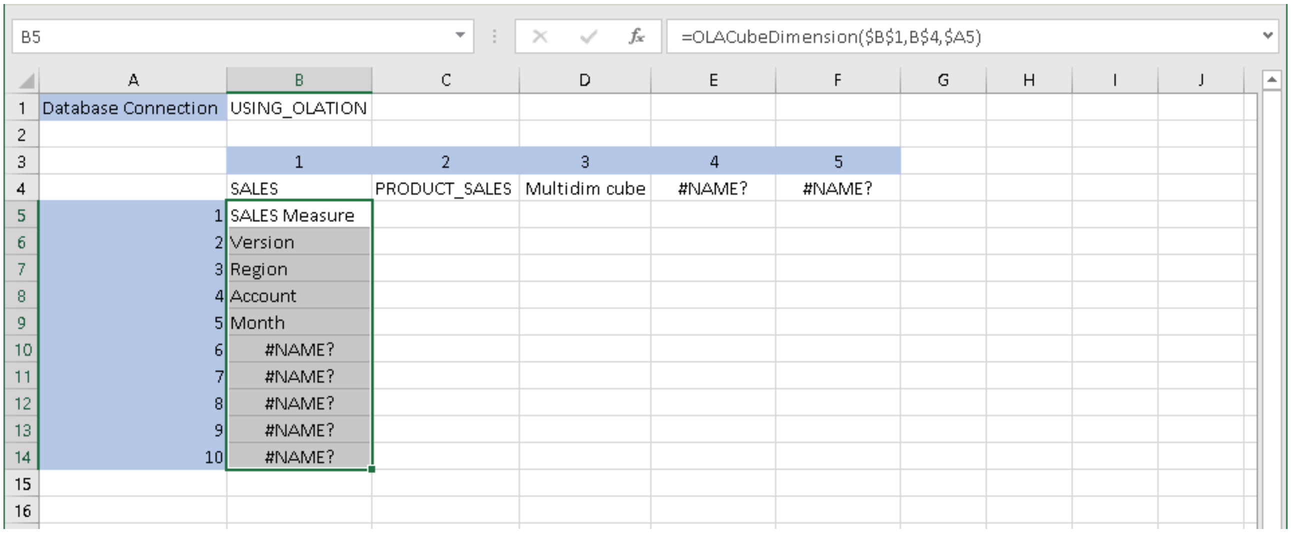
Formula result = SALES Measure

Cell References:

=OLACubeDimension($B$1,B$4,$A5)

- $B$1 – the Database name or the PowerExcel connection name/cell reference that contains the name of the Database or the PowerExcel connection, i.e., **USING_OLATION**
- B$4 – the Cube in the Database, i.e., **SALES**
- $A5 – the Dimension Index number, i.e., **1**

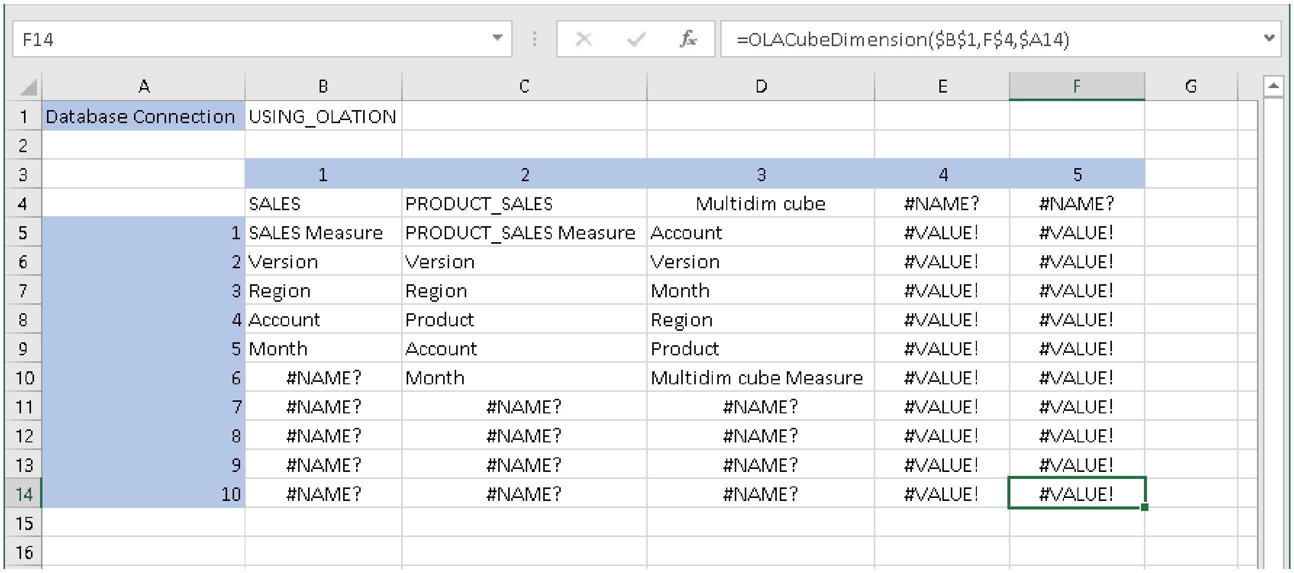
- Next, copy the formula to cells **B6 to B14** then click **F9** to refresh Excel. The **OLACubeDimension** function will return all the Dimensions that exist within the *SALES* Cube. If the Index value has no assigned Dimension, it will return a #NAME? error, as shown in the image below:



B5 =OLACubeDimension($B$1,B$4,$A5)

	A	B	C	D	E	F	G	H	I	J
1	Database Connection	USING_OLATION								
2										
3		1	2	3	4	5				
4		SALES	PRODUCT_SALES	Multidim cube	#NAME?	#NAME?				
5	1	SALES Measure								
6	2	Version								
7	3	Region								
8	4	Account								
9	5	Month								
10	6	#NAME?								
11	7	#NAME?								
12	8	#NAME?								
13	9	#NAME?								
14	10	#NAME?								
15										
16										

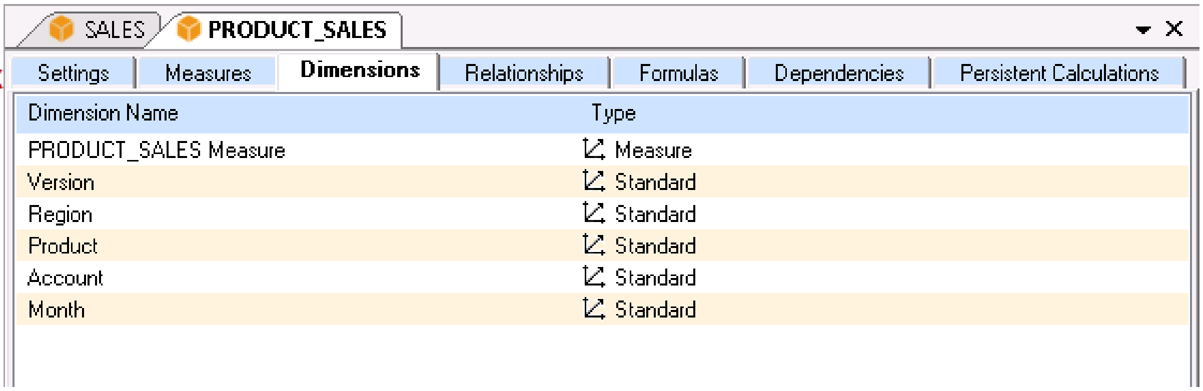
- Copy the formula across all other cells (**B5:F14**). Then click **Refresh**. The table is now updated.



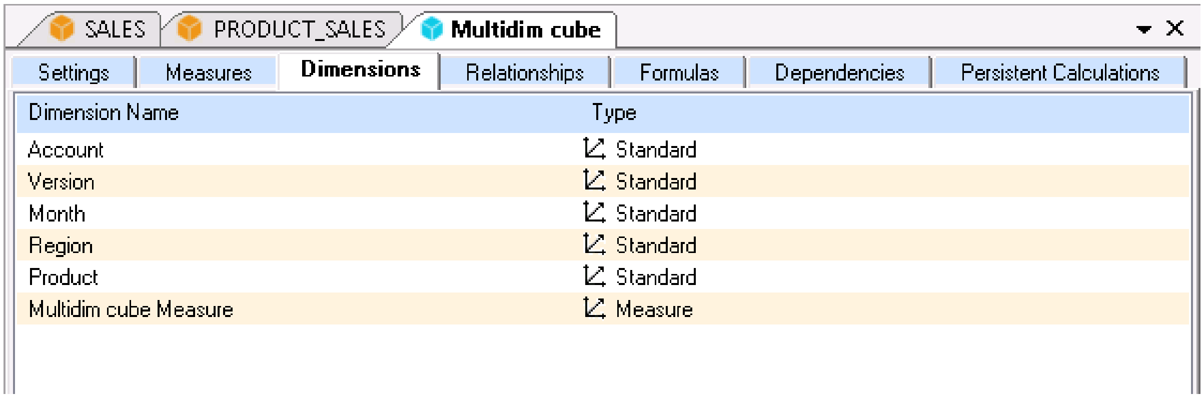
F14 =OLACubeDimension($B$1,F$4,$A14)

	A	B	C	D	E	F	G
1	Database Connection	USING_OLATION					
2							
3		1	2	3	4	5	
4		SALES	PRODUCT_SALES	Multidim cube	#NAME?	#NAME?	
5	1	SALES Measure	PRODUCT_SALES Measure	Account	#VALUE!	#VALUE!	
6	2	Version	Version	Version	#VALUE!	#VALUE!	
7	3	Region	Region	Month	#VALUE!	#VALUE!	
8	4	Account	Product	Region	#VALUE!	#VALUE!	
9	5	Month	Account	Product	#VALUE!	#VALUE!	
10	6	#NAME?	Month	Multidim cube Measure	#VALUE!	#VALUE!	
11	7	#NAME?	#NAME?	#NAME?	#VALUE!	#VALUE!	
12	8	#NAME?	#NAME?	#NAME?	#VALUE!	#VALUE!	
13	9	#NAME?	#NAME?	#NAME?	#VALUE!	#VALUE!	
14	10	#NAME?	#NAME?	#NAME?	#VALUE!	#VALUE!	
15							
16							

The following image shows in the Dimensions Name column the Dimensions in the Multidim cube, which matches what is shown in Column 3 above.



INDEX NO.	Dimension Name	Type
1	PRODUCT_SALES Measure	Measure
2	Version	Standard
3	Region	Standard
4	Product	Standard
5	Account	Standard
6	Month	Standard



INDEX NO.	Dimension Name	Type
1	Account	Standard
2	Version	Standard
3	Month	Standard
4	Region	Standard
5	Product	Standard
6	Multidim cube Measure	Measure

5. OLACubeMember

Function Description: This function returns the nth/indexed Member for a specified Dimension that exists within a specified Cube. This function takes the parameters: (a)PowerExcel/Database Connection name or the cell reference that indicates the PowerExcel/Database Connection name; and the (b)Cube name or cell reference that indicates the Cube name; (c)Dimension name or the cell reference that indicates the Dimension name ; and the (d)Member name or the cell reference that indicates the Member you want to connect to /Index number corresponding to the Member you want to return.

Syntax: OLACubeMember(Connection,Cube,Dimension,Member)

OR

OLACubeMemberIndex(Connection,Cube,Dimension,MemberIndex)

Connection: Enter the PowerExcel connection which contains the information about the Olation server URL and the source database name.

Cube: Enter the name of the source/target Cube; or enter the cell reference that contains the name of the source or target Cube you wish to establish connection to.

Dimension Name: Enter the Dimension name or the cell reference that contains the name of the Dimension that exists within the specified Database above.

Member Name: Enter the Member name or the cell reference that contains the name of the Member that exists within the specified Dimension.

Member Index: Enter the index number corresponding to the Member within the specified Dimension that you want to return.

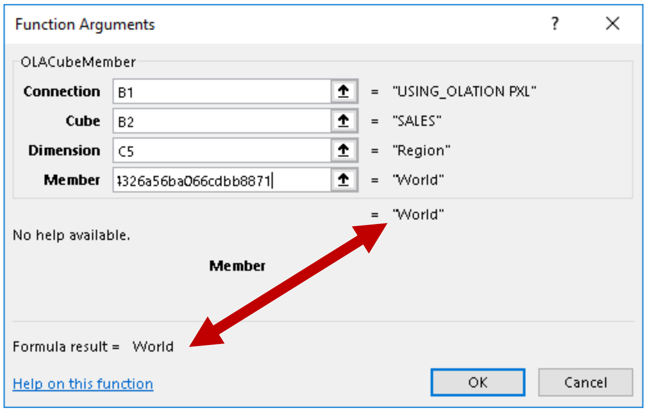
Remarks:

- The PowerExcel Connection must exist.
- The Olation Web Service must be running
- The Database must be opened and running in the specified server.
- The ‘Connection’, ‘Cube’ and ‘Dimension’ parameters are compulsory
- The last parameter can either be the ‘Member name’ or the ‘Member Index’ value
- All Members within the Dimension are each assigned an index number starting from 1, 2, 3… and so on. If there is no Member assigned to that index number for the given Dimension, then it will return a #NAME? error.
- The index number assigned to each Member is based on the order they are arranged in the specified Dimension.

Example 1: OLACubeMember (Connection,Cube,Dimension,Member)

This first example, like the ones for OLACube and OLACubeDimension, will show how to make the function return a selection window for any Member of a Dimension in the Cube.

- Using an existing Slice, select a cell to the right of the field of data, e.g., Cell **H5**.
- In the Excel formula bar, click on the Insert Function symbol (***f**x*). The Insert Function window will appear.
- In the **Or select a category drop-down**, select **PowerExcel.ExcelFunctions.**
- Select **OLACubeMember**. Click **OK**.
- For Connection, you can reference Cell **B1** from the sample Slice (or type B1); for Cube, reference Cell **B2** (or type SALES); next, reference a selected Dimension (e.g., ***Region***) and then reference a Member name (or type it in) as shown below. Note that if you reference a cell with a Member in it from the Filter area, a unique string will appear, as in the final argument below, which provides the result "World".



Function Arguments

OLACubeMember

Connection	B1	= "USING_OLATION PXL"
Cube	B2	= "SALES"
Dimension	C5	= "Region"
Member	1326a56ba066cdbb8871	= "World"

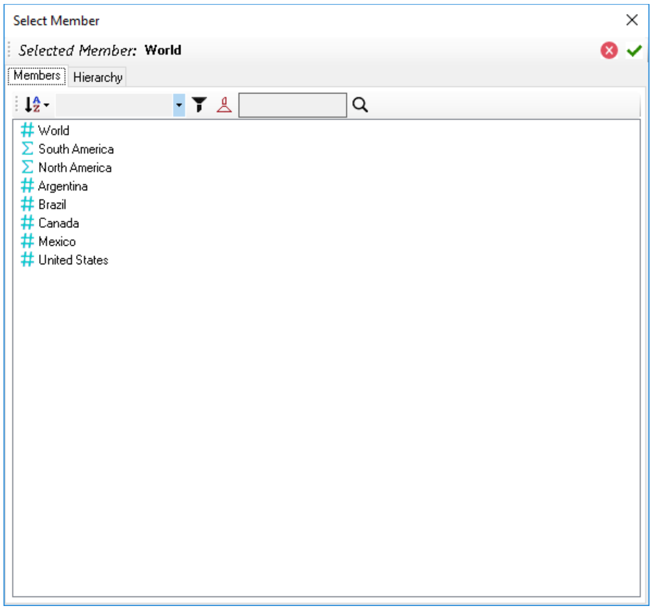
= "World"

No help available.

Member

Formula result = World

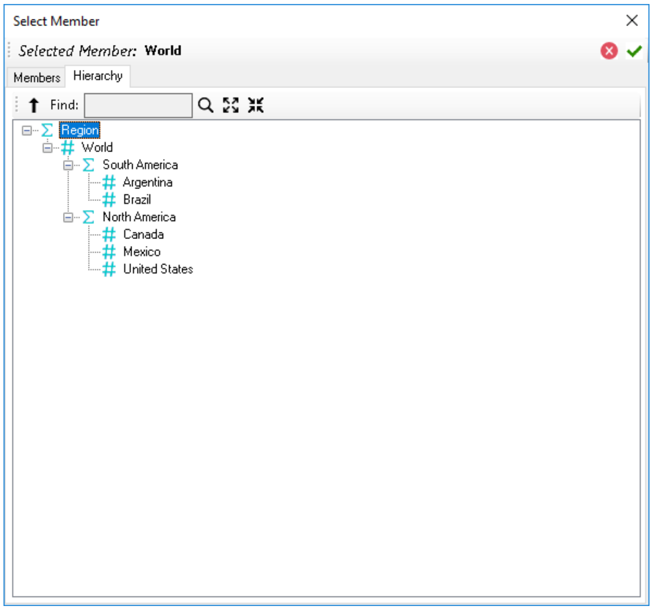
- Click **OK**: the result (World) will appear in the selected cell (e.g., H5).
- Next, **double-click** on that Cell. The Select Member window appears—note that it has two tabs (shown in two successive images below): one (Members) for selection of Members from a list, and another (Hierarchy) that shows the Members as they appear in a hierarchy within the Dimension:



Select Member

Selected Member: **World**

World
South America
North America
Argentina
Brazil
Canada
Mexico
United States



Select Member

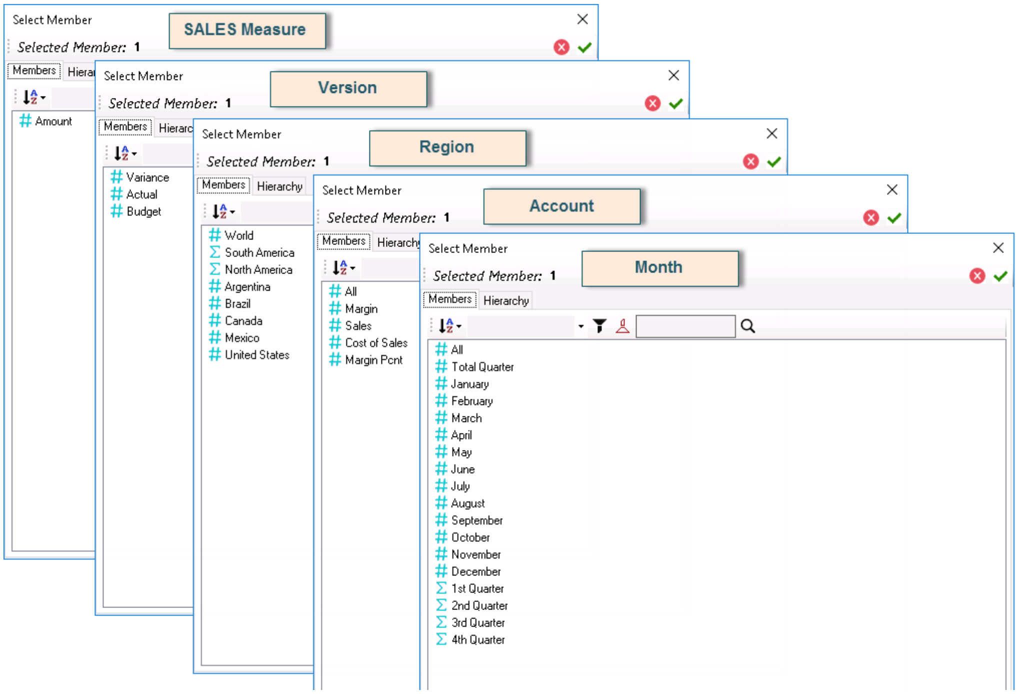
Selected Member: World

- Region
  - World
    - South America
      - Argentina
      - Brazil
    - North America
      - Canada
      - Mexico
      - United States

Example 2: OLACubeMember (Connection,Cube,Dimension,MemberIndex)

For this example, we will use the **OLACubeMember** function to identify and make a list of all the Members that exist for a component Dimension of a specific Cube and bring them down to Excel—all based on their index numbers. For this example, *USING_OLATION* is the source database and the focus is on the *SALES* Cube. Our focus will be on the *Months* Dimension.

A sample screenshot below shows the *SALES* Cube and its component Dimensions. This screenshot indicates also how index numbers are assigned per Dimension based on how they are ordered within the Cube.



SALES Measure — Selected Member: 1
- Amount

Version — Selected Member: 1
- Variance
- Actual
- Budget

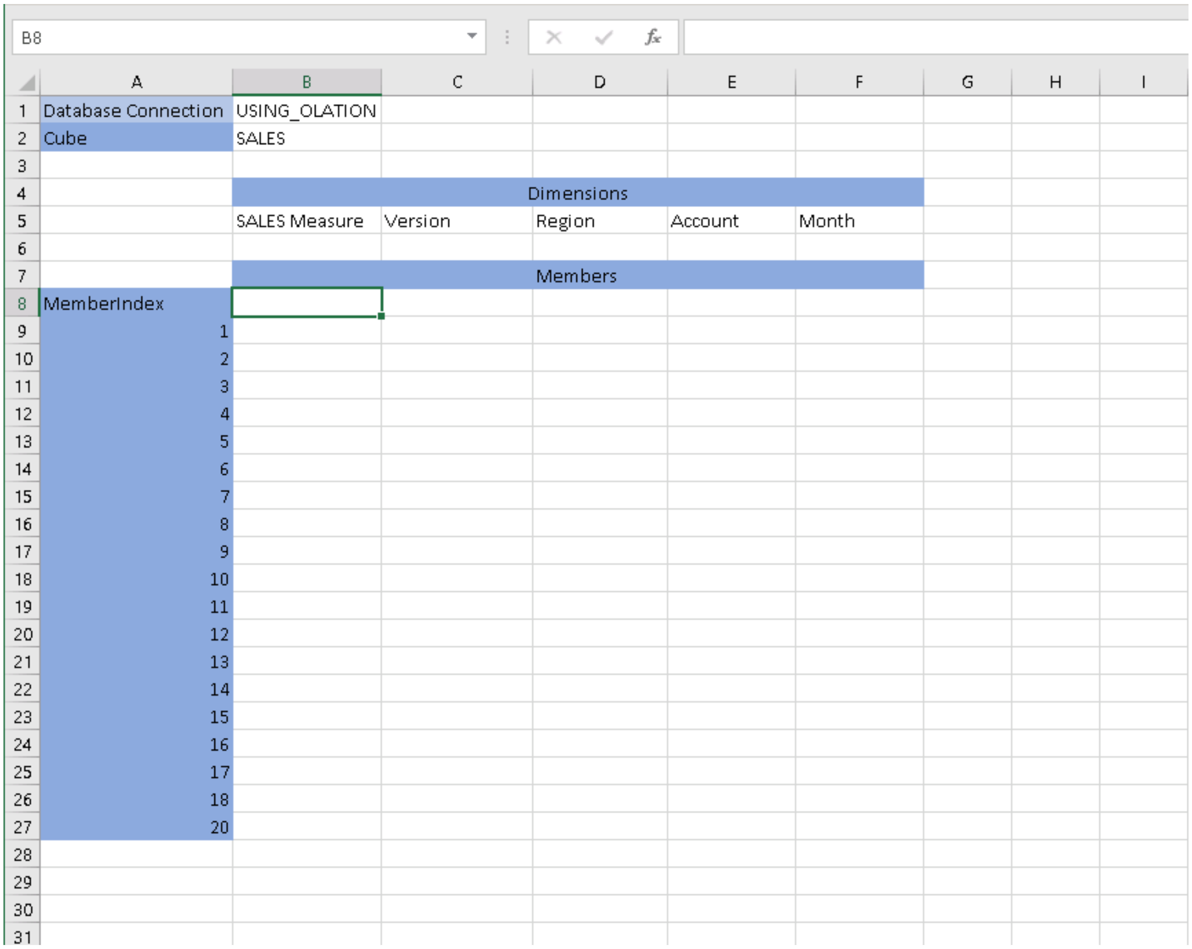
Region — Selected Member: 1
- World
- South America
- North America
- Argentina
- Brazil
- Canada
- Mexico
- United States

Account — Selected Member: 1
- All
- Margin
- Sales
- Cost of Sales
- Margin Pcnt

Month — Selected Member: 1
- All
- Total Quarter
- January
- February
- March
- April
- May
- June
- July
- August
- September
- October
- November
- December
- 1st Quarter
- 2nd Quarter
- 3rd Quarter
- 4th Quarter

A screenshot of the list of Members for each component Dimension of the SALES Cube

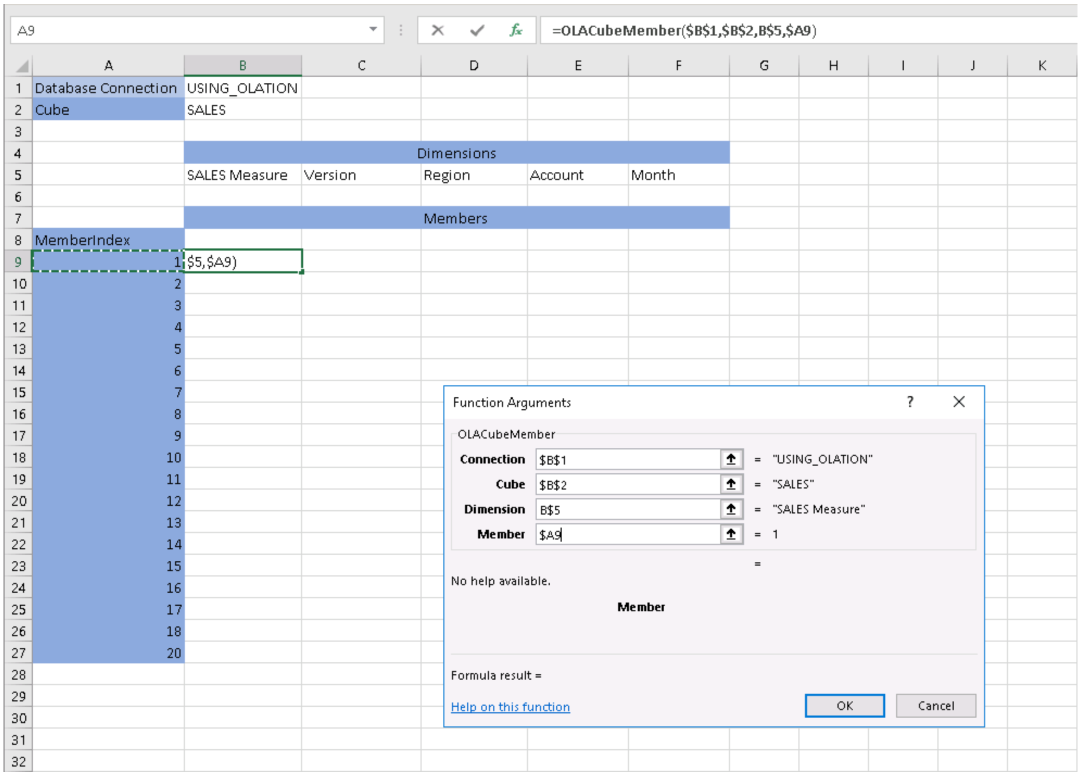
- First we will establish a connection to the target database. In cell A1 type in **Database connection** (cells that are descriptive—i.e., non-formula-derived—are blue-highlighted for easy identification), then in cell B1, use the OLADatabase function to establish a connection to the target database, in the example, we are using the Database connection: =@OLADatabase("USING_OLATION").
- In cell A2 type the caption **Cube** (again highlight this in blue since this is just a caption) then go to cell B2 then and use the OLACube function to return the source Cube (*SALES*). In the example, we defined the formula as: =@OLACube($B$1,"SALES").
- In cells **B5 to F5**, use the OLACubeDimension function to pull in the Dimensions that exist for the *SALES* Cube. In the example, we defined the formula in cell B5 as: =OLACubeDimension($B$1,$B$2,1).
  Copy the formula to cells **C5 to F5** and just change the last parameter (index value) with **2**, **3**… and so on.
- In cells **A9 to A28**, type the Member Index value 1 to 20. You can also add captions as in the following image.



	A	B	C	D	E	F	G	H	I
1	Database Connection	USING_OLATION							
2	Cube	SALES							
3									
4		Dimensions							
5		SALES Measure	Version	Region	Account	Month			
6									
7		Members							
8	MemberIndex								
9	1								
10	2								
11	3								
12	4								
13	5								
14	6								
15	7								
16	8								
17	9								
18	10								
19	11								
20	12								
21	13								
22	14								
23	15								
24	16								
25	17								
26	18								
27	20								
28									
29									
30									
31									

- Now, we are going to use the **OLACubeMember** function to create a list of Members for each Dimension that exist for the *SALES* Cube within the *USING_OLATION* database. Go to cell **B9** then click next to the **Function** button located beside the formula bar. The Insert Function dialog box appears.

- In the category list, select **PowerExcel.ExcelFunctions**, click **OLACubeMember** and click **OK**. The Function Arguments dialog box appears. This is where you will define the **OLACubeMember** formula.
- In the Function Arguments dialog, click on the **Connection** field, then click on cell **B1** which contains the Database connection reference. Notice that the Database connection name "USING_OLATION" appears beside the connection field.
  Note: Use the absolute reference to easily copy the formulas across the other cells. We used absolute reference along rows and columns (result is **$B$1**)
- Click on the **Cube** field,m then click on the cell **B2** which is the cell that contains the Cube reference. Again, notice that the Cube name "SALES" appears beside the Cube field.
  Note: Again, use absolute reference for this formula. We used absolute reference along the rows and columns (result is **$B$2**).
- Click on the **Dimension** field then click on cell **B5** which is the cells that contains the Dimension reference. Again, notice that the Dimension name "SALES Measure" appears beside the Dimension field.
  Note: You can again use absolute reference for this formula. Let us use absolute reference along the rows (result is **B$5**)
- Lastly, click on the **Member** field then click on cell **A9** which will dictate the index value for our last parameter. Again, we will use the absolute reference along the columns (result is **$A9**).
- The Function Arguments dialog will look as follows:



A9

=OLACubeMember($B$1,$B$2,B$5,$A9)

	A	B	C	D	E	F
1	Database Connection	USING_OLATION				
2	Cube	SALES				
3						
4				Dimensions		
5		SALES Measure	Version	Region	Account	Month
6						
7				Members		
8	MemberIndex					
9	1	$5,$A9)				
10	2					
11	3					
12	4					
13	5					
14	6					
15	7					
16	8					
17	9					
18	10					
19	11					
20	12					
21	13					
22	14					
23	15					
24	16					
25	17					
26	18					
27	20					
28						
29						
30						
31						
32						

Function Arguments

OLACubeMember

Connection $B$1 = "USING_OLATION"

Cube $B$2 = "SALES"

Dimension B$5 = "SALES Measure"

Member $A9 = 1

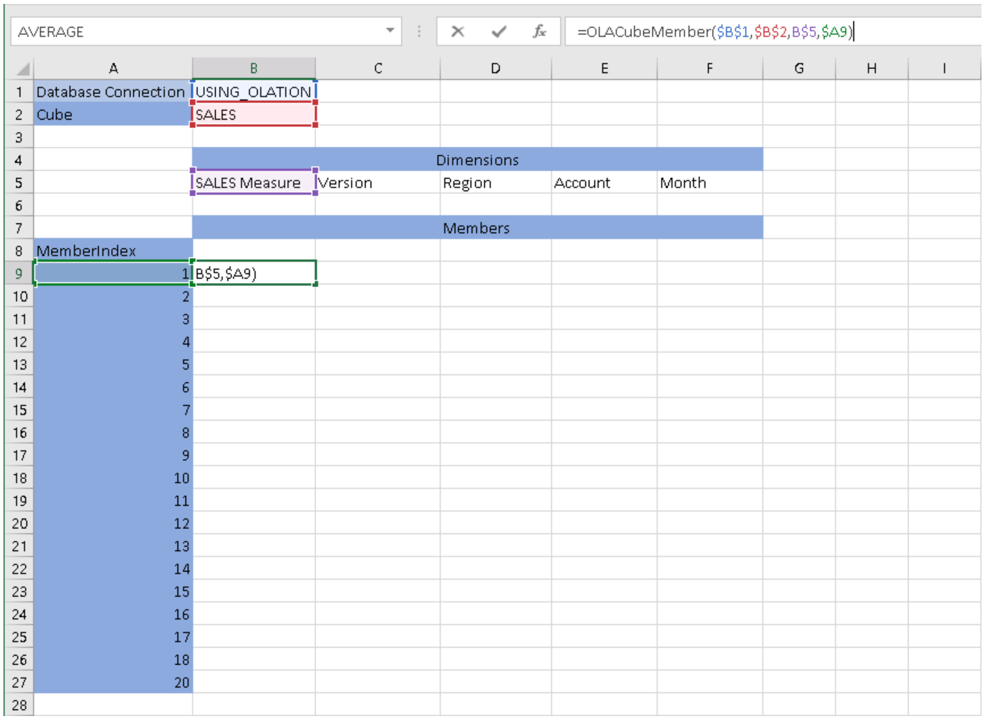
=

No help available.

Member

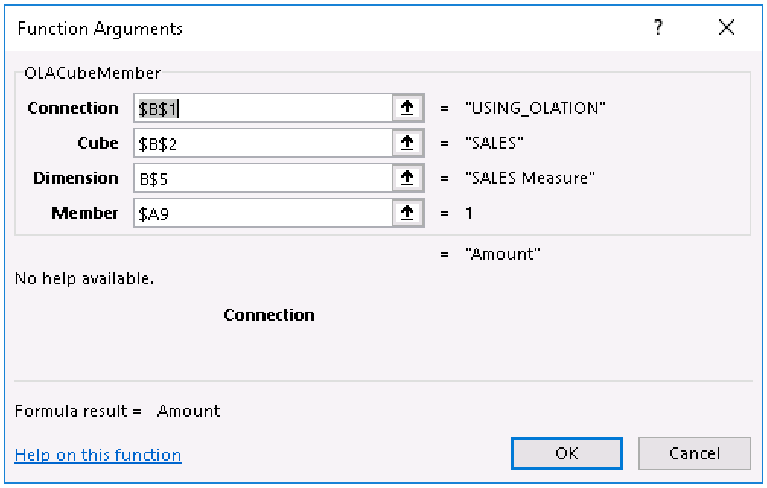
Formula result =

- Click **OK**. This will return the Member **Amount**. Let us take a look at the cell references:



=OLACubeMember($B$1,$B$2,B$5,$A9)

	A	B	C	D	E	F	G	H	I
1	Database Connection	USING_OLATION							
2	Cube	SALES							
3									
4				Dimensions					
5		SALES Measure	Version	Region	Account	Month			
6									
7				Members					
8	MemberIndex								
9	1	B$5,$A9)							
10	2								
11	3								
12	4								
13	5								
14	6								
15	7								
16	8								
17	9								
18	10								
19	11								
20	12								
21	13								
22	14								
23	15								
24	16								
25	17								
26	18								
27	20								
28									


Function Arguments

OLACubeMember

Connection	$B$1	=	"USING_OLATION"
Cube	$B$2	=	"SALES"
Dimension	B$5	=	"SALES Measure"
Member	$A9	=	1

= "Amount"

No help available.

Connection

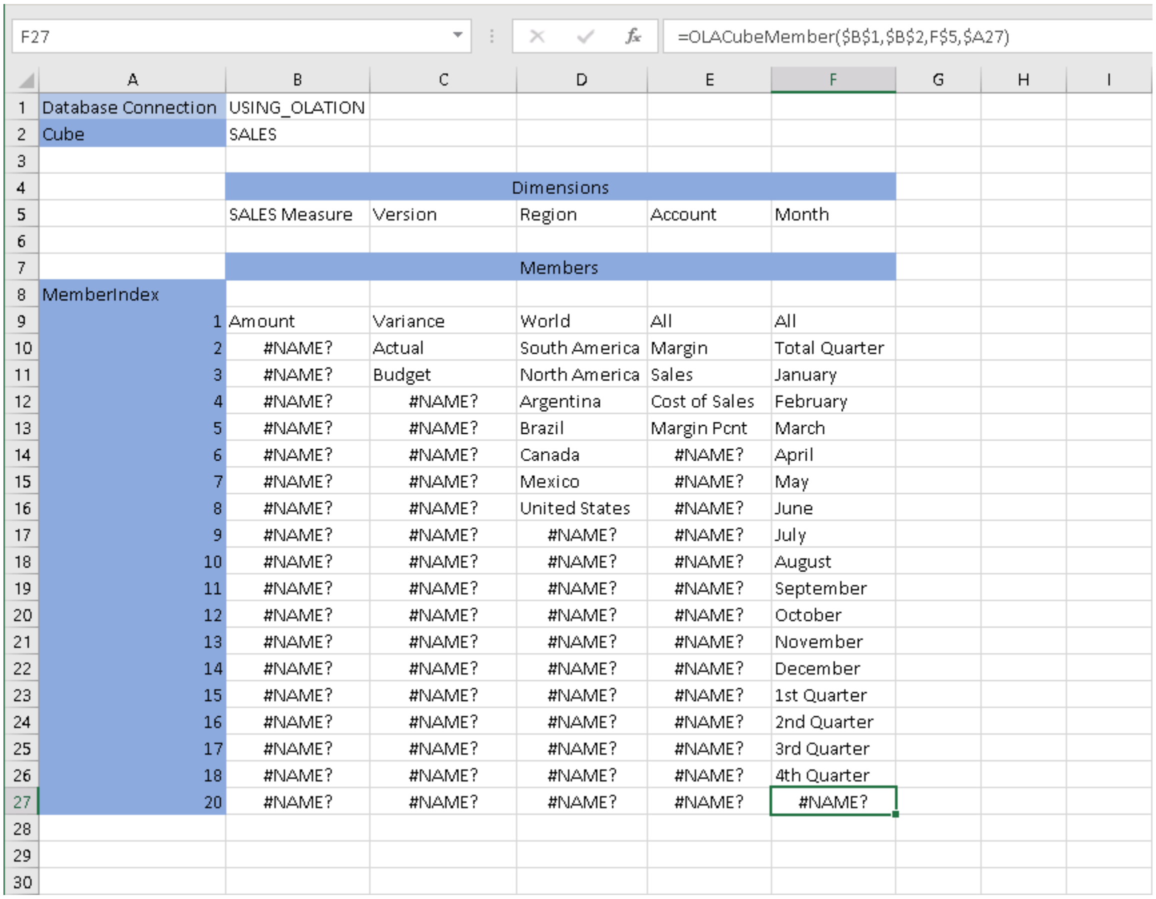
Formula result = Amount

Cell References:

=OLACubeMember($B$1,$B$2,B$5,$A9)

- $B$1– the Database name or the PowerExcel connection name/cell reference that contains the name of the Database or the PowerExcel connection, i.e., **USING_OLATION**
- $B$2– the Cube in the Database, i.e., **SALES**
- B$5– the Dimension in the *SALES* Cube, i.e., **SALES Measure**
- $A9– the Member Index number or cell reference, i.e., **1**

- Now, copy this formula across the range **B9:F27**.



F27 =OLACubeMember($B$1,$B$2,F$5,$A27)

	A	B	C	D	E	F	G	H	I
1	Database Connection	USING_OLATION							
2	Cube	SALES							
3									
4		Dimensions							
5		SALES Measure	Version	Region	Account	Month			
6									
7		Members							
8	MemberIndex								
9	1	Amount	Variance	World	All	All			
10	2	#NAME?	Actual	South America	Margin	Total Quarter			
11	3	#NAME?	Budget	North America	Sales	January			
12	4	#NAME?	#NAME?	Argentina	Cost of Sales	February			
13	5	#NAME?	#NAME?	Brazil	Margin Pcnt	March			
14	6	#NAME?	#NAME?	Canada	#NAME?	April			
15	7	#NAME?	#NAME?	Mexico	#NAME?	May			
16	8	#NAME?	#NAME?	United States	#NAME?	June			
17	9	#NAME?	#NAME?	#NAME?	#NAME?	July			
18	10	#NAME?	#NAME?	#NAME?	#NAME?	August			
19	11	#NAME?	#NAME?	#NAME?	#NAME?	September			
20	12	#NAME?	#NAME?	#NAME?	#NAME?	October			
21	13	#NAME?	#NAME?	#NAME?	#NAME?	November			
22	14	#NAME?	#NAME?	#NAME?	#NAME?	December			
23	15	#NAME?	#NAME?	#NAME?	#NAME?	1st Quarter			
24	16	#NAME?	#NAME?	#NAME?	#NAME?	2nd Quarter			
25	17	#NAME?	#NAME?	#NAME?	#NAME?	3rd Quarter			
26	18	#NAME?	#NAME?	#NAME?	#NAME?	4th Quarter			
27	20	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?			
28									
29									
30									

- Press **F9** or refresh the Excel worksheet. You will see that it now returns a full list of the Members per Dimension that exist on the USING_OLATION database.

6. OLACurrentUser

Function Description: This function will return the name of the current user logged into the machine and accessing the PowerExcel application, taking the PowerExcel/Database Connection name or the cell reference that indicates the PowerExcel/Database Connection name as the only parameter.

Syntax: OLACurrentUser(Connection)

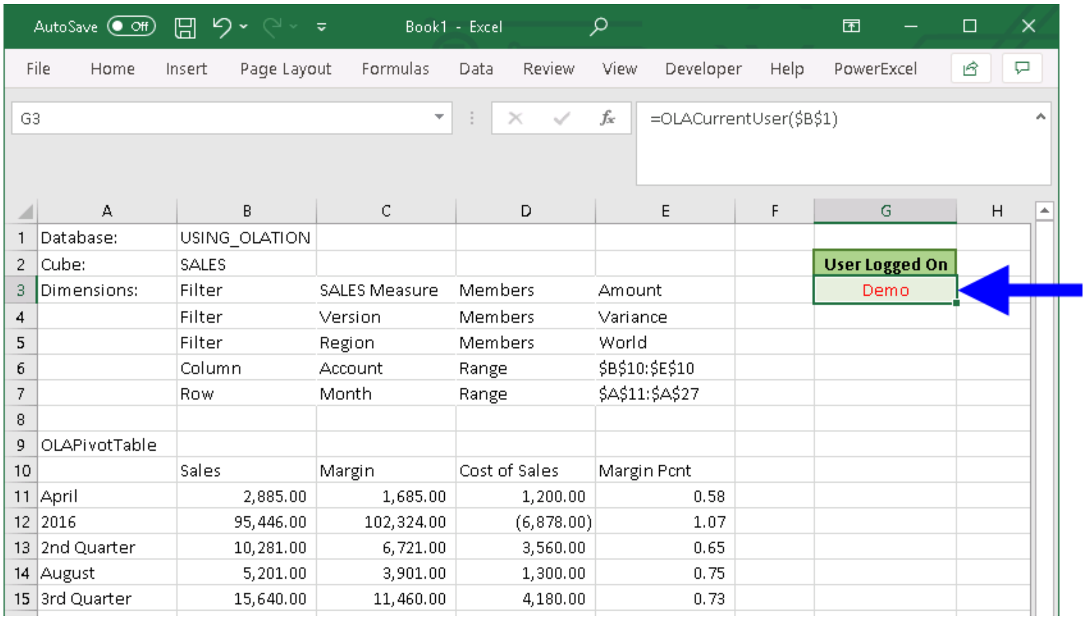
Connection: Enter the PowerExcel connection that contains the information about the Olation server URL and the source database name.

Remarks:

- The PowerExcel Connection must exist.
- The Olation Web Service must be running.
- The Database must be opened and running in the specified server.
- The 'Connection' parameter is compulsory.

Example:

For this example, we will use the **OLACurrentUser** function to return the name of the user account currently logged on the machine where the PowerExcel Slice, e.g., *SALES Report*, is currently opened. Looking at the screenshot below, the active cell is cell **G3,** which contains the **OLACurrentUser** function: it returns the current user named ***Demo***.

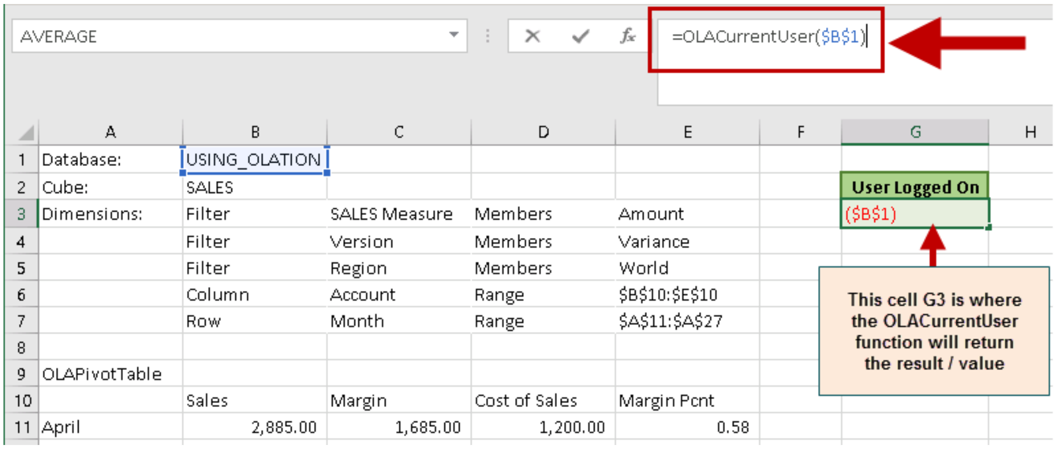


G3

=OLACurrentUser($B$1)

	A	B	C	D	E	F	G	H
1	Database:	USING_OLATION						
2	Cube:	SALES					User Logged On	
3	Dimensions:	Filter	SALES Measure	Members	Amount		Demo	
4		Filter	Version	Members	Variance			
5		Filter	Region	Members	World			
6		Column	Account	Range	$B$10:$E$10			
7		Row	Month	Range	$A$11:$A$27			
8								
9	OLAPivotTable							
10		Sales	Margin	Cost of Sales	Margin Pcnt			
11	April	2,885.00	1,685.00	1,200.00	0.58			
12	2016	95,446.00	102,324.00	(6,878.00)	1.07			
13	2nd Quarter	10,281.00	6,721.00	3,560.00	0.65			
14	August	5,201.00	3,901.00	1,300.00	0.75			
15	3rd Quarter	15,640.00	11,460.00	4,180.00	0.73			

- By clicking in the formula bar area (as can be seen in the following screenshot, the mouse cursor is placed at the end of the formula), it will show the cell references corresponding to the **OLACurrentUser** function. Since this **OLACurrentUser** function only requires one parameter, the formula only shows the Connection parameter called "*USING_OLATION*"(**$B$1**).



AVERAGE =OLACurrentUser($B$1)

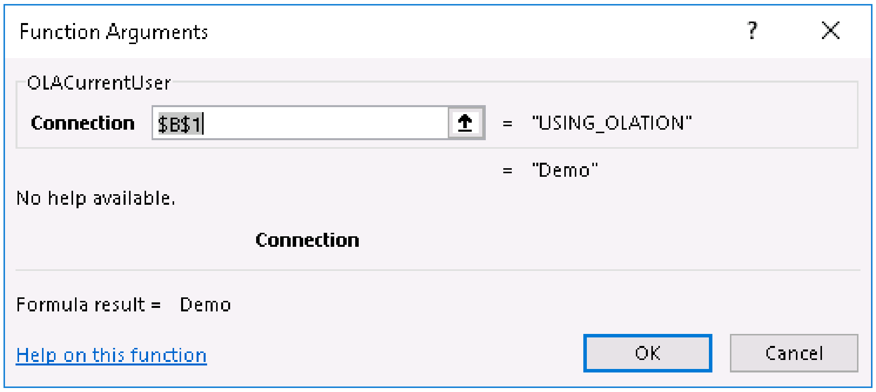
	A	B	C	D	E	F	G	H
1	Database:	USING_OLATION						
2	Cube:	SALES					User Logged On	
3	Dimensions:	Filter	SALES Measure	Members	Amount		($B$1)	
4		Filter	Version	Members	Variance			
5		Filter	Region	Members	World			
6		Column	Account	Range	$B$10:$E$10			
7		Row	Month	Range	$A$11:$A$27			
8								
9	OLAPivotTable							
10		Sales	Margin	Cost of Sales	Margin Pcnt			
11	April	2,885.00	1,685.00	1,200.00	0.58			

This cell G3 is where the OLACurrentUser function will return the result / value

Cell References:

=OLACurrentUser($B$1)

- $B$1– the Database name or the PowerExcel connection name/cell reference that contains the name of the Database or the PowerExcel connection, i.e., **USING_OLATION**



Function Arguments

OLACurrentUser

Connection $B$1 = "USING_OLATION"

= "Demo"

No help available.

Connection

Formula result = Demo

As previously mentioned, the return value of the formula for this example is the **Demo** user.

7. OLADatabase

Function Description: Establishes a connection to the source/target database via identifying the correct PowerExcel Connection that contains the necessary connection information of the source <Olation> Server and database.

Syntax: OLADatabase(Connection)

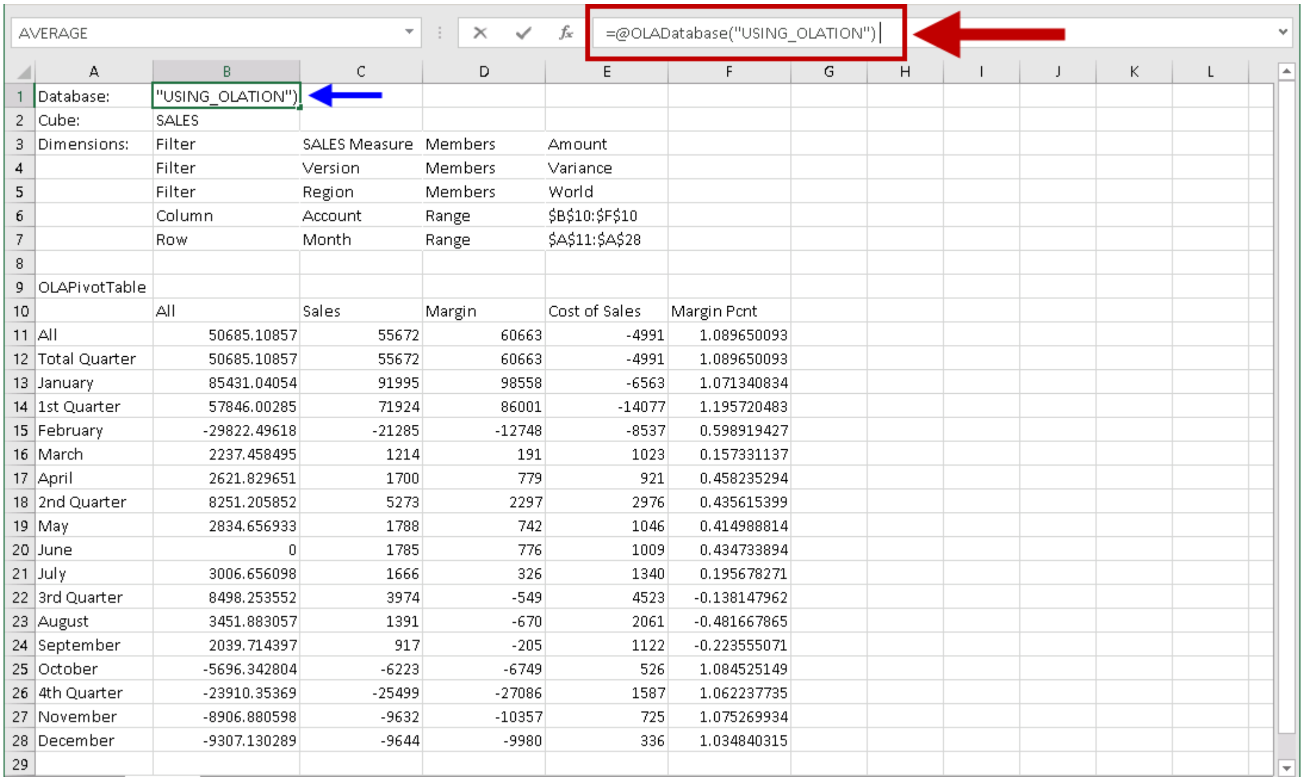
Connection: Enter the PowerExcel connection that contains the information about the Olation server URL and the source database name.

Remarks:

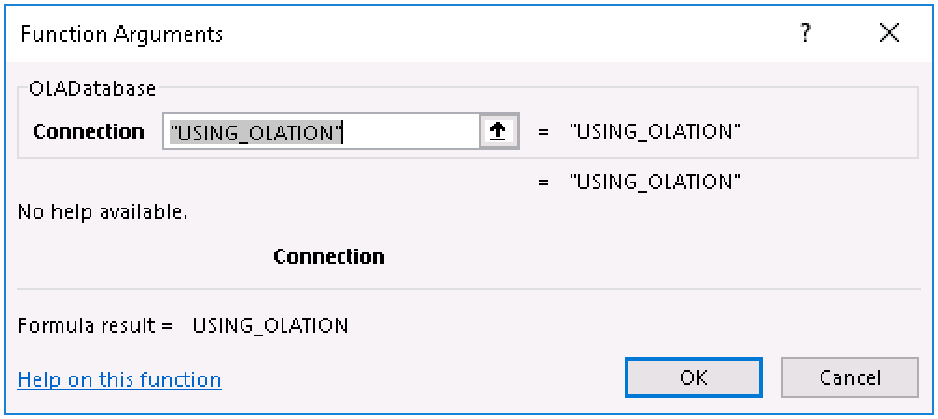
- The PowerExcel Connection must exist.
- The Olation Web Service must be running.
- The Database must be opened and running in the specified server.
- The ‘Connection’ parameter is compulsory.

Example:

The example Slice below shows a PowerExcel Perspective Slice with the **PowerExcel Connection/OLADatabase** named **“USING_OLATION”** located on cell B1.



	A	B	C	D	E	F
1	Database:	"USING_OLATION")				
2	Cube:	SALES				
3	Dimensions:	Filter	SALES Measure	Members	Amount	
4		Filter	Version	Members	Variance	
5		Filter	Region	Members	World	
6		Column	Account	Range	$B$10:$F$10	
7		Row	Month	Range	$A$11:$A$28	
8						
9	OLAPivotTable					
10		All	Sales	Margin	Cost of Sales	Margin Pcnt
11	All	50685.10857	55672	60663	-4991	1.089650093
12	Total Quarter	50685.10857	55672	60663	-4991	1.089650093
13	January	85431.04054	91995	98558	-6563	1.071340834
14	1st Quarter	57846.00285	71924	86001	-14077	1.195720483
15	February	-29822.49618	-21285	-12748	-8537	0.598919427
16	March	2237.458495	1214	191	1023	0.157331137
17	April	2621.829651	1700	779	921	0.458235294
18	2nd Quarter	8251.205852	5273	2297	2976	0.435615399
19	May	2834.656933	1788	742	1046	0.414988814
20	June	0	1785	776	1009	0.434733894
21	July	3006.656098	1666	326	1340	0.195678271
22	3rd Quarter	8498.253552	3974	-549	4523	-0.138147962
23	August	3451.883057	1391	-670	2061	-0.481667865
24	September	2039.714397	917	-205	1122	-0.223555071
25	October	-5696.342804	-6223	-6749	526	1.084525149
26	4th Quarter	-23910.35369	-25499	-27086	1587	1.062237735
27	November	-8906.880598	-9632	-10357	725	1.075269934
28	December	-9307.130289	-9644	-9980	336	1.034840315
29						



Function Arguments

OLADatabase

Connection "USING_OLATION" = "USING_OLATION"

= "USING_OLATION"

No help available.

Connection

Formula result = USING_OLATION

Cell References:

```
=@OLADatabase(“USING_OLATION”)
```

- “USING_OLATION” – this is the name of the PowerExcel connection or the Database name that we want to establish connection to.

8. OLADimension

Function Description: This function returns the specified Dimension or the Dimension name that corresponds to a specified Dimension Index number that exists in a specified PowerExcel/Database Connection.

Syntax: OLADimension(Connection,Dimension)

OR

OLADimension(Connection,DimensionIndex)

Connection: Enter the PowerExcel connection that contains the information about the Olation server URL and the source database name.

Dimension: Enter the name of the Dimension or the cell reference that contains the name of the Dimension you wish to return.

Dimension Index: The index number corresponding to the Dimension you want to return.

Remarks:

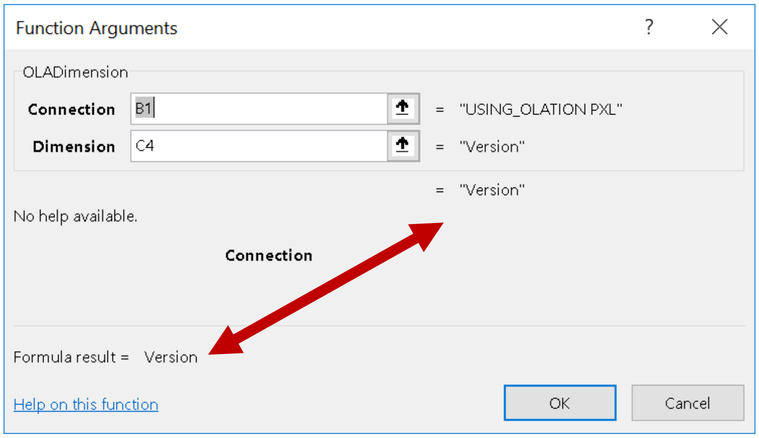
- The PowerExcel Connection must exist.
- The Olation Web Service must be running.
- The Database must be opened and running in the specified server.
- The 'Connection' parameter is compulsory.
- Each Dimension in the database is assigned an index number starting from 1, 2, 3… and so on. If there is no Dimension assigned to that index number, then it will return a #NAME? error.
- The index number assigned to the Dimension is based on the order they are created within the specified database.

Example 1: OLADimension(Connection,Dimension)

This first example, like the ones for OLACube and OLACubeDimension and OLACubeMember, will show how to make the function return a selection window for all Dimensions in the Database. (This is in contrast to OLACubeDimension, which concerns accessing the Dimensions in a selected Cube.)

- Using an existing Slice, select a cell to the right of the field of data, e.g., Cell **H5**.
- In the Excel formula bar, click on the Insert Function symbol (***f**x*). The Insert Function window will appear.
- In the **Or select a category drop-down**, select **PowerExcel.ExcelFunctions**.
- Select **OLADimension**. Click **OK**.

- For Connection, you can reference Cell **B1** from the sample Slice (or type B1); next, reference a selected Dimension (e.g., ***Version***).



Function Arguments

OLADimension

Connection B1 = "USING_OLATION PXL"

Dimension C4 = "Version"

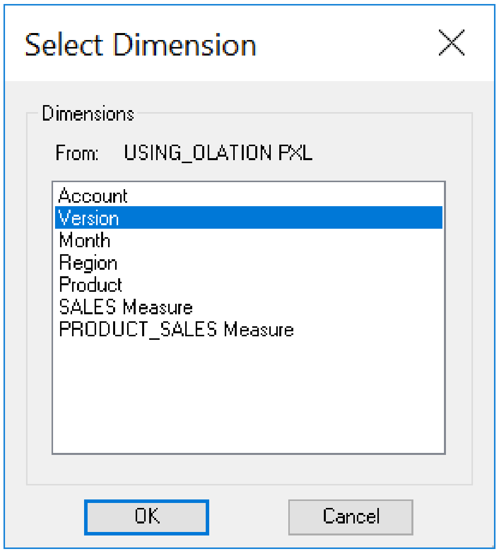
= "Version"

No help available.

Connection

Formula result = Version

- Click **OK**: the result ("Version") will appear in the selected cell (e.g., H5).
- Next, **double-click** on that Cell. The Select Dimension window appears showing all Dimensions from the Database (i.e., not limited to any specified Cube), as shown below.



Select Dimension

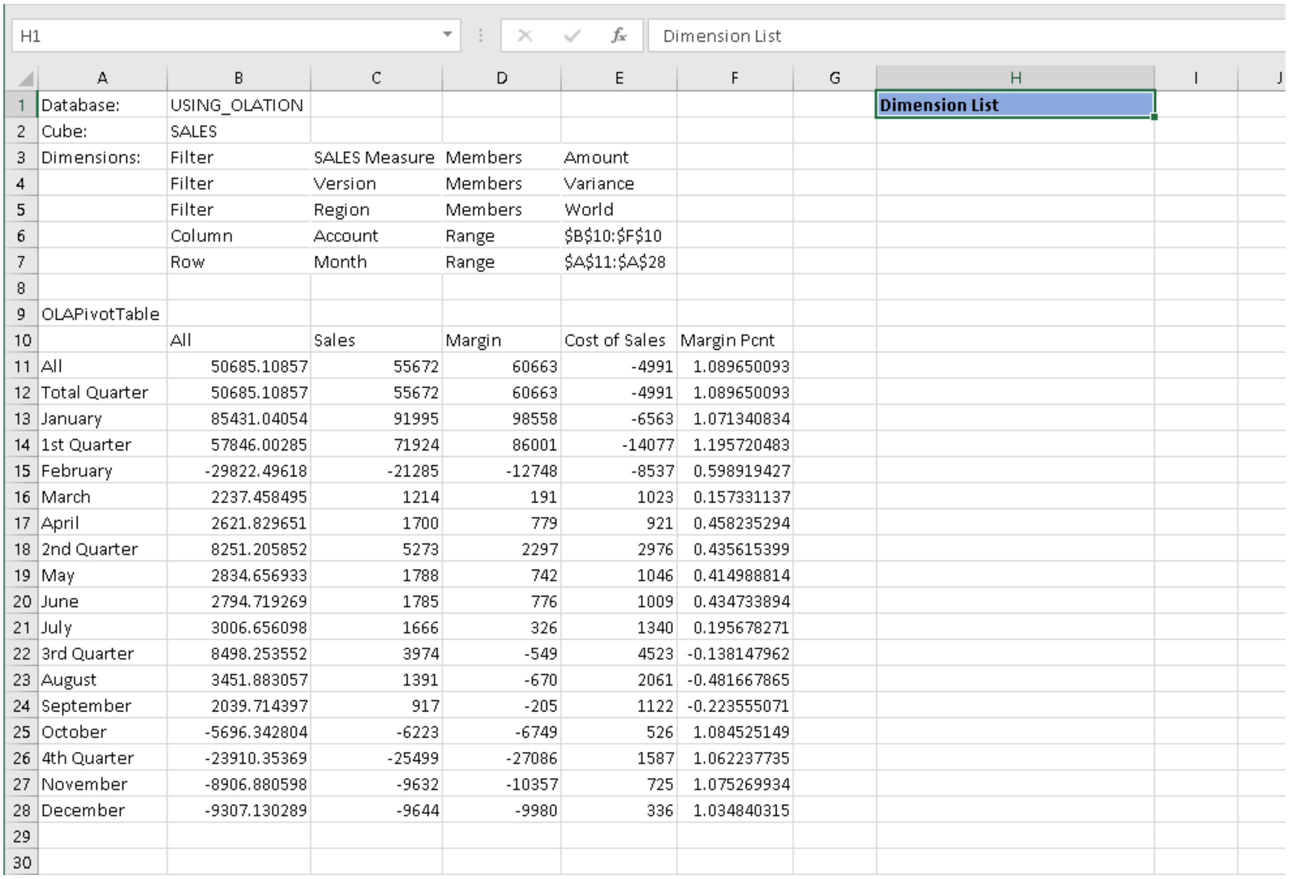
Dimensions

From: USING_OLATION PXL

Account
Version
Month
Region
Product
SALES Measure
PRODUCT_SALES Measure

Example 2: OLADimension(Connection,DimensionIndex)

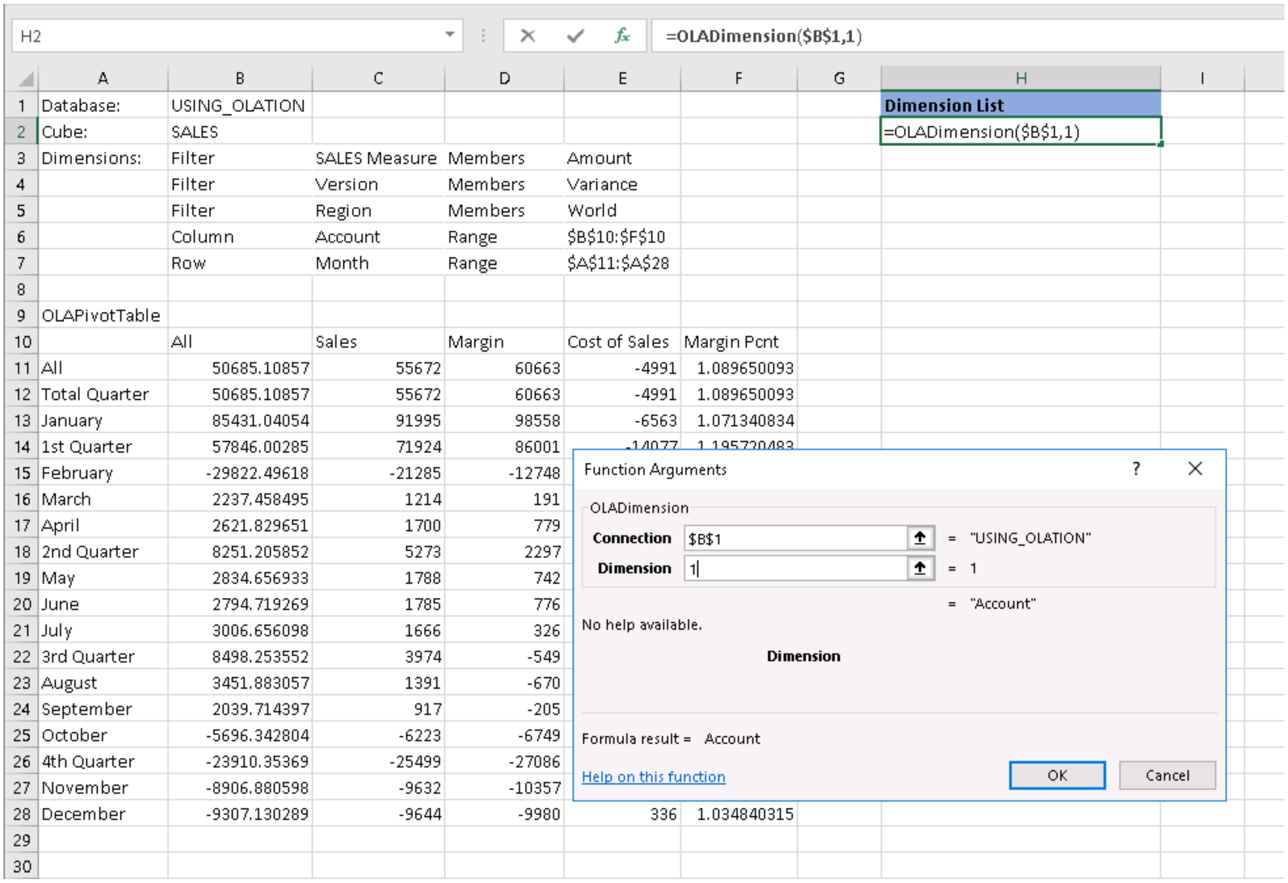
For example, we have a sample PowerExcel Slice and want to see a complete list of the Dimensions that exist in our source database and return those Dimensions in Excel.



H1 Dimension List

	A	B	C	D	E	F	G	H	I	J
1	Database:	USING_OLATION						Dimension List		
2	Cube:	SALES								
3	Dimensions:	Filter	SALES Measure	Members	Amount					
4		Filter	Version	Members	Variance					
5		Filter	Region	Members	World					
6		Column	Account	Range	$B$10:$F$10					
7		Row	Month	Range	$A$11:$A$28					
8										
9	OLAPivotTable									
10		All	Sales	Margin	Cost of Sales	Margin Pcnt				
11	All	50685.10857	55672	60663	-4991	1.089650093				
12	Total Quarter	50685.10857	55672	60663	-4991	1.089650093				
13	January	85431.04054	91995	98558	-6563	1.071340834				
14	1st Quarter	57846.00285	71924	86001	-14077	1.195720483				
15	February	-29822.49618	-21285	-12748	-8537	0.598919427				
16	March	2237.458495	1214	191	1023	0.157331137				
17	April	2621.829651	1700	779	921	0.458235294				
18	2nd Quarter	8251.205852	5273	2297	2976	0.435615399				
19	May	2834.656933	1788	742	1046	0.414988814				
20	June	2794.719269	1785	776	1009	0.434733894				
21	July	3006.656098	1666	326	1340	0.195678271				
22	3rd Quarter	8498.253552	3974	-549	4523	-0.138147962				
23	August	3451.883057	1391	-670	2061	-0.481667865				
24	September	2039.714397	917	-205	1122	-0.223555071				
25	October	-5696.342804	-6223	-6749	526	1.084525149				
26	4th Quarter	-23910.35369	-25499	-27086	1587	1.062237735				
27	November	-8906.880598	-9632	-10357	725	1.075269934				
28	December	-9307.130289	-9644	-9980	336	1.034840315				
29										
30										

- With an example Slice already created (as in the above image), in Cell **H1** (or any empty cell), type the caption '**Dimension List**'.
- Now, to use the **OLADimension** function to list all Dimensions that exist within the database (*USING_OLATION*, in the example): In Cell **H2** click the **Function** button located beside the formula bar. The Insert Function dialog box appears.
- In the Insert Function dialog box, select **PowerExcel.ExcelFunctions** as the category, then select **OLADimension** as the function. The Function Arguments dialog box appears.
- In the Function Arguments dialog, click in the **Connection** field, then click on Cell **B1**, which contains the Database connection reference. Notice that the Database connection name "USING_OLATION" appears beside the connection field.
  Note: You can use the absolute reference to easily copy the formulas across to other: **$B$1**.



H2 =OLADimension($B$1,1)

	A	B	C	D	E	F	G	H	I
1	Database:	USING_OLATION						Dimension List	
2	Cube:	SALES						=OLADimension($B$1,1)	
3	Dimensions:	Filter	SALES Measure	Members	Amount				
4		Filter	Version	Members	Variance				
5		Filter	Region	Members	World				
6		Column	Account	Range	$B$10:$F$10				
7		Row	Month	Range	$A$11:$A$28				
8									
9	OLAPivotTable								
10		All	Sales	Margin	Cost of Sales	Margin Pcnt			
11	All	50685.10857	55672	60663	-4991	1.089650093			
12	Total Quarter	50685.10857	55672	60663	-4991	1.089650093			
13	January	85431.04054	91995	98558	-6563	1.071340834			
14	1st Quarter	57846.00285	71924	86001	-14077	1.195720483			
15	February	-29822.49618	-21285	-12748					
16	March	2237.458495	1214	191					
17	April	2621.829651	1700	779					
18	2nd Quarter	8251.205852	5273	2297					
19	May	2834.656933	1788	742					
20	June	2794.719269	1785	776					
21	July	3006.656098	1666	326					
22	3rd Quarter	8498.253552	3974	-549					
23	August	3451.883057	1391	-670					
24	September	2039.714397	917	-205					
25	October	-5696.342804	-6223	-6749					
26	4th Quarter	-23910.35369	-25499	-27086					
27	November	-8906.880598	-9632	-10357					
28	December	-9307.130289	-9644	-9980	336	1.034840315			
29									
30									

Function Arguments

OLADimension

Connection $B$1 = "USING_OLATION"

Dimension 1 = 1

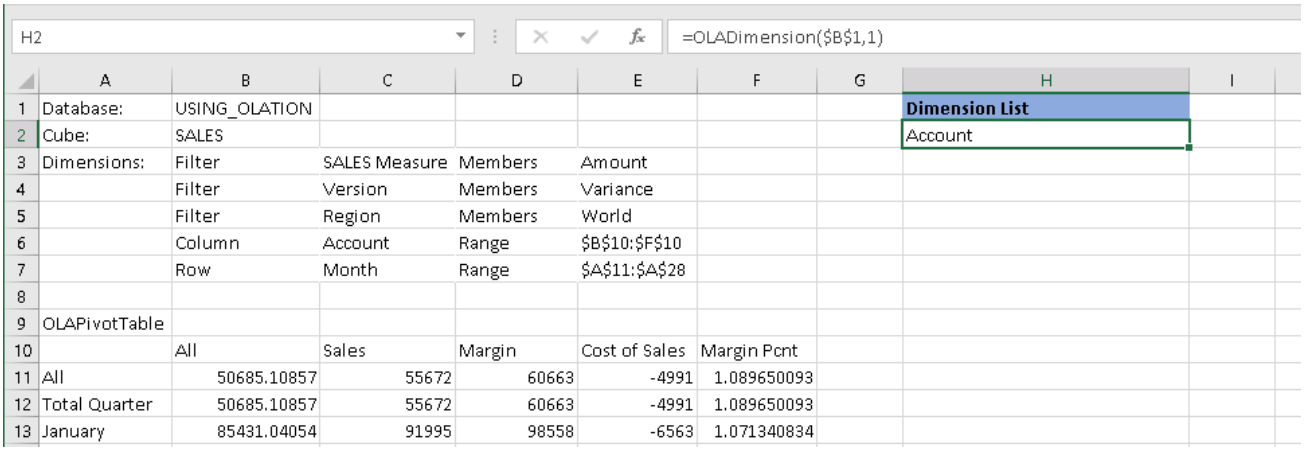
= "Account"

No help available.

Dimension

Formula result = Account

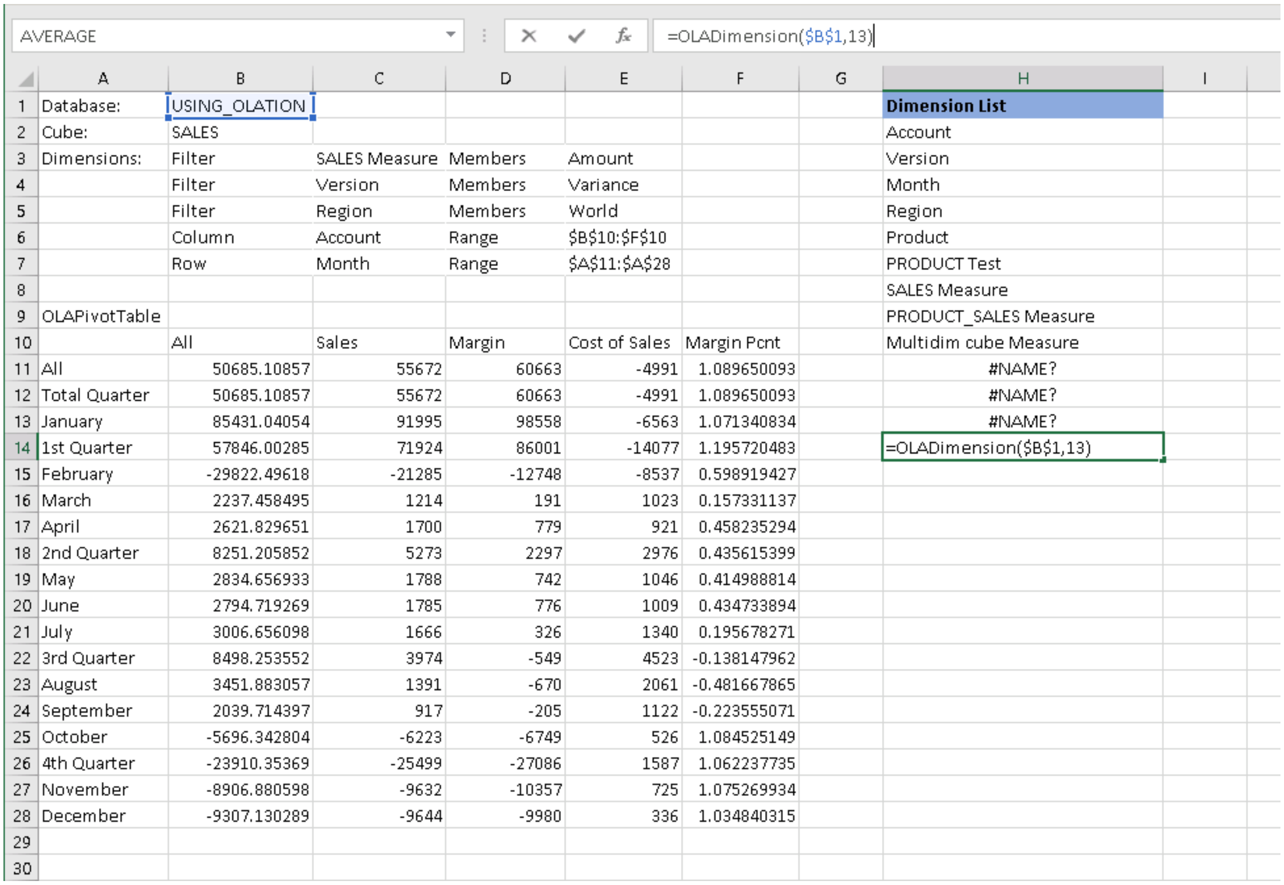
- In the **Dimension** field, type the index number: **1** then click **OK**.
- Back in the Excel worksheet in cell **H2**, the *Account* dimension appears (as in the image below).



H2 =OLADimension($B$1,1)

	A	B	C	D	E	F	G	H	I
1	Database:	USING_OLATION						Dimension List	
2	Cube:	SALES						Account	
3	Dimensions:	Filter	SALES Measure	Members	Amount				
4		Filter	Version	Members	Variance				
5		Filter	Region	Members	World				
6		Column	Account	Range	$B$10:$F$10				
7		Row	Month	Range	$A$11:$A$28				
8									
9	OLAPivotTable								
10		All	Sales	Margin	Cost of Sales	Margin Pcnt			
11	All	50685.10857	55672	60663	-4991	1.089650093			
12	Total Quarter	50685.10857	55672	60663	-4991	1.089650093			
13	January	85431.04054	91995	98558	-6563	1.071340834			

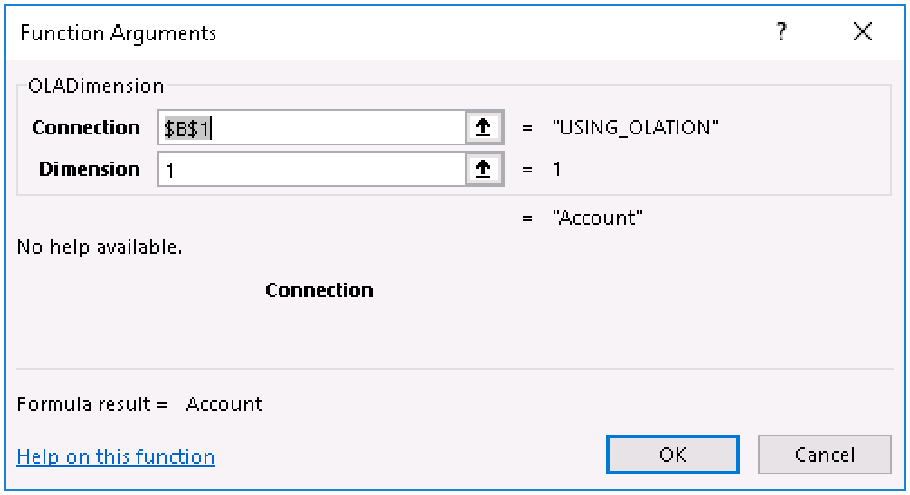
- **Copy the formula down column H** and just change the last parameter, which is the Dimension Index value with **2**, **3**, **4** and so on. The function will start to return #NAME? error when there are no more Dimension corresponding to an index number, meaning you reached the end of the Dimension list.



AVERAGE =OLADimension($B$1,13)

	A	B	C	D	E	F	G	H	I
1	Database:	USING_OLATION						Dimension List	
2	Cube:	SALES						Account	
3	Dimensions:	Filter	SALES Measure	Members	Amount			Version	
4		Filter	Version	Members	Variance			Month	
5		Filter	Region	Members	World			Region	
6		Column	Account	Range	$B$10:$F$10			Product	
7		Row	Month	Range	$A$11:$A$28			PRODUCT Test	
8								SALES Measure	
9	OLAPivotTable							PRODUCT_SALES Measure	
10		All	Sales	Margin	Cost of Sales	Margin Pcnt		Multidim cube Measure	
11	All	50685.10857	55672	60663	-4991	1.089650093		#NAME?	
12	Total Quarter	50685.10857	55672	60663	-4991	1.089650093		#NAME?	
13	January	85431.04054	91995	98558	-6563	1.071340834		#NAME?	
14	1st Quarter	57846.00285	71924	86001	-14077	1.195720483		=OLADimension($B$1,13)	
15	February	-29822.49618	-21285	-12748	-8537	0.598919427			
16	March	2237.458495	1214	191	1023	0.157331137			
17	April	2621.829651	1700	779	921	0.458235294			
18	2nd Quarter	8251.205852	5273	2297	2976	0.435615399			
19	May	2834.656933	1788	742	1046	0.414988814			
20	June	2794.719269	1785	776	1009	0.434733894			
21	July	3006.656098	1666	326	1340	0.195678271			
22	3rd Quarter	8498.253552	3974	-549	4523	-0.138147962			
23	August	3451.883057	1391	-670	2061	-0.481667865			
24	September	2039.714397	917	-205	1122	-0.223555071			
25	October	-5696.342804	-6223	-6749	526	1.084525149			
26	4th Quarter	-23910.35369	-25499	-27086	1587	1.062237735			
27	November	-8906.880598	-9632	-10357	725	1.075269934			
28	December	-9307.130289	-9644	-9980	336	1.034840315			
29									
30									

- In the above example there are 9 existing Dimensions within the *USING_OLATION* database. If you click on any cell containing the **OLADimension** formula (as in the image above) then click on the Formula bar, you will see the cell/index references:



Function Arguments ? ×

OLADimension

Connection $B$1 = "USING_OLATION"

Dimension 1 = 1

= "Account"

No help available.

Connection

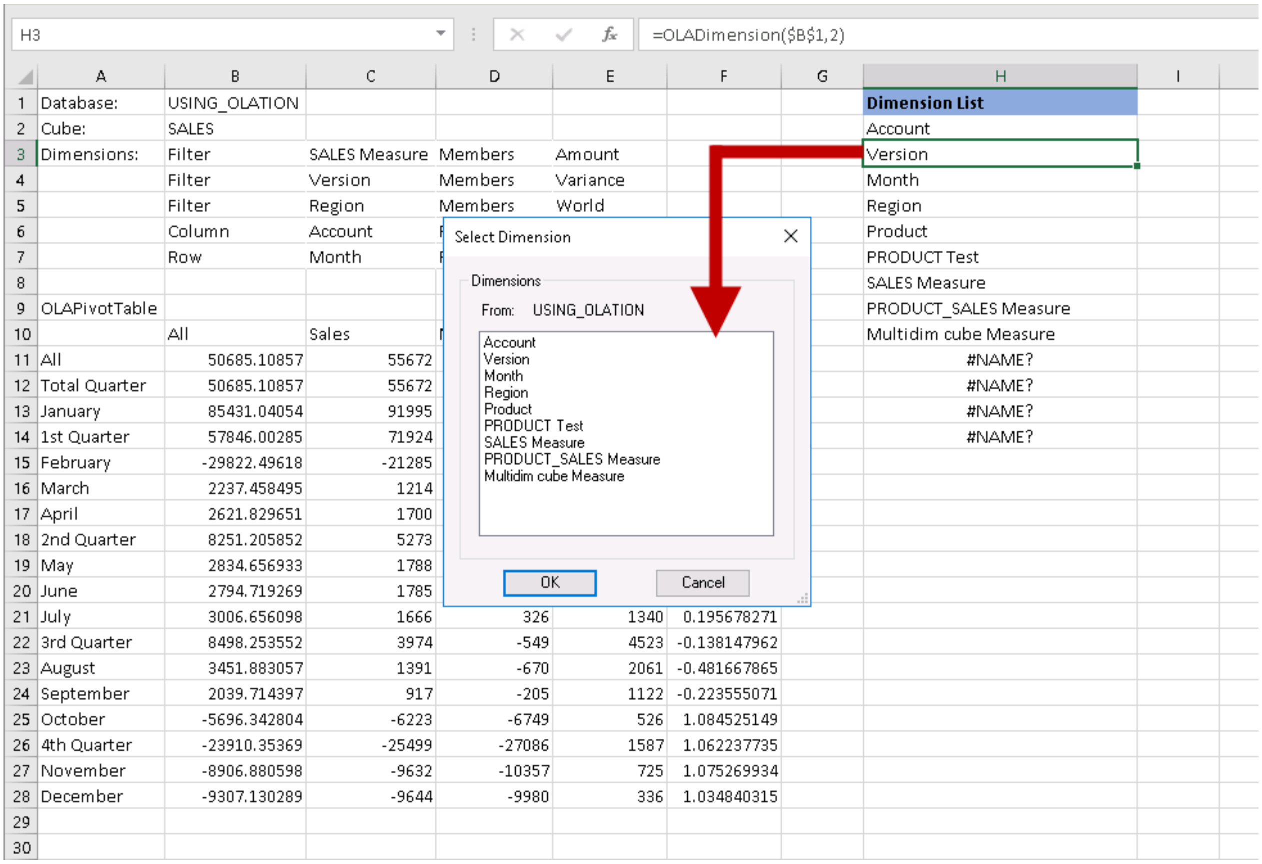
Formula result = Account

Cell References:

=OLADimension ($B$1,1)

- $B$1– the Database name or the PowerExcel connection name/cell reference that contains the name of the Database or the PowerExcel connection, i.e., **USING_OLATION**
- 1 –the Dimension Index number; the corresponding Member to this index value in this case is **Account**

- If you double-click on the cell that contains the **OLADimension** formula (as in the image below), the Select Dimension dialog will appear—this also shows a list all existing Dimensions within the source database.



H3

=OLADimension($B$1,2)

	A	B	C	D	E	F	G	H	I
1	Database:	USING_OLATION						**Dimension List**	
2	Cube:	SALES						Account	
3	Dimensions:	Filter	SALES Measure	Members	Amount			Version	
4		Filter	Version	Members	Variance			Month	
5		Filter	Region	Members	World			Region	
6		Column	Account	F				Product	
7		Row	Month	F				PRODUCT Test	
8								SALES Measure	
9	OLAPivotTable							PRODUCT_SALES Measure	
10		All	Sales	M				Multidim cube Measure	
11	All	50685.10857	55672					#NAME?	
12	Total Quarter	50685.10857	55672					#NAME?	
13	January	85431.04054	91995					#NAME?	
14	1st Quarter	57846.00285	71924					#NAME?	
15	February	-29822.49618	-21285						
16	March	2237.458495	1214						
17	April	2621.829651	1700						
18	2nd Quarter	8251.205852	5273						
19	May	2834.656933	1788						
20	June	2794.719269	1785						
21	July	3006.656098	1666	326	1340	0.195678271			
22	3rd Quarter	8498.253552	3974	-549	4523	-0.138147962			
23	August	3451.883057	1391	-670	2061	-0.481667865			
24	September	2039.714397	917	-205	1122	-0.223555071			
25	October	-5696.342804	-6223	-6749	526	1.084525149			
26	4th Quarter	-23910.35369	-25499	-27086	1587	1.062237735			
27	November	-8906.880598	-9632	-10357	725	1.075269934			
28	December	-9307.130289	-9644	-9980	336	1.034840315			
29									
30									

Select Dimension

Dimensions

From: USING_OLATION

Account
Version
Month
Region
Product
PRODUCT Test
SALES Measure
PRODUCT_SALES Measure
Multidim cube Measure

9. OLAMember

Function Description: This function returns the specified Member within the specified Dimension that exists in a specified PowerExcel/Database Connection.

Syntax: OLADimension(Connection,Dimension,Member)

OR

OLADimension(Connection,Dimension,MemberIndex)

Connection: Enter the PowerExcel connection which contains the information about the Olation server URL and the source database name.

Dimension: Enter the name of the Dimension or the cell reference that contains the name of the Dimension where the Member to be returned exists.

Member: Enter the name of the Member or the cell reference that contains the name of the Member you wish to return.

Member Index: The index number corresponding to the Member you want to return.

Remarks:

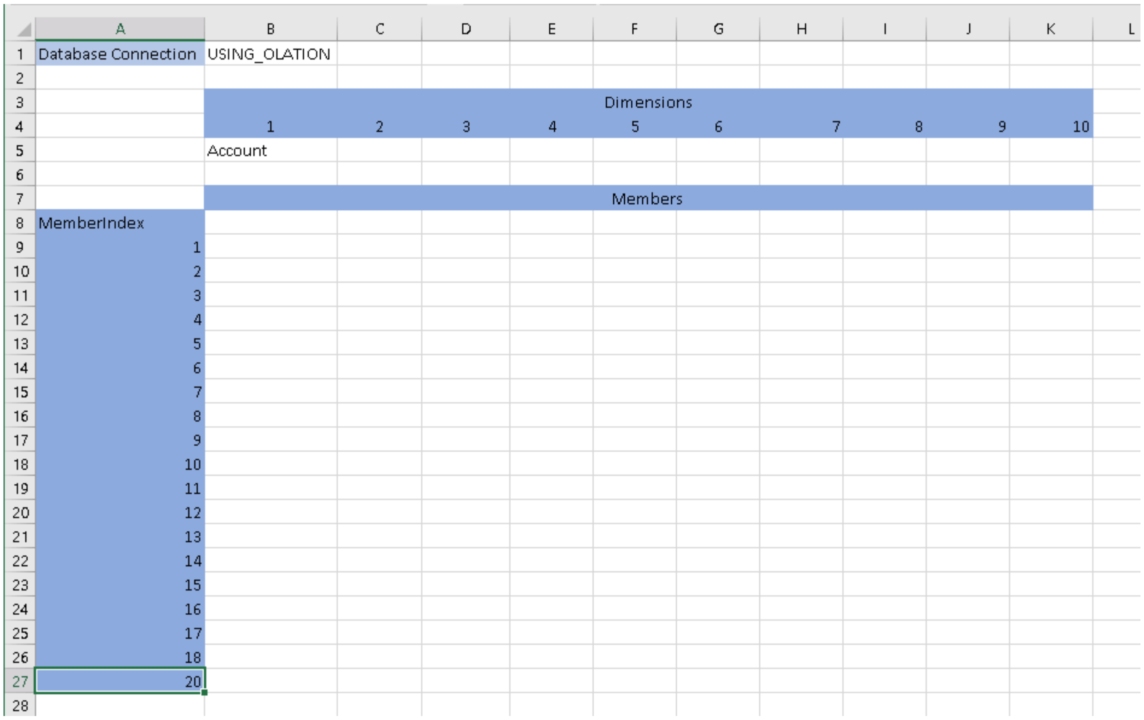
- The PowerExcel Connection must exist.
- The Olation Web Service must be running.
- The Database must be opened and running in the specified server.
- The ‘Connection’ and ‘Dimension’ parameters are compulsory.
- All component Members of Dimensions within the database are each assigned an index number starting from 1, 2, 3… and so on. If there is no Member assigned to that index number, then it will return a #NAME? error.

Example: OLAMember (Connection,Dimension,MemberIndex)

For this example, we will use the **OLAMember** function to identify and make a list of all the Members that exist for the Dimensions in our source database (*USING_OLATION*).

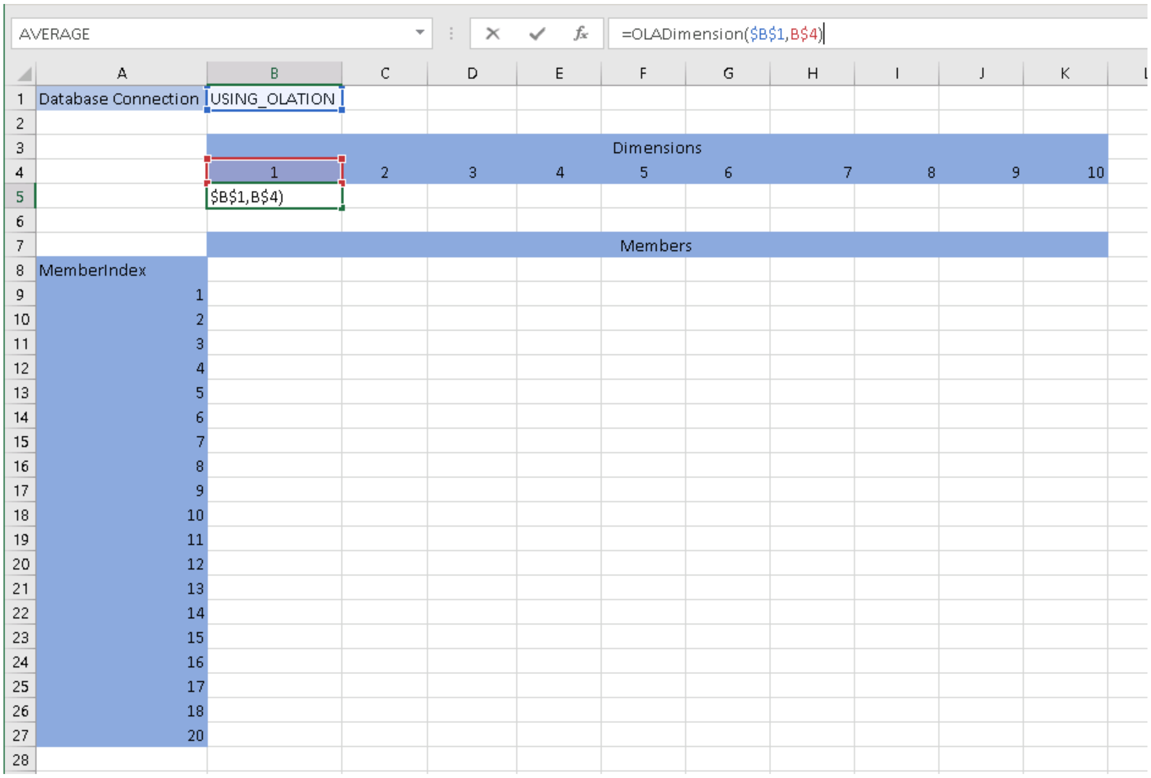
- First establish a connection a the target database. In cell, A1 type in **Database connection** (cells that are descriptive—i.e., non-formula-derived—are blue-highlighted for easy identification), then go to cell B1 and use the OLADatabase function to establish a connection to the target database (in the example, the Database connection is =@OLADatabase("USING_OLATION").
- For ease in copying the functions across other cells, we will make use of index numbers and apply absolute references to the OLADimension and **OLAMember** formula functions. Row 4, starting cell B4, type numbers **1 to 10** (type in cells **B4 to K4**). In the row above, enter the term **Dimensions**.

  In cells **A9 to A27**, type the numbers **1 to 20** and put the term **MemberIndex** in cell **A8** (all as shown in the following image.)



	A	B	C	D	E	F	G	H	I	J	K	L
1	Database Connection	USING_OLATION										
2												
3		Dimensions										
4		1	2	3	4	5	6	7	8	9	10	
5		Account										
6												
7		Members										
8	MemberIndex											
9	1											
10	2											
11	3											
12	4											
13	5											
14	6											
15	7											
16	8											
17	9											
18	10											
19	11											
20	12											
21	13											
22	14											
23	15											
24	16											
25	17											
26	18											
27	20											
28												

- In cells **B5 to K5**, use the **OLAMember** function to pull in the Dimensions that exist within the *USING_OLATION* database. In the example, define the formula in cell B5 as: =OLADimension($B$1,B$4).

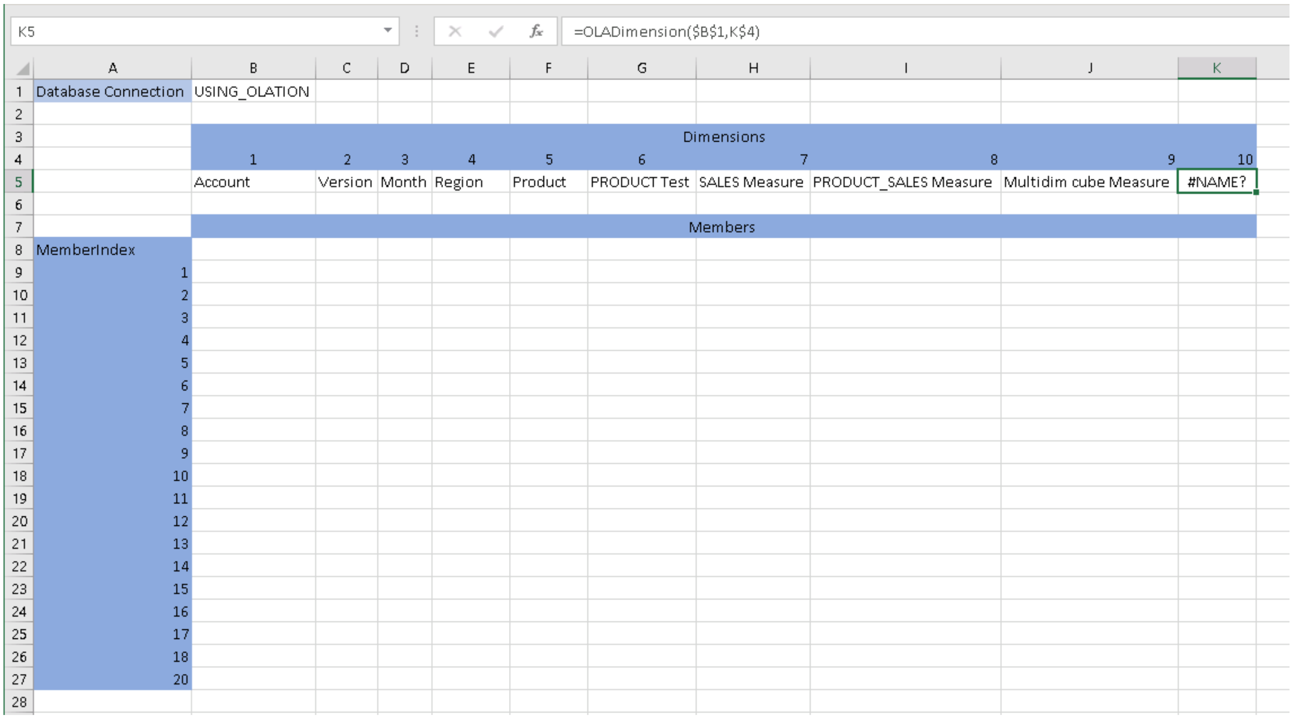


AVERAGE

=OLADimension($B$1,B$4)

	A	B	C	D	E	F	G	H	I	J	K	L
1	Database Connection	USING_OLATION										
2												
3		Dimensions										
4		1	2	3	4	5	6	7	8	9	10	
5		$B$1,B$4)										
6												
7		Members										
8	MemberIndex											
9	1											
10	2											
11	3											
12	4											
13	5											
14	6											
15	7											
16	8											
17	9											
18	10											
19	11											
20	12											
21	13											
22	14											
23	15											
24	16											
25	17											
26	18											
27	20											
28												

- **Copy the formula** to cells **C5** to **K5**. Click **F9** to refresh the Excel values.



K5

=OLADimension($B$1,K$4)

	A	B	C	D	E	F	G	H	I	J	K
1	Database Connection	USING_OLATION									
2											
3		Dimensions									
4		1	2	3	4	5	6	7	8	9	10
5		Account	Version	Month	Region	Product	PRODUCT Test	SALES Measure	PRODUCT_SALES Measure	Multidim cube Measure	#NAME?
6											
7		Members									
8	MemberIndex										
9	1										
10	2										
11	3										
12	4										
13	5										
14	6										
15	7										
16	8										
17	9										
18	10										
19	11										
20	12										
21	13										
22	14										
23	15										
24	16										
25	17										
26	18										
27	20										
28											

- Next use the **OLAMember** function to create a list of Members for each Dimension that exist within the *USING_OLATION* database: in Cell **B9**, click next to the **Function** button located beside the formula bar. The Insert Function dialog box appears.

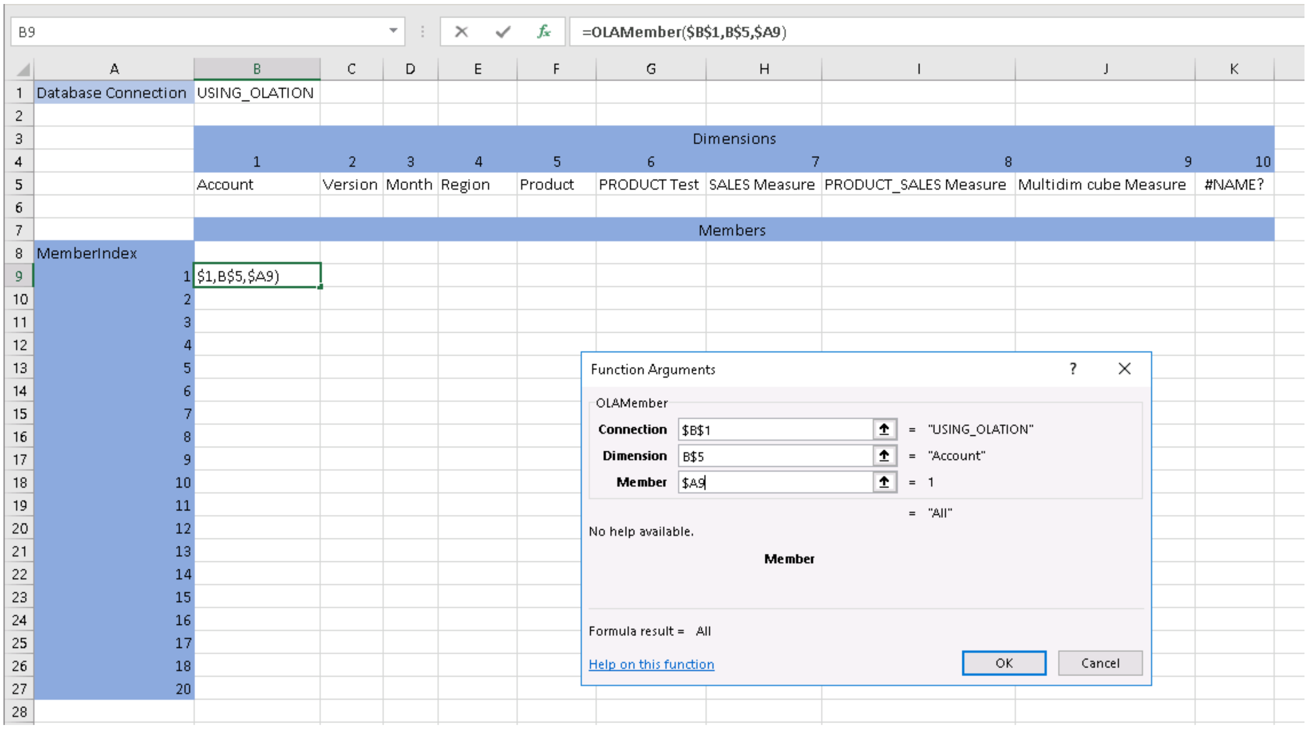
- In the category list, select **PowerExcel.ExcelFunctions**; click **OLAMember** and click **OK**. The Function Arguments dialog box appears. This is where you will define the **OLAMember** formula.

- In the Function Arguments dialog, click on the **Connection** field, then click on cell **B1**, which contains the Database connection reference. Notice that the Database connection name "USING_OLATION" appears beside the connection field.
  Note: You can use the absolute reference to easily copy the formulas across to other cells: **$B$1**.

- Click on the **Dimension** field, then click on cell **B5**, which contains the Dimension reference. Note that the Dimension name "Account" appears beside the Dimension field. **Note:** You can again use an absolute reference for this formula: **B$5**.

- Lastly, click on the **Member** field, then click on cell **A9**, which will dictate the index value for the last parameter. Again, use an absolute reference along the columns: **$A9**.

- The Function Arguments dialog will look as follows:



B9

=OLAMember($B$1,B$5,$A9)

	A	B	C	D	E	F	G	H	I	J	K
1	Database Connection	USING_OLATION									
2											
3								Dimensions			
4		1	2	3	4	5	6	7	8	9	10
5		Account	Version	Month	Region	Product	PRODUCT Test	SALES Measure	PRODUCT_SALES Measure	Multidim cube Measure	#NAME?
6											
7								Members			
8	MemberIndex										
9	1	$1,B$5,$A9)									
10	2										
11	3										
12	4										
13	5										
14	6										
15	7										
16	8										
17	9										
18	10										
19	11										
20	12										
21	13										
22	14										
23	15										
24	16										
25	17										
26	18										
27	20										
28											

Function Arguments

OLAMember

Connection $B$1 = "USING_OLATION"

Dimension B$5 = "Account"

Member $A9 = 1

= "All"

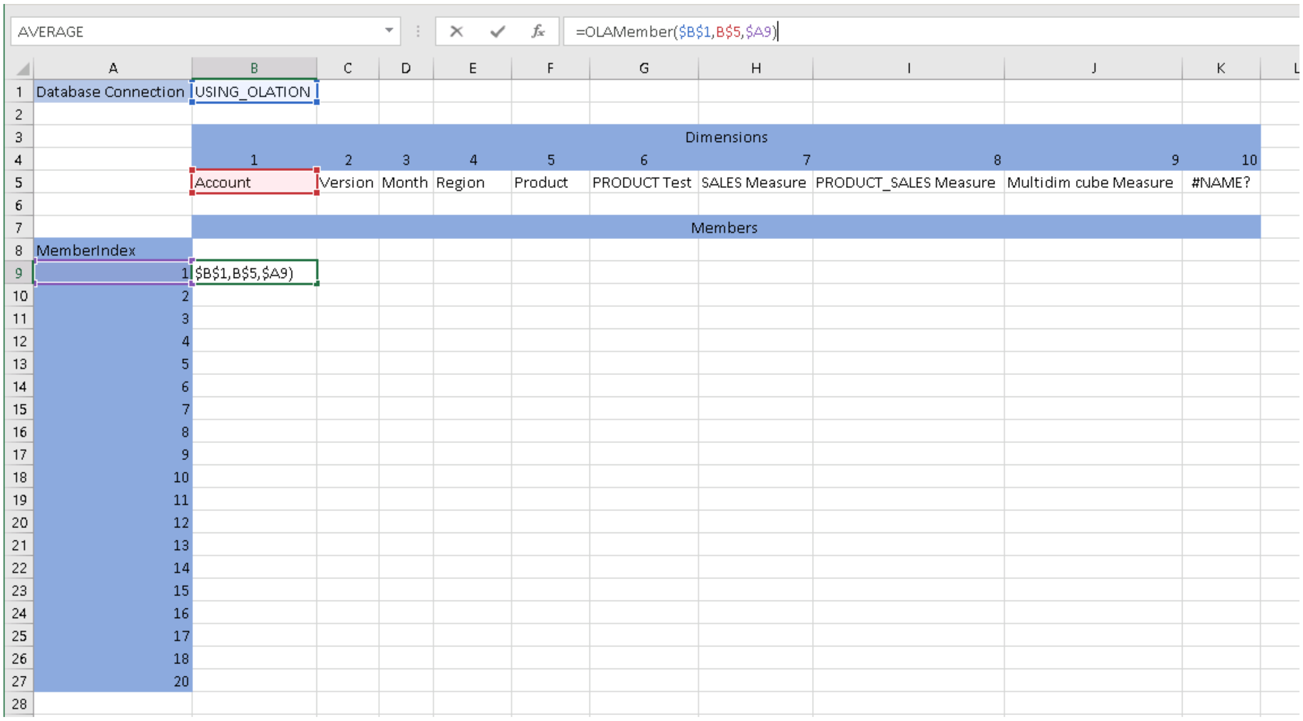
No help available.

Member

Formula result = All

Help on this function

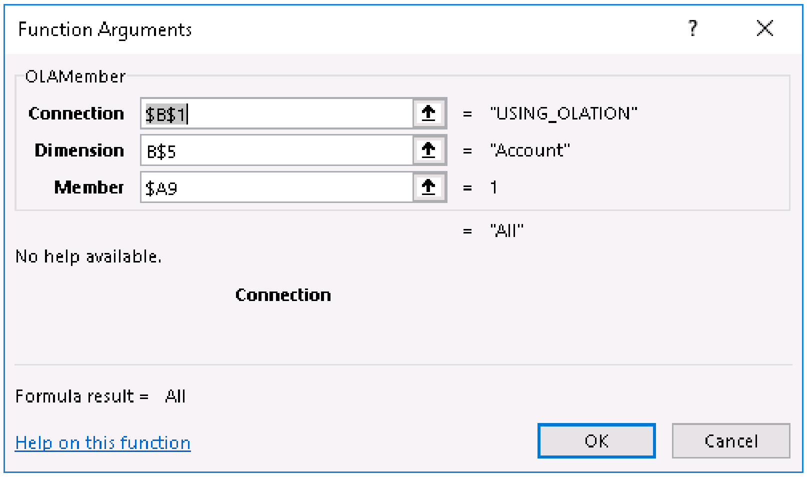
- Click **OK**. This will return the Member **All**. Note the cell references in the following image:



AVERAGE

=OLAMember($B$1,B$5,$A9)

	A	B	C	D	E	F	G	H	I	J	K	L
1	Database Connection	USING_OLATION										
2												
3								Dimensions				
4		1	2	3	4	5	6	7	8	9	10	
5		Account	Version	Month	Region	Product	PRODUCT Test	SALES Measure	PRODUCT_SALES Measure	Multidim cube Measure	#NAME?	
6												
7								Members				
8	MemberIndex											
9	1	$B$1,B$5,$A9)										
10	2											
11	3											
12	4											
13	5											
14	6											
15	7											
16	8											
17	9											
18	10											
19	11											
20	12											
21	13											
22	14											
23	15											
24	16											
25	17											
26	18											
27	20											
28												



Function Arguments

OLAMember

Connection $B$1 = "USING_OLATION"

Dimension B$5 = "Account"

Member $A9 = 1

= "All"

No help available.

Connection

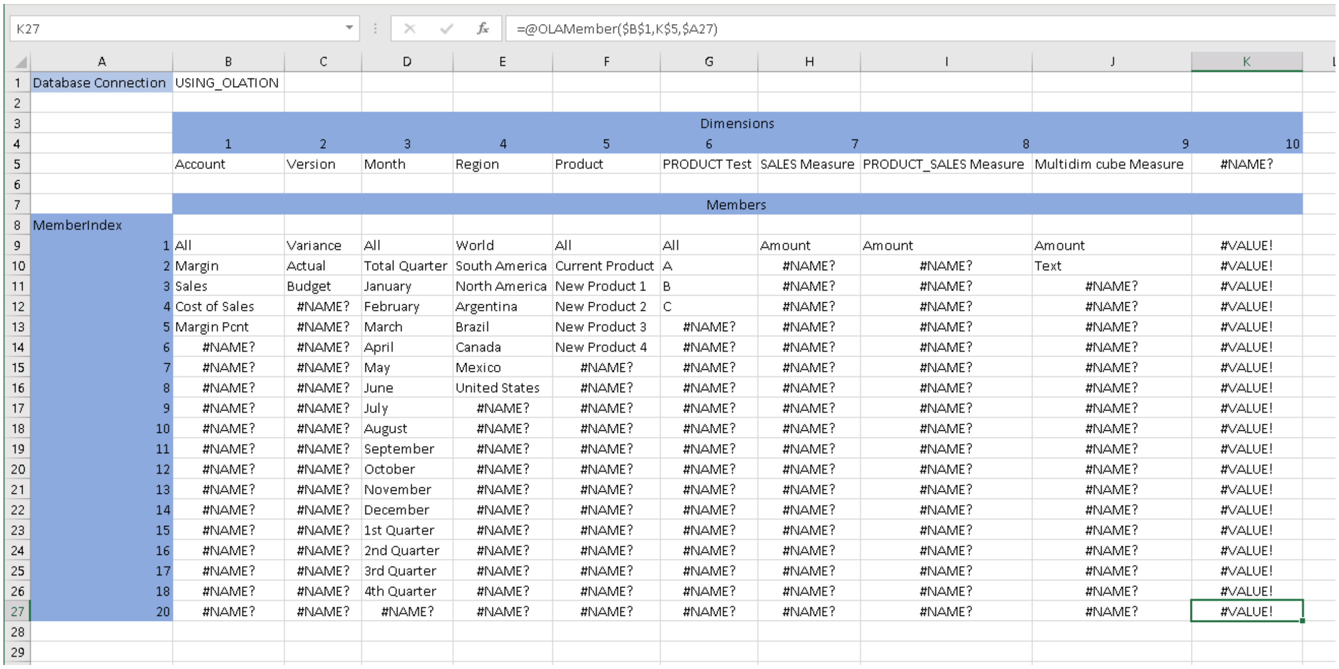
Formula result = All

Cell References:

=OLAMember($B$1,B$5,$A9)

- $B$1– the Database name or the PowerExcel connection name/cell reference that contains the name of the Database or the PowerExcel connection, i.e., **USING_OLATION**
- B$5– the Dimension name having the index value of 1 in the *USING_OLATION* Database, i.e., **Account**
- $A9– the Member Index number or cell reference, i.e., **1**

- Now, copy this formula across the range **B9:K27**.



K27 =@OLAMember($B$1,K$5,$A27)

	A	B	C	D	E	F	G	H	I	J	K
1	Database Connection	USING_OLATION									
2											
3							Dimensions				
4		1	2	3	4	5	6	7	8	9	10
5		Account	Version	Month	Region	Product	PRODUCT Test	SALES Measure	PRODUCT_SALES Measure	Multidim cube Measure	#NAME?
6											
7							Members				
8	MemberIndex										
9	1	All	Variance	All	World	All	All	Amount	Amount	Amount	#VALUE!
10	2	Margin	Actual	Total Quarter	South America	Current Product	A	#NAME?	#NAME?	Text	#VALUE!
11	3	Sales	Budget	January	North America	New Product 1	B	#NAME?	#NAME?	#NAME?	#VALUE!
12	4	Cost of Sales	#NAME?	February	Argentina	New Product 2	C	#NAME?	#NAME?	#NAME?	#VALUE!
13	5	Margin Pcnt	#NAME?	March	Brazil	New Product 3	#NAME?	#NAME?	#NAME?	#NAME?	#VALUE!
14	6	#NAME?	#NAME?	April	Canada	New Product 4	#NAME?	#NAME?	#NAME?	#NAME?	#VALUE!
15	7	#NAME?	#NAME?	May	Mexico	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#VALUE!
16	8	#NAME?	#NAME?	June	United States	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#VALUE!
17	9	#NAME?	#NAME?	July	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#VALUE!
18	10	#NAME?	#NAME?	August	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#VALUE!
19	11	#NAME?	#NAME?	September	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#VALUE!
20	12	#NAME?	#NAME?	October	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#VALUE!
21	13	#NAME?	#NAME?	November	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#VALUE!
22	14	#NAME?	#NAME?	December	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#VALUE!
23	15	#NAME?	#NAME?	1st Quarter	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#VALUE!
24	16	#NAME?	#NAME?	2nd Quarter	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#VALUE!
25	17	#NAME?	#NAME?	3rd Quarter	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#VALUE!
26	18	#NAME?	#NAME?	4th Quarter	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#VALUE!
27	20	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#VALUE!
28											
29											

- Press **F9** or refresh the Excel worksheet. You will see that a full list of the Members appears, by Dimension, in the USING_OLATION database.

10.OLAPivotTable

Function Description: This function, when used as the means to bring data into a Slice, creates a sophisticated array of data that enables a user to pivot or re-arrange data, easily apply data constraints, and quickly customize the spreadsheet view.

Syntax: OLAPivotTable(Connection,Cube,Dimension1,Dimension2 Dimension3,…, DimensionN,CellLocation,True/False1,True/False2,True/False3)

Connection: The PowerExcel connection which contains the information about the Olation server URL and the source database name.

Cube: The name of the source/target Cube; or enter the cell reference that contains the name of the source or target Cube you wish to establish connection to.

Dimension1 to DimensionN: The related Dimension references.

CellLocation: the cell location where the OLAPivotTable will start to bring in data

True/False1: relates to checkbox Constrain Empty Rows

True/False2: relates to checkbox Delete Removed Rows

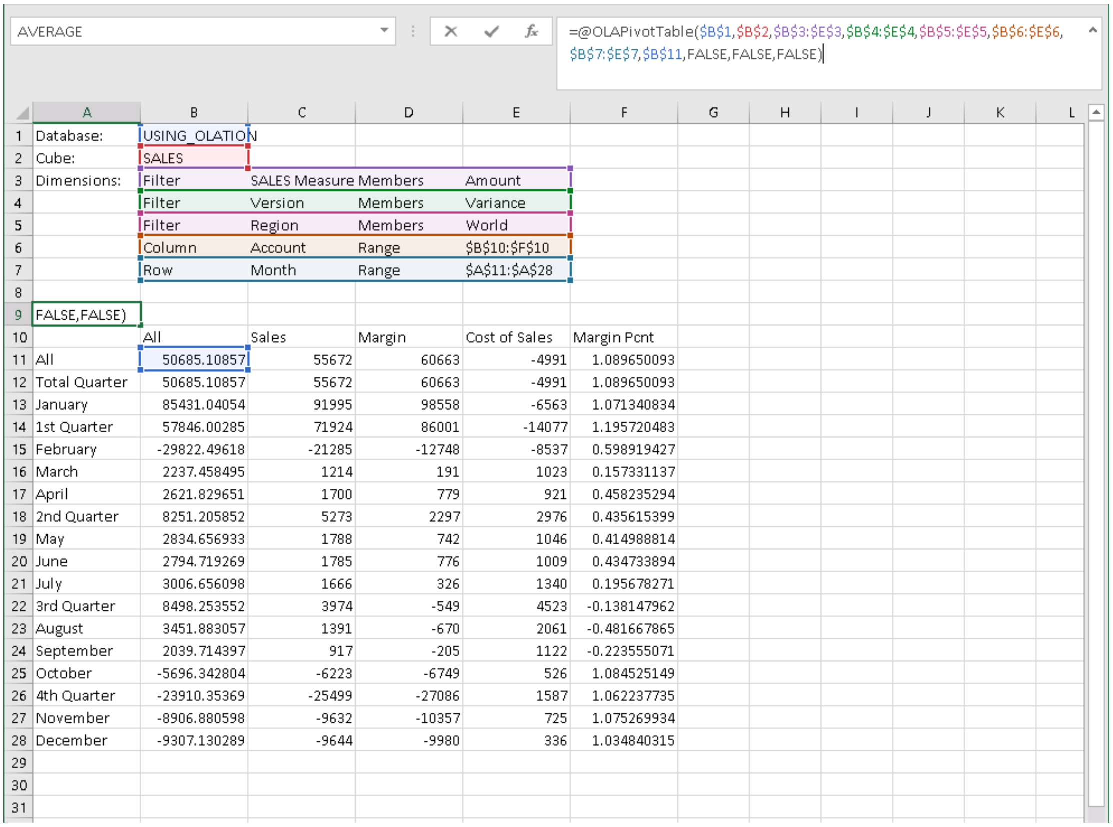
True/False3: relates to checkbox Expandable Members (under development)

Remarks:

- The PowerExcel Connection must exist.
- The Olation Web Service must be running.
- The Database must be opened and running in the specified server.
- The 'Connection', 'Cube' and 'Dimension' parameters are compulsory.
- CellLocation. TrueFalse1, TrueFalse2, TrueFalse3 are compulsory.

Example: OLAPivotTable(Connection,Cube,Dimension1,Dimension2,Dimension3,…, DimensionN,CellLocation,True/False1,True/False2,True/False3)

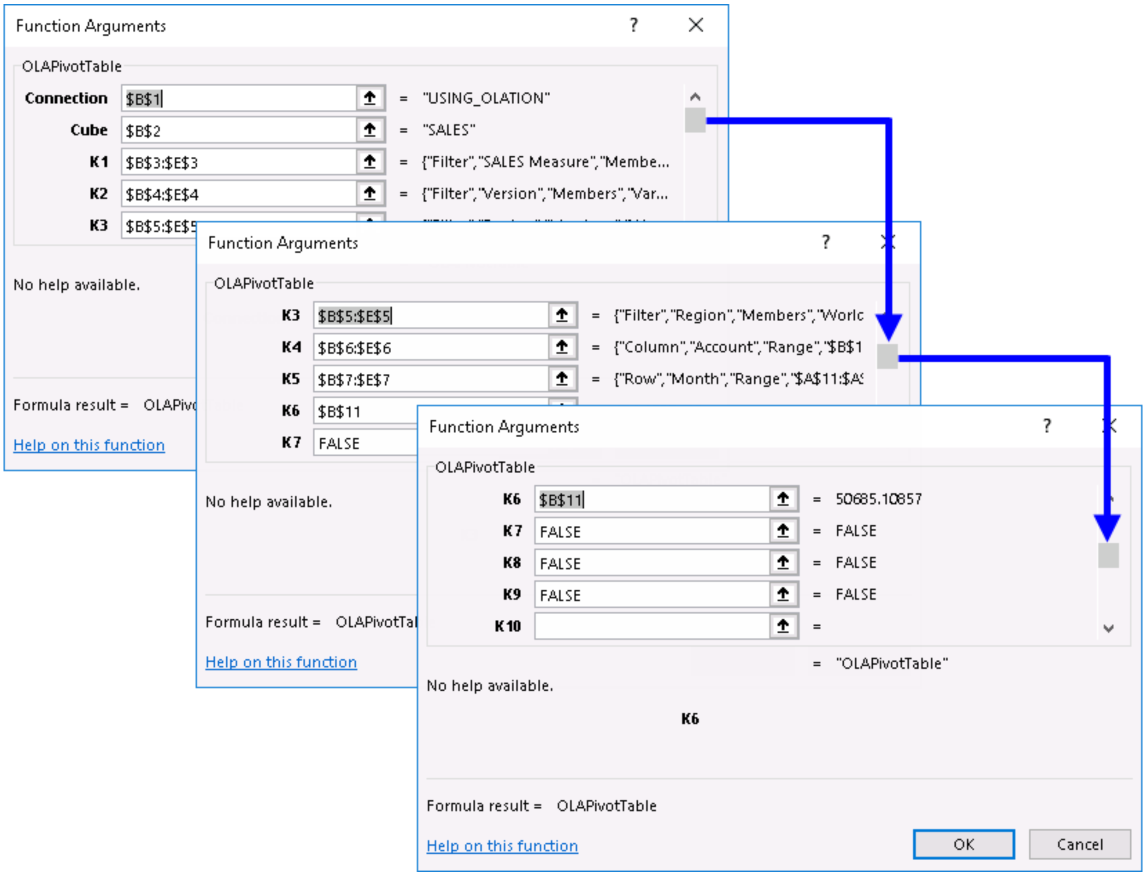
The Example Slice below shows a PowerExcel Perspective Slice. Let us look at the corresponding cell references:



AVERAGE

=@OLAPivotTable($B$1,$B$2,$B$3:$E$3,$B$4:$E$4,$B$5:$E$5,$B$6:$E$6,$B$7:$E$7,$B$11,FALSE,FALSE,FALSE)

	A	B	C	D	E	F	G	H	I	J	K	L
1	Database:	USING_OLATION										
2	Cube:	SALES										
3	Dimensions:	Filter	SALES Measure	Members	Amount							
4		Filter	Version	Members	Variance							
5		Filter	Region	Members	World							
6		Column	Account	Range	$B$10:$F$10							
7		Row	Month	Range	$A$11:$A$28							
8												
9	FALSE,FALSE)											
10		All	Sales	Margin	Cost of Sales	Margin Pcnt						
11	All	50685.10857	55672	60663	-4991	1.089650093						
12	Total Quarter	50685.10857	55672	60663	-4991	1.089650093						
13	January	85431.04054	91995	98558	-6563	1.071340834						
14	1st Quarter	57846.00285	71924	86001	-14077	1.195720483						
15	February	-29822.49618	-21285	-12748	-8537	0.598919427						
16	March	2237.458495	1214	191	1023	0.157331137						
17	April	2621.829651	1700	779	921	0.458235294						
18	2nd Quarter	8251.205852	5273	2297	2976	0.435615399						
19	May	2834.656933	1788	742	1046	0.414988814						
20	June	2794.719269	1785	776	1009	0.434733894						
21	July	3006.656098	1666	326	1340	0.195678271						
22	3rd Quarter	8498.253552	3974	-549	4523	-0.138147962						
23	August	3451.883057	1391	-670	2061	-0.481667865						
24	September	2039.714397	917	-205	1122	-0.223555071						
25	October	-5696.342804	-6223	-6749	526	1.084525149						
26	4th Quarter	-23910.35369	-25499	-27086	1587	1.062237735						
27	November	-8906.880598	-9632	-10357	725	1.075269934						
28	December	-9307.130289	-9644	-9980	336	1.034840315						
29												
30												
31												



Function Arguments

OLAPivotTable

Connection $B$1 = "USING_OLATION"

Cube $B$2 = "SALES"

K1 $B$3:$E$3 = {"Filter","SALES Measure","Membe...

K2 $B$4:$E$4 = {"Filter","Version","Members","Var...

K3 $B$5:$E$5

No help available.

Formula result = OLAPivo

Help on this function

Function Arguments

OLAPivotTable

K3 $B$5:$E$5 = {"Filter","Region","Members","Worlc

K4 $B$6:$E$6 = {"Column","Account","Range","$B$1

K5 $B$7:$E$7 = {"Row","Month","Range","$A$11:A

K6 $B$11

K7 FALSE

No help available.

Formula result = OLAPivotTal

Help on this function

Function Arguments

OLAPivotTable

K6 $B$11 = 50685.10857

K7 FALSE = FALSE

K8 FALSE = FALSE

K9 FALSE = FALSE

K10 =

= "OLAPivotTable"

No help available.

K6

Formula result = OLAPivotTable

Help on this function

Cell References:

```
=OLAPivotTable($B$1,$B$2,$B$3:$E$3,$B$4:$E$4,$B$5:$E$5,
$B$6:$E$6,$B$7:$E$7,$B$11,FALSE,FALSE,FALSE)
```

  - $B$1– the Database name or the PowerExcel connection name/cell reference that contains the name of the Database or the PowerExcel connection, i.e., **USING_OLATION**
  - $B$2 – the Cube in the Database, i.e., **SALES** Cube
  - $B$3:$E$3 – the ***Amount*** Member in the *SALES Measure* Dimension [Filter reference]
  - $B$4:$E$4 – the ***Variance*** Member in the *Version* Dimension [Filter reference]
  - $B$5:$E$5 – the ***World*** Member in the *Region* Dimension [Filter reference]
  - $B$6:$E$6 – the Range relevant to the *Account* Dimension [Column reference]. This will dictate what Members will be displayed along Columns.
  - $B$7:$E$7 – the Range relevant to the *Month* Dimension [Row reference]. This will dictate what Members will be displayed along Rows.
  - $B$11 – this the cell location where the OLAPivotTable will start to bring in data.
  - FALSE – the checkbox Constrain Empty Rows is disabled
  - FALSE – the checkbox Delete Removed Rows is disabled
  - FALSE – the checkbox Expandable Members is disabled (under development)

- Now, delete a cell value corresponding to a fact data, for example value in cell B12. Notice that once you refresh the PowerExcel Slice, the value will be returned in the cell.
- Next, delete ALL fact data within the PowerExcel Slice; once again, upon hitting the Refresh button or F9, all the data will be returned in the Slice.

11.OLAPowerQuery

Function Description: The PowerExcel Power Analyzer dynamically creates a Slice in Excel in a powerful format that leverages Excel's own Power Query capabilities. In sum, it gives the user the ability to apply any queries to the table, apply numerous filters, easily reorder the table, and record/automate/undo changes, among other capabilities.

The important thing to take note of when using the PowerExcel Power Analyzer is that it is updated using the **Refresh** button found in the PowerExcel tab of the Excel ribbon. The F9 key WILL NOT refresh a PowerExcel Slice that has the Power Analyzer as the Slice type.

Syntax: OLAPowerQuery(Connection,Cube,Dimension1,Dimension2, Dimension3,…, DimensionN,Table_ExternalData_1)

Connection: The PowerExcel connection which contains the information about the Olation server URL and the source database name.

Cube: The name of the source/target Cube; or enter the cell reference that contains the name of the source or target Cube you wish to establish connection to.

Dimension1 to DimensionN: The related Dimension references.

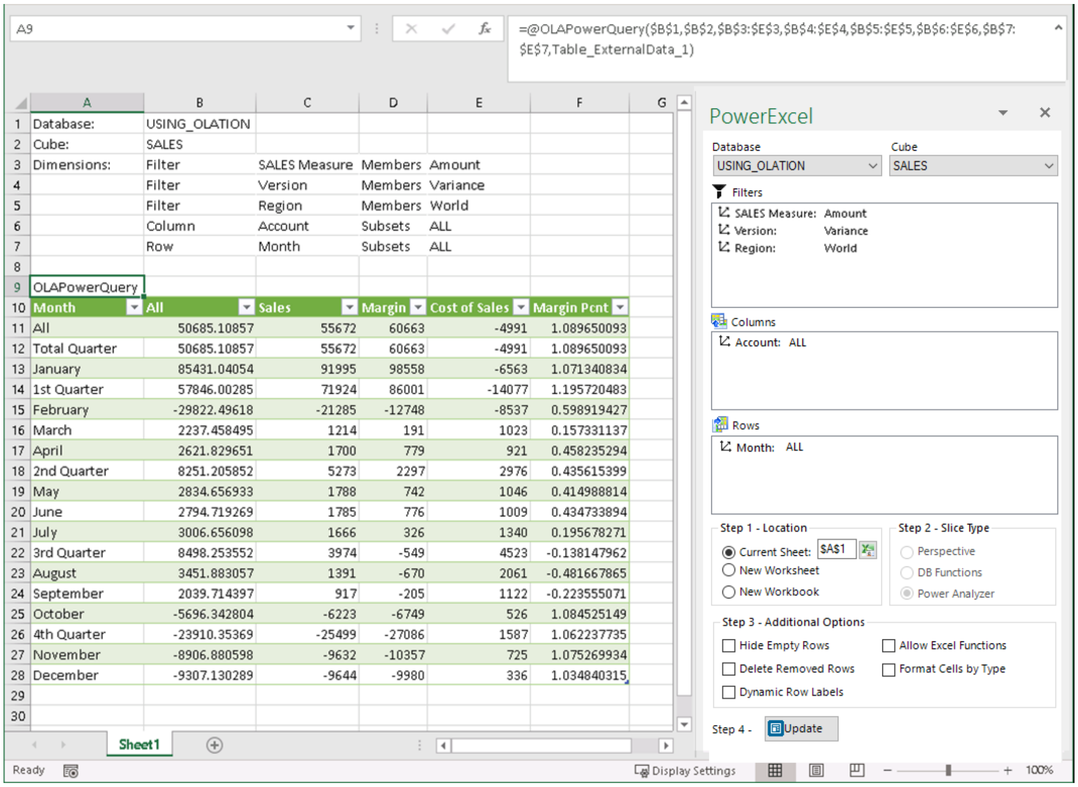
Table_ExternalData_1: as referenced by Excel, the range of cells where the data appears.

Remarks:

- The PowerExcel Connection must exist.
- The Olation Web Service must be running.
- The Database must be opened and running in the specified server.
- The 'Connection', 'Cube' and 'Dimension' parameters are compulsory
- Table_ExternalData_1 is compulsory.

Example: OLAPowerQuery(Connection,Cube, Dimension1, Dimension2, Dimension3,…, DimensionN,Table_External_Data_1)

The example below shows a PowerExcel Power Analyzer Slice. Let us look at the corresponding cell references:



A9 =@OLAPowerQuery($B$1,$B$2,$B$3:$E$3,$B$4:$E$4,$B$5:$E$5,$B$6:$E$6,$B$7:$E$7,Table_ExternalData_1)

	A	B	C	D	E	F
1	Database:	USING_OLATION				
2	Cube:	SALES				
3	Dimensions:	Filter	SALES Measure	Members	Amount	
4		Filter	Version	Members	Variance	
5		Filter	Region	Members	World	
6		Column	Account	Subsets	ALL	
7		Row	Month	Subsets	ALL	
8						
9	OLAPowerQuery					
10	Month	All	Sales	Margin	Cost of Sales	Margin Pcnt
11	All	50685.10857	55672	60663	-4991	1.089650093
12	Total Quarter	50685.10857	55672	60663	-4991	1.089650093
13	January	85431.04054	91995	98558	-6563	1.071340834
14	1st Quarter	57846.00285	71924	86001	-14077	1.195720483
15	February	-29822.49618	-21285	-12748	-8537	0.598919427
16	March	2237.458495	1214	191	1023	0.157331137
17	April	2621.829651	1700	779	921	0.458235294
18	2nd Quarter	8251.205852	5273	2297	2976	0.435615399
19	May	2834.656933	1788	742	1046	0.414988814
20	June	2794.719269	1785	776	1009	0.434733894
21	July	3006.656098	1666	326	1340	0.195678271
22	3rd Quarter	8498.253552	3974	-549	4523	-0.138147962
23	August	3451.883057	1391	-670	2061	-0.481667865
24	September	2039.714397	917	-205	1122	-0.223555071
25	October	-5696.342804	-6223	-6749	526	1.084525149
26	4th Quarter	-23910.35369	-25499	-27086	1587	1.062237735
27	November	-8906.880598	-9632	-10357	725	1.075269934
28	December	-9307.130289	-9644	-9980	336	1.034840315
29						
30						

Sheet1

Ready

PowerExcel

Database: USING_OLATION
Cube: SALES

Filters
SALES Measure: Amount
Version: Variance
Region: World

Columns
Account: ALL

Rows
Month: ALL

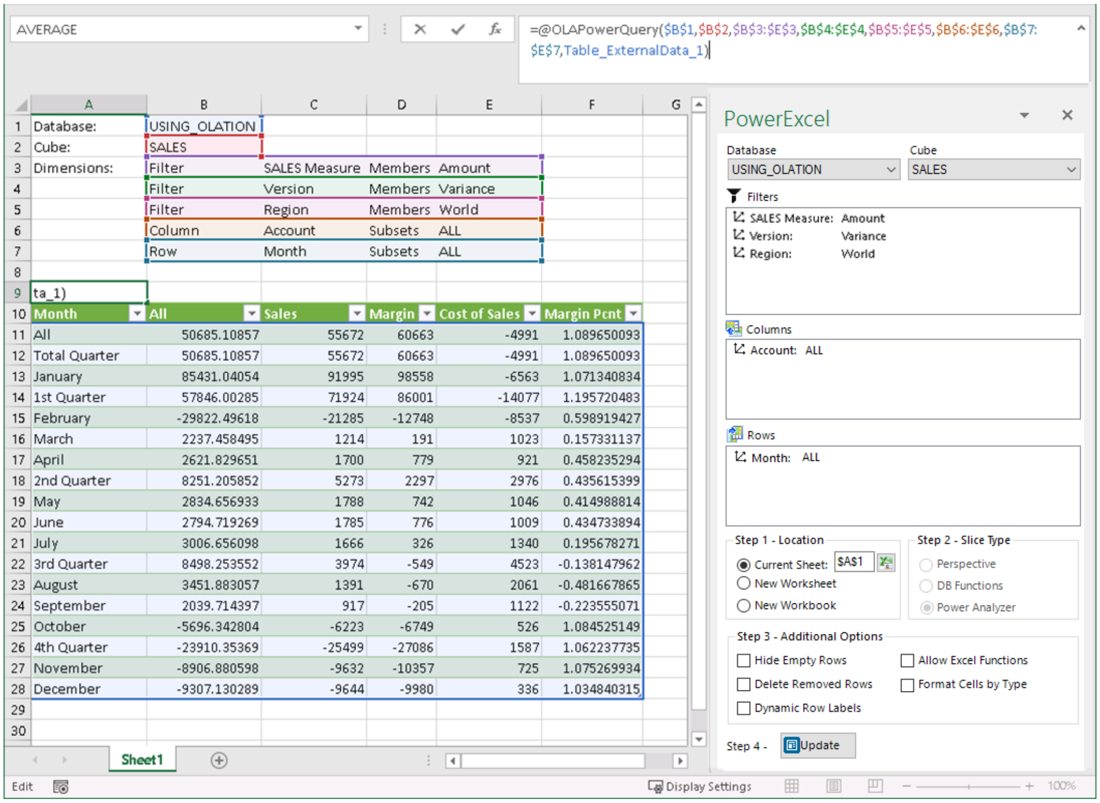
Step 1 - Location
● Current Sheet: $A$1
○ New Worksheet
○ New Workbook

Step 2 - Slice Type
○ Perspective
○ DB Functions
● Power Analyzer

Step 3 - Additional Options
□ Hide Empty Rows
□ Allow Excel Functions
□ Delete Removed Rows
□ Format Cells by Type
□ Dynamic Row Labels

Step 4 - Update

- Click on the **OLAPowerQuery** formula function on cell A9 then click on the Formula bar (in the screenshot below, the cursor is placed at the end of the formula).



AVERAGE =@OLAPowerQuery($B$1,$B$2,$B$3:$E$3,$B$4:$E$4,$B$5:$E$5,$B$6:$E$6,$B$7:$E$7,Table_ExternalData_1)

	A	B	C	D	E	F
1	Database:	USING_OLATION				
2	Cube:	SALES				
3	Dimensions:	Filter	SALES Measure	Members	Amount	
4		Filter	Version	Members	Variance	
5		Filter	Region	Members	World	
6		Column	Account	Subsets	ALL	
7		Row	Month	Subsets	ALL	
8						
9	ta_1)					
10	Month	All	Sales	Margin	Cost of Sales	Margin Pcnt
11	All	50685.10857	55672	60663	-4991	1.089650093
12	Total Quarter	50685.10857	55672	60663	-4991	1.089650093
13	January	85431.04054	91995	98558	-6563	1.071340834
14	1st Quarter	57846.00285	71924	86001	-14077	1.195720483
15	February	-29822.49618	-21285	-12748	-8537	0.598919427
16	March	2237.458495	1214	191	1023	0.157331137
17	April	2621.829651	1700	779	921	0.458235294
18	2nd Quarter	8251.205852	5273	2297	2976	0.435615399
19	May	2834.656933	1788	742	1046	0.414988814
20	June	2794.719269	1785	776	1009	0.434733894
21	July	3006.656098	1666	326	1340	0.195678271
22	3rd Quarter	8498.253552	3974	-549	4523	-0.138147962
23	August	3451.883057	1391	-670	2061	-0.481667865
24	September	2039.714397	917	-205	1122	-0.223555071
25	October	-5696.342804	-6223	-6749	526	1.084525149
26	4th Quarter	-23910.35369	-25499	-27086	1587	1.062237735
27	November	-8906.880598	-9632	-10357	725	1.075269934
28	December	-9307.130289	-9644	-9980	336	1.034840315
29						
30						

Sheet1

Edit

PowerExcel

Database: USING_OLATION
Cube: SALES

Filters
SALES Measure: Amount
Version: Variance
Region: World

Columns
Account: ALL

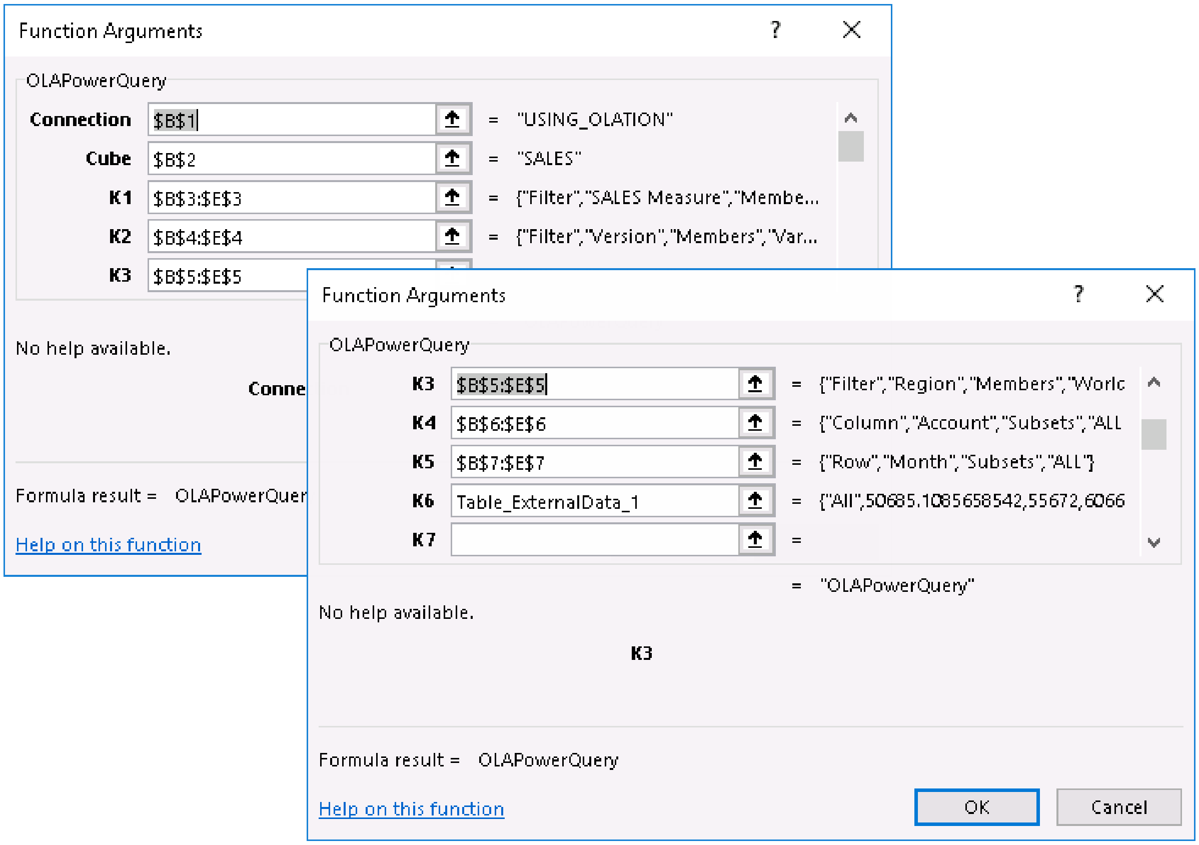
Rows
Month: ALL

Step 1 - Location
● Current Sheet: $A$1
○ New Worksheet
○ New Workbook

Step 2 - Slice Type
○ Perspective
○ DB Functions
● Power Analyzer

Step 3 - Additional Options
□ Hide Empty Rows
□ Allow Excel Functions
□ Delete Removed Rows
□ Format Cells by Type
□ Dynamic Row Labels

Step 4 - Update



Function Arguments

OLAPowerQuery

Connection $B$1 = "USING_OLATION"

Cube $B$2 = "SALES"

K1 $B$3:$E$3 = {"Filter","SALES Measure","Membe...

K2 $B$4:$E$4 = {"Filter","Version","Members","Var...

K3 $B$5:$E$5

No help available.

Conne

Formula result = OLAPowerQuer

Help on this function

Function Arguments

OLAPowerQuery

K3 $B$5:$E$5 = {"Filter","Region","Members","Worlc

K4 $B$6:$E$6 = {"Column","Account","Subsets","ALL

K5 $B$7:$E$7 = {"Row","Month","Subsets","ALL"}

K6 Table_ExternalData_1 = {"All",50685.1085658542,55672,6066

K7 =

= "OLAPowerQuery"

No help available.

K3

Formula result = OLAPowerQuery

Help on this function

Cell References:

=OLAPowerQuery($B$1,$B$2,$B$3:$E$3,$B$4:$E$4,$B$5:$E$5, $B$6:$E$6,$B$7:$E$7, Table_ExternalData_1)

- $B$1– the Database name or the PowerExcel connection name/cell reference that contains the name of the Database or the PowerExcel connection, i.e., **USING_OLATION**
- $B$2 – the Cube in the Database, i.e., **SALES** Cube
- $B$3:$E$3 – the ***Amount*** Member in the *SALES Measure* Dimension [Filter reference]
- $B$4:$E$4 – the ***Variance*** Member in the *Version* Dimension [Filter reference]
- $B$5:$E$5 – the ***World*** Member in the *Region* Dimension [Filter reference]
- $B$6:$E$6 – the Range relevant to the *Account* Dimension [Column reference]. This will dictate what Members will be displayed along the Columns.
- $B$7:$E$7 – the Range relevant to the *Month* Dimension [Row reference]. This will dictate what Members will be displayed along the Rows.
- Table_ExternalData_1 – the Range (aka, Table) where the data will appear.

- Delete a cell value corresponding to a fact data, for example the value in Cell B12. Press **F9**. Notice that the cell stays blank.
- Next, click the **Refresh** button found in the PowerExcel Tab of the Excel ribbon. The table data is now updated/refreshed, and the value re-appears on cell B12.
  This confirms that the F9 key does not work on the Power Analyzer Slice. **Use the REFRESH button when updating the PowerExcel Power Analyzer Slice**.
- Next, try to delete ALL fact data within the PowerExcel Slice (i.e., **B11:F28**), and click the **Refresh button** found along the PowerExcel Tab of the Excel ribbon. The values return—which shows the dynamic connection to the source data.

12.OLAQueryMember

Function Description: This function covers a 'cell range' or a 'group of cells' that define the Dimension Name and the corresponding Member/s that will be displayed along the Filter area of a PowerExcel Power Analyzer Slice. The 'cell range' covered by this function must be updated simultaneously and changes will only be committed by use of the CTRL+SHIFT+ENTER keys.

To change the Display Members of a particular Dimension, click on all the cells covered by the OLAQueryMember function, change the last parameter and enter the exact name of the new Display Member then press Ctrl+Shift+Enter keys to commit the changes. Notice that the update is reflected across all the cells covered by the function.

Syntax: OLAQueryMember(Connection,Cube,Axis,index,Dimension,Member)

Connection: Enter the PowerExcel connection which contains the information about the Olation server URL and the source database name.

Cube: Enter the name of the source/target Cube; or enter the cell reference that contains the name of the source or target Cube you wish to establish connection to.

AXIS: This indicates the area of the PowerExcel Slice where the data will appear. This function is only applicable for the 'Filter' area.

Index: 0
[NOTE: When Filter is indicated, Index will always be "0", and changing this number will not change the value result in PowerExcel.]

Dimension: Specify the Dimension name or the cell reference that contains the name of the Dimension that exists within the specified Database above.

Member: Specify the Member name or the cell reference that contains the name of the preferred display Member along the Filter area of the specified Dimension.

Remarks:

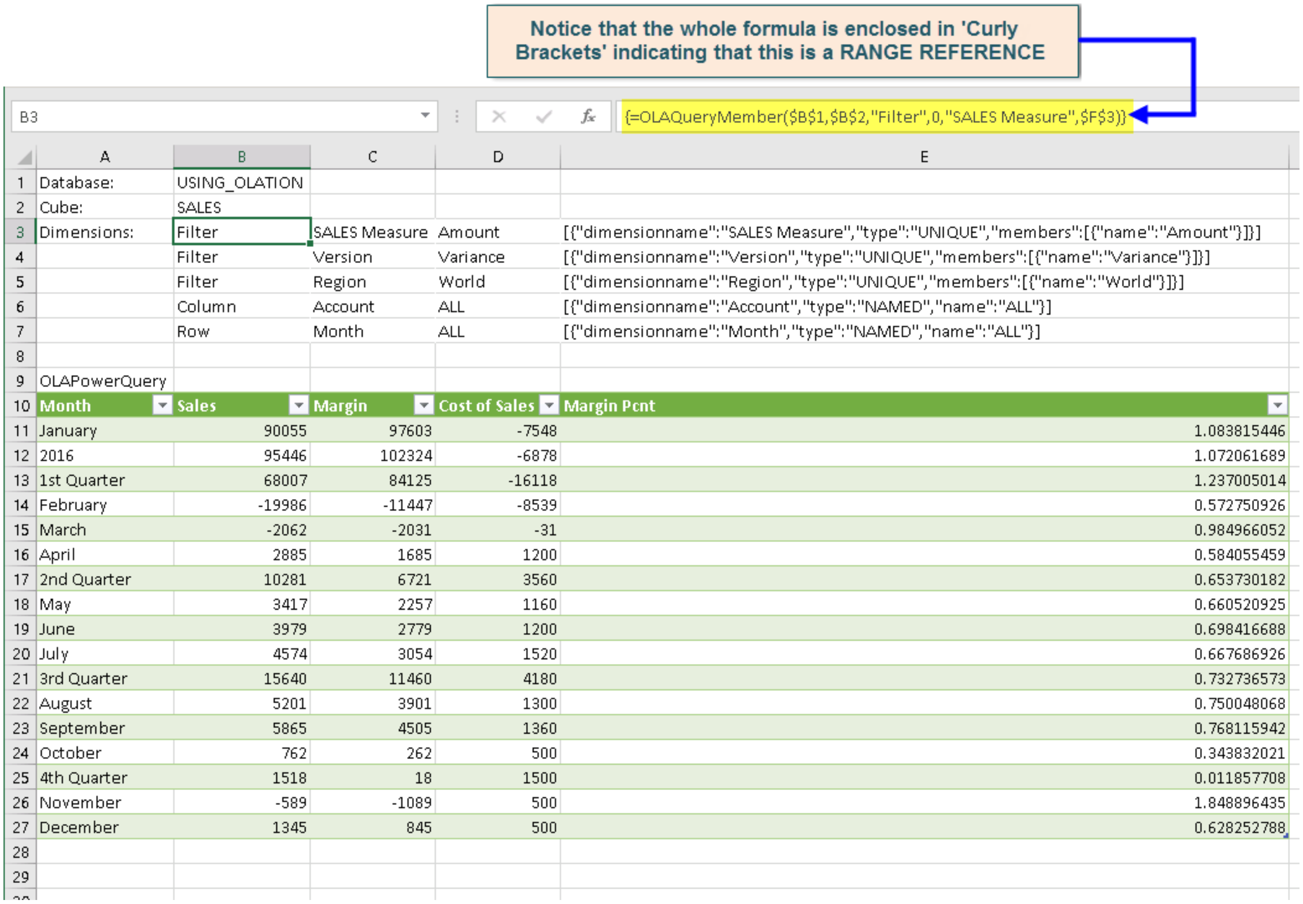
- The PowerExcel Connection must exist.
- The Olation Web Service must be running.
- The Database must be opened and running on the specified server.
- The Cube must exist within the specified database.
- The Dimension must exist within the specified database.
- The Member must exist within the specified Dimension.
- All the parameters are compulsory since the function covers a 'range of cells'
- It is imperative that 'All' cells governed by the OLAQueryMember function be updated in order to successfully commit the changes to the formula.

Example: How the function appears when creating a Power Analyzer Slice

First, create a Power Analyzer Slice, then go to the ‘Filter’ section then go to the any of the 4 cells governed by the **OLAQueryMember** Function. This function is used to define the Members to be displayed along the Filter area of this PowerExcel Power Analyzer Slice. As mentioned in the description, this function is a ‘Range Reference’, meaning this covers a group of cells, and all of those cells will render the same formula. When you click on any of the four (4) cells governed by the **OLAQueryMember** function, you will notice that it is enclosed in ‘Curly Brackets’. The Curly Brackets is an indicator that the PowerExcel function used is a ‘Range Reference’.

- As in the example screenshot below, the **OLAQueryMember** formulas can be found in the cells **B3:E3** (*SALES Measure* dimension), **B4:E4** (*Version* dimension), and **B5:E5** (*Region* dimension).
- When you click on the cell containing the **OLAQueryMember** formula (as in the example, the active cell is **B3**) notice that the **OLAQueryMember** formula that appears in the formula bar is enclosed in curly brackets. When you click through the cells that are part of the cell range—**C3**, **D3** and **E3**—notice that they will show the same formula as that seen in cell B4:

{=OLAQueryMember($B$1,$B$2,"Filter",0,"SALES Measure",$F$3)}



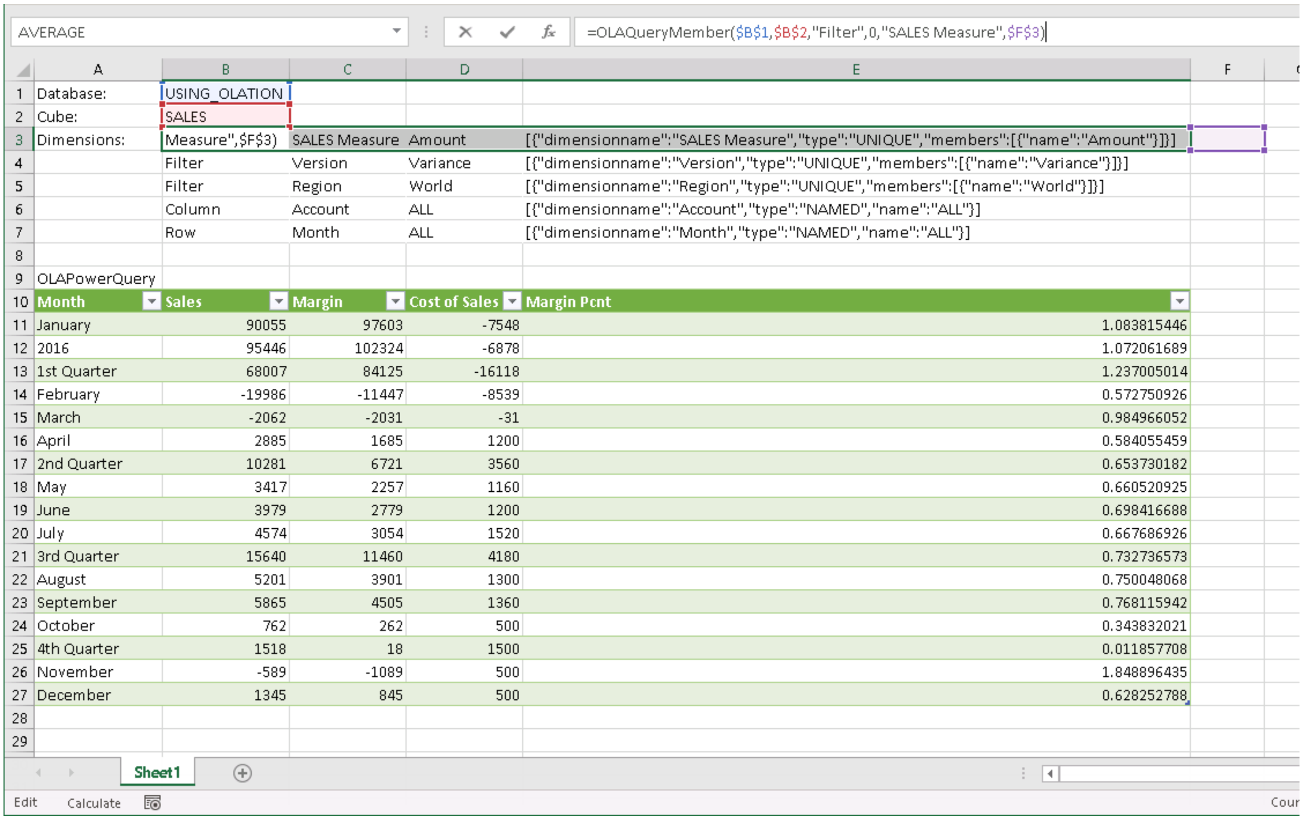
Notice that the whole formula is enclosed in 'Curly Brackets' indicating that this is a RANGE REFERENCE

B3

{=OLAQueryMember($B$1,$B$2,"Filter",0,"SALES Measure",$F$3)}

	A	B	C	D	E
1	Database:	USING_OLATION			
2	Cube:	SALES			
3	Dimensions:	Filter	SALES Measure	Amount	[{"dimensionname":"SALES Measure","type":"UNIQUE","members":[{"name":"Amount"}]}]
4		Filter	Version	Variance	[{"dimensionname":"Version","type":"UNIQUE","members":[{"name":"Variance"}]}]
5		Filter	Region	World	[{"dimensionname":"Region","type":"UNIQUE","members":[{"name":"World"}]}]
6		Column	Account	ALL	[{"dimensionname":"Account","type":"NAMED","name":"ALL"}]
7		Row	Month	ALL	[{"dimensionname":"Month","type":"NAMED","name":"ALL"}]
8					
9	OLAPowerQuery				
10	Month	Sales	Margin	Cost of Sales	Margin Pcnt
11	January	90055	97603	-7548	1.083815446
12	2016	95446	102324	-6878	1.072061689
13	1st Quarter	68007	84125	-16118	1.237005014
14	February	-19986	-11447	-8539	0.572750926
15	March	-2062	-2031	-31	0.984966052
16	April	2885	1685	1200	0.584055459
17	2nd Quarter	10281	6721	3560	0.653730182
18	May	3417	2257	1160	0.660520925
19	June	3979	2779	1200	0.698416688
20	July	4574	3054	1520	0.667686926
21	3rd Quarter	15640	11460	4180	0.732736573
22	August	5201	3901	1300	0.750048068
23	September	5865	4505	1360	0.768115942
24	October	762	262	500	0.343832021
25	4th Quarter	1518	18	1500	0.011857708
26	November	-589	-1089	500	1.848896435
27	December	1345	845	500	0.628252788
28					
29					

- By clicking in the formula bar area (in the next image, the mouse cursor is placed at the end of the formula), the cell references corresponding to the **OLAQueryMember** function will be outlined on the spreadsheet. The **OLAQueryMember** function returns **Filter**(B3), **SALES Measure**(C3), **Amount**(D3) and the cell that will **=OLAQueryMember($B$1,$B$2,"Filter",0,"SALES Measure",$F$3)**



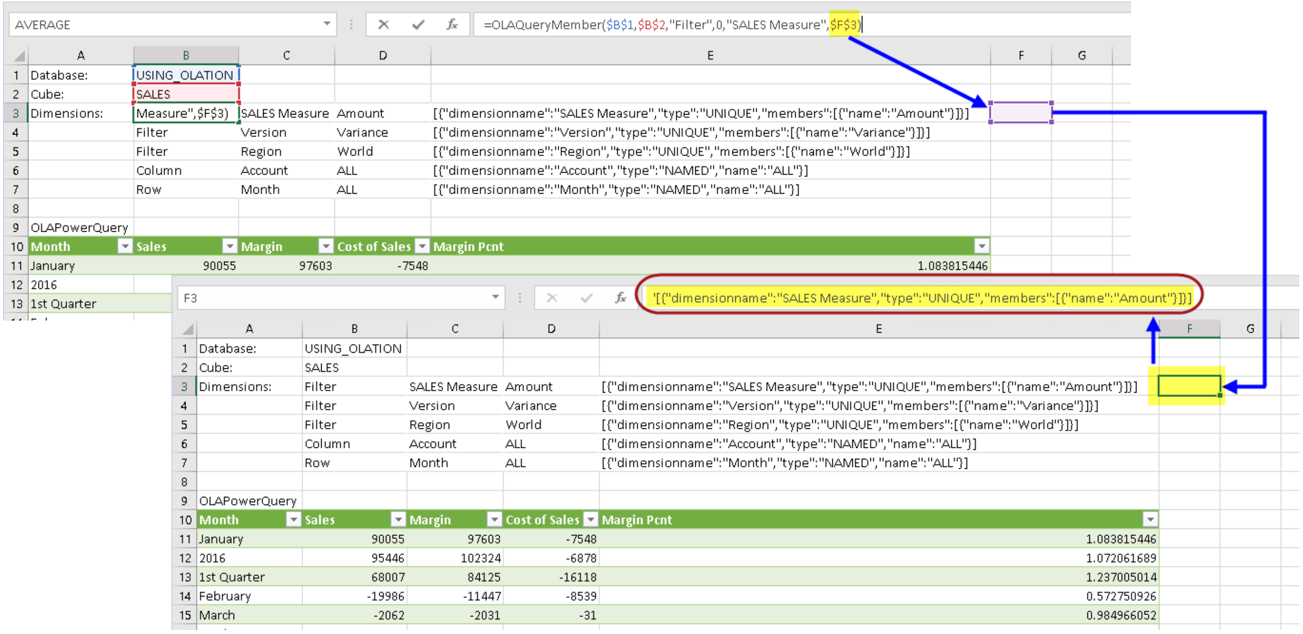
AVERAGE

=OLAQueryMember($B$1,$B$2,"Filter",0,"SALES Measure",$F$3)

	A	B	C	D	E	F
1	Database:	USING_OLATION				
2	Cube:	SALES				
3	Dimensions:	Measure",$F$3)	SALES Measure	Amount	[{"dimensionname":"SALES Measure","type":"UNIQUE","members":[{"name":"Amount"}]}]	
4		Filter	Version	Variance	[{"dimensionname":"Version","type":"UNIQUE","members":[{"name":"Variance"}]}]	
5		Filter	Region	World	[{"dimensionname":"Region","type":"UNIQUE","members":[{"name":"World"}]}]	
6		Column	Account	ALL	[{"dimensionname":"Account","type":"NAMED","name":"ALL"}]	
7		Row	Month	ALL	[{"dimensionname":"Month","type":"NAMED","name":"ALL"}]	
8						
9	OLAPowerQuery					
10	Month	Sales	Margin	Cost of Sales	Margin Pcnt	
11	January	90055	97603	-7548	1.083815446	
12	2016	95446	102324	-6878	1.072061689	
13	1st Quarter	68007	84125	-16118	1.237005014	
14	February	-19986	-11447	-8539	0.572750926	
15	March	-2062	-2031	-31	0.984966052	
16	April	2885	1685	1200	0.584055459	
17	2nd Quarter	10281	6721	3560	0.653730182	
18	May	3417	2257	1160	0.660520925	
19	June	3979	2779	1200	0.698416688	
20	July	4574	3054	1520	0.667686926	
21	3rd Quarter	15640	11460	4180	0.732736573	
22	August	5201	3901	1300	0.750048068	
23	September	5865	4505	1360	0.768115942	
24	October	762	262	500	0.343832021	
25	4th Quarter	1518	18	1500	0.011857708	
26	November	-589	-1089	500	1.848896435	
27	December	1345	845	500	0.628252788	
28						
29						

- Notice that the **OLAQueryMember** is also referencing cell F3. By clicking on cell **F3**, you will see the parameter that calls for the Member that will be used by the **OLAQueryMember** function.

'[{"dimensionname":"SALES Measure","type":"UNIQUE","members":[{"name":"Amount"}]}]



AVERAGE

```
=OLAQueryMember($B$1,$B$2,"Filter",0,"SALES Measure",$F$3)
```

	A	B	C	D	E	F	G
1	Database:	USING_OLATION					
2	Cube:	SALES					
3	Dimensions:	Measure",$F$3)	SALES Measure	Amount	[{"dimensionname":"SALES Measure","type":"UNIQUE","members":[{"name":"Amount"}]}]		
4		Filter	Version	Variance	[{"dimensionname":"Version","type":"UNIQUE","members":[{"name":"Variance"}]}]		
5		Filter	Region	World	[{"dimensionname":"Region","type":"UNIQUE","members":[{"name":"World"}]}]		
6		Column	Account	ALL	[{"dimensionname":"Account","type":"NAMED","name":"ALL"}]		
7		Row	Month	ALL	[{"dimensionname":"Month","type":"NAMED","name":"ALL"}]		
8							
9	OLAPowerQuery						
10	Month	Sales	Margin	Cost of Sales	Margin Pcnt		
11	January	90055	97603	-7548	1.083815446		
12	2016						
13	1st Quarter						

F3

```
'[{"dimensionname":"SALES Measure","type":"UNIQUE","members":[{"name":"Amount"}]}]
```

	A	B	C	D	E	F	G
1	Database:	USING_OLATION					
2	Cube:	SALES					
3	Dimensions:	Filter	SALES Measure	Amount	[{"dimensionname":"SALES Measure","type":"UNIQUE","members":[{"name":"Amount"}]}]		
4		Filter	Version	Variance	[{"dimensionname":"Version","type":"UNIQUE","members":[{"name":"Variance"}]}]		
5		Filter	Region	World	[{"dimensionname":"Region","type":"UNIQUE","members":[{"name":"World"}]}]		
6		Column	Account	ALL	[{"dimensionname":"Account","type":"NAMED","name":"ALL"}]		
7		Row	Month	ALL	[{"dimensionname":"Month","type":"NAMED","name":"ALL"}]		
8							
9	OLAPowerQuery						
10	Month	Sales	Margin	Cost of Sales	Margin Pcnt		
11	January	90055	97603	-7548	1.083815446		
12	2016	95446	102324	-6878	1.072061689		
13	1st Quarter	68007	84125	-16118	1.237005014		
14	February	-19986	-11447	-8539	0.572750926		
15	March	-2062	-2031	-31	0.984966052		

- It is also referencing the Cube called "*SALES*"(**$B$2**) and is using the PowerExcel connection/OLADatabase connection called "*USING_OLATION*"(**$B$1**).
  Note: When you are on edit mode of a Range Reference type of formula, notice that the 'Curly Brackets' disappear. Click on Esc (Escape) to come out of the formula bar.

Cell References:

```
=OLAQueryMember($B$1,$B$2,"Filter",0,"SALES Measure",$F$3)
```

- $B$1– the Database name or the PowerExcel connection name/cell reference that contains the name of the Database or the PowerExcel connection, i.e., **USING_OLATION**
- $B$2– the Cube name or the cell reference that contains the name of the Cube, i.e., **SALES**
- "Filter"– This indicate that the data will appear along the Filter area of the Slice
- "0"- [Note: this is a constant when Filter is indicated, and there will be no change if another number is used.]
- "SALES Measure"– the Dimension name that exists within the database placed along the Filter area of the Slice
- $F$3– the Member names that exists within the specified Dimension that are referenced by that Cell: this the cell that contains the Member parameter that will be used by the function.

13.OLAQuerySubsets

Function Description: This function covers a 'cell range' or a 'group of cells' that define the Dimension and corresponding Members that will be displayed along the Rows or Columns of a PowerExcel Slice. The 'cell range' covered by this function must be updated simultaneously and changes will only be committed by use of the CTRL+SHIFT+ENTER keys. This function applies to the PowerExcel Power Analyzer Slice.

To change the Display Members along the column or row of a PowerExcel Slice, click on all the cells covered by the OLAQuerySubsets function, change to the preferred 'Subset name' or the last parameter and enter the 'new target Subset'. Press the Ctrl+Shift+Enter keys to commit the changes. Notice that the update is reflected across all the cells covered by the function.

Syntax: OLAQuerySubsets(Connection,Cube,Axis,index,Dimension,Subsets)

Connection: Enter the PowerExcel connection which contains the information about the Olation server URL and the source database name.

Cube: Enter the name of the source/target Cube; or enter the cell reference that contains the name of the source or target Cube you wish to establish connection to.

AXIS: This indicates the area of the PowerExcel Slice where the data will appear This function is only applicable for the 'Rows' and 'Columns' area.

Index: 0
[NOTE: When there are no "stacked Dimensions" in Row or Column, "0" will always show; If there are stacked Dimensions, the number will reflect the order of the Rows or Columns, starting with "1" as the "topmost" in the stack, and continuing.]

Dimension: Specify the Dimension name or the cell reference that contains the name of the Dimension that exists within the specified Database above.

Subsets: The Subset name corresponding to the target subset of Members to be displayed along the row or column.

Remarks:

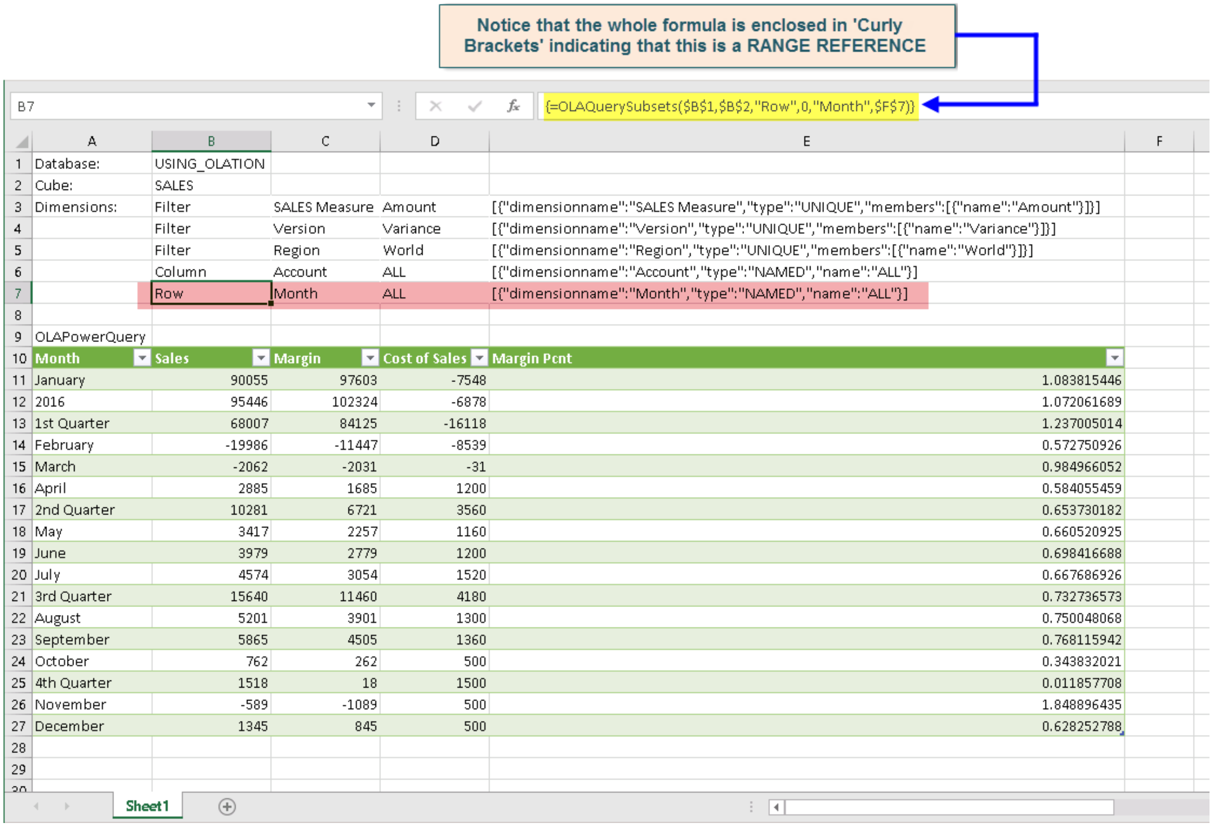
- The PowerExcel Connection must exist.
- The Olation Web Service must be running.
- The Database must be opened and running in the specified server.
- The Cube must exist within the specified database.
- The Dimension must exist within the specified Database.
- The Subset must exist within the specified Dimension.
- All the parameters are compulsory because the function covers a 'range of cells'
- It is imperative that 'All' cells governed by the OLAQuerySubsets function be updated in order to successfully commit the changes to the formula.

Example 1: How the function appears when creating a Power Analyzer Slice

First, create a Power Analyzer Slice, then go locate the **OLAQuerySubsets** function, operative for Rows and Columns. When you have located the **OLAQuerySubsets** function, click on any of the 4 cells governed by the **OLAQuerySubsets** Function. As mentioned in the description, this function is a 'Range Reference', meaning this covers a group of cells, and all of those cells will render the same formula. When you click on any of the four (4) cells governed by the **OLAQuerySubsets** function, you will notice that it is enclosed in 'Curly Brackets'. The Curly Brackets is an indicator that the PowerExcel function used is a 'Range Reference' (see highlighted in the image below).

- As in the example screenshot below, the **OLAQuerySubsets** formulas can be found in the cells **B6:E6** (display Members along the Columns for the *Account* dimension) and **B7:E7** (display Members along the Rows for the *Month* dimension).
  As an example, you can see the cells governed by the **OLAQuerySubsets** for the *Month* dimension highlighted in pink
- When you click on the cell containing the **OLAQuerySubsets** formula (as in the example, the active cell is **B7**) notice that the **OLAQuerySubsets** formula that appears in the formula bar is enclosed in curly brackets. When you click through the cells that are part of the cell range—**C7**, **D7** and **E7**—notice that they will show the same formula as that seen in cell B4:

{=OLAQuerySubsets($B$1,$B$2,"Row",0,"Month",$F$7)}



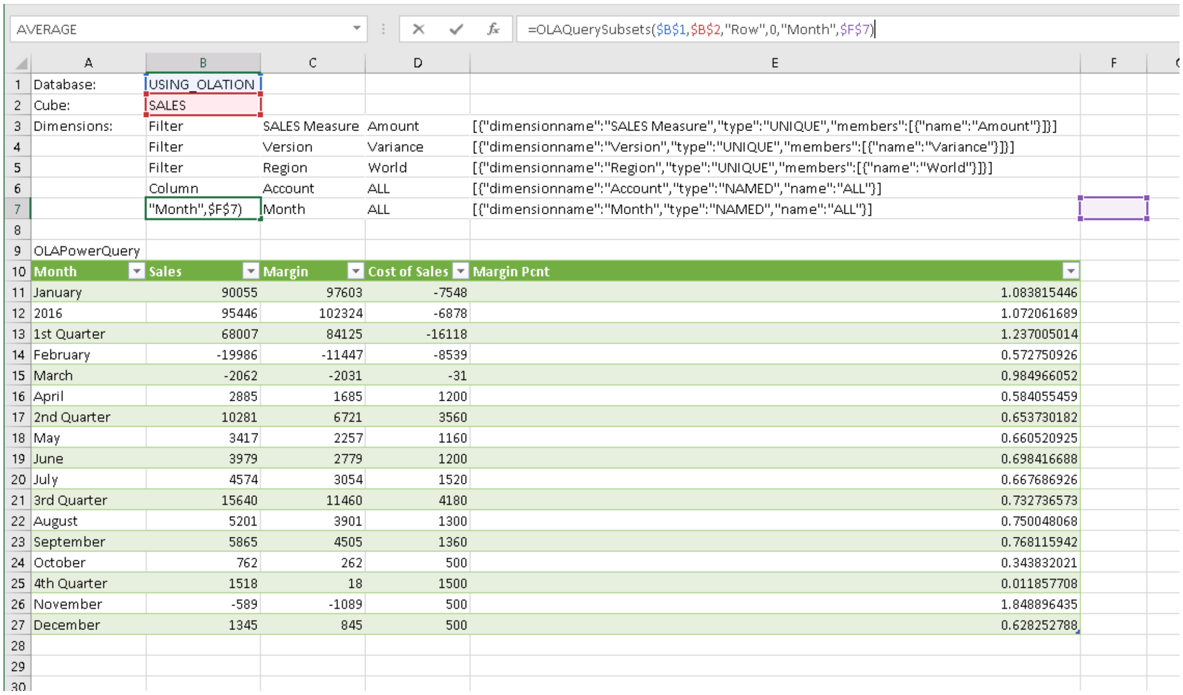
Notice that the whole formula is enclosed in 'Curly Brackets' indicating that this is a RANGE REFERENCE

B7

{=OLAQuerySubsets($B$1,$B$2,"Row",0,"Month",$F$7)}

	A	B	C	D	E	F
1	Database:	USING_OLATION				
2	Cube:	SALES				
3	Dimensions:	Filter	SALES Measure	Amount	[{"dimensionname":"SALES Measure","type":"UNIQUE","members":[{"name":"Amount"}]}]	
4		Filter	Version	Variance	[{"dimensionname":"Version","type":"UNIQUE","members":[{"name":"Variance"}]}]	
5		Filter	Region	World	[{"dimensionname":"Region","type":"UNIQUE","members":[{"name":"World"}]}]	
6		Column	Account	ALL	[{"dimensionname":"Account","type":"NAMED","name":"ALL"}]	
7		Row	Month	ALL	[{"dimensionname":"Month","type":"NAMED","name":"ALL"}]	
8						
9	OLAPowerQuery					
10	Month	Sales	Margin	Cost of Sales	Margin Pcnt	
11	January	90055	97603	-7548	1.083815446	
12	2016	95446	102324	-6878	1.072061689	
13	1st Quarter	68007	84125	-16118	1.237005014	
14	February	-19986	-11447	-8539	0.572750926	
15	March	-2062	-2031	-31	0.984966052	
16	April	2885	1685	1200	0.584055459	
17	2nd Quarter	10281	6721	3560	0.653730182	
18	May	3417	2257	1160	0.660520925	
19	June	3979	2779	1200	0.698416688	
20	July	4574	3054	1520	0.667686926	
21	3rd Quarter	15640	11460	4180	0.732736573	
22	August	5201	3901	1300	0.750048068	
23	September	5865	4505	1360	0.768115942	
24	October	762	262	500	0.343832021	
25	4th Quarter	1518	18	1500	0.011857708	
26	November	-589	-1089	500	1.848896435	
27	December	1345	845	500	0.628252788	
28						
29						

- By clicking in the formula bar area (in the next image, the mouse cursor is placed at the end of the formula), the cell references corresponding to the **OLAQuerySubsets** function will be outlined on the spreadsheet. The **OLAQuerySubsets** function returns **Row**(B7), **Month**(C7), **ALL**(D7) and **[{"dimensionname":"Month","type":"NAMED","name":"ALL"}]** (E7).



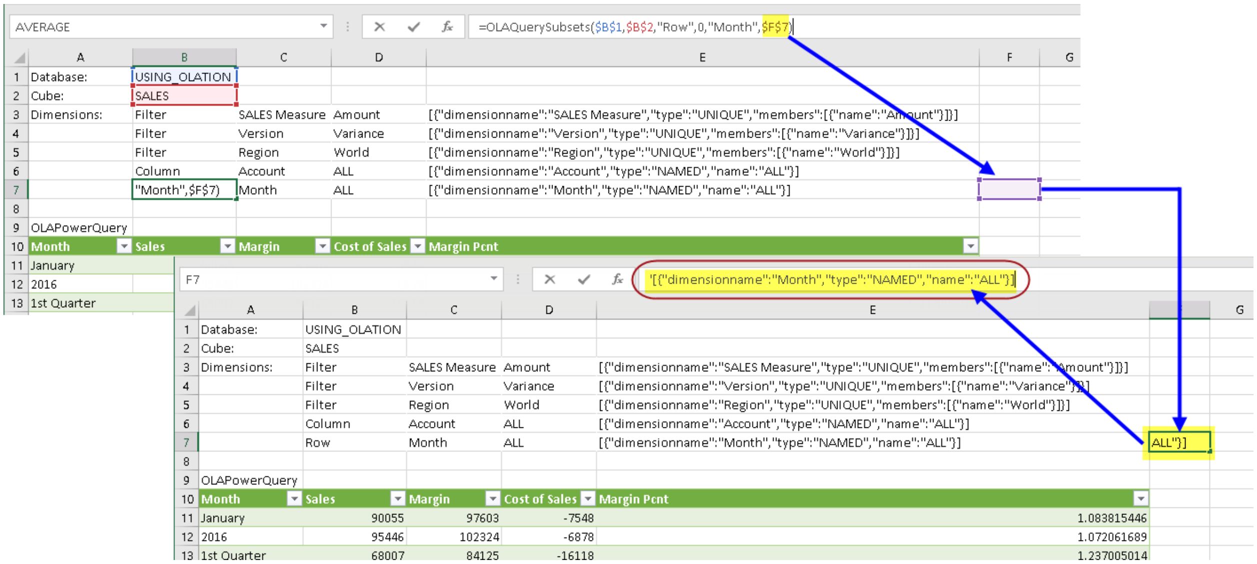
AVERAGE

```
=OLAQuerySubsets($B$1,$B$2,"Row",0,"Month",$F$7)
```

	A	B	C	D	E	F
1	Database:	USING_OLATION				
2	Cube:	SALES				
3	Dimensions:	Filter	SALES Measure	Amount	[{"dimensionname":"SALES Measure","type":"UNIQUE","members":[{"name":"Amount"}]}]	
4		Filter	Version	Variance	[{"dimensionname":"Version","type":"UNIQUE","members":[{"name":"Variance"}]}]	
5		Filter	Region	World	[{"dimensionname":"Region","type":"UNIQUE","members":[{"name":"World"}]}]	
6		Column	Account	ALL	[{"dimensionname":"Account","type":"NAMED","name":"ALL"}]	
7		"Month",$F$7)	Month	ALL	[{"dimensionname":"Month","type":"NAMED","name":"ALL"}]	
8						
9	OLAPowerQuery					
10	Month	Sales	Margin	Cost of Sales	Margin Pcnt	
11	January	90055	97603	-7548	1.083815446	
12	2016	95446	102324	-6878	1.072061689	
13	1st Quarter	68007	84125	-16118	1.237005014	
14	February	-19986	-11447	-8539	0.572750926	
15	March	-2062	-2031	-31	0.984966052	
16	April	2885	1685	1200	0.584055459	
17	2nd Quarter	10281	6721	3560	0.653730182	
18	May	3417	2257	1160	0.660520925	
19	June	3979	2779	1200	0.698416688	
20	July	4574	3054	1520	0.667686926	
21	3rd Quarter	15640	11460	4180	0.732736573	
22	August	5201	3901	1300	0.750048068	
23	September	5865	4505	1360	0.768115942	
24	October	762	262	500	0.343832021	
25	4th Quarter	1518	18	1500	0.011857708	
26	November	-589	-1089	500	1.848896435	
27	December	1345	845	500	0.628252788	
28						
29						
30						

- Notice that the **OLAQuerySubsets** is also referencing cell **F7**. By clicking on cell F7, you will see the parameter that calls for the Member that will be used by the **OLAQuerySubsets** function.

'[{"dimensionname":"Month","type":"NAMED","name":"ALL"}]



AVERAGE

=OLAQuerySubsets($B$1,$B$2,"Row",0,"Month",$F$7)

	A	B	C	D	E	F	G
1	Database:	USING_OLATION					
2	Cube:	SALES					
3	Dimensions:	Filter	SALES Measure	Amount	[{"dimensionname":"SALES Measure","type":"UNIQUE","members":[{"name":"Amount"}]}]		
4		Filter	Version	Variance	[{"dimensionname":"Version","type":"UNIQUE","members":[{"name":"Variance"}]}]		
5		Filter	Region	World	[{"dimensionname":"Region","type":"UNIQUE","members":[{"name":"World"}]}]		
6		Column	Account	ALL	[{"dimensionname":"Account","type":"NAMED","name":"ALL"}]		
7		"Month",$F$7)	Month	ALL	[{"dimensionname":"Month","type":"NAMED","name":"ALL"}]		
8							
9	OLAPowerQuery						
10	Month	Sales	Margin	Cost of Sales	Margin Pcnt		
11	January						
12	2016						
13	1st Quarter						

F7

'[{"dimensionname":"Month","type":"NAMED","name":"ALL"}]

	A	B	C	D	E	F	G
1	Database:	USING_OLATION					
2	Cube:	SALES					
3	Dimensions:	Filter	SALES Measure	Amount	[{"dimensionname":"SALES Measure","type":"UNIQUE","members":[{"name":"Amount"}]}]		
4		Filter	Version	Variance	[{"dimensionname":"Version","type":"UNIQUE","members":[{"name":"Variance"}]}]		
5		Filter	Region	World	[{"dimensionname":"Region","type":"UNIQUE","members":[{"name":"World"}]}]		
6		Column	Account	ALL	[{"dimensionname":"Account","type":"NAMED","name":"ALL"}]		
7		Row	Month	ALL	[{"dimensionname":"Month","type":"NAMED","name":"ALL"}]	ALL"}]	
8							
9	OLAPowerQuery						
10	Month	Sales	Margin	Cost of Sales	Margin Pcnt		
11	January	90055	97603	-7548	1.083815446		
12	2016	95446	102324	-6878	1.072061689		
13	1st Quarter	68007	84125	-16118	1.237005014		

- It is also referencing the Cube called “*SALES*”(**$B$2**) and is using the PowerExcel connection/OLADatabase connection called “*USING_OLATION*”(**$B$1**).
  Note: When you are on edit mode of a Range Reference type of formula, notice that the ‘Curly Brackets’ disappear. Click on Esc (Escape) to come out of the formula bar.

Cell References:

```
=OLAQuerySubsets($B$1,$B$2,"Row",0,"Month",$F$7)
```

- $B$1– the Database name or the PowerExcel connection name/cell reference that contains the name of the Database or the PowerExcel connection, i.e., **USING_OLATION**
- $B$2– the Cube name or the cell reference that contains the name of the Cube, i.e., **SALES**
- ”Row”– this indicate that the data will appear along the Row area of the Slice
- “0”– this indicates the index number: “0” if there are no stacked Dimensions in Columns or Rows; if either are stacked, the index number will be “1” for the topmost Dimension, “2” for the next, etc.]
- ”Month”– the Dimension name that exists within the database
- $F$7– the Member names that exists within the specified Dimension that are referenced by that Cell: this the cell that contains the Member parameter that will be used by the function.

14.OLARead

Function Description: PowerExcel's Read Formula function reads a value from a specific multidimensional data point in the PowerExcel model and returns it to a specified cell in an Excel worksheet. As opposed to PowerExcel ReadWrite formula, this OLARead function does not have a writeback capability, hence it can only 'Read' specific data from the source database.

Syntax: OLARead(Connection,Cube,Member1,Member2,…,MemberN)

Connection: The PowerExcel connection that contains the information about the Olation Server URL and the source database name.

Cube: The name of the source/target Cube; or the cell reference that contains the name of the source or target Cube you wish to establish a connection to.

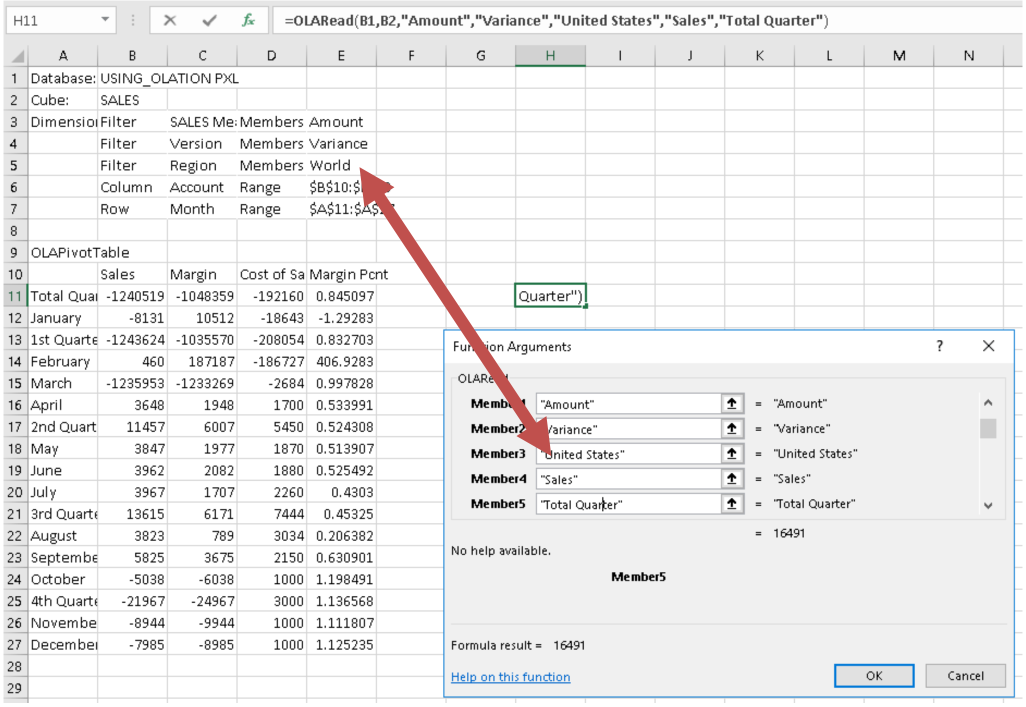
Member1 to MemberN: The related Member references.

Remarks:

- The PowerExcel Connection must exist.
- The Olation Web Service must be running.
- The Database must be opened and running in the specified server.
- The 'Connection', 'Cube' and 'Member' parameters are compulsory.

Example1: OLARead(Connection,Cube,Member1,Member2,…,MemberN)

- Using an existing Slice, select a cell to the right of the field of data, e.g., Cell **H11**.
- In the Excel formula bar, click on the Insert Function symbol (***f**x*). The Insert Function window will appear.
- In the **Or select a category drop-down**, select **PowerExcel.ExcelFunctions**.
- Select **OLARead** Click **OK**.
- For Connection, you can reference Cell **B1** from the sample Slice (or type B1); next, reference the Cube (Cell **B2**).
- Type in the names of Dimension Members:
  - For Sales Measure, type **Amount**.
  - For Version, type **Variance**.
  - For Region, type **United States** (Note: this is the key point of difference with the existing Slice, which shows World—as shown by the arrow in the following image).
  - For Account, type **Sales**.
  - For Month, type **Total Quarter**.



H11 =OLARead(B1,B2,"Amount","Variance","United States","Sales","Total Quarter")

	A	B	C	D	E	F	G	H
1	Database:	USING_OLATION PXL						
2	Cube:	SALES						
3	Dimensioi	Filter	SALES Me:	Members	Amount			
4		Filter	Version	Members	Variance			
5		Filter	Region	Members	World			
6		Column	Account	Range	$B$10:$			
7		Row	Month	Range	$A$11:A			
8								
9	OLAPivotTable							
10		Sales	Margin	Cost of Sa	Margin Pcnt			
11	Total Quai	-1240519	-1048359	-192160	0.845097			Quarter")
12	January	-8131	10512	-18643	-1.29283			
13	1st Quarte	-1243624	-1035570	-208054	0.832703			
14	February	460	187187	-186727	406.9283			
15	March	-1235953	-1233269	-2684	0.997828			
16	April	3648	1948	1700	0.533991			
17	2nd Quart	11457	6007	5450	0.524308			
18	May	3847	1977	1870	0.513907			
19	June	3962	2082	1880	0.525492			
20	July	3967	1707	2260	0.4303			
21	3rd Quarte	13615	6171	7444	0.45325			
22	August	3823	789	3034	0.206382			
23	Septembe	5825	3675	2150	0.630901			
24	October	-5038	-6038	1000	1.198491			
25	4th Quarte	-21967	-24967	3000	1.136568			
26	Novembe	-8944	-9944	1000	1.111807			
27	Decembei	-7985	-8985	1000	1.125235			
28								
29								

Function Arguments

OLARead

Member1	"Amount"	=	"Amount"
Member2	"Variance"	=	"Variance"
Member3	"United States"	=	"United States"
Member4	"Sales"	=	"Sales"
Member5	"Total Quarter"	=	"Total Quarter"
		=	16491

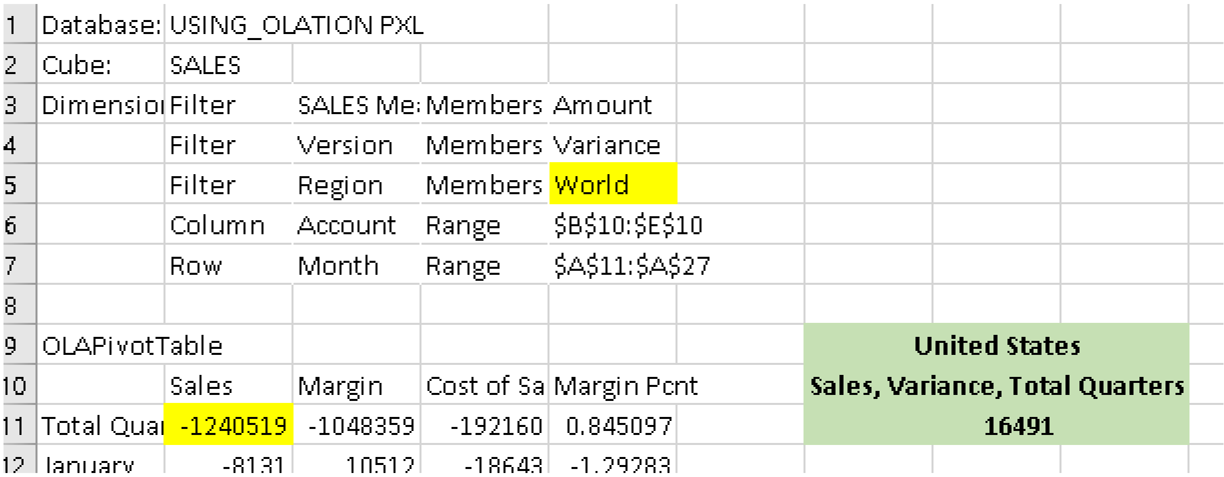
No help available.

Member5

Formula result = 16491

Help on this function

- Click **OK** in the Functions Arguments window, then hit F9 to update the worksheet. The figure **164911**—which is the precise data point described by the **OLARead** function--appears in the cell, as shown in the following image (labeled and highlighted green, to compare to the *World* figure for the same other Member details, highlighted yellow).



1	Database:	USING_OLATION PXL			
2	Cube:	SALES			
3	Dimensioi	Filter	SALES Me:	Members	Amount
4		Filter	Version	Members	Variance
5		Filter	Region	Members	World
6		Column	Account	Range	$B$10:$E$10
7		Row	Month	Range	$A$11:$A$27
8					
9	OLAPivotTable				
10		Sales	Margin	Cost of Sa	Margin Pcnt
11	Total Quai	-1240519	-1048359	-192160	0.845097
12	January	-8131	10512	-18643	-1.29283

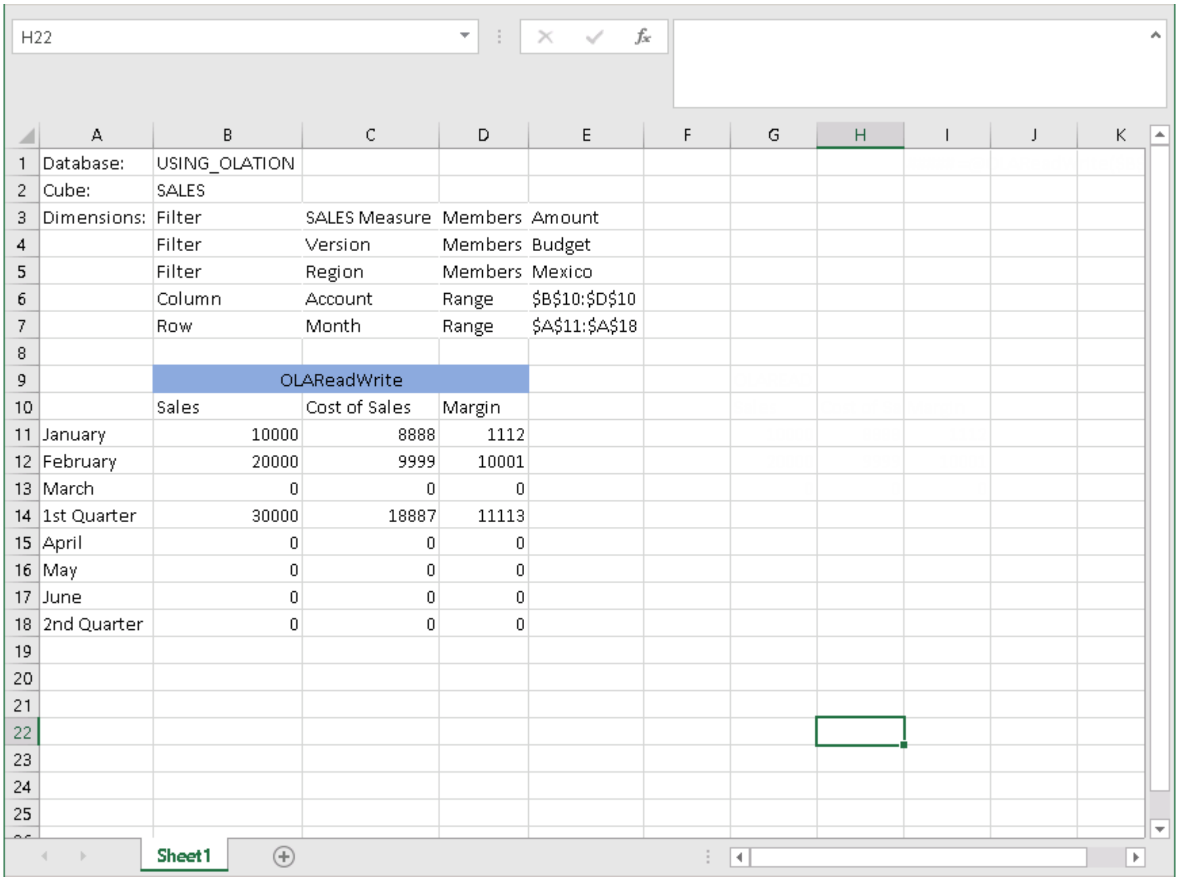
United States
Sales, Variance, Total Quarters
16491

Example2: (OLAReadWrite vs OLARead)

Next we will compare how PowerExcel's OLAReadWrite (described in the following sections) works vs an **OLARead** Function.

- Create a PowerExcel DB Functions Slice with the orientation of your choosing (e.g., the following image will serve as an example).

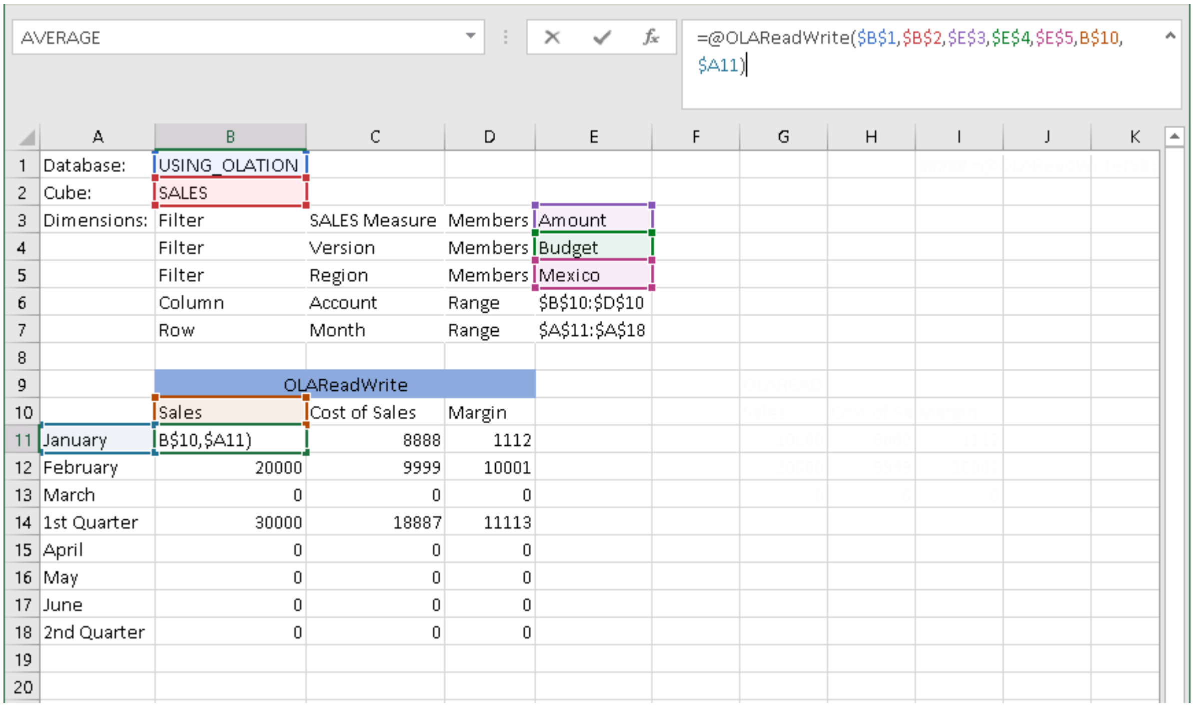
Note: We placed a heading (in Row 9), “OLAReadWrite”, at the top of the sample table so we can identify that the cells below are governed by this type of formula.



H22

	A	B	C	D	E
1	Database:	USING_OLATION			
2	Cube:	SALES			
3	Dimensions:	Filter	SALES Measure	Members	Amount
4		Filter	Version	Members	Budget
5		Filter	Region	Members	Mexico
6		Column	Account	Range	$B$10:$D$10
7		Row	Month	Range	$A$11:$A$18
8					
9		OLAReadWrite			
10		Sales	Cost of Sales	Margin	
11	January	10000	8888	1112	
12	February	20000	9999	10001	
13	March	0	0	0	
14	1st Quarter	30000	18887	11113	
15	April	0	0	0	
16	May	0	0	0	
17	June	0	0	0	
18	2nd Quarter	0	0	0	

- Note that in a DB Functions Slice, each cell contains an individual formula, as in the following image (Cell B11 has been clicked on). As we will see, an **OLARead Formula function** also appertains to an individual cell.

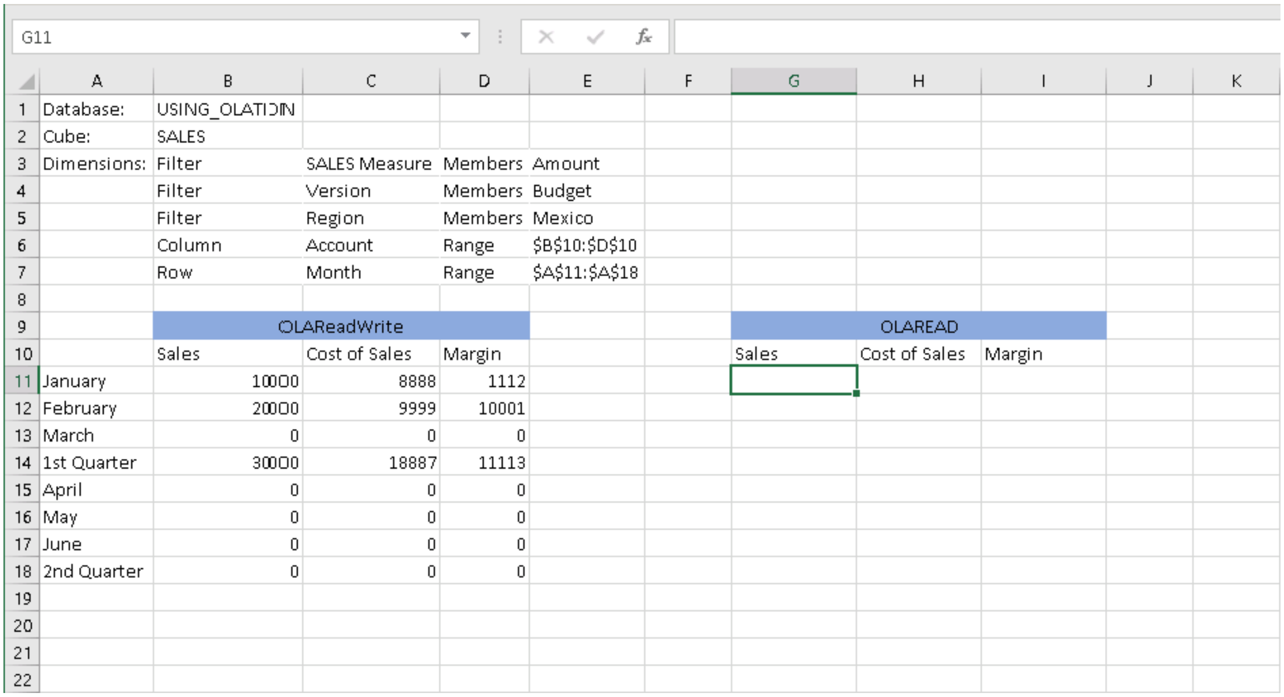


AVERAGE

=@OLAReadWrite($B$1,$B$2,$E$3,$E$4,$E$5,B$10,$A11)

	A	B	C	D	E
1	Database:	USING_OLATION			
2	Cube:	SALES			
3	Dimensions:	Filter	SALES Measure	Members	Amount
4		Filter	Version	Members	Budget
5		Filter	Region	Members	Mexico
6		Column	Account	Range	$B$10:$D$10
7		Row	Month	Range	$A$11:$A$18
8					
9		OLAReadWrite			
10		Sales	Cost of Sales	Margin	
11	January	B$10,$A11)	8888	1112	
12	February	20000	9999	10001	
13	March	0	0	0	
14	1st Quarter	30000	18887	11113	
15	April	0	0	0	
16	May	0	0	0	
17	June	0	0	0	
18	2nd Quarter	0	0	0	
19					
20					

- Next to create an **OLARead** formula: in Cells **G10**, **H10** and **I10** and type, respectively, *Sales*, *Cost of Sales* and *Margin* (make sure to put a **single quote** at the beginning of each). In the screenshot, **OLARead** has been typed above and highlighted in blue.



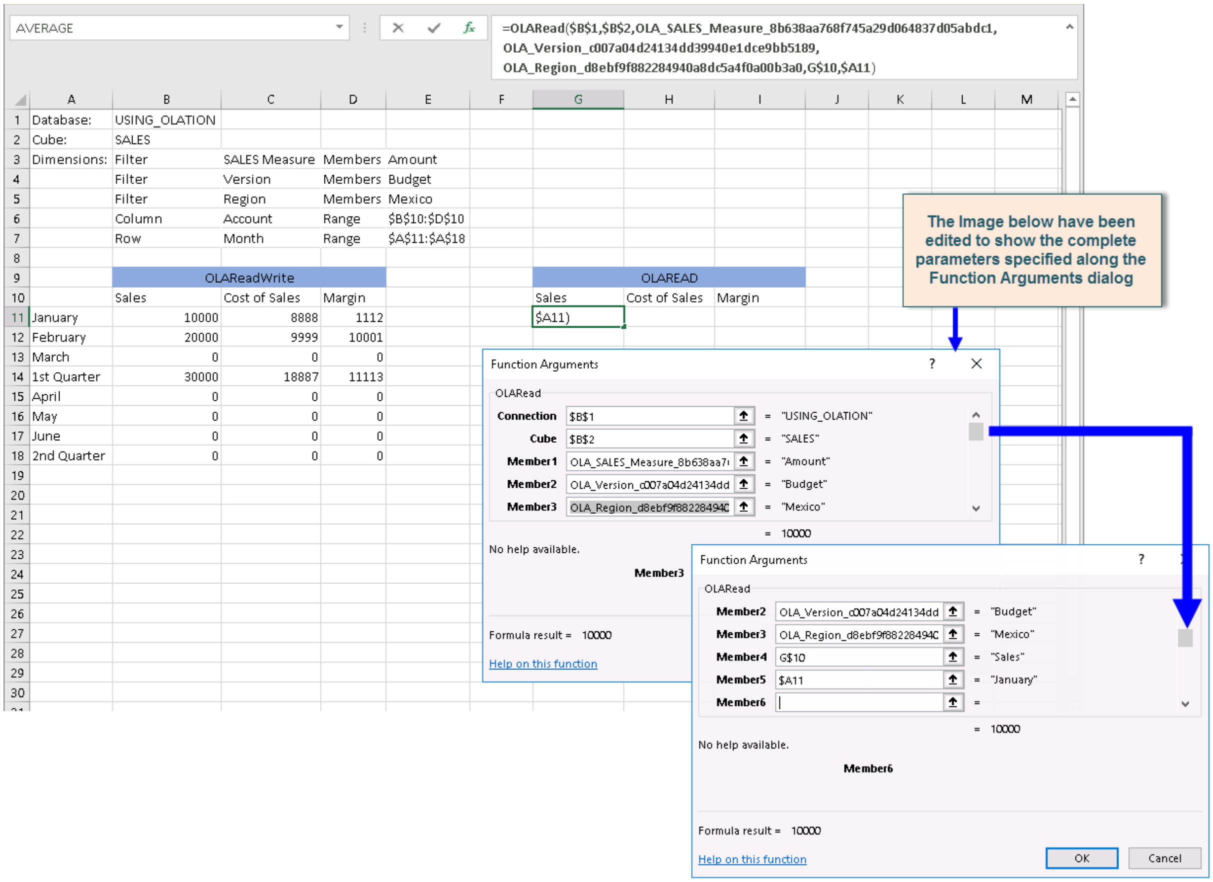
G11

	A	B	C	D	E	F	G	H	I
1	Database:	USING_OLATION							
2	Cube:	SALES							
3	Dimensions:	Filter	SALES Measure	Members	Amount				
4		Filter	Version	Members	Budget				
5		Filter	Region	Members	Mexico				
6		Column	Account	Range	$B$10:$D$10				
7		Row	Month	Range	$A$11:$A$18				
8									
9		OLAReadWrite					OLAREAD		
10		Sales	Cost of Sales	Margin			Sales	Cost of Sales	Margin
11	January	10000	8888	1112					
12	February	20000	9999	10001					
13	March	0	0	0					
14	1st Quarter	30000	18887	11113					
15	April	0	0	0					
16	May	0	0	0					
17	June	0	0	0					
18	2nd Quarter	0	0	0					
19									
20									
21									
22									

- Define the **OLARead** formula: in Cell **G11** click the **Function** button beside the formula bar. In the Insert Function dialog that appears, choose **PowerExcel.ExcelFunctions** as the category, select **OLARead** from the function list and click **OK**.

- In the Function Arguments dialog box, define the parameters:
  - Click on Connection field and then click on cell B1 (which is the cell reference for *USING_OLATION* database). Use an Absolute reference so the connection reference appears as **$B$1**.
  - Click on the Cube field then click on cell B2 (the cell reference for the *SALES* cube) Again, use absolute an reference, thus **$B$2**.
  - Click on the Member 1 field, then click on cell **E3** (the cell reference for the Filter Member *Amount* in the *SALES Measure* Dimension).
  - Click on the Member 2 field then click on cell **E4** (the cell reference for the Filter Member *Budget* in the *Version* Dimension).
  - Click on the Member 3 field then click on cell **E5** (the cell reference for the Filter Member *Mexico* in the *Region* Dimension).
  - Click on the Member 4 field, then click on cell **G10** (the cell reference for the Column Member *Sales* of the *Account* Dimension); use the absolute row reference, thus **G$10**.
  - Click on the Member 5 field, then click on cell **A11** (the cell reference for the Row Member *January* in the *Month* Dimension); use the absolute column reference, so the Member 5 reference **$A11**.

    Note: Notice that the corresponding Database, Cube and Member names appears in each corresponding field, as shown in the following image.



```
=OLARead($B$1,$B$2,OLA_SALES_Measure_8b638aa768f745a29d064837d05abdc1,
OLA_Version_c007a04d24134dd39940e1dce9bb5189,
OLA_Region_d8ebf9f882284940a8dc5a4f0a00b3a0,G$10,$A11)
```

	A	B	C	D	E	F	G	H	I
1	Database:	USING_OLATION							
2	Cube:	SALES							
3	Dimensions:	Filter	SALES Measure	Members	Amount				
4		Filter	Version	Members	Budget				
5		Filter	Region	Members	Mexico				
6		Column	Account	Range	$B$10:$D$10				
7		Row	Month	Range	$A$11:$A$18				
8									
9		OLAReadWrite					OLAREAD		
10		Sales	Cost of Sales	Margin			Sales	Cost of Sales	Margin
11	January	10000	8888	1112			$A11)		
12	February	20000	9999	10001					
13	March	0	0	0					
14	1st Quarter	30000	18887	11113					
15	April	0	0	0					
16	May	0	0	0					
17	June	0	0	0					
18	2nd Quarter	0	0	0					

The Image below have been edited to show the complete parameters specified along the Function Arguments dialog

Function Arguments

OLARead

Connection	$B$1	=	"USING_OLATION"
Cube	$B$2	=	"SALES"
Member1	OLA_SALES_Measure_8b638aa7(	=	"Amount"
Member2	OLA_Version_c007a04d24134dd	=	"Budget"
Member3	OLA_Region_d8ebf9f88228494C	=	"Mexico"

= 10000

No help available.

Member3

Formula result = 10000

Help on this function

Function Arguments

OLARead

Member2	OLA_Version_c007a04d24134dd	=	"Budget"
Member3	OLA_Region_d8ebf9f88228494C	=	"Mexico"
Member4	G$10	=	"Sales"
Member5	$A11	=	"January"
Member6		=	

= 10000

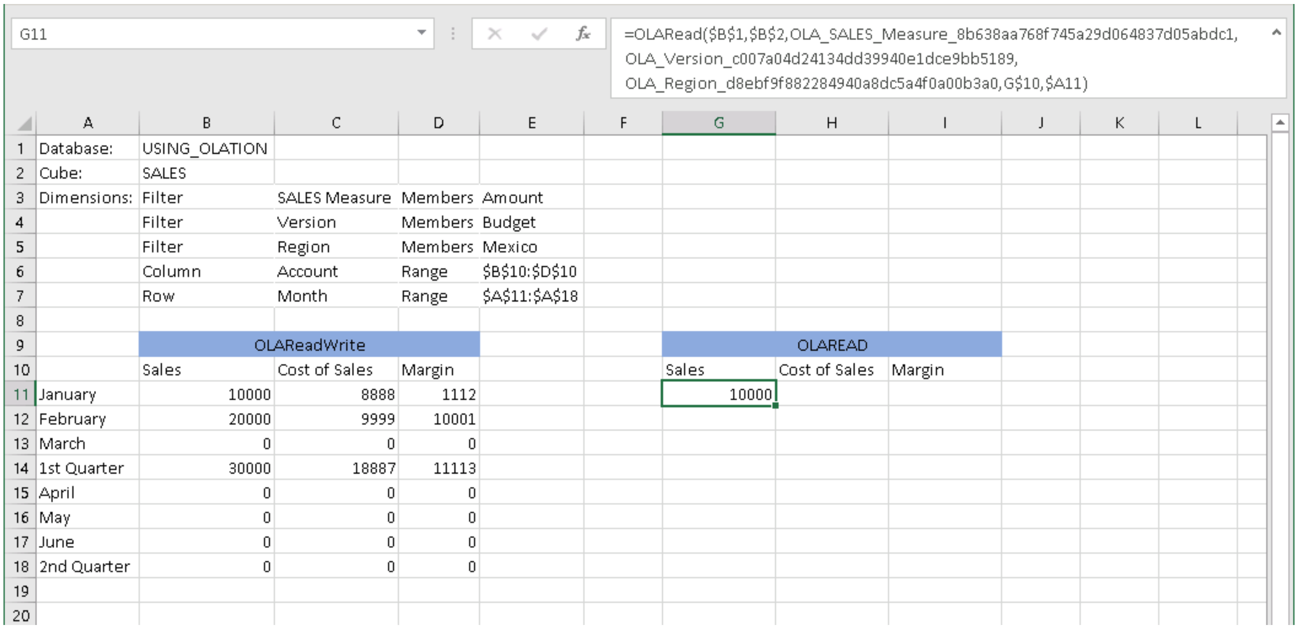
No help available.

Member6

Formula result = 10000

Help on this function

- Click **OK**. Then click the **Refresh** button along the PowerExcel Tab of the Excel ribbon. Notice that the formula returns the value **10000**: it returns the same value as in OLAReadWrite section of the Slice (Cell B11).

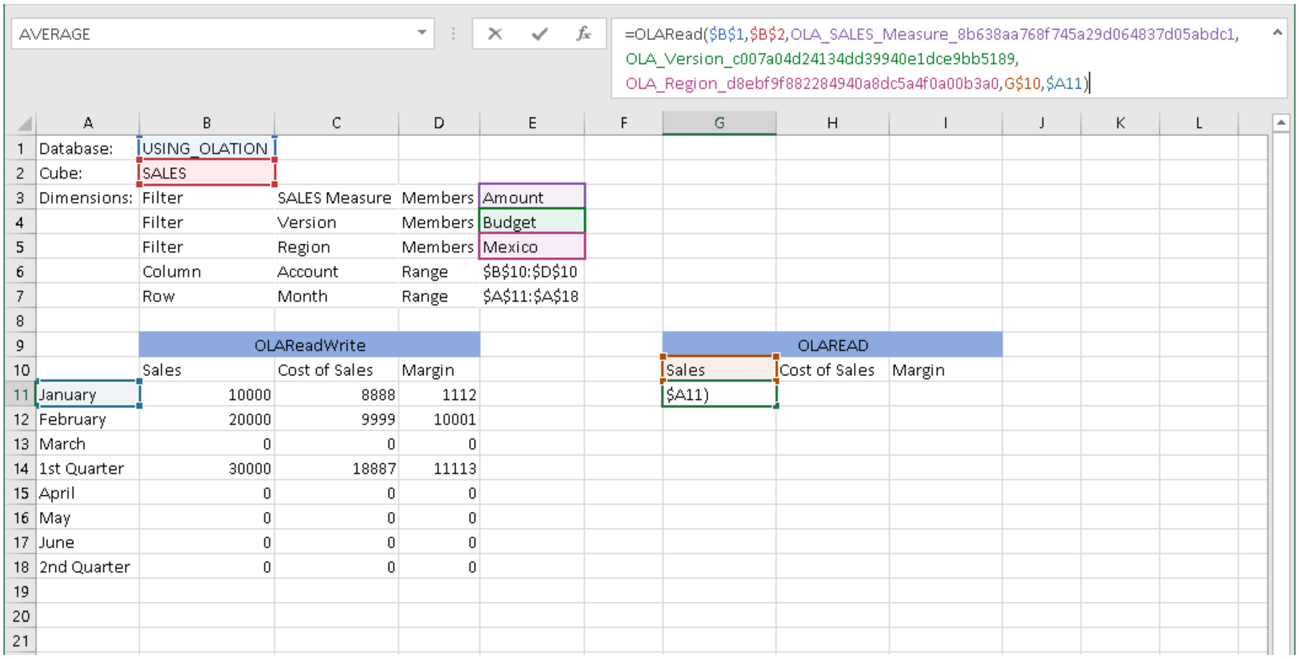


G11

=OLARead($B$1,$B$2,OLA_SALES_Measure_8b638aa768f745a29d064837d05abdc1,
OLA_Version_c007a04d24134dd39940e1dce9bb5189,
OLA_Region_d8ebf9f882284940a8dc5a4f0a00b3a0,G$10,$A11)

	A	B	C	D	E	F	G	H	I	J	K	L
1	Database:	USING_OLATION										
2	Cube:	SALES										
3	Dimensions:	Filter	SALES Measure	Members	Amount							
4		Filter	Version	Members	Budget							
5		Filter	Region	Members	Mexico							
6		Column	Account	Range	$B$10:$D$10							
7		Row	Month	Range	$A$11:$A$18							
8												
9		OLAReadWrite					OLAREAD					
10		Sales	Cost of Sales	Margin			Sales	Cost of Sales	Margin			
11	January	10000	8888	1112			10000					
12	February	20000	9999	10001								
13	March	0	0	0								
14	1st Quarter	30000	18887	11113								
15	April	0	0	0								
16	May	0	0	0								
17	June	0	0	0								
18	2nd Quarter	0	0	0								
19												
20												

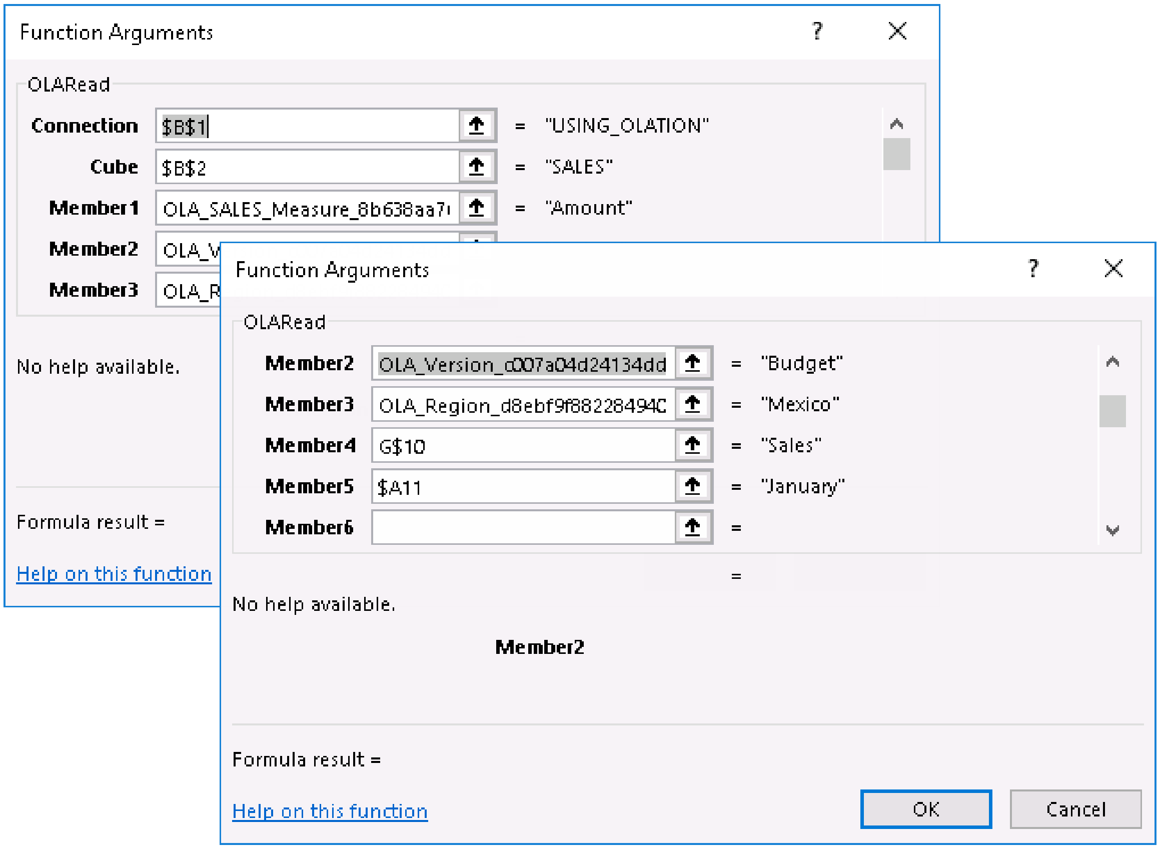
- Now, click on the returned value of the **OLARead** formula of **10000** (cell G11), then click on the formula bar (notice that the cursor is at the end of the formula). This will show the corresponding cell references of the formula.



AVERAGE

=OLARead($B$1,$B$2,OLA_SALES_Measure_8b638aa768f745a29d064837d05abdc1,
OLA_Version_c007a04d24134dd39940e1dce9bb5189,
OLA_Region_d8ebf9f882284940a8dc5a4f0a00b3a0,G$10,$A11)

	A	B	C	D	E	F	G	H	I	J	K	L
1	Database:	USING_OLATION										
2	Cube:	SALES										
3	Dimensions:	Filter	SALES Measure	Members	Amount							
4		Filter	Version	Members	Budget							
5		Filter	Region	Members	Mexico							
6		Column	Account	Range	$B$10:$D$10							
7		Row	Month	Range	$A$11:$A$18							
8												
9		OLAReadWrite					OLAREAD					
10		Sales	Cost of Sales	Margin			Sales	Cost of Sales	Margin			
11	January	10000	8888	1112			$A11)					
12	February	20000	9999	10001								
13	March	0	0	0								
14	1st Quarter	30000	18887	11113								
15	April	0	0	0								
16	May	0	0	0								
17	June	0	0	0								
18	2nd Quarter	0	0	0								
19												
20												
21												


Function Arguments

OLARead

Connection $B$1 = "USING_OLATION"

Cube $B$2 = "SALES"

Member1 OLA_SALES_Measure_8b638aa7(= "Amount"

Member2 OLA_V

Member3 OLA_R

No help available.

Formula result =

Help on this function

Function Arguments

OLARead

Member2 OLA_Version_c007a04d24134dd = "Budget"

Member3 OLA_Region_d8ebf9f88228494C = "Mexico"

Member4 G$10 = "Sales"

Member5 $A11 = "January"

Member6 =

=

No help available.

Member2

Formula result =

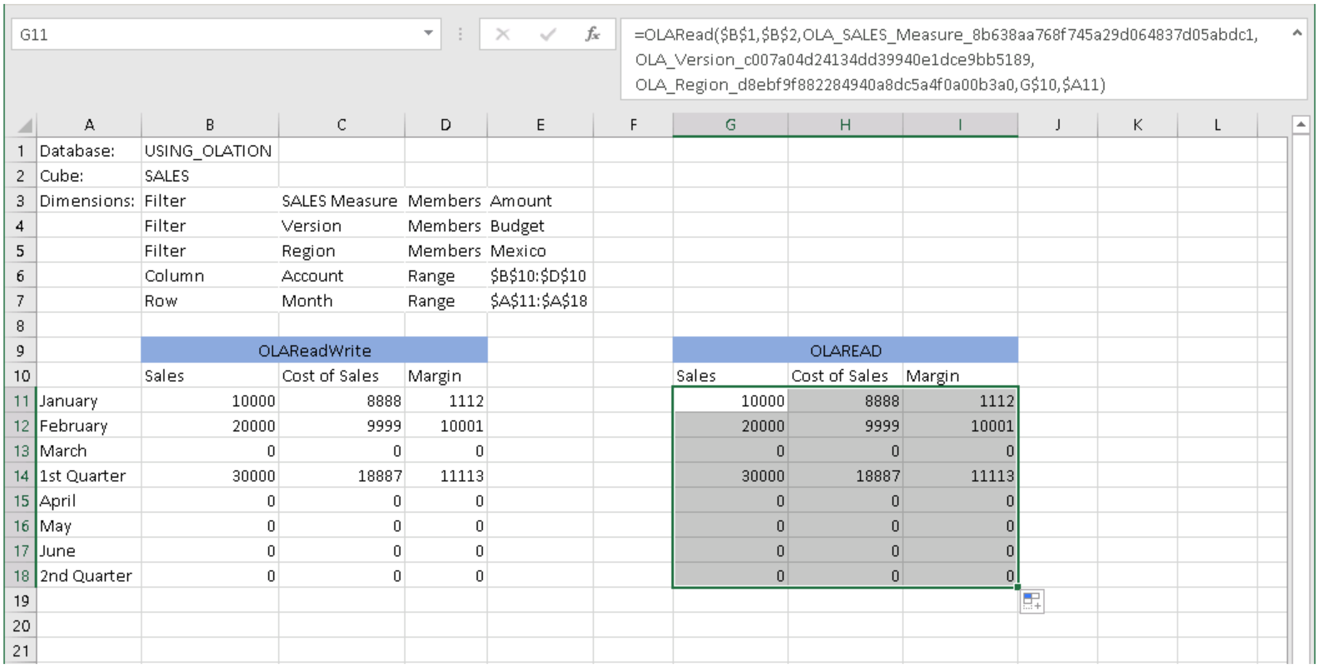
Help on this function

Cell References:

```
=OLARead($B$1,$B$2,OLA_SALES_Measure_8b638aa768f745a29d064837d0
5abdc1,OLA_Version_c007a04d24134dd39940e1dce9bb5189,OLA_Region_d8e
bf9f882284940a8dc5a4f0a00b3a0,G$10,$A11)
```

- $B$1– the Database name or the PowerExcel connection name/cell reference that contains the name of the Database or the PowerExcel connection, i.e., **USING_OLATION**
- $B$2 – the Cube in the Database, i.e., **SALES** Cube
- OLA_SALES_Measure_8b638aa768f745a29d064837d05abdc1 – the ***Amount*** Member in the *SALES Measure* Dimension [Filter reference]
- OLA_Version_c007a04d24134dd39940e1dce9bb5189 – the ***Budget*** Member in the *Version* Dimension [Filter reference]
- OLA_Region_d8ebf9f882284940a8dc5a4f0a00b3a0 – the ***Mexico*** Member in the *Region* Dimension [Filter reference]
- G$10 – the Column Member reference ***Sales*** from the *Account* Dimension [Column reference].
- $A11 – the Row Member reference ***January*** from the *Month* Dimension [Row reference].

- Copy the formula across and down to Cell **I18**. Click the **Refresh** button along the PowerExcel Tab. Notice that all cells return the same data values as in the PowerExcel ReadWrite section of the Slice.

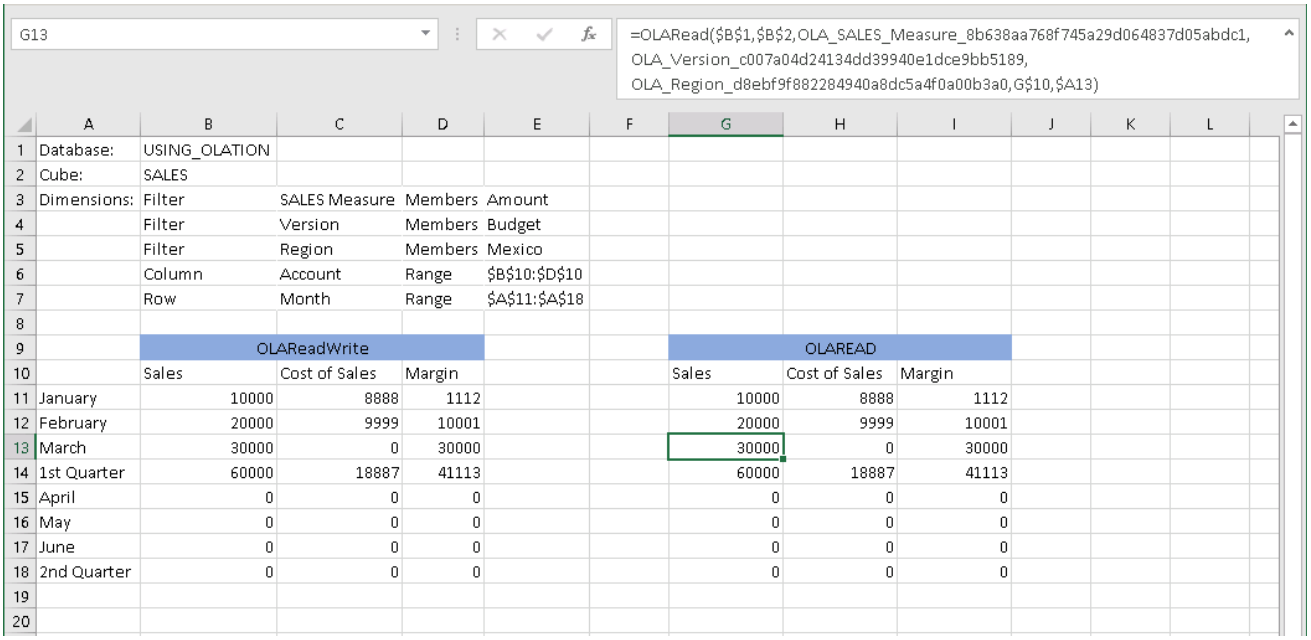


G11

```
=OLARead($B$1,$B$2,OLA_SALES_Measure_8b638aa768f745a29d064837d05abdc1,
OLA_Version_c007a04d24134dd39940e1dce9bb5189,
OLA_Region_d8ebf9f882284940a8dc5a4f0a00b3a0,G$10,$A11)
```

	A	B	C	D	E	F	G	H	I	J	K	L
1	Database:	USING_OLATION										
2	Cube:	SALES										
3	Dimensions:	Filter	SALES Measure	Members	Amount							
4		Filter	Version	Members	Budget							
5		Filter	Region	Members	Mexico							
6		Column	Account	Range	$B$10:$D$10							
7		Row	Month	Range	$A$11:$A$18							
8												
9		OLAReadWrite					OLAREAD					
10		Sales	Cost of Sales	Margin			Sales	Cost of Sales	Margin			
11	January	10000	8888	1112			10000	8888	1112			
12	February	20000	9999	10001			20000	9999	10001			
13	March	0	0	0			0	0	0			
14	1st Quarter	30000	18887	11113			30000	18887	11113			
15	April	0	0	0			0	0	0			
16	May	0	0	0			0	0	0			
17	June	0	0	0			0	0	0			
18	2nd Quarter	0	0	0			0	0	0			
19												
20												
21												

- Next in Cell **B13** of the DB Functions Slice enter a new sales value—e.g., **30000**. Press **Enter** then hit the **Refresh** button along the PowerExcel Tab of the Excel ribbon. Notice that the aggregate values are subsequently updated in both the **OLARead** and the ReadWrite sections of the Slice.

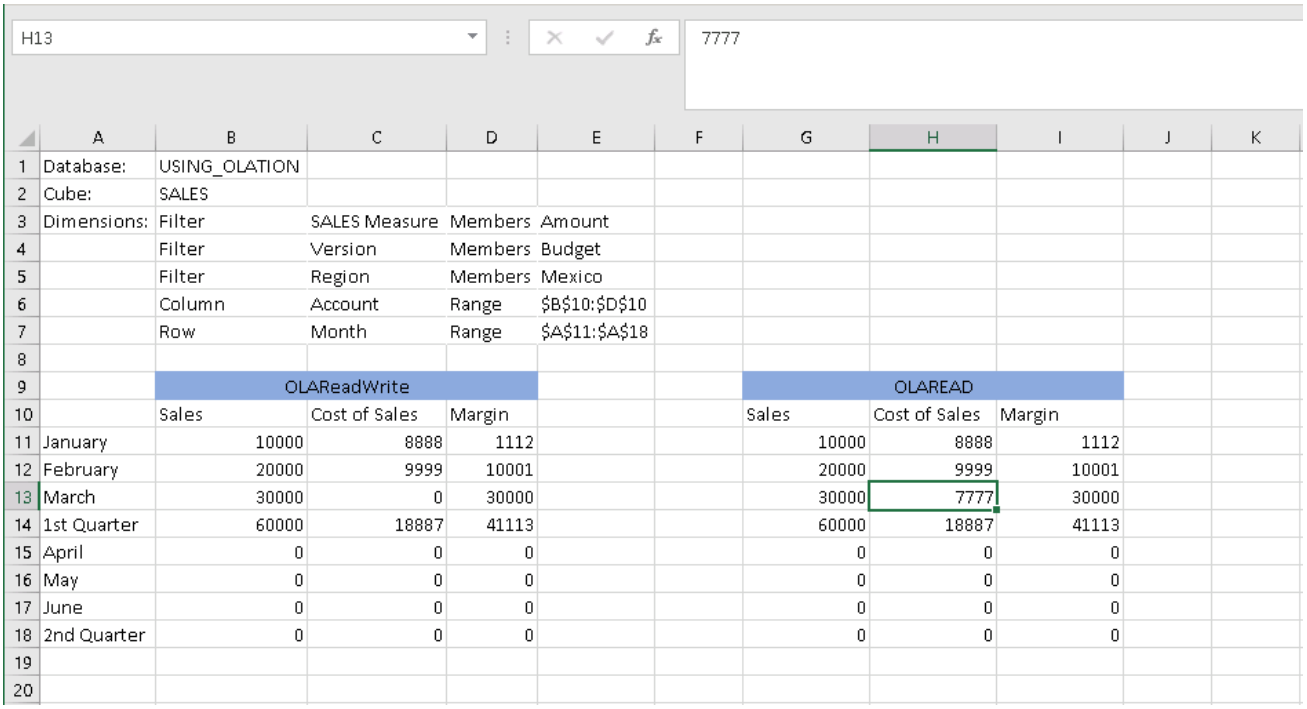


G13

```
=OLARead($B$1,$B$2,OLA_SALES_Measure_8b638aa768f745a29d064837d05abdc1,
OLA_Version_c007a04d24134dd39940e1dce9bb5189,
OLA_Region_d8ebf9f882284940a8dc5a4f0a00b3a0,G$10,$A13)
```

	A	B	C	D	E	F	G	H	I	J	K	L
1	Database:	USING_OLATION										
2	Cube:	SALES										
3	Dimensions:	Filter	SALES Measure	Members	Amount							
4		Filter	Version	Members	Budget							
5		Filter	Region	Members	Mexico							
6		Column	Account	Range	$B$10:$D$10							
7		Row	Month	Range	$A$11:$A$18							
8												
9		OLAReadWrite					OLAREAD					
10		Sales	Cost of Sales	Margin			Sales	Cost of Sales	Margin			
11	January	10000	8888	1112			10000	8888	1112			
12	February	20000	9999	10001			20000	9999	10001			
13	March	30000	0	30000			30000	0	30000			
14	1st Quarter	60000	18887	41113			60000	18887	41113			
15	April	0	0	0			0	0	0			
16	May	0	0	0			0	0	0			
17	June	0	0	0			0	0	0			
18	2nd Quarter	0	0	0			0	0	0			
19												
20												

- Now try entering in the Read Slice (**OLARead** Slice) and observe the results. For example, in Cell **H13** enter a new *Cost of Sales* value—e.g., **7777**. This cell corresponds to the *Budget, Cost of Sales* value for the month of *March* and for the region *Mexico*. Press **Enter** then click the **Refresh** button.



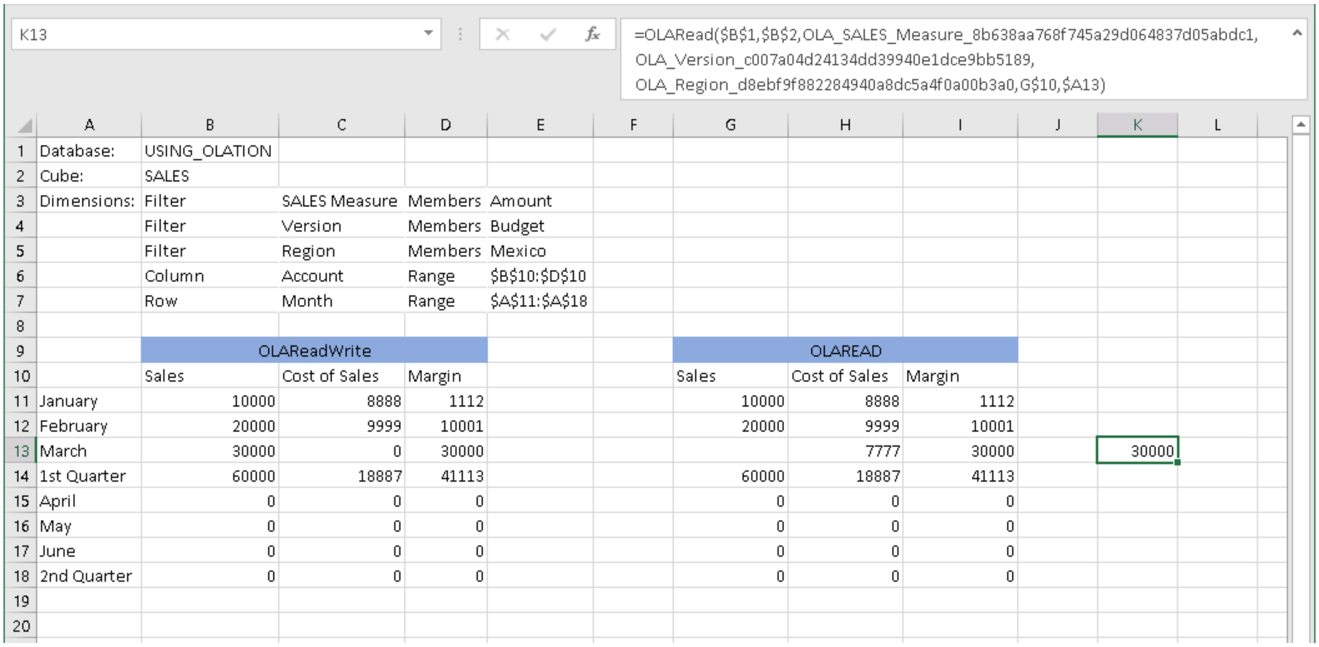
H13 7777

	A	B	C	D	E	F	G	H	I	J	K
1	Database:	USING_OLATION									
2	Cube:	SALES									
3	Dimensions:	Filter	SALES Measure	Members	Amount						
4		Filter	Version	Members	Budget						
5		Filter	Region	Members	Mexico						
6		Column	Account	Range	$B$10:$D$10						
7		Row	Month	Range	$A$11:$A$18						
8											
9		OLAReadWrite					OLAREAD				
10		Sales	Cost of Sales	Margin			Sales	Cost of Sales	Margin		
11	January	10000	8888	1112			10000	8888	1112		
12	February	20000	9999	10001			20000	9999	10001		
13	March	30000	0	30000			30000	7777	30000		
14	1st Quarter	60000	18887	41113			60000	18887	41113		
15	April	0	0	0			0	0	0		
16	May	0	0	0			0	0	0		
17	June	0	0	0			0	0	0		
18	2nd Quarter	0	0	0			0	0	0		
19											
20											

- Notice that although you can see 7777 appear on Cell H13, that value did not appear in the same intersection of the ReadWrite section of the Slice (Cell **C13**). This means that the newly entered *Cost of Sales* value is not committed/saved to the source/target database.

- Additionally, clicking on Cell H13, notice that the **OLARead** formula was overwritten and replaced with the numeric value of 7777. (It is worth noting: in the ReadWrite section of the Slice, however, typing a number on a Detail intersections will not remove the OLAReadWrite function.)

- Next, to move the OLARead formula to a different cell: for example, move the March Sales Read formula (cell **G13**) to a different cell—e.g., Cell **K13**. Although the formula was moved, the cell references remained the same (which is standard Excel behavior).

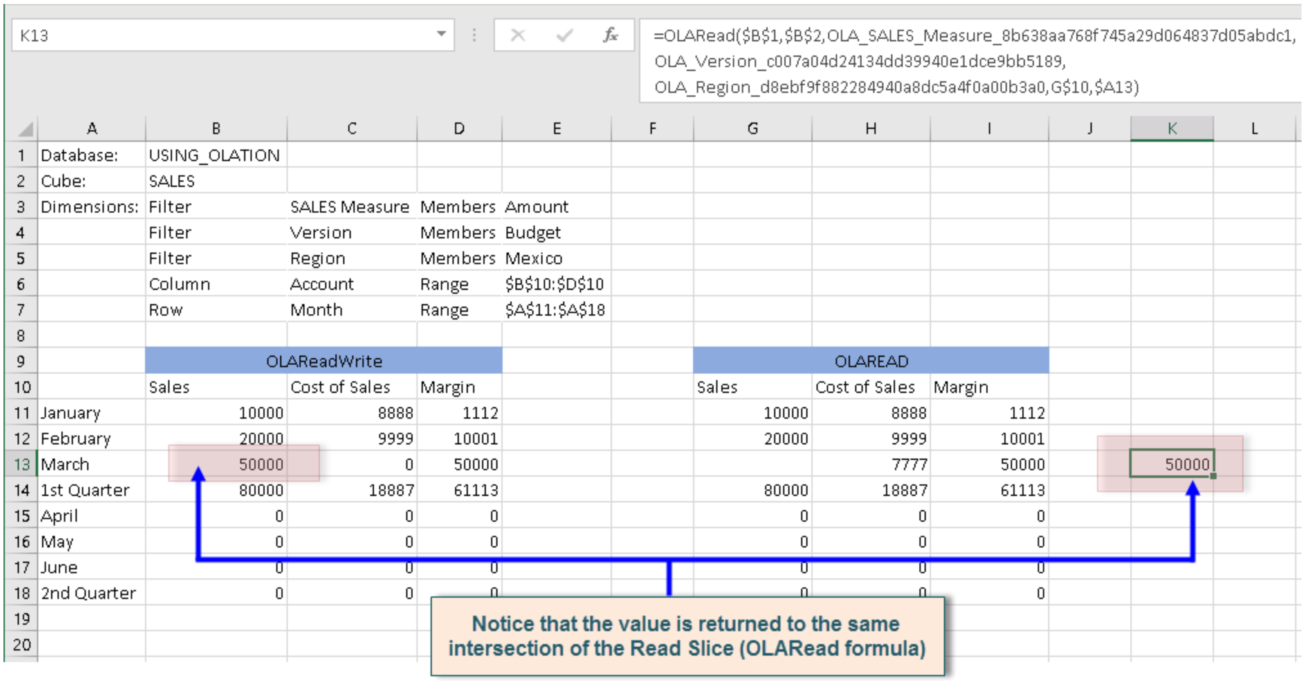


K13

=OLARead($B$1,$B$2,OLA_SALES_Measure_8b638aa768f745a29d064837d05abdc1,
OLA_Version_c007a04d24134dd39940e1dce9bb5189,
OLA_Region_d8ebf9f882284940a8dc5a4f0a00b3a0,G$10,$A13)

	A	B	C	D	E	F	G	H	I	J	K	L
1	Database:	USING_OLATION										
2	Cube:	SALES										
3	Dimensions:	Filter	SALES Measure	Members	Amount							
4		Filter	Version	Members	Budget							
5		Filter	Region	Members	Mexico							
6		Column	Account	Range	$B$10:$D$10							
7		Row	Month	Range	$A$11:$A$18							
8												
9		OLAReadWrite					OLAREAD					
10		Sales	Cost of Sales	Margin			Sales	Cost of Sales	Margin			
11	January	10000	8888	1112			10000	8888	1112			
12	February	20000	9999	10001			20000	9999	10001			
13	March	30000	0	30000				7777	30000		30000	
14	1st Quarter	60000	18887	41113			60000	18887	41113			
15	April	0	0	0			0	0	0			
16	May	0	0	0			0	0	0			
17	June	0	0	0			0	0	0			
18	2nd Quarter	0	0	0			0	0	0			
19												
20												

- Back in the ReadWrite section of the Slice, change the March Sales value at cell **B13** to **50000**. Press **Enter** then click the **Refresh**: the new value from the DB Functions Slice is reflected at the same intersection point that is using the **OLARead** formula function (Cell K13).



K13

=OLARead($B$1,$B$2,OLA_SALES_Measure_8b638aa768f745a29d064837d05abdc1,
OLA_Version_c007a04d24134dd39940e1dce9bb5189,
OLA_Region_d8ebf9f882284940a8dc5a4f0a00b3a0,G$10,$A13)

	A	B	C	D	E	F	G	H	I	J	K	L
1	Database:	USING_OLATION										
2	Cube:	SALES										
3	Dimensions:	Filter	SALES Measure	Members	Amount							
4		Filter	Version	Members	Budget							
5		Filter	Region	Members	Mexico							
6		Column	Account	Range	$B$10:$D$10							
7		Row	Month	Range	$A$11:$A$18							
8												
9		OLAReadWrite					OLAREAD					
10		Sales	Cost of Sales	Margin			Sales	Cost of Sales	Margin			
11	January	10000	8888	1112			10000	8888	1112			
12	February	20000	9999	10001			20000	9999	10001			
13	March	50000	0	50000				7777	50000		50000	
14	1st Quarter	80000	18887	61113			80000	18887	61113			
15	April	0	0	0			0	0	0			
16	May	0	0	0			0	0	0			
17	June	0	0	0			0	0	0			
18	2nd Quarter	0	0	0			0	0	0			
19												
20												

Notice that the value is returned to the same intersection of the Read Slice (OLARead formula)

15.OLAReadWrite

Function Description: PowerExcel's Read/Write Formulas, when used as the means to bring data into a Slice, has the key advantage of returning business-model data (according to Dimensions selected and filtered) via individual, discrete cell-by-cell functions. In other words, each cell's value is governed by its own function (an OLAReadWrite function), rather than as part of a swath of cells, which is the case when the OLAPivotTable or the OLAPowerQuery functions are used.

Syntax: OLAReadWrite (Connection, Cube, Member1, Member2,…,MemberN)

Connection: Enter the PowerExcel connection which contains the information about the Olation server URL and the source database name.

Cube: Enter the name of the source/target Cube; or enter the cell reference that contains the name of the source or target Cube you wish to establish connection to.

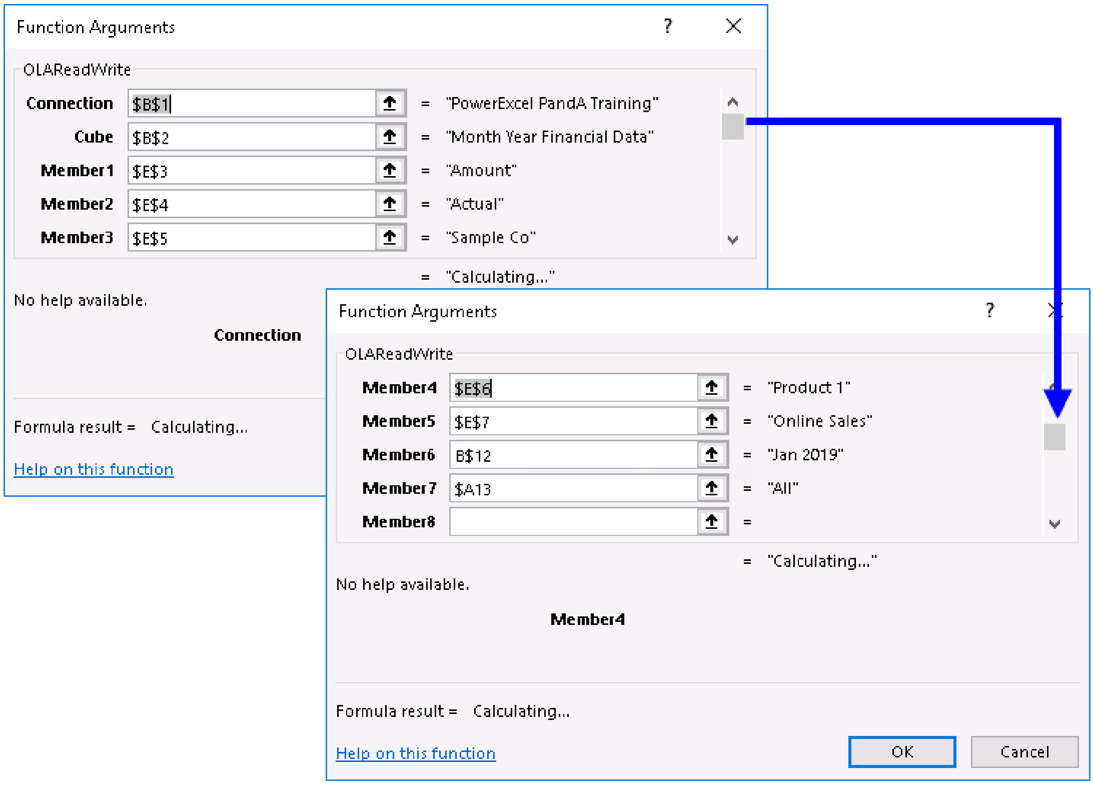
Member1 to MemberN: The related Member references.

Remarks:

- The PowerExcel Connection must exist.
- The Olation Web Service must be running.
- The Database must be opened and running on the specified server.
- The 'Connection', 'Cube' and 'Member' parameters are compulsory.

Example 1:

The function in this cell (reproduced below) has unique cell references; if you click in any other cell that returns values, you will see that the cell references are indeed different.



Function Arguments

OLAReadWrite

Connection $B$1 = "PowerExcel PandA Training"

Cube $B$2 = "Month Year Financial Data"

Member1 $E$3 = "Amount"

Member2 $E$4 = "Actual"

Member3 $E$5 = "Sample Co"

= "Calculating..."

No help available.

Connection

Formula result = Calculating...

Help on this function

Function Arguments

OLAReadWrite

Member4 $E$6 = "Product 1"

Member5 $E$7 = "Online Sales"

Member6 B$12 = "Jan 2019"

Member7 $A13 = "All"

Member8 =

= "Calculating..."

No help available.

Member4

Formula result = Calculating...

Help on this function

Cell References:

=OLAReadWrite($B$1,$B$2,$E$3,$E$4,$E$5,$E$6,$E$7,B$12,$A13)

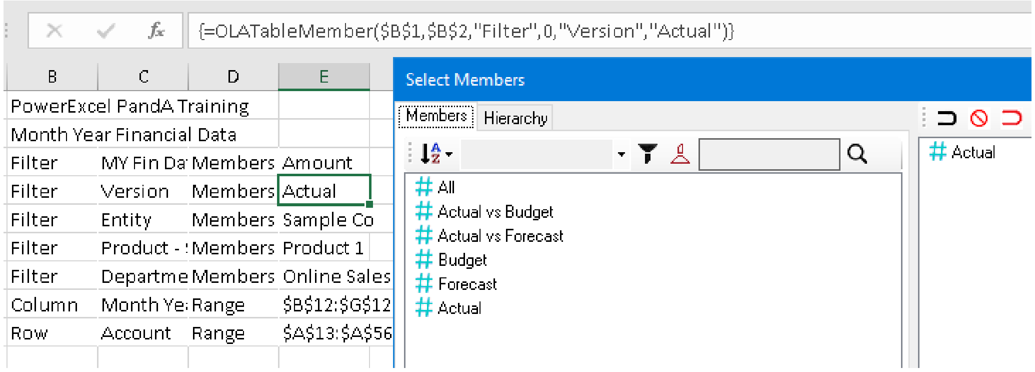
The Read/Write Formula function points to—and returns the value from—a precise multidimensional data point in the PowerExcel model: thus, the formula in Cell G13 is returning a value from the intersection of (in this example):

- $B$1 – the Database where the model is located, i.e., **PowerExcel PandA Training**
- $B$2 – the Cube in the Database, i.e., **Month Year Financial Data**
- $E$3 – the ***Amount*** Member in the *MY Fin Data Measure* Dimension
- $E$4 – the ***Actual*** Member in the *Version* Dimension
- $E$5 – the ***Sample Co*** Member in the *Entity* Dimension
- $E$6 – the ***Product 1*** Member in the *Product* – Services Dimension
- $E$7 – the ***Online Sales*** Member in the *Department* Dimension
- B$12 – ***Jan 2019*** from the *Month Year* Dimension [Column reference]
- $A13 – ***All*** from the *Account* Dimension [Row reference]

The interesting—and very important—fact is that that these cells are themselves "selectable"—meaning that either by using the PowerExcel pane to the right or by double-click on, for example, those governed by an {OLATableMember…} function, you can select a different Member that will change all results in the field of data in Columns and Rows.

Example 2:

- As an example, you can double-click in Cell $E$4, and make a selection of a different version: if you do so and pick “Budget” (from the resulting PowerExcel Select Members window, as shown in the below image), then results for all the Members, including those in Columns and Rows, will show results for *Budget* rather than *Actual*.



```
{=OLATableMember($B$1,$B$2,"Filter",0,"Version","Actual")}
```

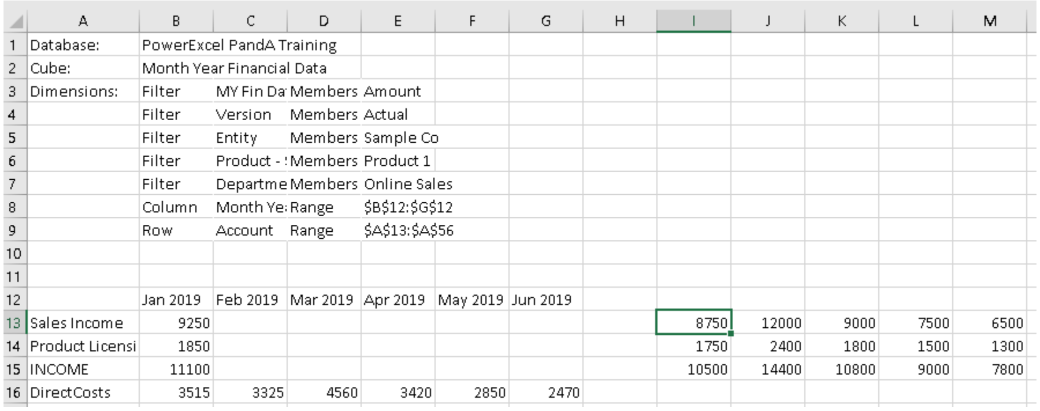
B	C	D	E
PowerExcel PandA Training			
Month Year Financial Data			
Filter	MY Fin Da	Members	Amount
Filter	Version	Members	Actual
Filter	Entity	Members	Sample Co
Filter	Product - !	Members	Product 1
Filter	Departme	Members	Online Sales
Column	Month Ye:	Range	$B$12:$G$12
Row	Account	Range	$A$13:$A$56

For present, go back to (or keep the selection at) Actual. We will proceed what this “cell-by-cell return of values” enables us to do in the following steps.

- First delete Row 13, which shows data for the All Account Member—this is a formatting step, to show our data results more cleverly.

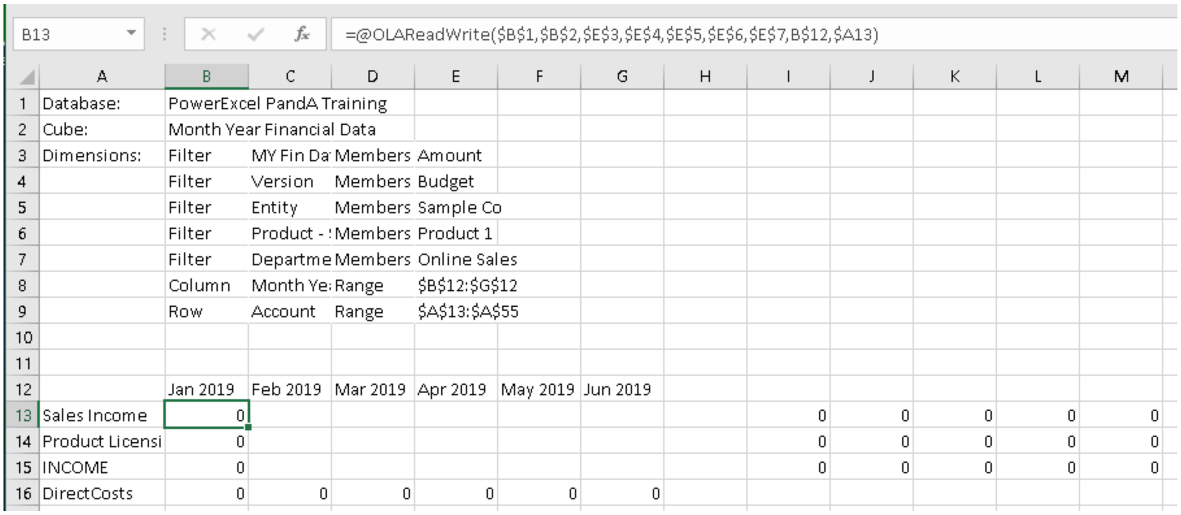
- Next, after the Rows have shifted upward 1 Row, click in Cell C13—*Feb 2019*, *Sales Income*.

- Highlight all cells across and down to G15 (Jun 2019, INCOME); “grab” those cells and drop them starting in Cell I13—the result will show as in the following image:



	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Database:	PowerExcel PandA Training											
2	Cube:	Month Year Financial Data											
3	Dimensions:	Filter	MY Fin Da	Members	Amount								
4		Filter	Version	Members	Actual								
5		Filter	Entity	Members	Sample Co								
6		Filter	Product - !	Members	Product 1								
7		Filter	Departme	Members	Online Sales								
8		Column	Month Ye:	Range	$B$12:$G$12								
9		Row	Account	Range	$A$13:$A$56								
10													
11													
12		Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019						
13	Sales Income	9250							8750	12000	9000	7500	6500
14	Product Licensi	1850							1750	2400	1800	1500	1300
15	INCOME	11100							10500	14400	10800	9000	7800
16	DirectCosts	3515	3325	4560	3420	2850	2470						

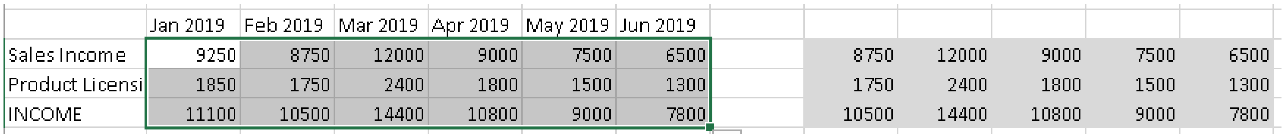
- If you now double-click on Cell E4 and select *Budget*, then **hit F9 to update**—note, those cells that you moved to the right show all zeros (as in the next image)! That is because <u>Excel maintained the references to the cells, and the selected Member in them</u>, in their new position—and the *Budget* values for all parameters happen to be zero. In essence, you have proved that with PowerExcel, you can return values from a business model wherever you like, anywhere in a spreadsheet. This is enormously useful in creating precisely the report view you wish, from a multidimensional model of the sort PowerExcel features.



B13 =@OLAReadWrite($B$1,$B$2,$E$3,$E$4,$E$5,$E$6,$E$7,B$12,$A13)

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Database:	PowerExcel PandA Training											
2	Cube:	Month Year Financial Data											
3	Dimensions:	Filter	MY Fin Da	Members	Amount								
4		Filter	Version	Members	Budget								
5		Filter	Entity	Members	Sample Co								
6		Filter	Product - !	Members	Product 1								
7		Filter	Departme	Members	Online Sales								
8		Column	Month Ye	Range	$B$12:$G$12								
9		Row	Account	Range	$A$13:$A$55								
10													
11													
12		Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019						
13	Sales Income	0							0	0	0	0	0
14	Product Licensi	0							0	0	0	0	0
15	INCOME	0							0	0	0	0	0
16	DirectCosts	0	0	0	0	0	0						

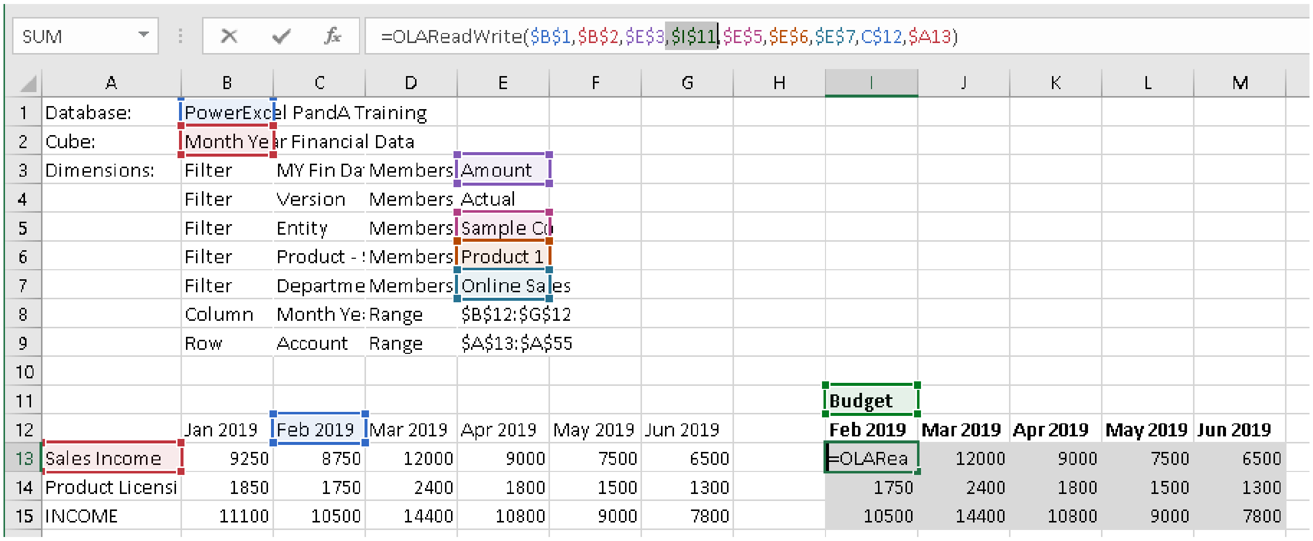
- For present purposes, revert back to the *Actual* Member (double-click on Cell E4, select *Budget*, etc.).
  Next, highlight Cells B13 to B15 (*Jan 2019*, *Sales Income* to *Jan 2019, INCOME*); click on the dot at the bottom right of Cell B15 and "drag" the highlight across to Column G.
- When you hit **F9 to update**—you will see the that the data is the same as the date to the right, which you moved a few steps ago. Here Excel, as is its custom, ensured that what shows in Columns is the sequence (following *Jan 2020*) of *Feb 2020*, *Mar 2020*, etc., out to Column G, *Jun 2019*. (This is a fine example of Excel working the way a user expected!)



	Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019						
Sales Income	9250	8750	12000	9000	7500	6500		8750	12000	9000	7500	6500
Product Licensi	1850	1750	2400	1800	1500	1300		1750	2400	1800	1500	1300
INCOME	11100	10500	14400	10800	9000	7800		10500	14400	10800	9000	7800

- This next step involves some housekeeping/formatting, which are always important in data presentation, and which here is necessary to arrive are our objective, which is to show *Budget* numbers to the right of the data showing *Actuals*:
  Copy the cells C12 to G12 (*Feb 2019* to Jun *2019*) and paste them into cell I12, and make those month headers **bold**.
  Then, type the word **Budget** into Cell I11, making it **bold** as well.

- Next, to change the key reference for the right "block" of cells, so that they show Budget figures:
  Click in Cell I13, then click within the function in the formula bar.
  Change the reference to *Actual* (**$E$4**) by highlighting it and pointing to Cell I11 (you can do this by pull the rectangle surrounding E4 down to I11).
  Before you press F9 to recalculate, your spreadsheet will look as follows:

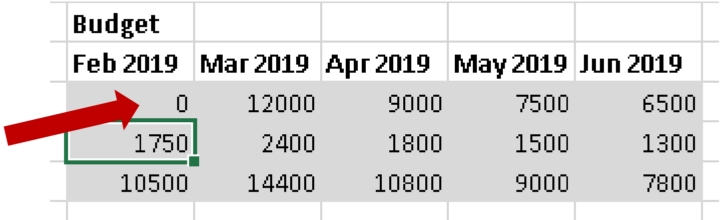


SUM

=OLAReadWrite($B$1,$B$2,$E$3,$I$11,$E$5,$E$6,$E$7,C$12,$A13)

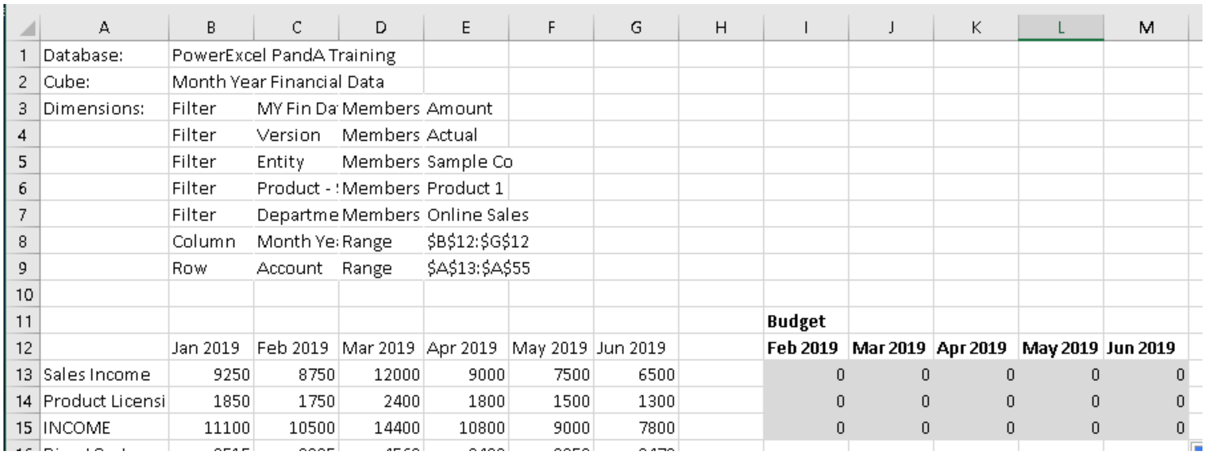
	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Database:	PowerExcel PandA Training											
2	Cube:	Month Year Financial Data											
3	Dimensions:	Filter	MY Fin Da	Members	Amount								
4		Filter	Version	Members	Actual								
5		Filter	Entity	Members	Sample Co								
6		Filter	Product - !	Members	Product 1								
7		Filter	Departme	Members	Online Sales								
8		Column	Month Ye:	Range	$B$12:$G$12								
9		Row	Account	Range	$A$13:$A$55								
10													
11									Budget				
12		Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019		Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019
13	Sales Income	9250	8750	12000	9000	7500	6500		=OLARea	12000	9000	7500	6500
14	Product Licensi	1850	1750	2400	1800	1500	1300		1750	2400	1800	1500	1300
15	INCOME	11100	10500	14400	10800	9000	7800		10500	14400	10800	9000	7800

- Hit the **Enter** key and then press **F9**—note that the value changes to zero (as per the arrow in the following image)! As we saw earlier, there is indeed a zero value for *Budget*, *Sales Income* for *Feb 2019* (for Amount, Sample Co, Product 1, Online Sales—i.e., the other referenced cells.)



Budget				
Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019
0	12000	9000	7500	6500
1750	2400	1800	1500	1300
10500	14400	10800	9000	7800

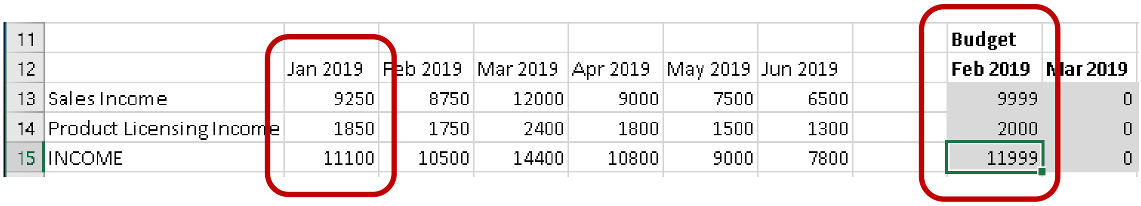
- Once again put your cursor in Cell **I13**; use dot at the bottom right and pull down to include I14 and I15; hit Enter and then F9 to update. These cells also show zero values. Lastly, highlight I13 through I15 and, as above, pull the highlighted area across, covering all of the data set through to Column M. Hit Enter and F9. The result set will show as in the following image.



	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Database:	PowerExcel PandA Training											
2	Cube:	Month Year Financial Data											
3	Dimensions:	Filter	MY Fin Da	Members	Amount								
4		Filter	Version	Members	Actual								
5		Filter	Entity	Members	Sample Co								
6		Filter	Product - !	Members	Product 1								
7		Filter	Departme	Members	Online Sales								
8		Column	Month Ye:	Range	$B$12:$G$12								
9		Row	Account	Range	$A$13:$A$55								
10													
11									Budget				
12		Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019		Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019
13	Sales Income	9250	8750	12000	9000	7500	6500		0	0	0	0	0
14	Product Licensi	1850	1750	2400	1800	1500	1300		0	0	0	0	0
15	INCOME	11100	10500	14400	10800	9000	7800		0	0	0	0	0

As a final part of this exercise, we will do something that is covered more in depth in a later section: entering data into a PowerExcel model—here will type a couple of numbers into this spreadsheet, which will further demonstrate (and validate) the use of creating data sets in a spreadsheet by using the **OLAReadWrite** function.

- Type example numbers—e.g., 9999 and 2000—in Cells I13 and I14 (*Sales Income* and *Product Licensing Income*, for *Feb 2019*). In this way we might be entering future budget numbers (in actuality, the entry template would be for a “plan” period, not the current months), with full, and nearby, knowledge of ongoing Actuals. (The Actual figures appear in Cells C13 and C14—circle to the left in the next image.)
  Hit F9.



11									**Budget**	
12		Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019		**Feb 2019**	**Mar 2019**
13	Sales Income	9250	8750	12000	9000	7500	6500		9999	0
14	Product Licensing Income	1850	1750	2400	1800	1500	1300		2000	0
15	INCOME	11100	10500	14400	10800	9000	7800		11999	0

- As shown above on the right, the two Budget numbers appear and even calculate automatically, delivering the *INCOME* number for *Feb 2019*. This calculation, defined once in the PowerExcel model—rather than in numerous cells individually, in numerous spreadsheets—demonstrates another advantage of using PowerExcel for business modeling.

16.OLATableMember

Function Description: This function covers a ‘cell range’ or a ‘group of cells’ that define the Dimension Name and the corresponding Member/s that will be displayed along the Filter area of a PowerExcel Slice. The ‘cell range’ covered by this function must be updated simultaneously and changes will only be committed by use of the CTRL+SHIFT+ENTER keys.

To change the Display Members of a particular Dimension, click on all the cells covered by the OLATableMember function, change the last parameter and enter the exact name of the new Display Member then press **Ctrl+Shift+Enter** keys to commit the changes. Notice that the update is reflected across all the cells covered by the function.

Syntax: OLATableMember (Connection, Cube, AXIS, Index, Dimension, Member)

Connection: Enter the PowerExcel connection which contains the information about the Olation server URL and the source database name.

Cube: Enter the name of the source/target Cube; or enter the cell reference that contains the name of the source or target Cube you wish to establish connection to.

AXIS: This indicates the area of the PowerExcel Slice where the data will appear (i.e., Filter, Column or Rows)

Index: 0
[NOTE: When Filter is indicated, Index will always be “0”, and changing this number will not change the value result in PowerExcel.]

Dimension: Enter the Dimension name or the cell reference that contains the name of the Dimension that exists within the specified Database above.

Member: Enter the Member name or the cell reference that contains the name of the preferred display Member along the Filter area of the specified Dimension.

Remarks:

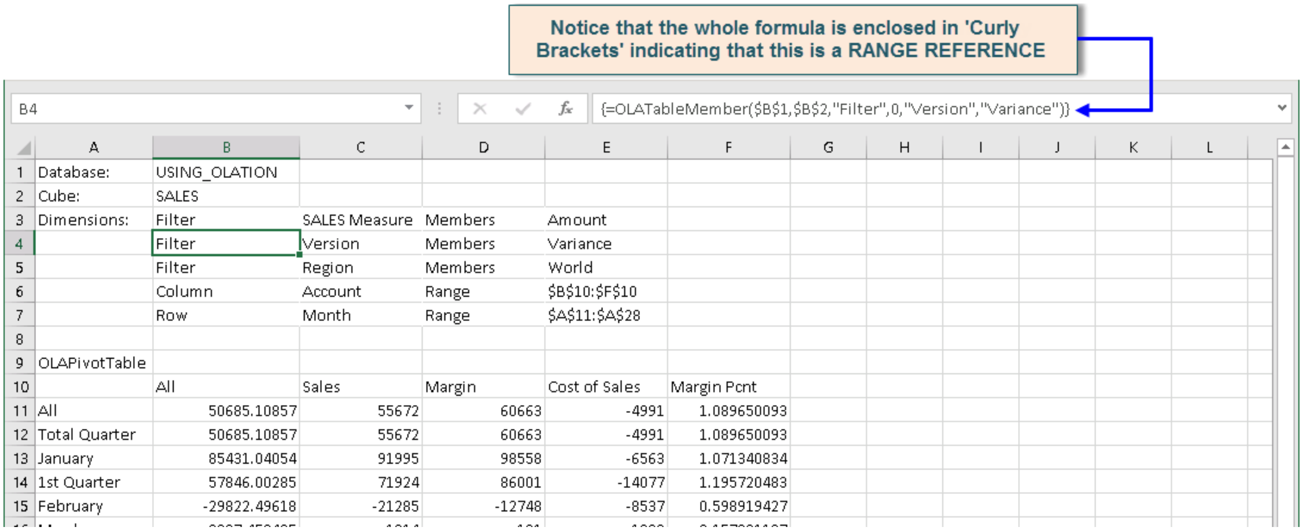
- The PowerExcel Connection must exist.
- The Olation Web Service must be running.
- The Database must be opened and running on the specified server.
- The Cube must exist within the specified database.
- The Dimension must exist within the specified database.
- The Member must exist within the specified Dimension.
- All the parameters are compulsory since the function covers a ‘range of cells’.
- It is imperative that ‘All’ cells governed by the OLATableMember function be updated in order to successfully commit the changes to the formula.

Example:

The example Slice below shows a PowerExcel Perspective Slice. The **OLATableMember** function is used to define the Members to display along the Filter area of the PowerExcel Slice. Additionally, the **OLATableMember** is a 'Range Reference', meaning it is a formula function that governs a group of cells. Hence, if you click on any cell containing the formula, you will notice that the formula is enclosed in 'Curly Brackets', an indication that this is a Range Reference: all cells covered by the same Range reference will render the same formula.

- As in the example screenshot below, the **OLATableMember** formulas can be found in the cells **B3:E3** (*SALES Measure* Dimension with the filter Member *Amount*), **B4:E4** (*Version* Dimension with the filter Member *Variance*) and **B5:E5** (*Region* Dimension with the filter Member *World*).
- When you click on the cell containing the **OLATableMember** formula (as in the example, the active cell is **B4**) notice that the **OLATableMember** formula that appears in the formula bar is enclosed in curly brackets. When you click through the cells that are part of the cell range—**C4**, **D4** and **E4**—notice that they will show the same formula as that seen in cell B4:

{=OLATableMember($B$1,$B$2,"Filter",0,"Version","Variance")}



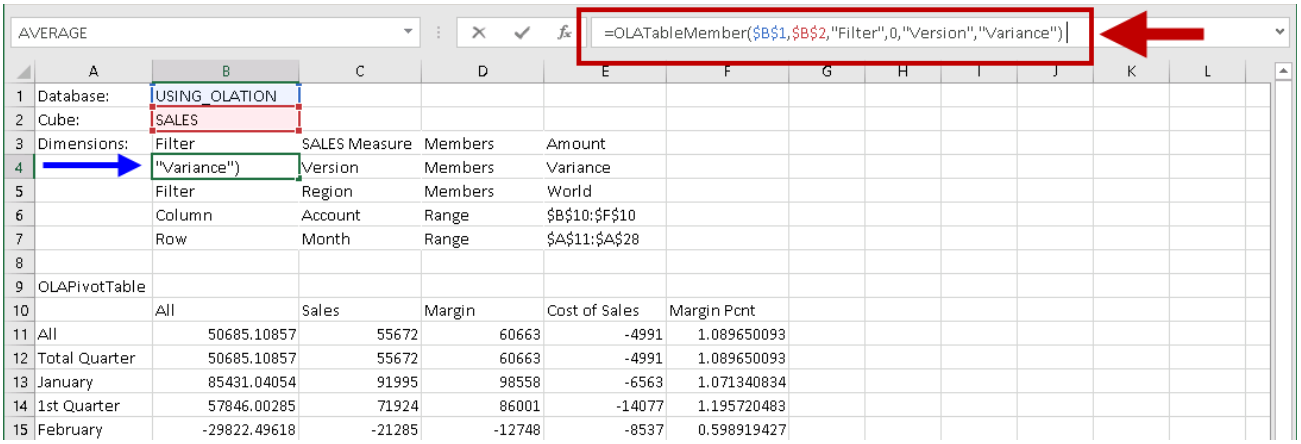
Notice that the whole formula is enclosed in 'Curly Brackets' indicating that this is a RANGE REFERENCE

B4

{=OLATableMember($B$1,$B$2,"Filter",0,"Version","Variance")}

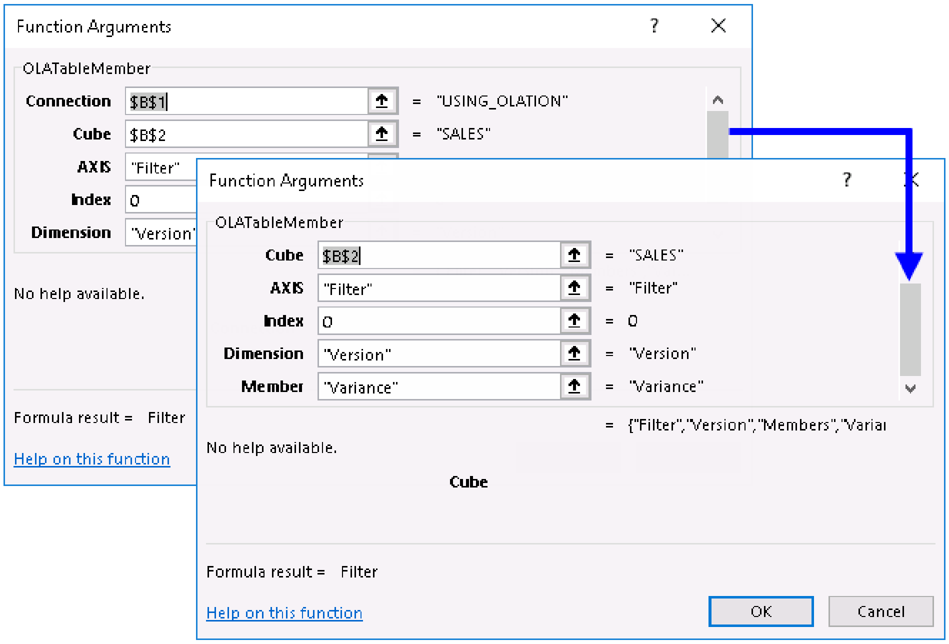
	A	B	C	D	E	F
1	Database:	USING_OLATION				
2	Cube:	SALES				
3	Dimensions:	Filter	SALES Measure	Members	Amount	
4		Filter	Version	Members	Variance	
5		Filter	Region	Members	World	
6		Column	Account	Range	$B$10:$F$10	
7		Row	Month	Range	$A$11:$A$28	
8						
9	OLAPivotTable					
10		All	Sales	Margin	Cost of Sales	Margin Pcnt
11	All	50685.10857	55672	60663	-4991	1.089650093
12	Total Quarter	50685.10857	55672	60663	-4991	1.089650093
13	January	85431.04054	91995	98558	-6563	1.071340834
14	1st Quarter	57846.00285	71924	86001	-14077	1.195720483
15	February	-29822.49618	-21285	-12748	-8537	0.598919427

- By clicking in the formula bar area (in the next image, the mouse cursor is placed at the end of the formula), the cell references corresponding to the **OLATableMember** function will be outlined on the spreadsheet. The **OLATableMember** function returns **Filter**(B4), **Version**(C4), **Members**(D4) and **Variance**(E4)
- It is also referencing the Cube called "*SALES*"(**$B$2**) and is using the PowerExcel connection/OLADatabase connection called "*USING_OLATION*"(**$B$1**).
  Note: When you are on edit mode of a Range Reference type of formula, notice that the 'Curly Brackets' disappear. Click on Esc (Escape) to come out of the formula bar.



=OLATableMember($B$1,$B$2,"Filter",0,"Version","Variance")

	A	B	C	D	E	F
1	Database:	USING_OLATION				
2	Cube:	SALES				
3	Dimensions:	Filter	SALES Measure	Members	Amount	
4		"Variance")	Version	Members	Variance	
5		Filter	Region	Members	World	
6		Column	Account	Range	$B$10:$F$10	
7		Row	Month	Range	$A$11:$A$28	
8						
9	OLAPivotTable					
10		All	Sales	Margin	Cost of Sales	Margin Pcnt
11	All	50685.10857	55672	60663	-4991	1.089650093
12	Total Quarter	50685.10857	55672	60663	-4991	1.089650093
13	January	85431.04054	91995	98558	-6563	1.071340834
14	1st Quarter	57846.00285	71924	86001	-14077	1.195720483
15	February	-29822.49618	-21285	-12748	-8537	0.598919427



Function Arguments

OLATableMember

Connection $B$1 = "USING_OLATION"

Cube $B$2 = "SALES"

AXIS "Filter"

Index 0

Dimension "Version"

No help available.

Formula result = Filter

Help on this function

Function Arguments

OLATableMember

Cube $B$2 = "SALES"

AXIS "Filter" = "Filter"

Index 0 = 0

Dimension "Version" = "Version"

Member "Variance" = "Variance"

= {"Filter","Version","Members","Variai

No help available.

Cube

Formula result = Filter

Help on this function

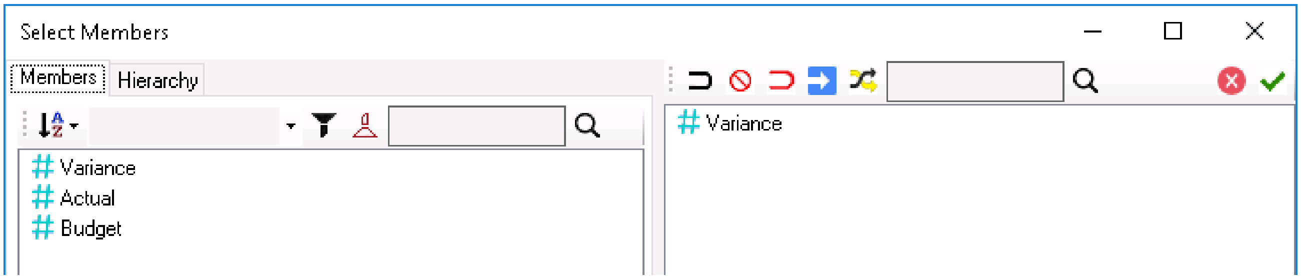
Cell References:

=OLATableMember($B$1,$B$2,"Filter",0,"Version","Variance")

- $B$1– the Database name or the PowerExcel connection name/cell reference that contains the name of the Database or the PowerExcel connection, i.e., **USING_OLATION**
- $B$2– the Cube name or the cell reference that contains the name of the Cube, i.e., **SALES**
- ”Filter”– This indicate that the data will appear along the Filter area of the Slice
- “0” – [Note: this is a constant when Filter is indicated, and there will be no change if another number is used]
- ”Version”– the Dimension name that exists within the database placed along the Filter area of the Slice

- ”Variance”– the Member name that exists within the specified Dimension that will serve as the Filter Member

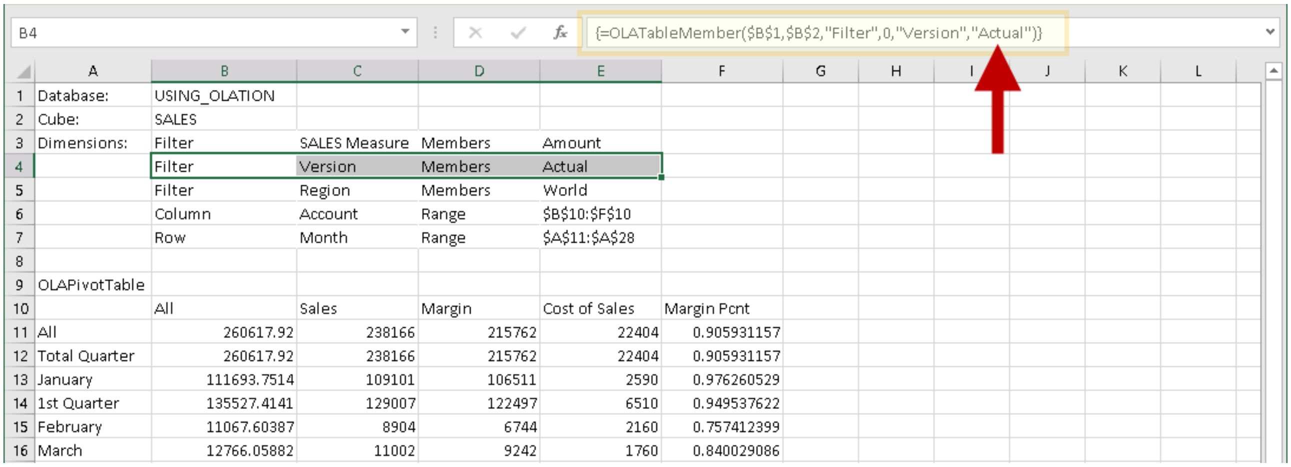
As an example: assume that you know the Members that exist for the *Version* Dimension: *Variance*, *Actual* and *Budget*, illustrated in the image below.



Variance
Actual
Budget

Variance

- Next, you want to change the current display or Filter Member (*Variance*) to *Actual*. Select all the cells governed by the **OLATableMember** formula for Version Dimension (**B4:E4**); then click on the formula bar and double-click on the **Member parameter** (the last parameter; in this example it is *Variance*). Next, type in the new filter Member, which is **Actual** (make sure that this is enclosed in double quotes). Press **Ctrl+Shift+Enter** keys to commit the formula change. Click the **Refresh** button along the PowerExcel Tab of the Excel ribbon, or press **F9**. The **OLATableMember** is now updated and the table shows the new fact data for *Actual*.



{=OLATableMember($B$1,$B$2,"Filter",0,"Version","Actual")}

	A	B	C	D	E	F
1	Database:	USING_OLATION				
2	Cube:	SALES				
3	Dimensions:	Filter	SALES Measure	Members	Amount	
4		Filter	Version	Members	Actual	
5		Filter	Region	Members	World	
6		Column	Account	Range	$B$10:$F$10	
7		Row	Month	Range	$A$11:$A$28	
8						
9	OLAPivotTable					
10		All	Sales	Margin	Cost of Sales	Margin Pcnt
11	All	260617.92	238166	215762	22404	0.905931157
12	Total Quarter	260617.92	238166	215762	22404	0.905931157
13	January	111693.7514	109101	106511	2590	0.976260529
14	1st Quarter	135527.4141	129007	122497	6510	0.949537622
15	February	11067.60387	8904	6744	2160	0.757412399
16	March	12766.05882	11002	9242	1760	0.840029086

- If you click across cells B4 to E4 you will see the new formula: **{=OLATableMember($B$1,$B$2,"Filter",0,"Version","Actual")}**

17.OLATableMembers

[NOTE: this function is not utilized in PowerExcel Version 22 or after—documentation is retained here for backwards compatibility.]

Function Description: This function covers a 'cell range' or a 'group of cells' that define the Dimension Name and the corresponding Member/s that will be displayed along the Filter area or of a PowerExcel Slice. [NOTE: when used with the Row area, this function is used when either Dynamic Rows Labels or Constrain Empty Rows is enabled—both by means of a checkbox in the PowerExcel pane.] Individual Dimension members are indicated, rather than a 'cell range', and to change the Member/s displayed requires only that any Members be added or deleted in the cell referenced by the last argument.

Syntax: OLATableMembers (Connection, Cube, AXIS, Index, Dimension, Members)

Connection: Enter the PowerExcel connection which contains the information about the Olation server URL and the source database name.

Cube: Enter the name of the source/target Cube; or enter the cell reference that contains the name of the source or target Cube you wish to establish connection to.

AXIS: This indicates the area of the PowerExcel Slice where the data will appear (i.e., Filter, Column or Rows)

Index: 0
[NOTE: When Filter is indicated, Index will always be "0", and changing this number will not change the value result in PowerExcel.]

Dimension: Enter the Dimension name or the cell reference that contains the name of the Dimension that exists within the specified Database above.

Members: Enter the Member names in the cell reference that contains the name of the preferred display Members along the Filter or the Rows area of the specified Dimension.

Remarks:

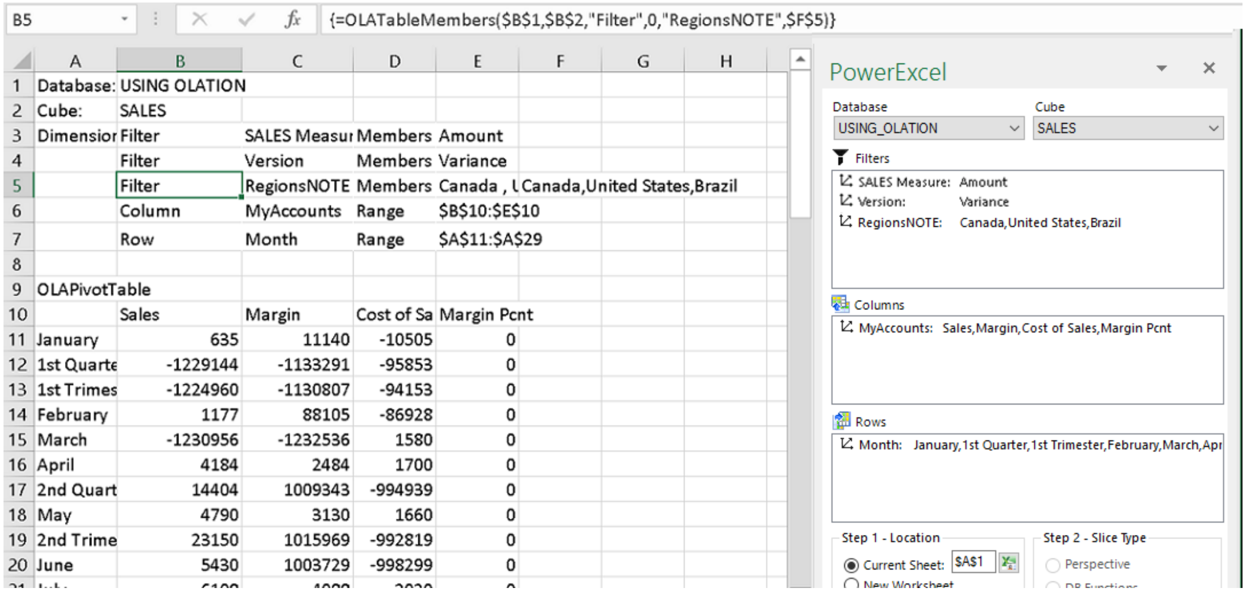
- The PowerExcel Connection must exist.
- The Olation Web Service must be running.
- The Database must be opened and running on the specified server.
- The Cube must exist within the specified database.
- The Dimension must exist within the specified database.
- The Member must exist within the specified Dimension.
- All the parameters are compulsory since the function covers a 'range of cells'

Example: for Filter area

The example Slice below shows a PowerExcel Perspective Slice. The **OLATableMembers** function is used to define the Members to display along the Filter area of the PowerExcel Slice. Additionally, the **OLATableMembers** is a 'Range Reference', meaning it is a formula function that governs a group of cells. Hence, if you click on any cell containing the formula, you will notice that the formula is enclosed in 'Curly Brackets', an indication that this is a Range Reference: all cells covered by the same Range reference will render the same formula.

- As in the example screenshot below, the **OLATableMembers** formulas can be found in the cells **B5:E5** (*RegionsNOTE* Dimension with Members referenced in Cell $F$5).
- When you click on the cell containing the **OLATableMembers** formula (as in the example, the active cell is **B5**) notice that the **OLATableMembers** formula that appears in the formula bar is enclosed in curly brackets. When you click through the cells that are part of the cell range—**C5**, **D5** and **E5**—notice that they will show the same formula as that seen in cell B5:

{=OLATableMembers($B$1,$B$2,"Filter",0,"RegionsNOTE",$F$5)}



B5 {=OLATableMembers($B$1,$B$2,"Filter",0,"RegionsNOTE",$F$5)}

	A	B	C	D	E	F
1	Database:	USING OLATION				
2	Cube:	SALES				
3	Dimensior	Filter	SALES Measur	Members	Amount	
4		Filter	Version	Members	Variance	
5		Filter	RegionsNOTE	Members	Canada , U	Canada,United States,Brazil
6		Column	MyAccounts	Range	$B$10:$E$10	
7		Row	Month	Range	$A$11:$A$29	
8						
9	OLAPivotTable					
10		Sales	Margin	Cost of Sa	Margin Pcnt	
11	January	635	11140	-10505	0	
12	1st Quarte	-1229144	-1133291	-95853	0	
13	1st Trimes	-1224960	-1130807	-94153	0	
14	February	1177	88105	-86928	0	
15	March	-1230956	-1232536	1580	0	
16	April	4184	2484	1700	0	
17	2nd Quart	14404	1009343	-994939	0	
18	May	4790	3130	1660	0	
19	2nd Trime	23150	1015969	-992819	0	
20	June	5430	1003729	-998299	0	

PowerExcel

Database: USING_OLATION
Cube: SALES

Filters
SALES Measure: Amount
Version: Variance
RegionsNOTE: Canada,United States,Brazil

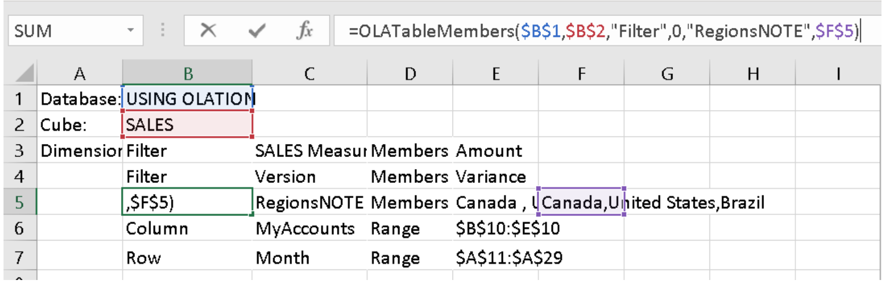
Columns
MyAccounts: Sales,Margin,Cost of Sales,Margin Pcnt

Rows
Month: January,1st Quarter,1st Trimester,February,March,Apr

Step 1 - Location
● Current Sheet: $A$1
○ New Worksheet

Step 2 - Slice Type
○ Perspective
○ DB Functions

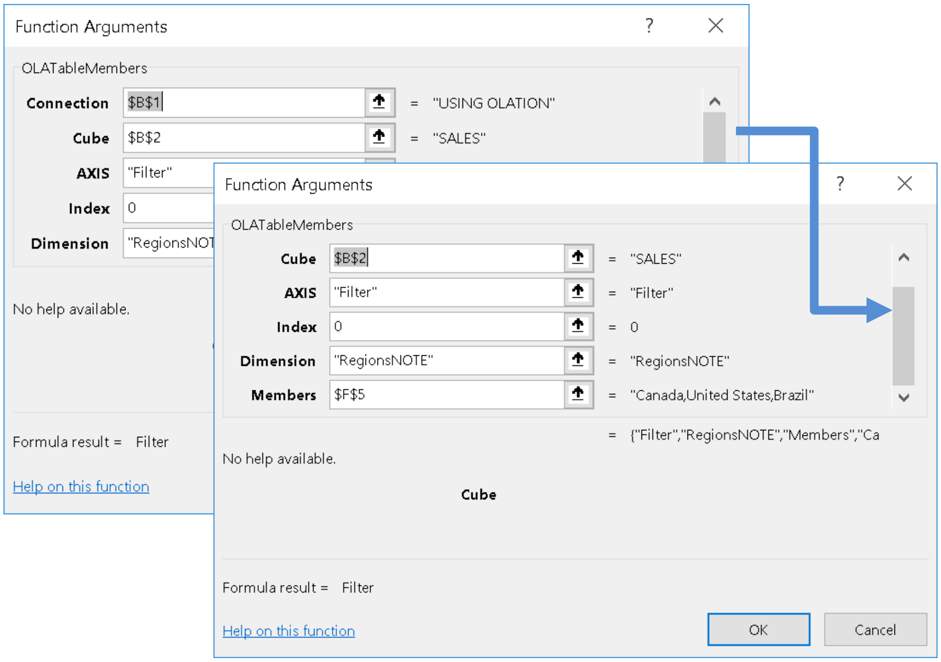
- By clicking in the formula bar area (in the next image, the mouse cursor is placed at the end of the formula), the cell references corresponding to the **OLATableMembers** function will be outlined on the spreadsheet. The **OLATableMembers** function returns **Filter**(B5), **RegionsNOTE**(C4), **Members**(D4) and **$F$5**—this latter cell itself contains the Member/s referenced by the function (in this example: *Canada,United States,Brazil*).
- It is also referencing the Cube called "SALES"(**$B$2**) and is using the PowerExcel connection/OLADatabase connection called "USING_OLATION"(**$B$1**).
  Note: When you are on edit mode of a Range Reference type of formula, notice that the 'Curly Brackets' disappear. Click on Esc (Escape) to come out of the formula bar.



SUM

=OLATableMembers($B$1,$B$2,"Filter",0,"RegionsNOTE",$F$5)

	A	B	C	D	E	F	G	H	I
1	Database:	USING OLATION							
2	Cube:	SALES							
3	Dimensior	Filter	SALES Measur	Members	Amount				
4		Filter	Version	Members	Variance				
5		,$F$5)	RegionsNOTE	Members	Canada , U	Canada,United States,Brazil			
6		Column	MyAccounts	Range	$B$10:$E$10				
7		Row	Month	Range	$A$11:$A$29				



Function Arguments

OLATableMembers

Connection	$B$1	=	"USING OLATION"
Cube	$B$2	=	"SALES"
AXIS	"Filter"		
Index	0		
Dimension	"RegionsNOT		

No help available.

Formula result = Filter

Help on this function

Function Arguments

OLATableMembers

Cube	$B$2	=	"SALES"
AXIS	"Filter"	=	"Filter"
Index	0	=	0
Dimension	"RegionsNOTE"	=	"RegionsNOTE"
Members	$F$5	=	"Canada,United States,Brazil"

= {"Filter","RegionsNOTE","Members","Ca

No help available.

Cube

Formula result = Filter

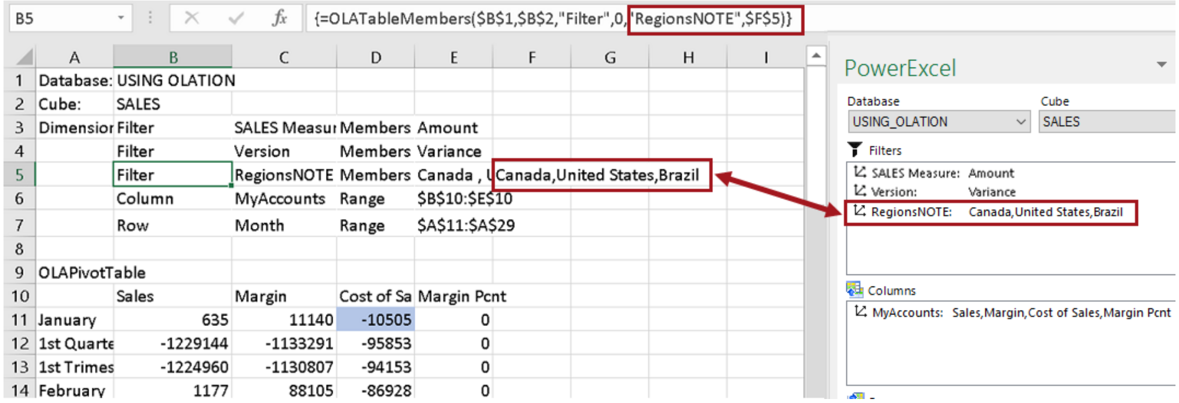
Help on this function

Cell References:

=OLATableMembers($B$1,$B$2,"Filter",0,"RegionsNOTE",$F$5)

- $B$1– the Database name or the PowerExcel connection name/cell reference that contains the name of the Database or the PowerExcel connection, i.e., **USING_OLATION**
- $B$2– the Cube name or the cell reference that contains the name of the Cube, i.e., **SALES**
- ”Filter”– This indicate that the data will appear along the Filter area of the Slice
- “0”- [Note: this is a constant when Filter is indicated, and there will be no change if another number is used.]
- ”RegionsNOTE”– the Dimension name that exists within the database placed along the Filter area of the Slice
- $F$5– the Member names that exist within the specified Dimension that are referenced by that Cell: those Members values will be added for the values returned to the spreadsheet.

This last bullet point is key: when the **OLATableMembers** function is used with the Filters area of the spreadsheet, values returned will be added for the Members specified. In this spreadsheet example, the values for *Cost of Sales*, *Variance*, in *January* is **-10505** (Cell D11, in**)**—that is, for the RegionsNOTE (i.e., the regions) members of *Canada*, *United States* and *Brazil* added together. These Members exist in Cell **$F$5** and are referenced in the last argument of the **OLATableMembers** function—all as shown in the following image. (Not coincidentally, those are the Members that appear in the PowerExcel pane on the right, as the Filter selections for RegionsNote.)



B5 {=OLATableMembers($B$1,$B$2,"Filter",0,"RegionsNOTE",$F$5)}

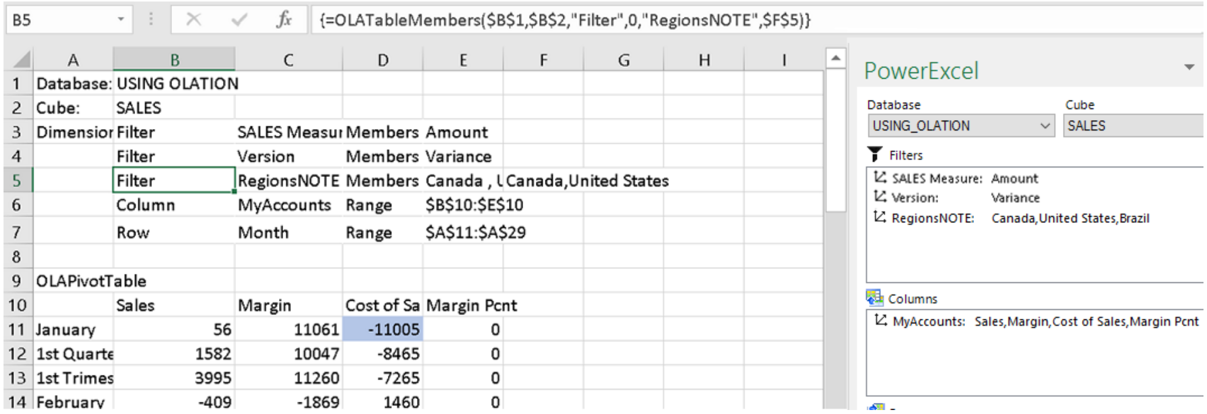
	A	B	C	D	E	F
1	Database:	USING OLATION				
2	Cube:	SALES				
3	Dimensior	Filter	SALES Measu	Members	Amount	
4		Filter	Version	Members	Variance	
5		Filter	RegionsNOTE	Members	Canada , U	Canada,United States,Brazil
6		Column	MyAccounts	Range	$B$10:$E$10	
7		Row	Month	Range	$A$11:$A$29	
8						
9	OLAPivotTable					
10		Sales	Margin	Cost of Sa	Margin Pcnt	
11	January	635	11140	-10505	0	
12	1st Quarte	-1229144	-1133291	-95853	0	
13	1st Trimes	-1224960	-1130807	-94153	0	
14	February	1177	88105	-86928	0	

PowerExcel
Database: USING_OLATION
Cube: SALES
Filters
SALES Measure: Amount
Version: Variance
RegionsNOTE: Canada,United States,Brazil
Columns
MyAccounts: Sales,Margin,Cost of Sales,Margin Pcnt

- Next, assume that you wish to change the spreadsheet to show values returned for only *United States* and *Canada*: you can of course use the PowerExcel pane to the right—you would double-click on the dimension, *RegionsNOTE*, and then select those two countries, so that their values would be added.

  OR

- You can now use the **OLATableMembers** function: simply click in the Cell referenced by the parameter at the end of the function, in this case Cell **$F$5**. Delete Brazil (and the comma that precedes it).
- Hit **Enter**, then **F9**.
  The value for *United States* and *Canada*, added together, appears in cell **D11** (that is, -**11005**).



B5 {=OLATableMembers($B$1,$B$2,"Filter",0,"RegionsNOTE",$F$5)}

	A	B	C	D	E	F
1	Database:	USING OLATION				
2	Cube:	SALES				
3	Dimensior	Filter	SALES Measu	Members	Amount	
4		Filter	Version	Members	Variance	
5		Filter	RegionsNOTE	Members	Canada , U	Canada,United States
6		Column	MyAccounts	Range	$B$10:$E$10	
7		Row	Month	Range	$A$11:$A$29	
8						
9	OLAPivotTable					
10		Sales	Margin	Cost of Sa	Margin Pcnt	
11	January	56	11061	-11005	0	
12	1st Quarte	1582	10047	-8465	0	
13	1st Trimes	3995	11260	-7265	0	
14	February	-409	-1869	1460	0	

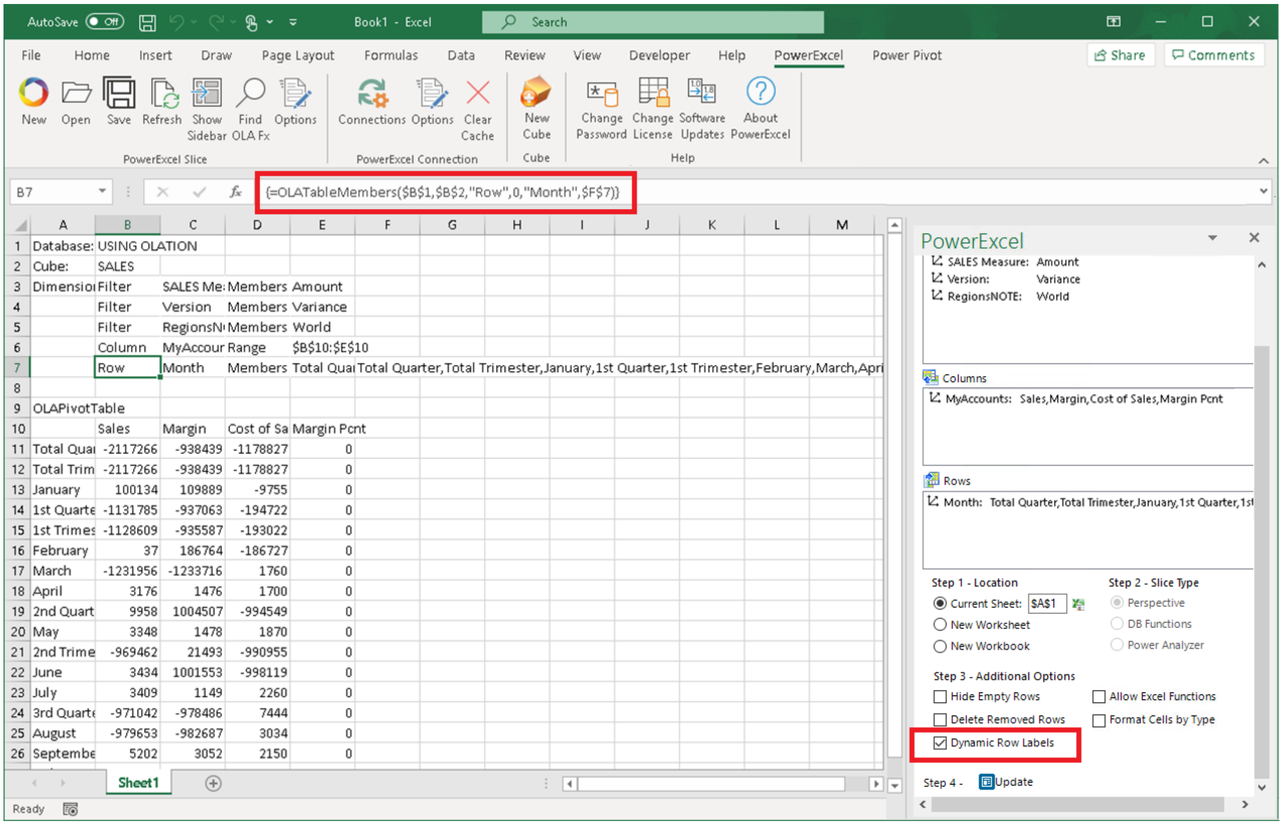
PowerExcel
Database: USING_OLATION
Cube: SALES
Filters
SALES Measure: Amount
Version: Variance
RegionsNOTE: Canada,United States,Brazil
Columns
MyAccounts: Sales,Margin,Cost of Sales,Margin Pcnt

Example 2: Use of OLATableMembers function with **Dynamic Row Labels enabled**

Until now, we have shown the **OLATableMembers** function used for the Filters area. Another use of the function occurs when either of the following is enabled by its corresponding checkbox in the PowerExcel pane: (a) Dynamic Row Labels, or (b) Constrain Empty Rows.

For present purposes we will show what happens when 'Dynamic Row Labels' is enabled:

- Create a Slice using the OLAPivotTable function, like the one in the following image. When you initially click in the cell that shows Row (**B7** in the example), what appears in the formula bar is an OLATableRange function—this function will be explained at a later point in this document. (As an aside: this function also covers a 'cell range' or a 'group of cells': you will see the same formula in Cells C7, D7 and E7).
- Locate/enable the **Dynamic Row Labels checkbox** (boxed in the image) in the PowerExcel pane to the right. Click **Update**. The Slice will look as follows:



B7 {=OLATableMembers($B$1,$B$2,"Row",0,"Month",$F$7)}

	A	B	C	D	E	F
1	Database:	USING OLATION				
2	Cube:	SALES				
3	Dimensioi	Filter	SALES Me:	Members	Amount	
4		Filter	Version	Members	Variance	
5		Filter	RegionsN	Members	World	
6		Column	MyAccour	Range	$B$10:$E$10	
7		Row	Month	Members	Total Quai	Total Quarter,Total Trimester,January,1st Quarter,1st Trimester,February,March,Apri
8						
9	OLAPivotTable					
10		Sales	Margin	Cost of Sa	Margin Pcnt	
11	Total Quai	-2117266	-938439	-1178827	0	
12	Total Trim	-2117266	-938439	-1178827	0	
13	January	100134	109889	-9755	0	
14	1st Quarte	-1131785	-937063	-194722	0	
15	1st Trimes	-1128609	-935587	-193022	0	
16	February	37	186764	-186727	0	
17	March	-1231956	-1233716	1760	0	
18	April	3176	1476	1700	0	
19	2nd Quart	9958	1004507	-994549	0	
20	May	3348	1478	1870	0	
21	2nd Trime	-969462	21493	-990955	0	
22	June	3434	1001553	-998119	0	
23	July	3409	1149	2260	0	
24	3rd Quarte	-971042	-978486	7444	0	
25	August	-979653	-982687	3034	0	
26	Septembe	5202	3052	2150	0	

PowerExcel

SALES Measure: Amount
Version: Variance
RegionsNOTE: World

Columns
MyAccounts: Sales,Margin,Cost of Sales,Margin Pcnt

Rows
Month: Total Quarter,Total Trimester,January,1st Quarter,1st

Step 1 - Location
● Current Sheet: $A$1
○ New Worksheet
○ New Workbook

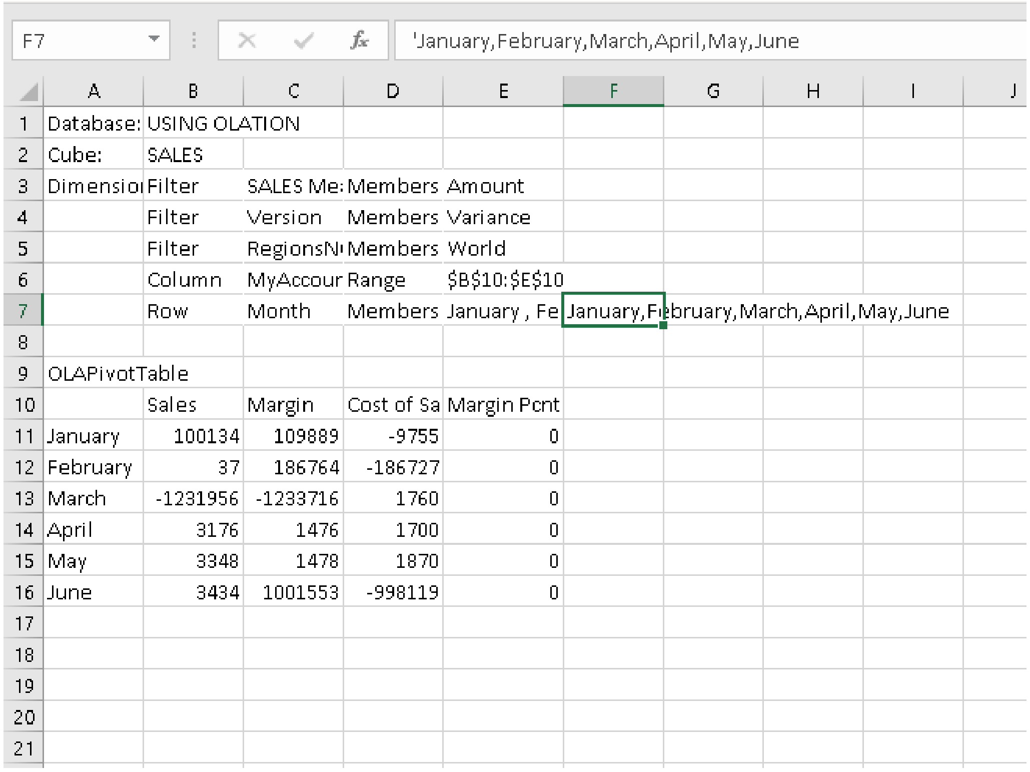
Step 2 - Slice Type
● Perspective
○ DB Functions
○ Power Analyzer

Step 3 - Additional Options
□ Hide Empty Rows
□ Allow Excel Functions
□ Delete Removed Rows
□ Format Cells by Type
☑ Dynamic Row Labels

Step 4 - Update

- Note that now with your curser where the word Row appears, an **OLATableMembers** function appears in the formula bar (also shown in the preceding image).
- The same function will appear as you move your cursor right (to Cells C7, D7, E7).
- As in Example 1, the referenced Members (here for the *Months* dimension) are indicated in the last parameter of the function: **Cell $F$7**. All the Months indicated there—as a consequence of **Dynamic Row Labels** being enabled—are shown in Rows in the Slice. As a consequence, one can remove or add Members by typing them in, or by deleting them (just as in Example 1), and the Rows will reflect the new list of Months. In the

following image, the first six months of the year have been left (or typed in). After hitting **Enter** and **F9**, the Slice will now show only those 6 months in Rows.



F7 'January,February,March,April,May,June

	A	B	C	D	E	F	G	H	I	J
1	Database:	USING OLATION								
2	Cube:	SALES								
3	Dimensioi	Filter	SALES Me:	Members	Amount					
4		Filter	Version	Members	Variance					
5		Filter	RegionsN	Members	World					
6		Column	MyAccour	Range	$B$10:$E$10					
7		Row	Month	Members	January , Fe	January,February,March,April,May,June				
8										
9	OLAPivotTable									
10		Sales	Margin	Cost of Sa	Margin Pcnt					
11	January	100134	109889	-9755	0					
12	February	37	186764	-186727	0					
13	March	-1231956	-1233716	1760	0					
14	April	3176	1476	1700	0					
15	May	3348	1478	1870	0					
16	June	3434	1001553	-998119	0					
17										
18										
19										
20										
21										

18.OLATableRange

Function Description: This function covers a 'cell range' or a 'group of cells' that define the Dimension and corresponding Members that will be displayed along the Rows or Columns of a PowerExcel Slice. The 'cell range' covered by this function must be updated simultaneously and changes will only be committed by use of the CTRL+SHIFT+ENTER keys. This function applies to PowerExcel Perspective Slice or PowerExcel DB Functions Slice outputs when they are initially created.

To change the Display Members along the Row or Column of a PowerExcel Slice, click on all the cells covered by the OLATableRange function, change the 'range function argument' or the last parameter and enter the 'new target range'. Press the **Ctrl+Shift+Enter** keys to commit the changes. Notice that the update is reflected across all the cells covered by the function.

Syntax: OLATableRange (Connection, Cube, AXIS, Index, Dimension, Range)

Connection: Enter the PowerExcel connection that contains the information about the Olation server URL and the source database name.

Cube: Enter the name of the source/target Cube; or enter the cell reference that contains the name of the source or target Cube.

AXIS: This indicates the area of the PowerExcel Slice where the data will appear (i.e., Filter, Column or Rows)

Index: 0 [NOTE: When there are no "stacked Dimensions" in Row or Column, "0" will always show; If there are stacked Dimensions, the number will reflect the order of the Rows or Columns, starting with "1" as the "topmost" in the stack, and continuing.]

Dimension: Enter the Dimension name or the cell reference that contains the name of the Dimension that exists within the specified Database above.

Range: Enter the range corresponding to the target Display Members along the row or column

Remarks:

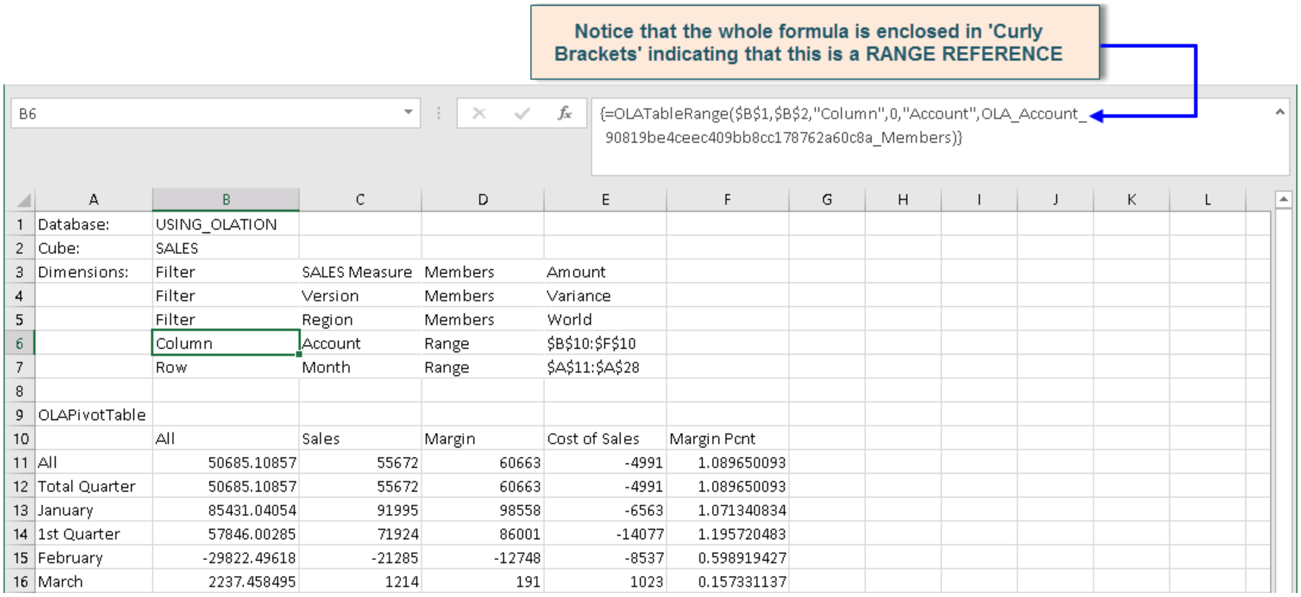
- The PowerExcel Connection must exist.
- The Olation Web Service must be running.
- The Database must be opened and running in the specified server.
- The Cube must exist within the specified database.
- The Dimension must exist within the specified Database.
- All the parameters are compulsory since the function covers a 'range of cells'.
- It is imperative that 'All' cells governed by the OLATableRange function be updated in order to successfully commit the changes to the formula.

Example:

The example Slice below shows a PowerExcel Perspective Slice. The **OLATableRange** function is used to define what Members to display along the Row or Column area of a PowerExcel Slice. Additionally, the **OLATableRange** is a 'Range Reference', meaning it is a formula function that governs a group of cells. Hence, if you click on any cell containing the formula, you will notice that the formula is enclosed in 'Curly Brackets', an indication that this is a Range Reference; all cells covered by the same Range reference will return the exact same formula.

- As in the example screenshot below, the **OLATableRange** formula for Columns can be found in the cells **B6:E6** (*Account* Dimension on Columns). Clicking through all the cells governed by this specific Range Reference formula will return the exact same formula.
- When you click on the cell containing the **OLATableRange** formula (the example, the active cell is **B6)**, notice that the **OLATableRange** formula that appears in the formula bar is enclosed in curly brackets. When you click through the cells that are part of the cell range: **C6**, **D6** and **E6**, notice that it will show the same formula as that seen in cell B6:

{=OLATableRange($B$1,$B$2,"Column",0,"Account",OLA_Account_90819be4ceec409bb8cc178762a60c8a_Members)}



Notice that the whole formula is enclosed in 'Curly Brackets' indicating that this is a RANGE REFERENCE

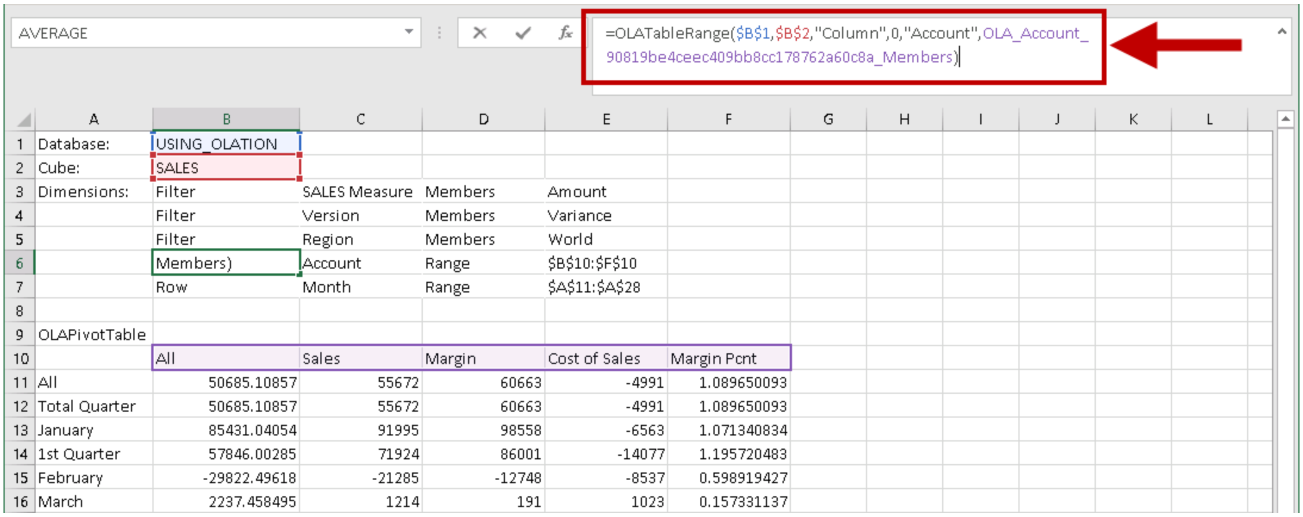
B6

{=OLATableRange($B$1,$B$2,"Column",0,"Account",OLA_Account_90819be4ceec409bb8cc178762a60c8a_Members)}

	A	B	C	D	E	F
1	Database:	USING_OLATION				
2	Cube:	SALES				
3	Dimensions:	Filter	SALES Measure	Members	Amount	
4		Filter	Version	Members	Variance	
5		Filter	Region	Members	World	
6		Column	Account	Range	$B$10:$F$10	
7		Row	Month	Range	$A$11:$A$28	
8						
9	OLAPivotTable					
10		All	Sales	Margin	Cost of Sales	Margin Pcnt
11	All	50685.10857	55672	60663	-4991	1.089650093
12	Total Quarter	50685.10857	55672	60663	-4991	1.089650093
13	January	85431.04054	91995	98558	-6563	1.071340834
14	1st Quarter	57846.00285	71924	86001	-14077	1.195720483
15	February	-29822.49618	-21285	-12748	-8537	0.598919427
16	March	2237.458495	1214	191	1023	0.157331137

- By clicking in the formula bar area (in the next image, the mouse cursor is placed at the end of the formula), the cell references corresponding to the **OLATableRange** function will be outlined on the spreadsheet. **Column**(B6), **Account**(C6), **Range**(D6) and **$B$10:$F$10**(E6).
- It is also referencing the Cube *"SALES"*(**$B$2**) NS the PowerExcel connection/Database connection called *"USING_OLATION"*(**$B$1**) and references to the "cell range" along the column which corresponds to display Members for the Account Dimension (**OLA_Account_90819be4ceec409bb8cc178762a60c8a_Members**).

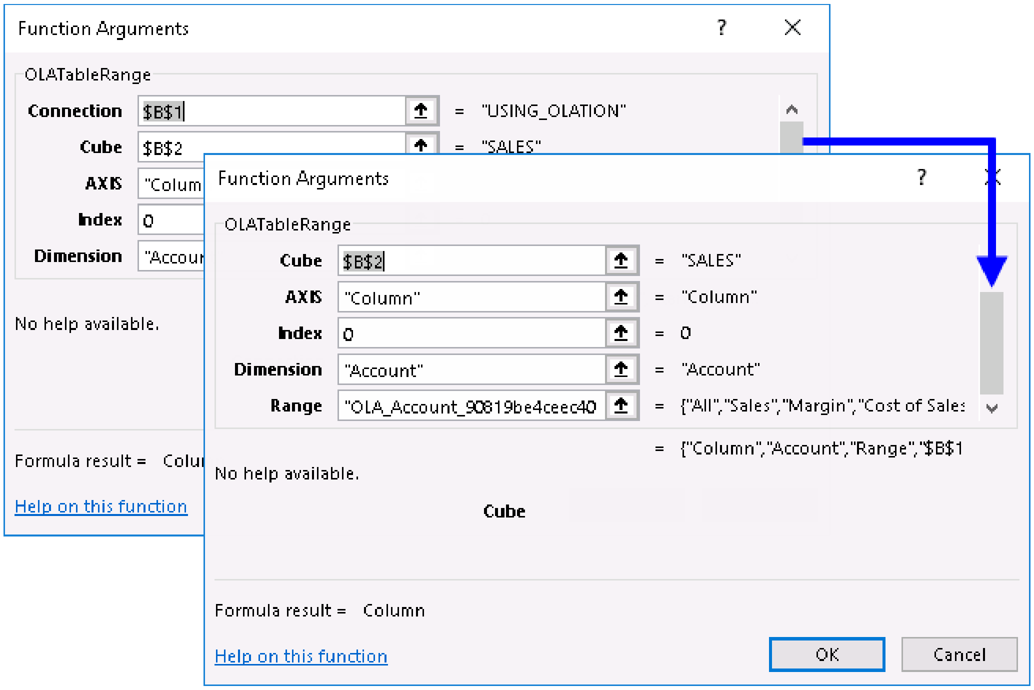
Note: When you are on edit mode of a Range Reference type of formula, notice that the 'Curly Brackets' disappear. Click on Esc (Escape) to come out of the formula bar.



AVERAGE

=OLATableRange($B$1,$B$2,"Column",0,"Account",OLA_Account_90819be4ceec409bb8cc178762a60c8a_Members)

	A	B	C	D	E	F
1	Database:	USING_OLATION				
2	Cube:	SALES				
3	Dimensions:	Filter	SALES Measure	Members	Amount	
4		Filter	Version	Members	Variance	
5		Filter	Region	Members	World	
6		Members)	Account	Range	$B$10:$F$10	
7		Row	Month	Range	$A$11:$A$28	
8						
9	OLAPivotTable					
10		All	Sales	Margin	Cost of Sales	Margin Pcnt
11	All	50685.10857	55672	60663	-4991	1.089650093
12	Total Quarter	50685.10857	55672	60663	-4991	1.089650093
13	January	85431.04054	91995	98558	-6563	1.071340834
14	1st Quarter	57846.00285	71924	86001	-14077	1.195720483
15	February	-29822.49618	-21285	-12748	-8537	0.598919427
16	March	2237.458495	1214	191	1023	0.157331137



Function Arguments

OLATableRange

Connection $B$1 = "USING_OLATION"

Cube $B$2 = "SALES"

AXIS "Colum

Index 0

Dimension "Accour

No help available.

Formula result = Colu

Help on this function

Function Arguments

OLATableRange

Cube $B$2 = "SALES"

AXIS "Column" = "Column"

Index 0 = 0

Dimension "Account" = "Account"

Range "OLA_Account_90819be4ceec40 = {"All","Sales","Margin","Cost of Sales

= {"Column","Account","Range","$B$1

No help available.

Cube

Formula result = Column

Help on this function

Cell References:

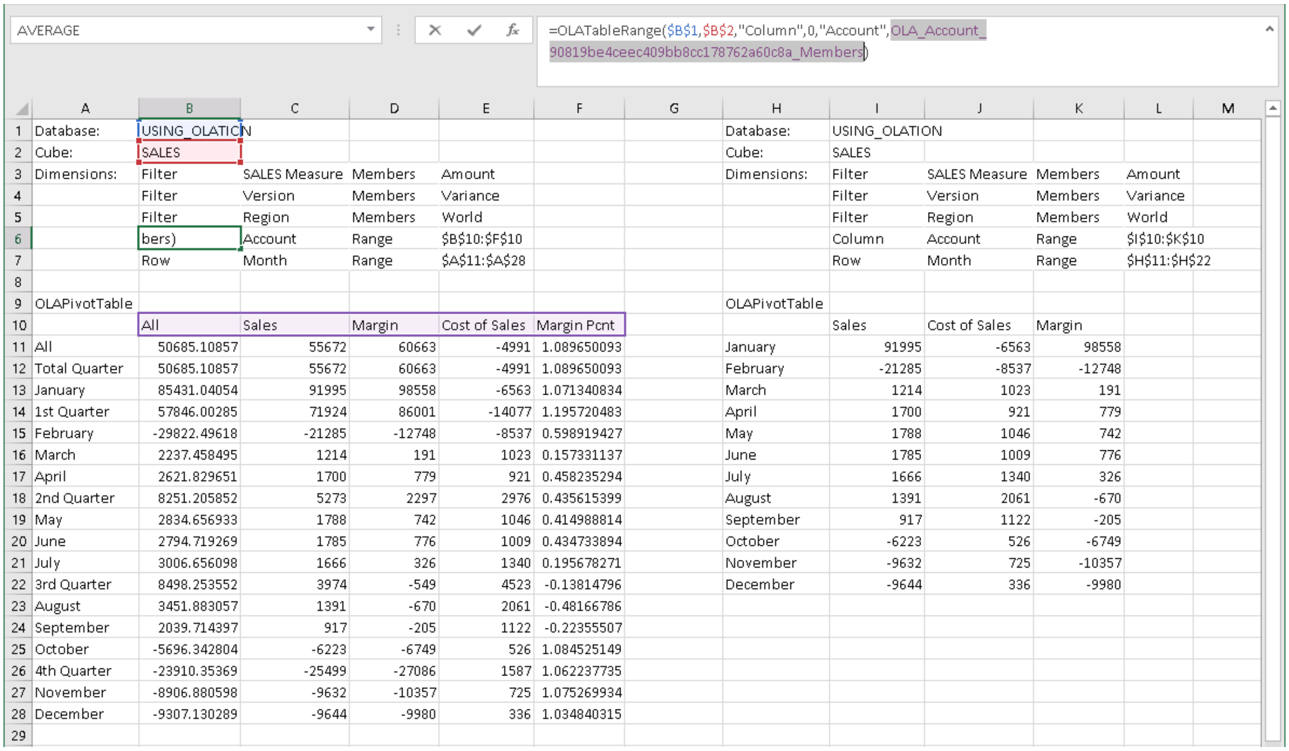
={OLATableRange($B$1,$B$2,"Column",0,"Account",OLA_Account_90819be4ceec409bb8cc178762a60c8a_Members)}

- $B$1– the Database name or the PowerExcel connection name/cell reference that contains the name of the Database or the PowerExcel connection, i.e., **USING_OLATION**
- $B$2– the Cube name or the cell reference that contains the name of the Cube, i.e., **SALES**
- ”Column”– this indicates the data will appear along the Column area of the Slice

- 0– this indicates the index number of the order of Dimensions, thus “0” when there are no stacked Dimensions in Rows or Columns to order [otherwise, “1”, “2”, etc.
- ”Account”– the Dimension name that exists within the database
- OLA_Account_ae313fdff64047288a76921b05908dac_Members– this range corresponds to the target display Members that will dictate what Account members will be displayed along the column area of the Slice output

As an example: assume we have created two Perspective Slices within a worksheet; we want to have the same set of Account Members displayed in our first Perspective Slice based on those appearing in the second Perspective Slice.

- While on the first Perspective Slice, select all cells governed by the **OLATableRange** formula for Account Dimension (**B6:E6**); then click on the formula bar and double-click on the Range parameter (the last parameter). You will notice that the last parameter/Range parameter is highlighted at this point.

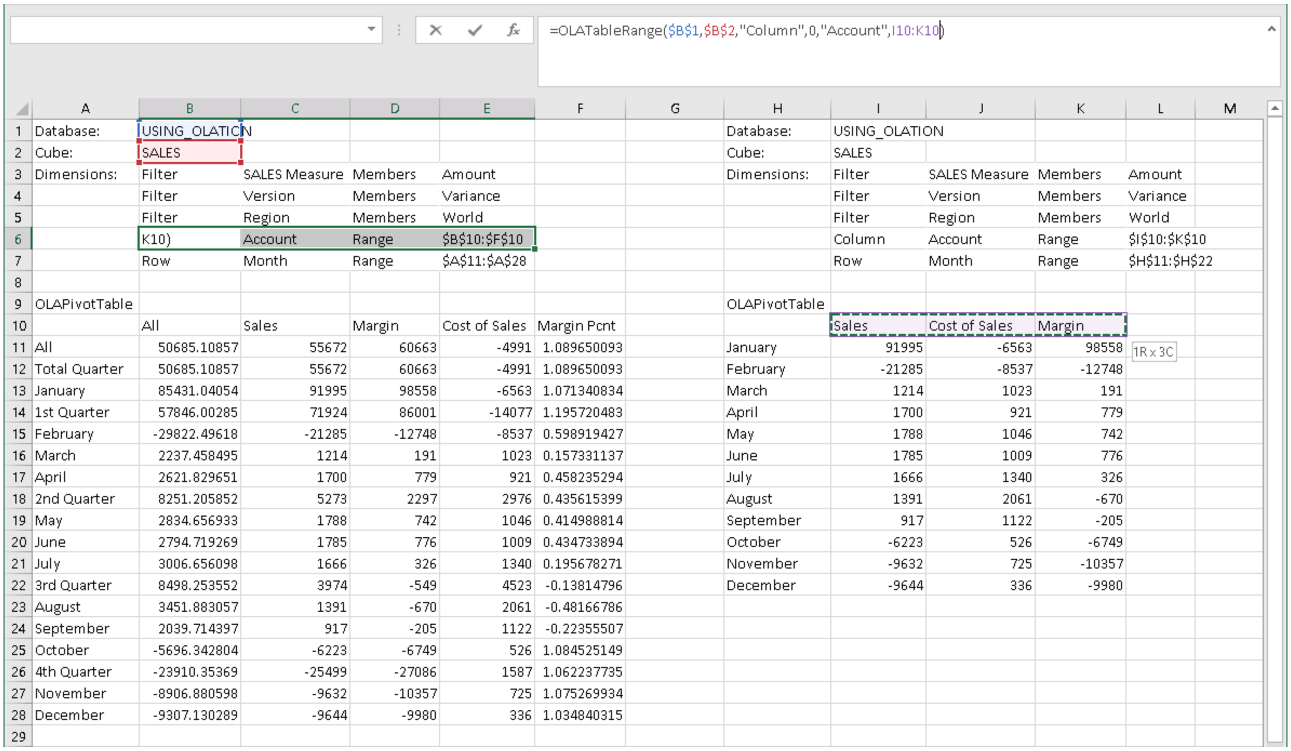


AVERAGE

```
=OLATableRange($B$1,$B$2,"Column",0,"Account",OLA_Account_
90819be4ceec409bb8cc178762a60c8a_Members)
```

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Database:	USING_OLATION						Database:	USING_OLATION				
2	Cube:	SALES						Cube:	SALES				
3	Dimensions:	Filter	SALES Measure	Members	Amount			Dimensions:	Filter	SALES Measure	Members	Amount	
4		Filter	Version	Members	Variance				Filter	Version	Members	Variance	
5		Filter	Region	Members	World				Filter	Region	Members	World	
6		bers)	Account	Range	$B$10:$F$10				Column	Account	Range	$I$10:$K$10	
7		Row	Month	Range	$A$11:$A$28				Row	Month	Range	$H$11:$H$22	
8													
9	OLAPivotTable							OLAPivotTable					
10		All	Sales	Margin	Cost of Sales	Margin Pcnt			Sales	Cost of Sales	Margin		
11	All	50685.10857	55672	60663	-4991	1.089650093		January	91995	-6563	98558		
12	Total Quarter	50685.10857	55672	60663	-4991	1.089650093		February	-21285	-8537	-12748		
13	January	85431.04054	91995	98558	-6563	1.071340834		March	1214	1023	191		
14	1st Quarter	57846.00285	71924	86001	-14077	1.195720483		April	1700	921	779		
15	February	-29822.49618	-21285	-12748	-8537	0.598919427		May	1788	1046	742		
16	March	2237.458495	1214	191	1023	0.157331137		June	1785	1009	776		
17	April	2621.829651	1700	779	921	0.458235294		July	1666	1340	326		
18	2nd Quarter	8251.205852	5273	2297	2976	0.435615399		August	1391	2061	-670		
19	May	2834.656933	1788	742	1046	0.414988814		September	917	1122	-205		
20	June	2794.719269	1785	776	1009	0.434733894		October	-6223	526	-6749		
21	July	3006.656098	1666	326	1340	0.195678271		November	-9632	725	-10357		
22	3rd Quarter	8498.253552	3974	-549	4523	-0.13814796		December	-9644	336	-9980		
23	August	3451.883057	1391	-670	2061	-0.48166786							
24	September	2039.714397	917	-205	1122	-0.22355507							
25	October	-5696.342804	-6223	-6749	526	1.084525149							
26	4th Quarter	-23910.35369	-25499	-27086	1587	1.062237735							
27	November	-8906.880598	-9632	-10357	725	1.075269934							
28	December	-9307.130289	-9644	-9980	336	1.034840315							
29													

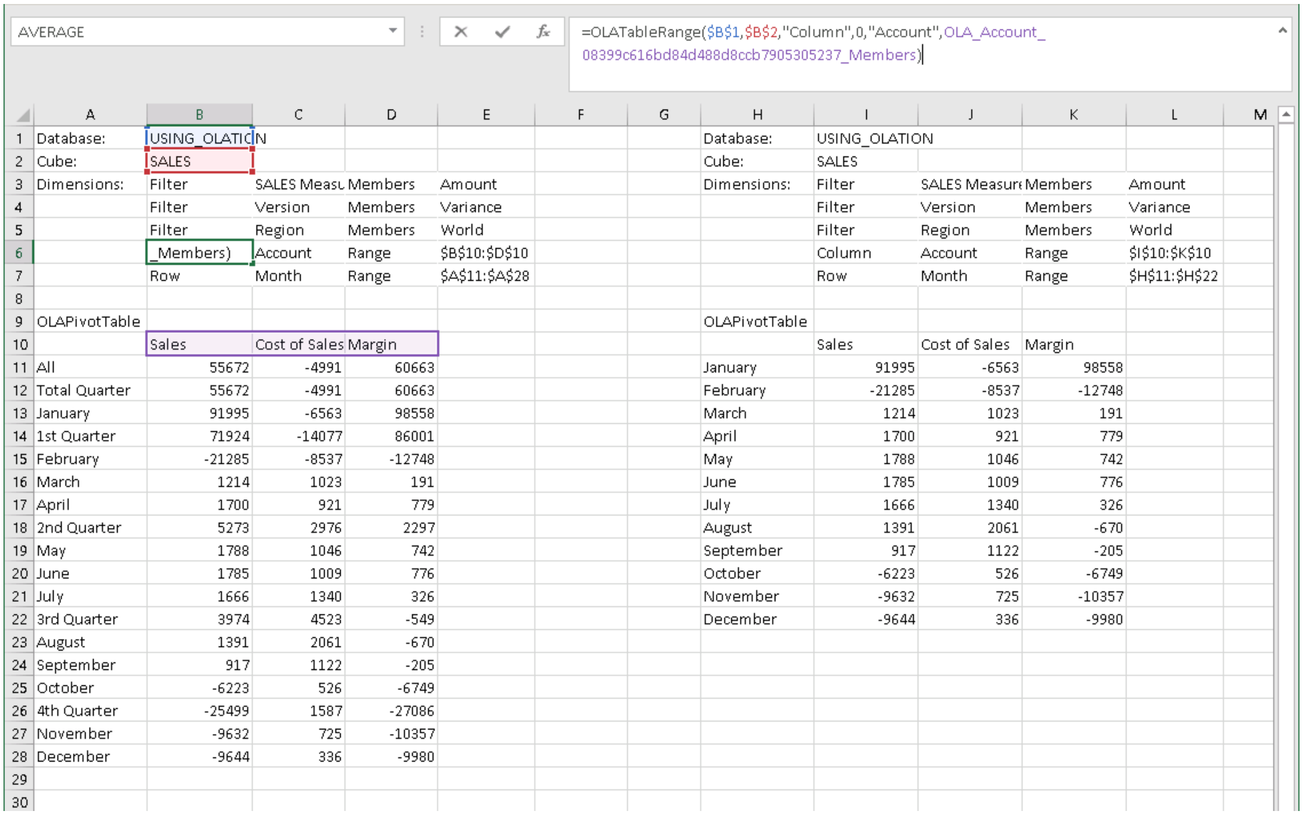
- Next, go to the second Perspective Slice and select the preferred new range: in the second Perspective Slice this would be **I10:K10**. Press **Ctrl+Shift+Enter** keys. The change will be saved across the cell range **B6:E6** in the first Perspective Slice.



```
=OLATableRange($B$1,$B$2,"Column",0,"Account",I10:K10)
```

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Database:	USING_OLATION						Database:	USING_OLATION				
2	Cube:	SALES						Cube:	SALES				
3	Dimensions:	Filter	SALES Measure	Members	Amount			Dimensions:	Filter	SALES Measure	Members	Amount	
4		Filter	Version	Members	Variance				Filter	Version	Members	Variance	
5		Filter	Region	Members	World				Filter	Region	Members	World	
6		K10)	Account	Range	$B$10:$F$10				Column	Account	Range	$I$10:$K$10	
7		Row	Month	Range	$A$11:$A$28				Row	Month	Range	$H$11:$H$22	
8													
9	OLAPivotTable							OLAPivotTable					
10		All	Sales	Margin	Cost of Sales	Margin Pcnt			Sales	Cost of Sales	Margin		
11	All	50685.10857	55672	60663	-4991	1.089650093		January	91995	-6563	98558	1R x 3C	
12	Total Quarter	50685.10857	55672	60663	-4991	1.089650093		February	-21285	-8537	-12748		
13	January	85431.04054	91995	98558	-6563	1.071340834		March	1214	1023	191		
14	1st Quarter	57846.00285	71924	86001	-14077	1.195720483		April	1700	921	779		
15	February	-29822.49618	-21285	-12748	-8537	0.598919427		May	1788	1046	742		
16	March	2237.458495	1214	191	1023	0.157331137		June	1785	1009	776		
17	April	2621.829651	1700	779	921	0.458235294		July	1666	1340	326		
18	2nd Quarter	8251.205852	5273	2297	2976	0.435615399		August	1391	2061	-670		
19	May	2834.656933	1788	742	1046	0.414988814		September	917	1122	-205		
20	June	2794.719269	1785	776	1009	0.434733894		October	-6223	526	-6749		
21	July	3006.656098	1666	326	1340	0.195678271		November	-9632	725	-10357		
22	3rd Quarter	8498.253552	3974	-549	4523	-0.13814796		December	-9644	336	-9980		
23	August	3451.883057	1391	-670	2061	-0.48166786							
24	September	2039.714397	917	-205	1122	-0.22355507							
25	October	-5696.342804	-6223	-6749	526	1.084525149							
26	4th Quarter	-23910.35369	-25499	-27086	1587	1.062237735							
27	November	-8906.880598	-9632	-10357	725	1.075269934							
28	December	-9307.130289	-9644	-9980	336	1.034840315							
29													

- Click the **Refresh** button in the PowerExcel Tab of the Excel ribbon. Notice that the first Perspective Slice is now updated.



```
=OLATableRange($B$1,$B$2,"Column",0,"Account",OLA_Account_08399c616bd84d488d8ccb7905305237_Members)
```

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Database:	USING_OLATION						Database:	USING_OLATION				
2	Cube:	SALES						Cube:	SALES				
3	Dimensions:	Filter	SALES Measu	Members	Amount			Dimensions:	Filter	SALES Measur	Members	Amount	
4		Filter	Version	Members	Variance				Filter	Version	Members	Variance	
5		Filter	Region	Members	World				Filter	Region	Members	World	
6		_Members)	Account	Range	$B$10:$D$10				Column	Account	Range	$I$10:$K$10	
7		Row	Month	Range	$A$11:$A$28				Row	Month	Range	$H$11:$H$22	
8													
9	OLAPivotTable							OLAPivotTable					
10		Sales	Cost of Sales	Margin					Sales	Cost of Sales	Margin		
11	All	55672	-4991	60663				January	91995	-6563	98558		
12	Total Quarter	55672	-4991	60663				February	-21285	-8537	-12748		
13	January	91995	-6563	98558				March	1214	1023	191		
14	1st Quarter	71924	-14077	86001				April	1700	921	779		
15	February	-21285	-8537	-12748				May	1788	1046	742		
16	March	1214	1023	191				June	1785	1009	776		
17	April	1700	921	779				July	1666	1340	326		
18	2nd Quarter	5273	2976	2297				August	1391	2061	-670		
19	May	1788	1046	742				September	917	1122	-205		
20	June	1785	1009	776				October	-6223	526	-6749		
21	July	1666	1340	326				November	-9632	725	-10357		
22	3rd Quarter	3974	4523	-549				December	-9644	336	-9980		
23	August	1391	2061	-670									
24	September	917	1122	-205									
25	October	-6223	526	-6749									
26	4th Quarter	-25499	1587	-27086									
27	November	-9632	725	-10357									
28	December	-9644	336	-9980									
29													
30													

19.OLATableSubset

[NOTE: this function is not utilized in PowerExcel Version 22 or after—documentation is retained here for backwards compatibility]

Function Description: This function covers a 'cell range' or a 'group of cells' that define the Dimension and corresponding Members that will be displayed along the Rows or Columns of a PowerExcel Slice. The 'cell range' covered by this function must be updated simultaneously and changes will only be committed by use of the CTRL+SHIFT+ENTER keys. This function applies to the PowerExcel Power Analyzer Slice.

To change the Display Members along the column or row of a PowerExcel Slice, click on all the cells covered by the OLATableSubset function, change to the preferred 'Subset name' or the last parameter and enter the 'new target Subset'. Press the **Ctrl+Shift+Enter** keys to commit the changes. Notice that the update is reflected across all the cells covered by the function.

Syntax: OLATableSubset (Connection, Cube, AXIS, Index, Dimension, Subset)

Connection: The PowerExcel connection that contains the information about the Olation server URL and the source database name.

Cube: The name of the source/target Cube; or enter the cell reference that contains the name of the source/target Cube you wish to establish a connection to.

AXIS: This indicates the area of the PowerExcel Slice where the data will appear (i.e., Filter, Column or Rows)

Index: 0 [NOTE: When there are no "stacked Dimensions" in Row or Column, "0" will always show; If there are stacked Dimensions, the number will reflect the order of the Rows or Columns, starting with "1" as the "topmost" in the stack, and continuing.]

Dimension: The Dimension name or the cell reference that contains the name of the Dimension that exists within the specified Database above.

Subset: The Subset name corresponding to the target subset of Members to be displayed along the row or column.

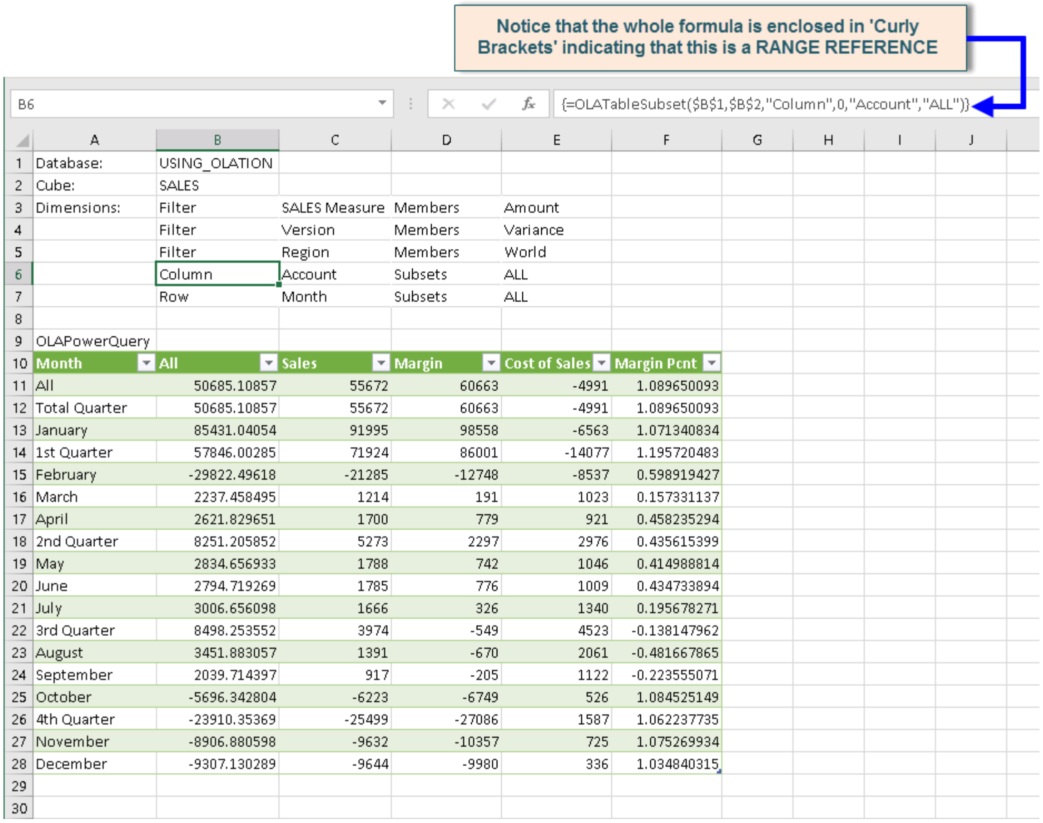
Remarks:

- The PowerExcel Connection must exist.
- The Olation Web Service must be running.
- The Database must be opened and running in the specified server.
- The Cube must exist within the specified database.
- The Dimension must exist within the specified Database.
- The Subset must exist within the specified Dimension.
- All the parameters are compulsory because the function covers a 'range of cells'
- It is imperative that 'All' cells governed by the OLATableSubset function be updated in order to successfully commit the changes to the formula.

Example:

- The example below shows a Power Analyzer Slice. The **OLATableSubset** function is used in the PowerExcel Slice to define what Members to display along the Row or Column by picking a pre-defined Subset of Members.
- The **OLATableSubset** function is a 'Range Reference', meaning it is a formula function that governs a group of cells. Hence, if you click on any cell containing the formula, you will notice that the formula is enclosed in 'Curly Brackets', an indication that this is a Range Reference. And all cells covered by the same Range reference will display the same formula.
- As in the example screenshot below, the **OLATableSubset** formula for Columns can be found in the cells **B6:E6** (*Account* Dimension on Columns) and for Rows in cells **B7:E7** (*Month* Dimension on Rows). If we look at the **OLATableSubset** formula for *Account* Dimension, clicking through all the cells governed by this specific Range Reference formula will display the same formula.
- When you click on the cell containing the **OLATableSubset** formula (in the example, the active cell is at cell **B6**), notice that the **OLATableSubset** formula that appears in the formula bar is enclosed in curly brackets. When you click through the cells that are part of the cell range (**C6**, **D6** and **E6**), notice that it will show the exact formula as in cell **B6**:

{=OLATableSubset($B$1,$B$2,"Column",0,"Account","ALL")}



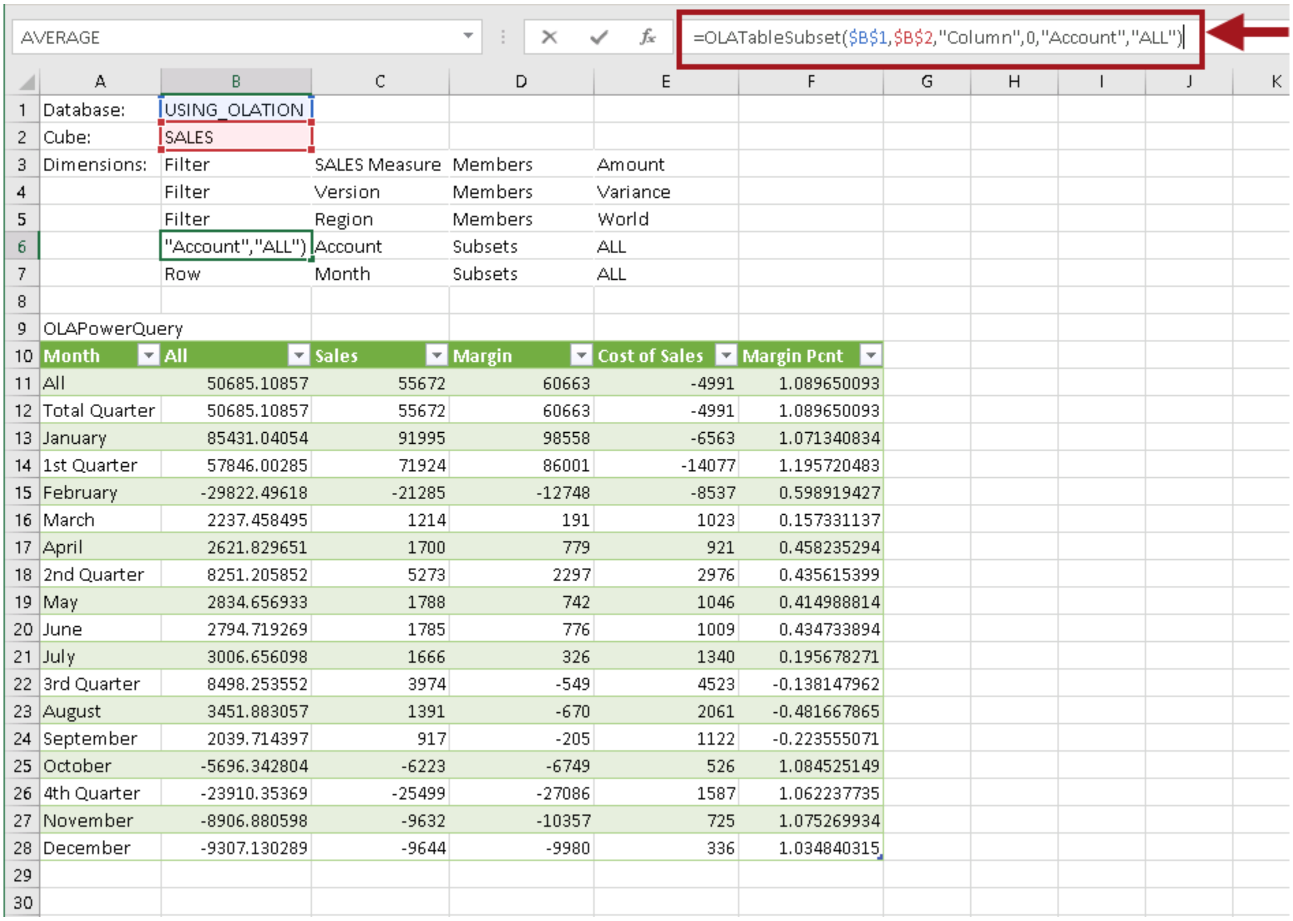
Notice that the whole formula is enclosed in 'Curly Brackets' indicating that this is a RANGE REFERENCE

B6

{=OLATableSubset($B$1,$B$2,"Column",0,"Account","ALL")}

	A	B	C	D	E	F
1	Database:	USING_OLATION				
2	Cube:	SALES				
3	Dimensions:	Filter	SALES Measure	Members	Amount	
4		Filter	Version	Members	Variance	
5		Filter	Region	Members	World	
6		Column	Account	Subsets	ALL	
7		Row	Month	Subsets	ALL	
8						
9	OLAPowerQuery					
10	Month	All	Sales	Margin	Cost of Sales	Margin Pcnt
11	All	50685.10857	55672	60663	-4991	1.089650093
12	Total Quarter	50685.10857	55672	60663	-4991	1.089650093
13	January	85431.04054	91995	98558	-6563	1.071340834
14	1st Quarter	57846.00285	71924	86001	-14077	1.195720483
15	February	-29822.49618	-21285	-12748	-8537	0.598919427
16	March	2237.458495	1214	191	1023	0.157331137
17	April	2621.829651	1700	779	921	0.458235294
18	2nd Quarter	8251.205852	5273	2297	2976	0.435615399
19	May	2834.656933	1788	742	1046	0.414988814
20	June	2794.719269	1785	776	1009	0.434733894
21	July	3006.656098	1666	326	1340	0.195678271
22	3rd Quarter	8498.253552	3974	-549	4523	-0.138147962
23	August	3451.883057	1391	-670	2061	-0.481667865
24	September	2039.714397	917	-205	1122	-0.223555071
25	October	-5696.342804	-6223	-6749	526	1.084525149
26	4th Quarter	-23910.35369	-25499	-27086	1587	1.062237735
27	November	-8906.880598	-9632	-10357	725	1.075269934
28	December	-9307.130289	-9644	-9980	336	1.034840315
29						
30						

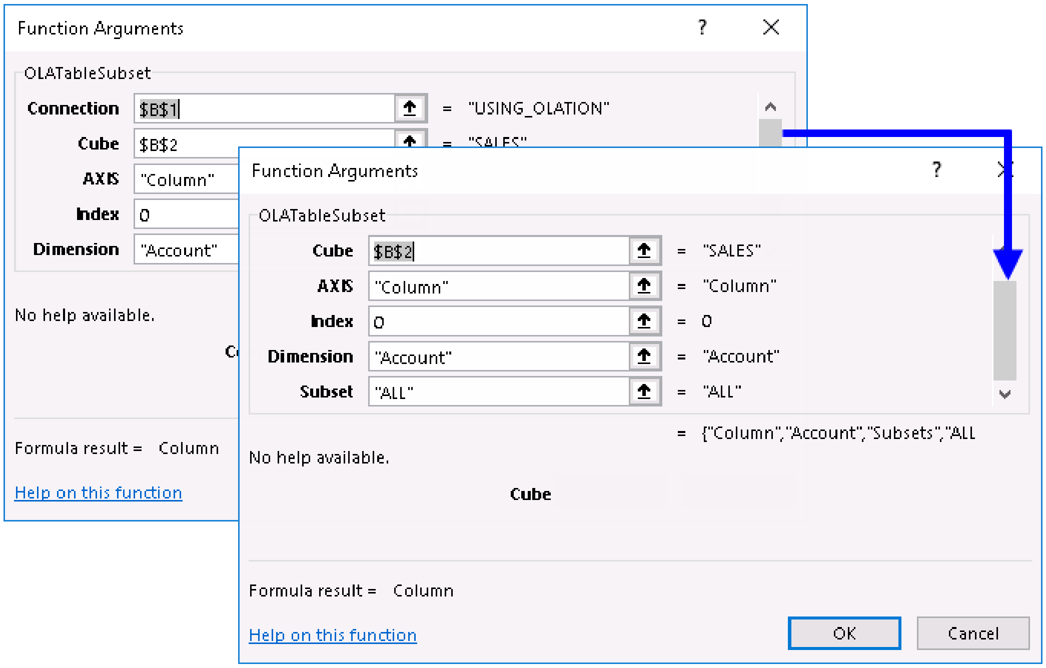
- By clicking in the formula bar area (as can be seen in the image below, the mouse cursor is placed at the end of the formula), it will show the cell references corresponding to the **OLATableSubset** function. The **OLATableSubset** function returns data for **Column**(B6), **Account**(C6), **Subsets**(D6) and **ALL**(E6).
- It is also referencing to the Cube called “SALES”(**$B$2**) and is using the PowerExcel connection/Database connection called “USING_OLATION”(**$B$1**).
  Note: When you are on edit mode of a Range Reference type of formula, notice that the ‘Curly Brackets’ disappear.



AVERAGE

=OLATableSubset($B$1,$B$2,"Column",0,"Account","ALL")

	A	B	C	D	E	F
1	Database:	USING_OLATION				
2	Cube:	SALES				
3	Dimensions:	Filter	SALES Measure	Members	Amount	
4		Filter	Version	Members	Variance	
5		Filter	Region	Members	World	
6		"Account","ALL")	Account	Subsets	ALL	
7		Row	Month	Subsets	ALL	
8						
9	OLAPowerQuery					
10	Month	All	Sales	Margin	Cost of Sales	Margin Pcnt
11	All	50685.10857	55672	60663	-4991	1.089650093
12	Total Quarter	50685.10857	55672	60663	-4991	1.089650093
13	January	85431.04054	91995	98558	-6563	1.071340834
14	1st Quarter	57846.00285	71924	86001	-14077	1.195720483
15	February	-29822.49618	-21285	-12748	-8537	0.598919427
16	March	2237.458495	1214	191	1023	0.157331137
17	April	2621.829651	1700	779	921	0.458235294
18	2nd Quarter	8251.205852	5273	2297	2976	0.435615399
19	May	2834.656933	1788	742	1046	0.414988814
20	June	2794.719269	1785	776	1009	0.434733894
21	July	3006.656098	1666	326	1340	0.195678271
22	3rd Quarter	8498.253552	3974	-549	4523	-0.138147962
23	August	3451.883057	1391	-670	2061	-0.481667865
24	September	2039.714397	917	-205	1122	-0.223555071
25	October	-5696.342804	-6223	-6749	526	1.084525149
26	4th Quarter	-23910.35369	-25499	-27086	1587	1.062237735
27	November	-8906.880598	-9632	-10357	725	1.075269934
28	December	-9307.130289	-9644	-9980	336	1.034840315
29						
30						



Function Arguments

OLATableSubset

Connection $B$1 = "USING_OLATION"

Cube $B$2 = "SALES"

AXIS "Column"

Index 0

Dimension "Account"

No help available.

Formula result = Column

Help on this function

Function Arguments

OLATableSubset

Cube $B$2 = "SALES"

AXIS "Column" = "Column"

Index 0 = 0

Dimension "Account" = "Account"

Subset "ALL" = "ALL"

= {"Column","Account","Subsets","ALL

No help available.

Cube

Formula result = Column

Help on this function

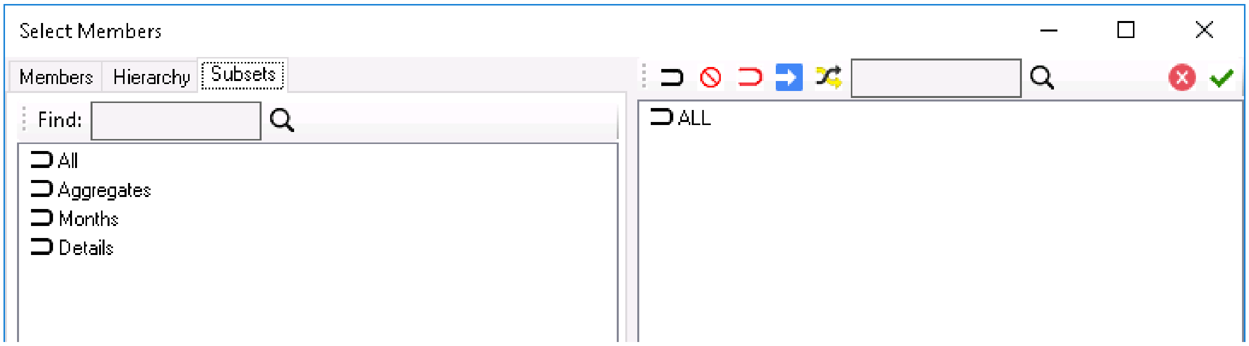
Cell References:

={OLATableSubset($B$1,$B$2,"Column",0,"Account","ALL")

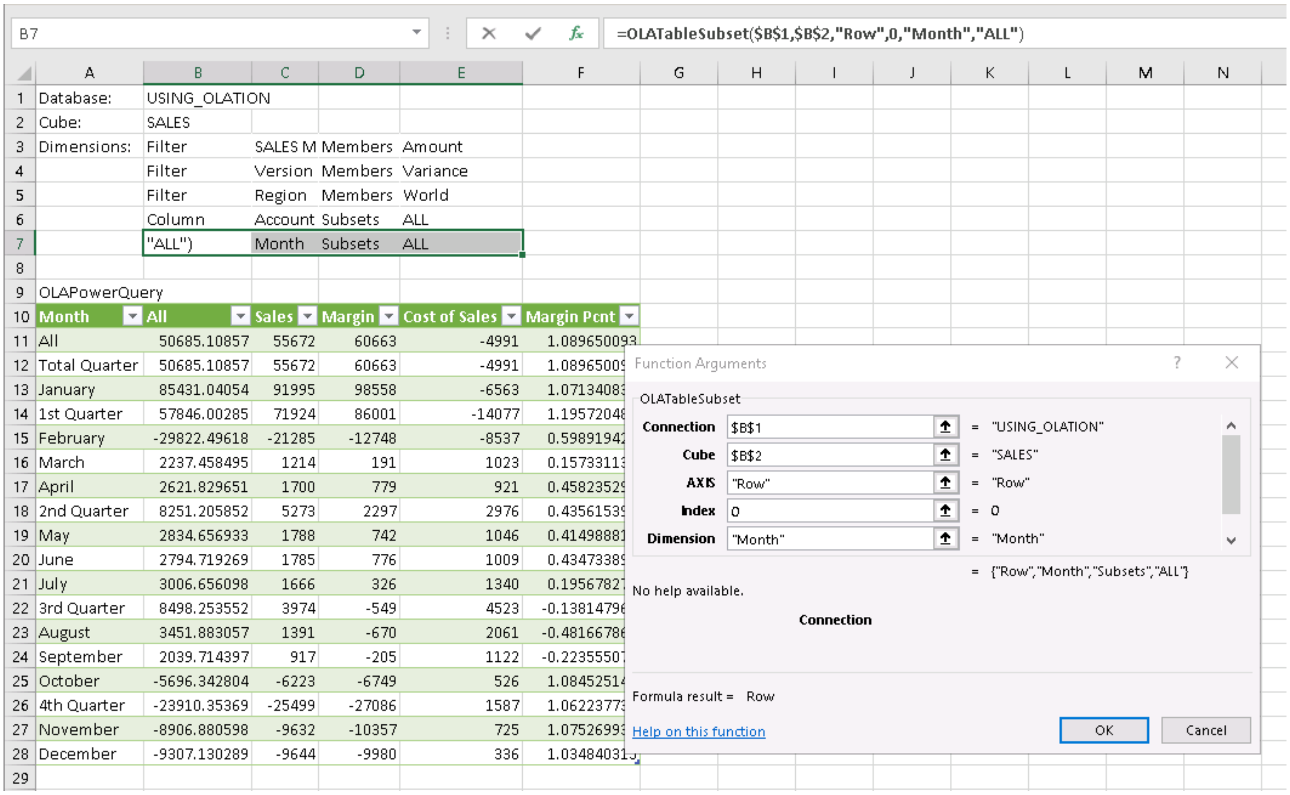
- $B$1– the Database name or the PowerExcel connection name/cell reference that contains the name of the Database or the PowerExcel connection, i.e., **USING_OLATION**
- $B$2– the Cube name or the cell reference that contains the name of the Cube, i.e., **SALES**
- ”Column”– this indicates the data will appear along the Column area of the Slice
- 0– this indicates the index number: “0” if there are no stacked Dimensions in Columns or Rows; if either are stacked, the index number will be “1” for the topmost Dimension, “2” for the next, etc.]
- ”Account”– the Dimension name that exists within the database
- “ALL”– this range corresponds to the target display Members that will dictate the Account members displayed along the column of the Slice output

To change the Subset displayed by changing the Subset parameter (note that this example concerns the Rows, for the *Month* Dimension, in order to use a Subset in this dimension).

Assuming we know that these are the Subsets that exist within the Month Dimension:



- Click and Highlight the cells **B7 to E7** **OLATableSubset** formula for the Month Dimension along the Rows), then click on the **Function** button. The Functions Arguments dialog box appears:
  Notice that it displays the particulars of the cell references.



B7 =OLATableSubset($B$1,$B$2,"Row",0,"Month","ALL")

	A	B	C	D	E	F
1	Database:	USING_OLATION				
2	Cube:	SALES				
3	Dimensions:	Filter	SALES M	Members	Amount	
4		Filter	Version	Members	Variance	
5		Filter	Region	Members	World	
6		Column	Account	Subsets	ALL	
7		"ALL")	Month	Subsets	ALL	
8						
9	OLAPowerQuery					
10	Month	All	Sales	Margin	Cost of Sales	Margin Pcnt
11	All	50685.10857	55672	60663	-4991	1.089650093
12	Total Quarter	50685.10857	55672	60663	-4991	1.08965009
13	January	85431.04054	91995	98558	-6563	1.07134083
14	1st Quarter	57846.00285	71924	86001	-14077	1.19572048
15	February	-29822.49618	-21285	-12748	-8537	0.59891942
16	March	2237.458495	1214	191	1023	0.15733113
17	April	2621.829651	1700	779	921	0.45823529
18	2nd Quarter	8251.205852	5273	2297	2976	0.43561539
19	May	2834.656933	1788	742	1046	0.41498881
20	June	2794.719269	1785	776	1009	0.43473389
21	July	3006.656098	1666	326	1340	0.19567827
22	3rd Quarter	8498.253552	3974	-549	4523	-0.13814796
23	August	3451.883057	1391	-670	2061	-0.48166786
24	September	2039.714397	917	-205	1122	-0.22355507
25	October	-5696.342804	-6223	-6749	526	1.08452514
26	4th Quarter	-23910.35369	-25499	-27086	1587	1.06223773
27	November	-8906.880598	-9632	-10357	725	1.07526993
28	December	-9307.130289	-9644	-9980	336	1.03484031
29						

Function Arguments

OLATableSubset

Connection $B$1 = "USING_OLATION"
Cube $B$2 = "SALES"
AXIS "Row" = "Row"
Index 0 = 0
Dimension "Month" = "Month"
= {"Row","Month","Subsets","ALL"}

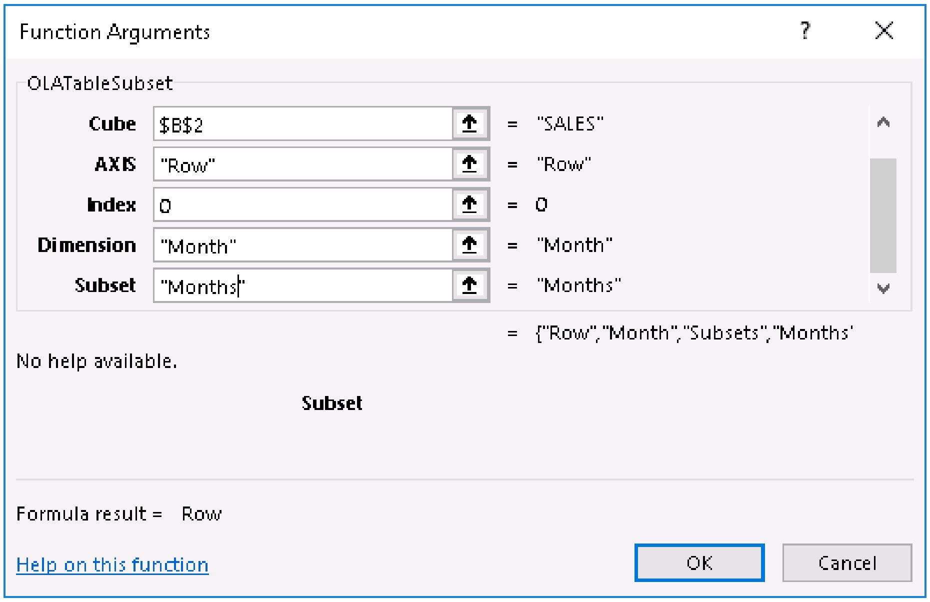
No help available.

Connection

Formula result = Row

Help on this function

- Scroll down to the Subset parameter and change it to a new preferred subset—e.g., **“Months”**—then click **OK**.
  Note: Make sure that the parameter is enclosed in double quotes.



Function Arguments

OLATableSubset

Cube	$B$2	=	"SALES"
AXIS	"Row"	=	"Row"
Index	0	=	0
Dimension	"Month"	=	"Month"
Subset	"Months"	=	"Months"

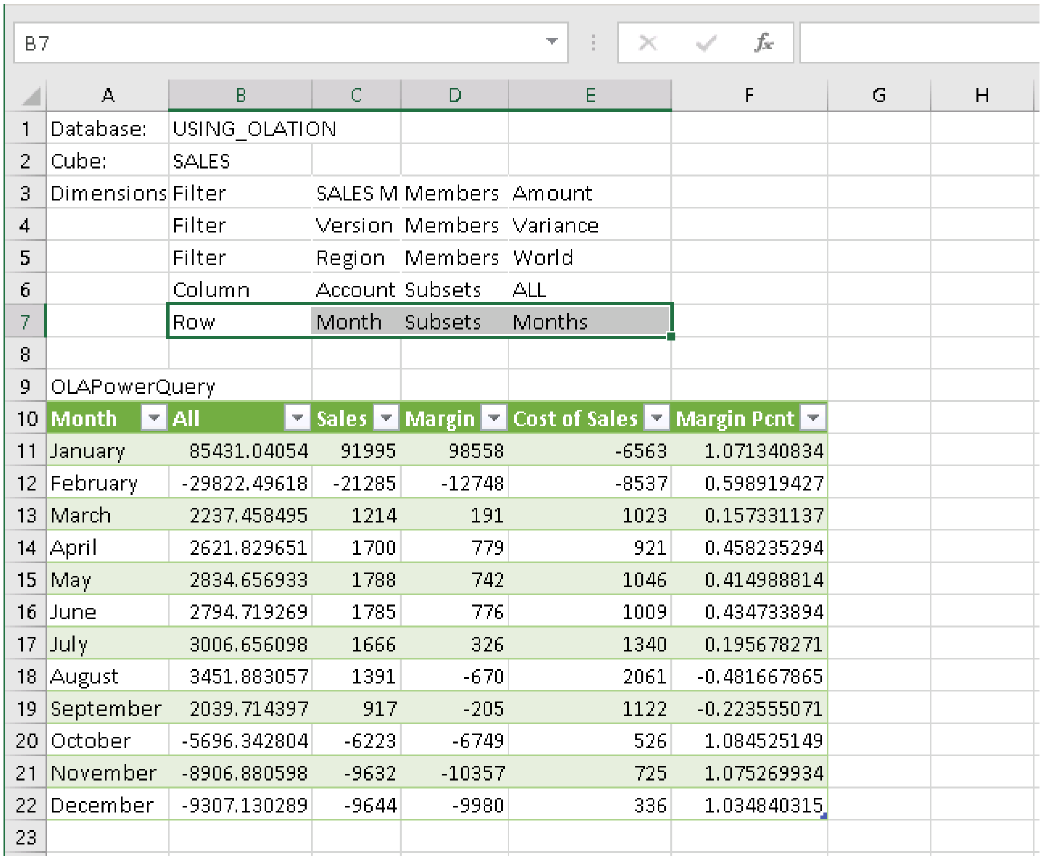
= {"Row","Month","Subsets","Months'

No help available.

Subset

Formula result = Row

- Click **OK**. Then click **Refresh** the PowerExcel Slice ribbon. The PowerExcel Power Analyzer Slice is now updated to show the new display Members along the rows as shown below:



B7

	A	B	C	D	E	F	G	H
1	Database:	USING_OLATION						
2	Cube:	SALES						
3	Dimensions	Filter	SALES M	Members	Amount			
4		Filter	Version	Members	Variance			
5		Filter	Region	Members	World			
6		Column	Account	Subsets	ALL			
7		Row	Month	Subsets	Months			
8								
9	OLAPowerQuery							
10	Month	All	Sales	Margin	Cost of Sales	Margin Pcnt		
11	January	85431.04054	91995	98558	-6563	1.071340834		
12	February	-29822.49618	-21285	-12748	-8537	0.598919427		
13	March	2237.458495	1214	191	1023	0.157331137		
14	April	2621.829651	1700	779	921	0.458235294		
15	May	2834.656933	1788	742	1046	0.414988814		
16	June	2794.719269	1785	776	1009	0.434733894		
17	July	3006.656098	1666	326	1340	0.195678271		
18	August	3451.883057	1391	-670	2061	-0.481667865		
19	September	2039.714397	917	-205	1122	-0.223555071		
20	October	-5696.342804	-6223	-6749	526	1.084525149		
21	November	-8906.880598	-9632	-10357	725	1.075269934		
22	December	-9307.130289	-9644	-9980	336	1.034840315		
23								

20.OLATableSubsets

Function Description: This function is used in a Perspective Slice, with Dynamic Rows enabled. Its use enables the Slice to reflect changing Rows by obtaining a different sets of Dimension Members, composed of individual Members; ad-hoc selections of Members, and Subsets, in any order.

This function covers a 'cell range' or a 'group of cells' that define the Dimension and corresponding Members that will be displayed along the Rows of a PowerExcel Slice. The 'cell range' covered by this function must be updated simultaneously and changes will only be committed by use of the CTRL+SHIFT+ENTER keys.

To change the Display Members along the rowS of a PowerExcel Slice, click on all the cells covered by the OLATableSubsets function, change to the preferred 'Subset name' or the last parameter and enter the 'new target Subset'. Press the **Ctrl+Shift+Enter** keys to commit the changes. Notice that the update is reflected across all the cells covered by the function.

Syntax: OLATableSubsets (Connection, Cube, Axis, Index, Dimension, Subsets)

Connection: The PowerExcel connection that contains the information about the Olation server URL and the source database name.

Cube: The name of the source/target Cube; or enter the cell reference that contains the name of the source/target Cube you wish to establish a connection to.

Axis: This indicates the area of the PowerExcel Slice where the data will appear (specifically Rows for this function)

Index: 0 [NOTE: When there are no "stacked Dimensions" in Rows, "0" will always show; If there are stacked Dimensions, the number will reflect the order of the Rows, starting with "1" as the "topmost" in the stack, and continuing.]

Dimension: The Dimension name or the cell reference that contains the name of the Dimension that exists in the Row(s) within the specified Database above.

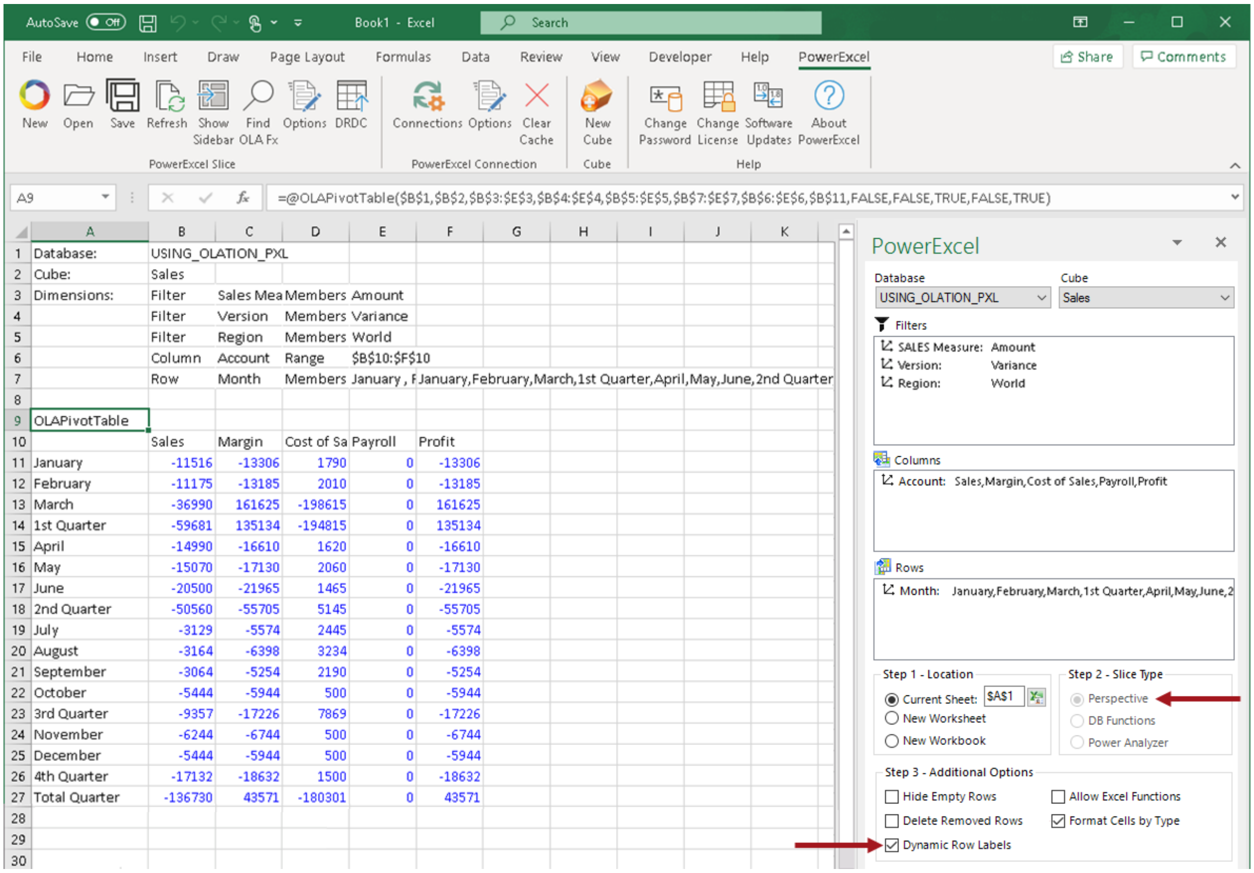
Subsets: The target cell containing the Members (individually selected Members/Subset[s]) to be displayed along the rows.

Remarks:

- The PowerExcel Connection must exist.
- The Olation Web Service must be running.
- The Database must be opened and running in the specified server.
- The Cube must exist within the specified database.
- The Dimension must exist within the specified Database.
- The selected Member(s) and Subset(s) must exist within the specified Dimension.
- All the parameters are compulsory because the function covers a 'range of cells'
- It is imperative that 'All' cells governed by the OLATableSubsets function be updated in order to successfully commit the changes to the formula.

Example:

To see the **OLATableSubsets** function in action, first you can create an example Slice using the Perspective method (see arrow, next image); also, check the box for Dynamic Row Labels, which is required for this function to work (see larger arrow, below).



A9 =@OLAPivotTable($B$1,$B$2,$B$3:$E$3,$B$4:$E$4,$B$5:$E$5,$B$7:$E$7,$B$6:$E$6,$B$11,FALSE,FALSE,TRUE,FALSE,TRUE)

	A	B	C	D	E	F	G	H	I	J	K
1	Database:	USING_OLATION_PXL									
2	Cube:	Sales									
3	Dimensions:	Filter	Sales Mea	Members	Amount						
4		Filter	Version	Members	Variance						
5		Filter	Region	Members	World						
6		Column	Account	Range	$B$10:$F$10						
7		Row	Month	Members	January , F	January,February,March,1st Quarter,April,May,June,2nd Quarter					
8											
9	OLAPivotTable										
10		Sales	Margin	Cost of Sa	Payroll	Profit					
11	January	-11516	-13306	1790	0	-13306					
12	February	-11175	-13185	2010	0	-13185					
13	March	-36990	161625	-198615	0	161625					
14	1st Quarter	-59681	135134	-194815	0	135134					
15	April	-14990	-16610	1620	0	-16610					
16	May	-15070	-17130	2060	0	-17130					
17	June	-20500	-21965	1465	0	-21965					
18	2nd Quarter	-50560	-55705	5145	0	-55705					
19	July	-3129	-5574	2445	0	-5574					
20	August	-3164	-6398	3234	0	-6398					
21	September	-3064	-5254	2190	0	-5254					
22	October	-5444	-5944	500	0	-5944					
23	3rd Quarter	-9357	-17226	7869	0	-17226					
24	November	-6244	-6744	500	0	-6744					
25	December	-5444	-5944	500	0	-5944					
26	4th Quarter	-17132	-18632	1500	0	-18632					
27	Total Quarter	-136730	43571	-180301	0	43571					
28											
29											
30											

PowerExcel

Database: USING_OLATION_PXL
Cube: Sales

Filters
SALES Measure: Amount
Version: Variance
Region: World

Columns
Account: Sales,Margin,Cost of Sales,Payroll,Profit

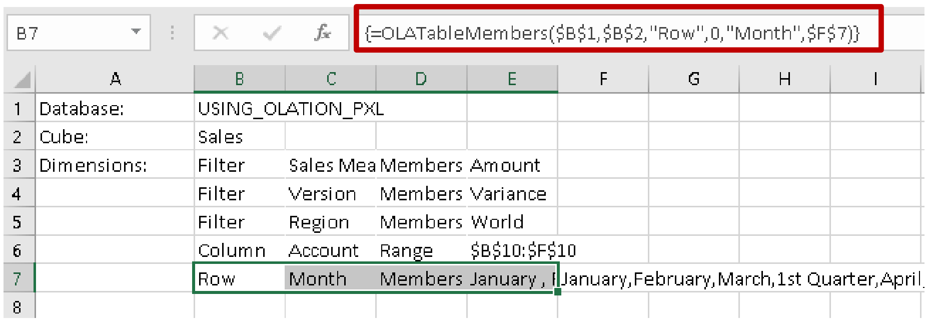
Rows
Month: January,February,March,1st Quarter,April,May,June,2

Step 1 - Location
● Current Sheet: $A$1
○ New Worksheet
○ New Workbook

Step 2 - Slice Type
● Perspective
○ DB Functions
○ Power Analyzer

Step 3 - Additional Options
□ Hide Empty Rows
□ Allow Excel Functions
□ Delete Removed Rows
☑ Format Cells by Type
☑ Dynamic Row Labels

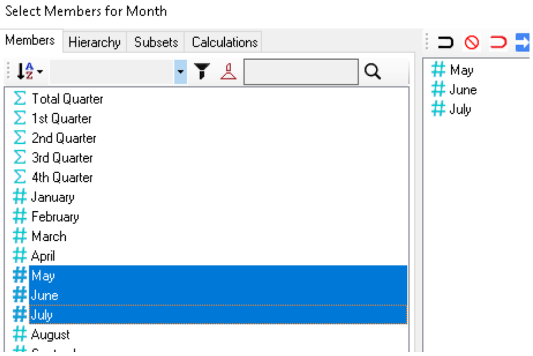
Note that presently the operative PowerExcel function governing the Row labels is the OLATableMembers function, a “range” function, in Cells B7:E7 (boxed in the following image).



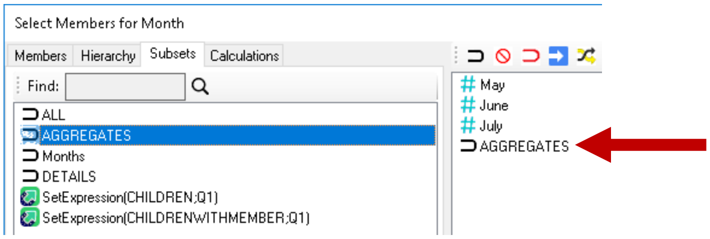
B7 {=OLATableMembers($B$1,$B$2,"Row",0,"Month",$F$7)}

	A	B	C	D	E	F	G	H	I
1	Database:	USING_OLATION_PXL							
2	Cube:	Sales							
3	Dimensions:	Filter	Sales Mea	Members	Amount				
4		Filter	Version	Members	Variance				
5		Filter	Region	Members	World				
6		Column	Account	Range	$B$10:$F$10				
7		Row	Month	Members	January , F	January,February,March,1st Quarter,April			
8									

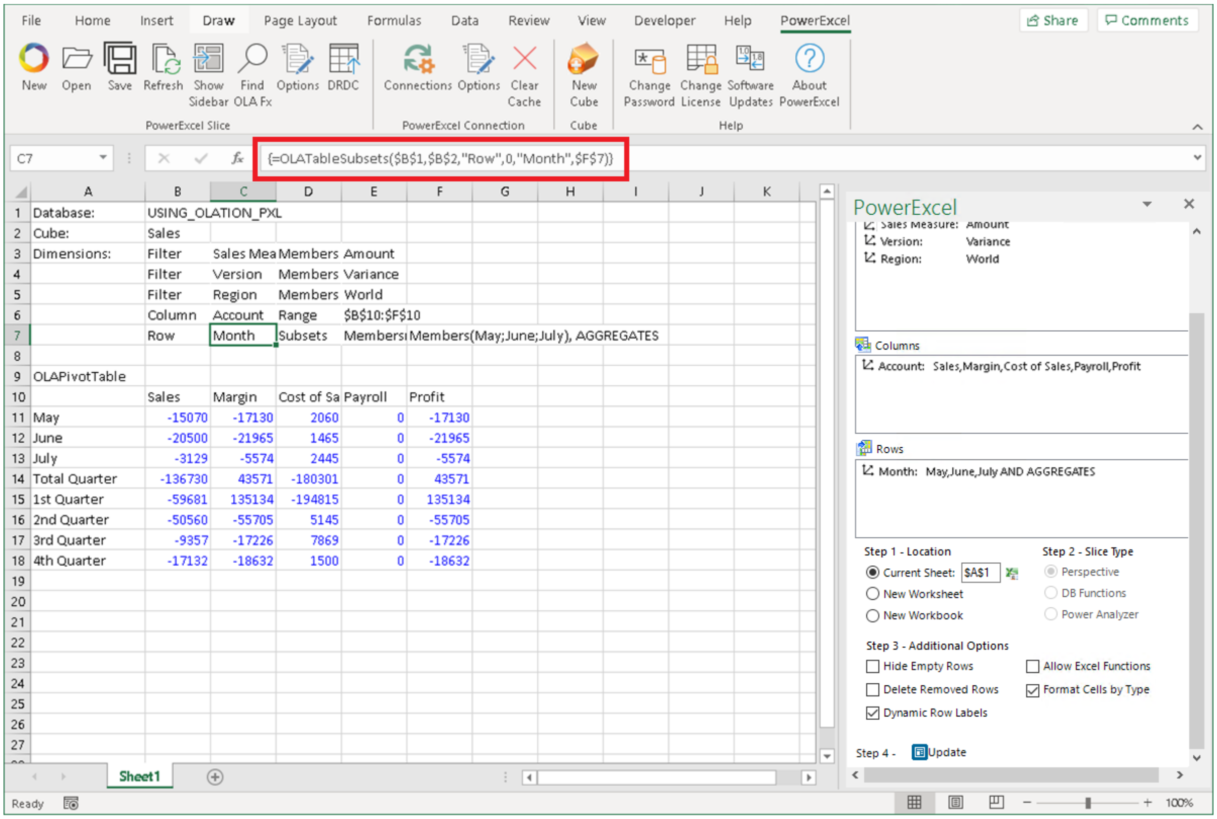
- Double-click on **Month**, which brings up the Select Members for Months dialog. While on the Members tab, make a selection of any Members (*May*, *June* and *July* are shown in the image below).



- Switch to the Subsets tab and make a selection of any Subset(s) and drag it across to the pane on the right (as shown below, *AGGREGATES*, a default subset, has been added).



- Click **OK**. Note, as in the image below, that the row labels change dynamically to the selected Member(s) and Subset(s). Additionally, the function that governs the row labels is the **OLATableSubsets** function (boxed in the image). Indeed, this function will show in all cells **B7:E7**.



C7 {=OLATableSubsets($B$1,$B$2,"Row",0,"Month",$F$7)}

	A	B	C	D	E	F
1	Database:	USING_OLATION_PXL				
2	Cube:	Sales				
3	Dimensions:	Filter	Sales Mea	Members	Amount	
4		Filter	Version	Members	Variance	
5		Filter	Region	Members	World	
6		Column	Account	Range	$B$10:$F$10	
7		Row	Month	Subsets	Members	Members(May;June;July), AGGREGATES
8						
9	OLAPivotTable					
10		Sales	Margin	Cost of Sa	Payroll	Profit
11	May	-15070	-17130	2060	0	-17130
12	June	-20500	-21965	1465	0	-21965
13	July	-3129	-5574	2445	0	-5574
14	Total Quarter	-136730	43571	-180301	0	43571
15	1st Quarter	-59681	135134	-194815	0	135134
16	2nd Quarter	-50560	-55705	5145	0	-55705
17	3rd Quarter	-9357	-17226	7869	0	-17226
18	4th Quarter	-17132	-18632	1500	0	-18632

PowerExcel

Sales Measure: Amount
Version: Variance
Region: World

Columns
Account: Sales,Margin,Cost of Sales,Payroll,Profit

Rows
Month: May,June,July AND AGGREGATES

Step 1 - Location
● Current Sheet: $A$1
○ New Worksheet
○ New Workbook

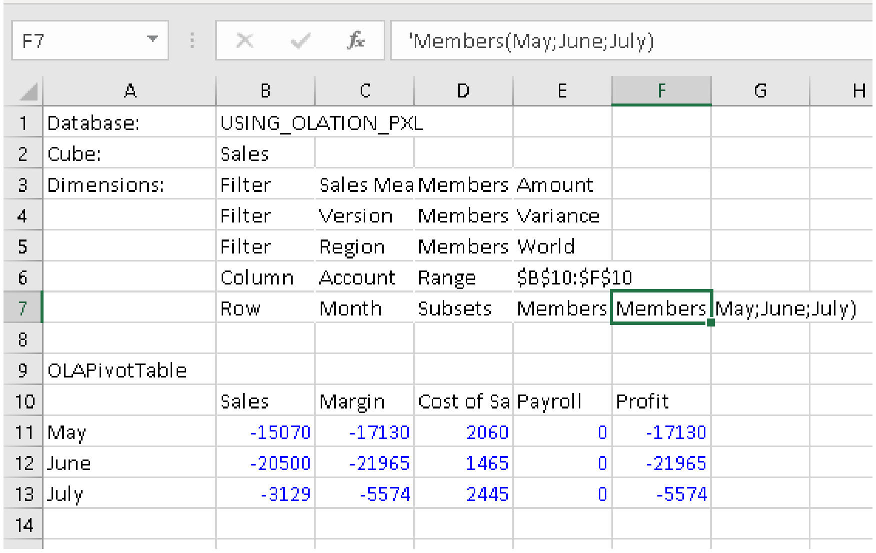
Step 2 - Slice Type
● Perspective
○ DB Functions
○ Power Analyzer

Step 3 - Additional Options
☐ Hide Empty Rows
☐ Delete Removed Rows
☑ Dynamic Row Labels
☐ Allow Excel Functions
☑ Format Cells by Type

Step 4 - Update

Next, to change the reference for the Member(s)/Subset(s) in the function:

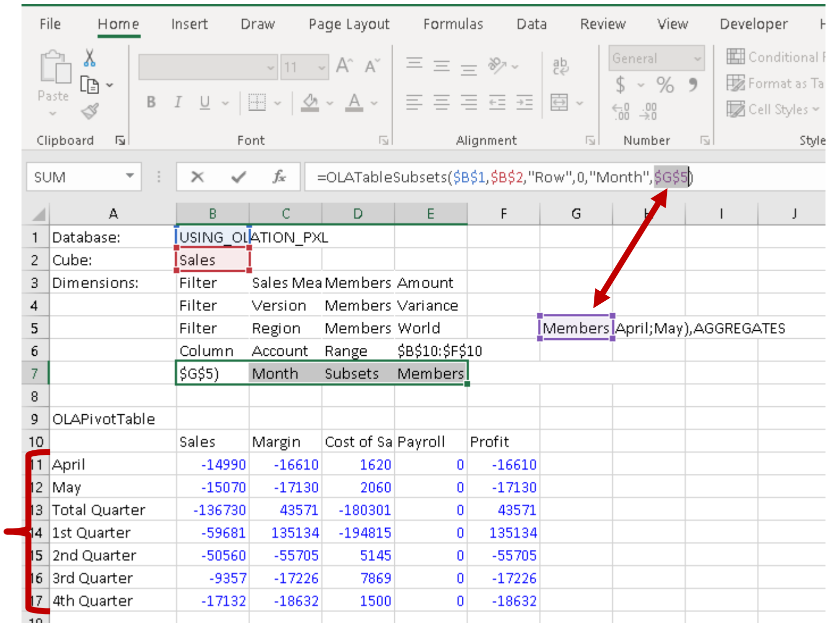
- One way to change that Members appear in rows is simply to make a change in the last argument, which references the Member(s)/Subset(s) to be shown: for example, by deleting AGGREGATES (and the preceding comma) in the referenced Cell (F7) and then pressing F9 to refresh the Slice, the rows that will show are as follows:



'Members(May;June;July)

	A	B	C	D	E	F	G	H
1	Database:	USING_OLATION_PXL						
2	Cube:	Sales						
3	Dimensions:	Filter	Sales Mea	Members	Amount			
4		Filter	Version	Members	Variance			
5		Filter	Region	Members	World			
6		Column	Account	Range	$B$10:$F$10			
7		Row	Month	Subsets	Members	Members	May;June;July)	
8								
9	OLAPivotTable							
10		Sales	Margin	Cost of Sa	Payroll	Profit		
11	May	-15070	-17130	2060	0	-17130		
12	June	-20500	-21965	1465	0	-21965		
13	July	-3129	-5574	2445	0	-5574		
14								

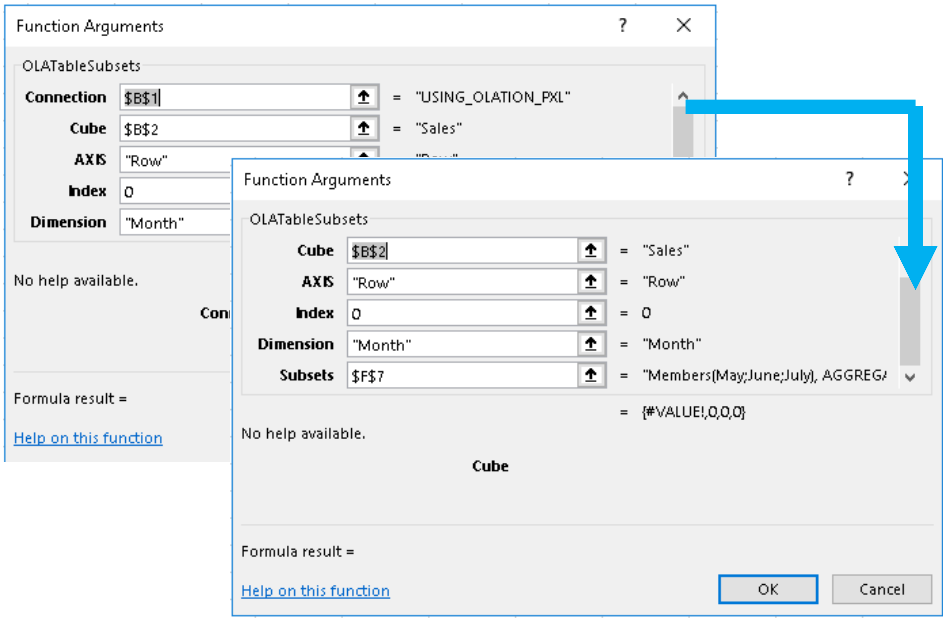
- Alternatively, the referenced cell itself can be changed. In the following, a new group of Members (April and May) has been entered, and AGGREGATES has been included again in a new cell, Cell **G5**: thus, **'Members(March;April),AGGREGATES** is entered in G5. To change the reference to these Member(s)/Subset(s), highlight the entire **OLATableSubsets** function across the range B7:E7; change the last argument to $G$5). Note, as shown below, that the indicated Member(s) and Subset(s) show in the dynamic rows in the spreadsheet.



=OLATableSubsets($B$1,$B$2,"Row",0,"Month",$G$5)

	A	B	C	D	E	F	G	H	I	J
1	Database:	USING_OLATION_PXL								
2	Cube:	Sales								
3	Dimensions:	Filter	Sales Mea	Members	Amount					
4		Filter	Version	Members	Variance					
5		Filter	Region	Members	World		Members	April;May),AGGREGATES		
6		Column	Account	Range	$B$10:$F$10					
7		$G$5)	Month	Subsets	Members					
8										
9	OLAPivotTable									
10		Sales	Margin	Cost of Sa	Payroll	Profit				
11	April	-14990	-16610	1620	0	-16610				
12	May	-15070	-17130	2060	0	-17130				
13	Total Quarter	-136730	43571	-180301	0	43571				
14	1st Quarter	-59681	135134	-194815	0	135134				
15	2nd Quarter	-50560	-55705	5145	0	-55705				
16	3rd Quarter	-9357	-17226	7869	0	-17226				
17	4th Quarter	-17132	-18632	1500	0	-18632				

The following show the **OLATableSubsets** function and its cell references for the first Slice shown.



Connection $B$1 = "USING_OLATION_PXL"
Cube $B$2 = "Sales"
AXIS "Row"
Index 0
Dimension "Month"

No help available.

Formula result =

Cube $B$2 = "Sales"
AXIS "Row" = "Row"
Index 0 = 0
Dimension "Month" = "Month"
Subsets $F$7 = "Members(May;June;July), AGGREG/

= {#VALUE!,0,0,0}

No help available.

Cube

Formula result =

Cell References:

=OLATableSubsets($B$1,$B$2,"Row",0,"Month",$F$7)

- $B$1– the Database name or the PowerExcel connection name/cell reference that contains the name of the Database or the PowerExcel connection, i.e., **USING_OLATION_PXL**
- $B$2– the Cube name or the cell reference that contains the name of the Cube, i.e., **Sales**
- "Row"– this indicates the data will appear along the Row area of the Slice
- 0– this indicates the index number of the order of Dimensions, thus "0" when there are no stacked Dimensions in Rows or Columns to order [otherwise, "1", "2", etc.]
- "Month"– the Dimension name that exists within the database
- $F$7–the cell reference containing the dynamic Member(s)/Subset(s) shown in the Slice.

21.OLAWrite

Function Description: The OLAWrite Formula function allows a user to write values back to a precise multidimensional data point in an Olation database model from a PowerExcel Slice.

Syntax: OLAWrite (Connection, Cube, Value1, Value2,…,ValueN)

Connection: The PowerExcel connection that contains the information about the Olation server URL and the source database name.

Cube: The name of the source/target Cube; or the cell reference that contains the name of the source or target Cube you wish to establish a connection to.

Value1 to ValueN: The related Member references.

Last Value parameter: The write value or the cell reference that contains the data value to be written back to a specific data point to a target Database.

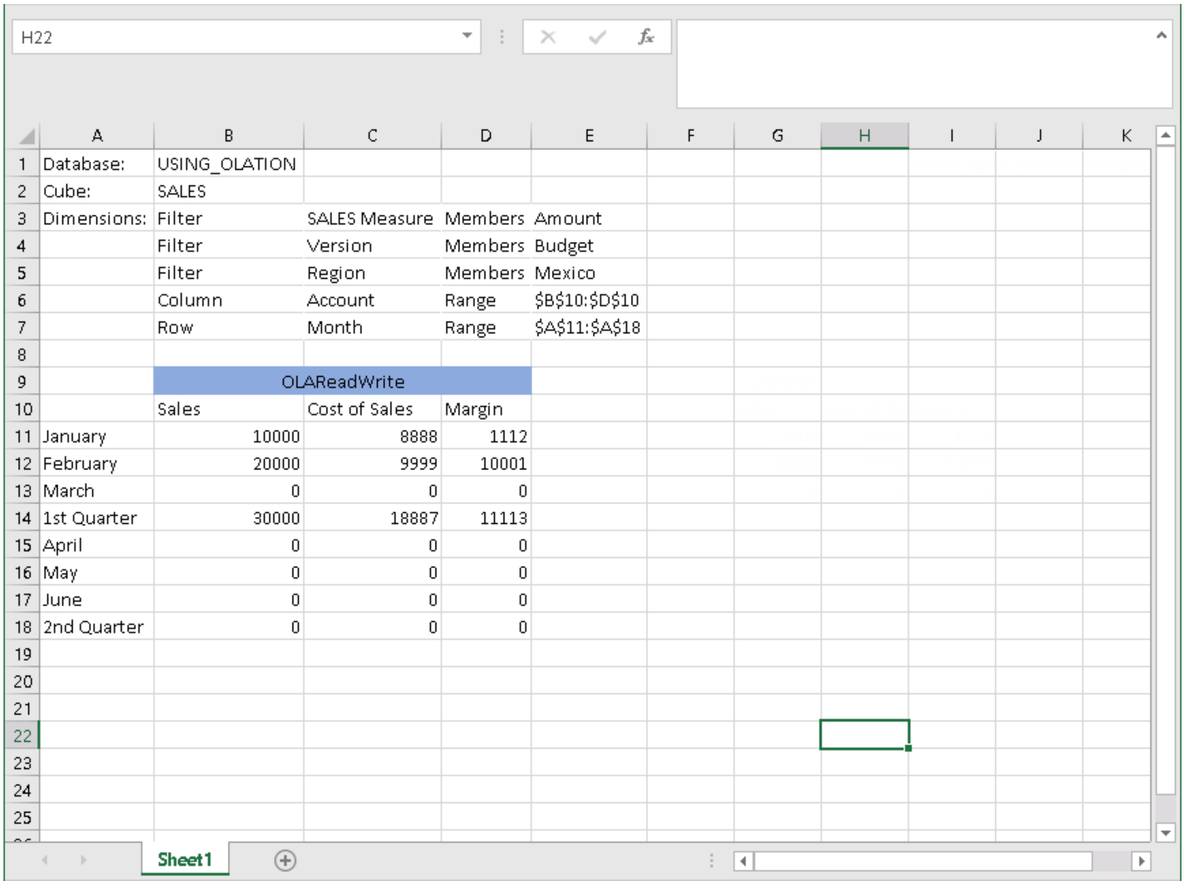
Remarks:

- The PowerExcel Connection must exist.
- The Olation Web Service must be running.
- The Database must be opened and running in the specified server.
- The ‘Connection’ and ‘Cube’ parameters are compulsory.
- The Value parameters prior to the ‘last value parameter’ refer to Member references that identify the specific data point where the data value should be written to.
- The ‘Last Value parameter’ is either the actual write value or the cell that contains the data value or number which will be written back to the target data point within a database.

Example:

First we will show how to create an **OLAWrite** formula to write a value to a specific intersection in a target database--for this example, to a data point in the *SALES* Cube of the *USING_OLATION* database.

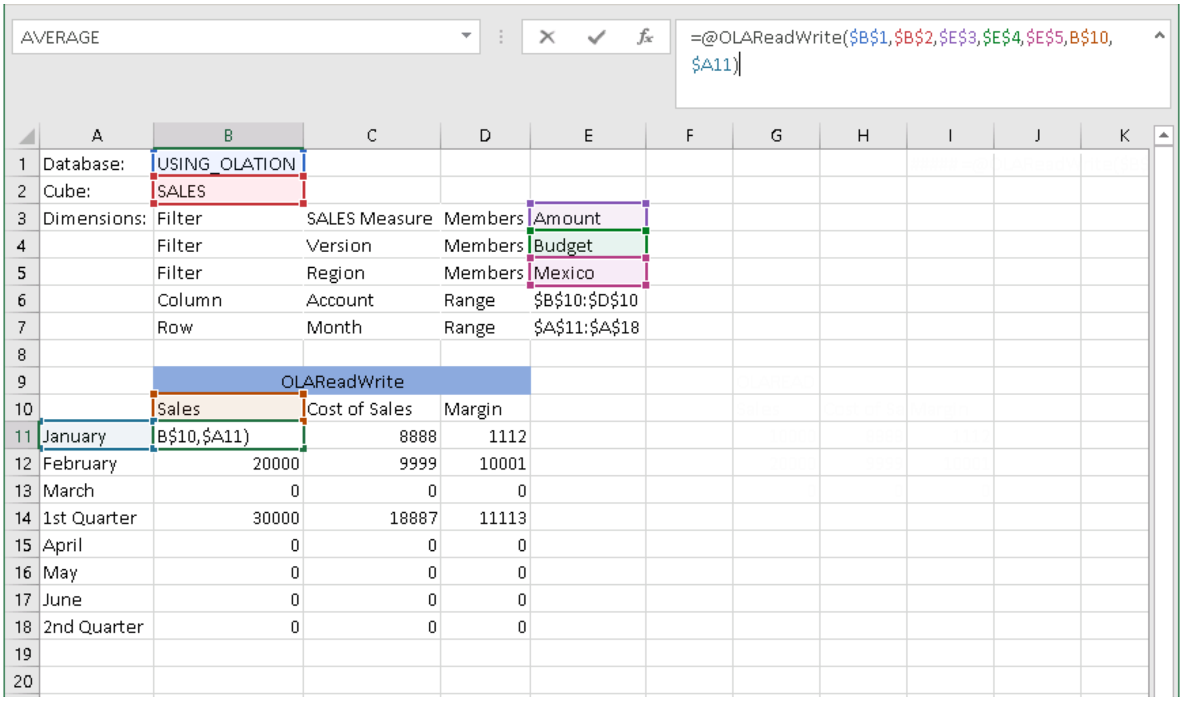
- First create a PowerExcel DB Functions Slice with the orientation of your choosing (e.g., the following image will serve as an example).
  Note: We placed a heading (in Row 9), “OLAReadWrite”, at the top of the sample table so we can identify that the cells below are governed by this type of formula.



H22

	A	B	C	D	E
1	Database:	USING_OLATION			
2	Cube:	SALES			
3	Dimensions:	Filter	SALES Measure	Members	Amount
4		Filter	Version	Members	Budget
5		Filter	Region	Members	Mexico
6		Column	Account	Range	$B$10:$D$10
7		Row	Month	Range	$A$11:$A$18
8					
9		OLAReadWrite			
10		Sales	Cost of Sales	Margin	
11	January	10000	8888	1112	
12	February	20000	9999	10001	
13	March	0	0	0	
14	1st Quarter	30000	18887	11113	
15	April	0	0	0	
16	May	0	0	0	
17	June	0	0	0	
18	2nd Quarter	0	0	0	
19					
20					
21					
22					
23					
24					
25					

- Note that in an DB Functions Slice, each cell contains an individual formula function, as in the following image (Cell B11 has been clicked on). As we will see, an **OLAWrite Formula function** also appertains to an individual cell.

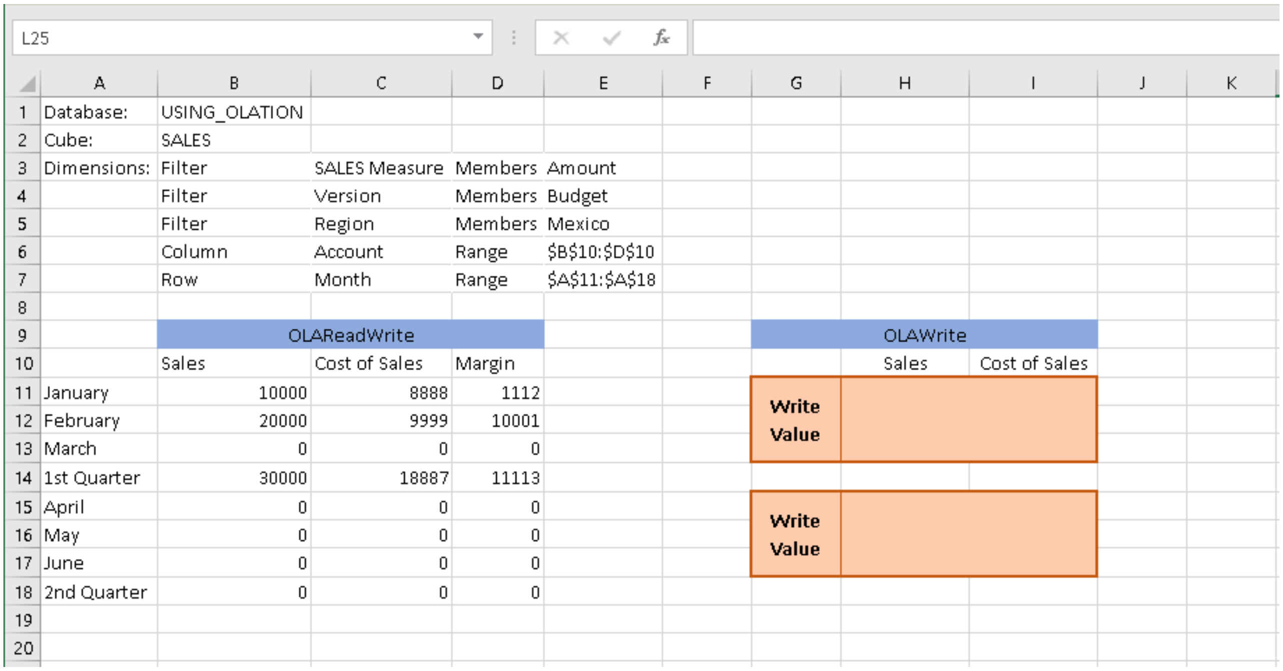


AVERAGE

=@OLAReadWrite($B$1,$B$2,$E$3,$E$4,$E$5,B$10,$A11)

	A	B	C	D	E
1	Database:	USING_OLATION			
2	Cube:	SALES			
3	Dimensions:	Filter	SALES Measure	Members	Amount
4		Filter	Version	Members	Budget
5		Filter	Region	Members	Mexico
6		Column	Account	Range	$B$10:$D$10
7		Row	Month	Range	$A$11:$A$18
8					
9		OLAReadWrite			
10		Sales	Cost of Sales	Margin	
11	January	B$10,$A11)	8888	1112	
12	February	20000	9999	10001	
13	March	0	0	0	
14	1st Quarter	30000	18887	11113	
15	April	0	0	0	
16	May	0	0	0	
17	June	0	0	0	
18	2nd Quarter	0	0	0	
19					
20					

- Next to create an **OLAWrite** formula—in this case, to write a new *Sales* value for the month of *March*.
  (In the next image, the area where the **OLAWrite** formulas will go is shaded orange for easy identification.)



L25

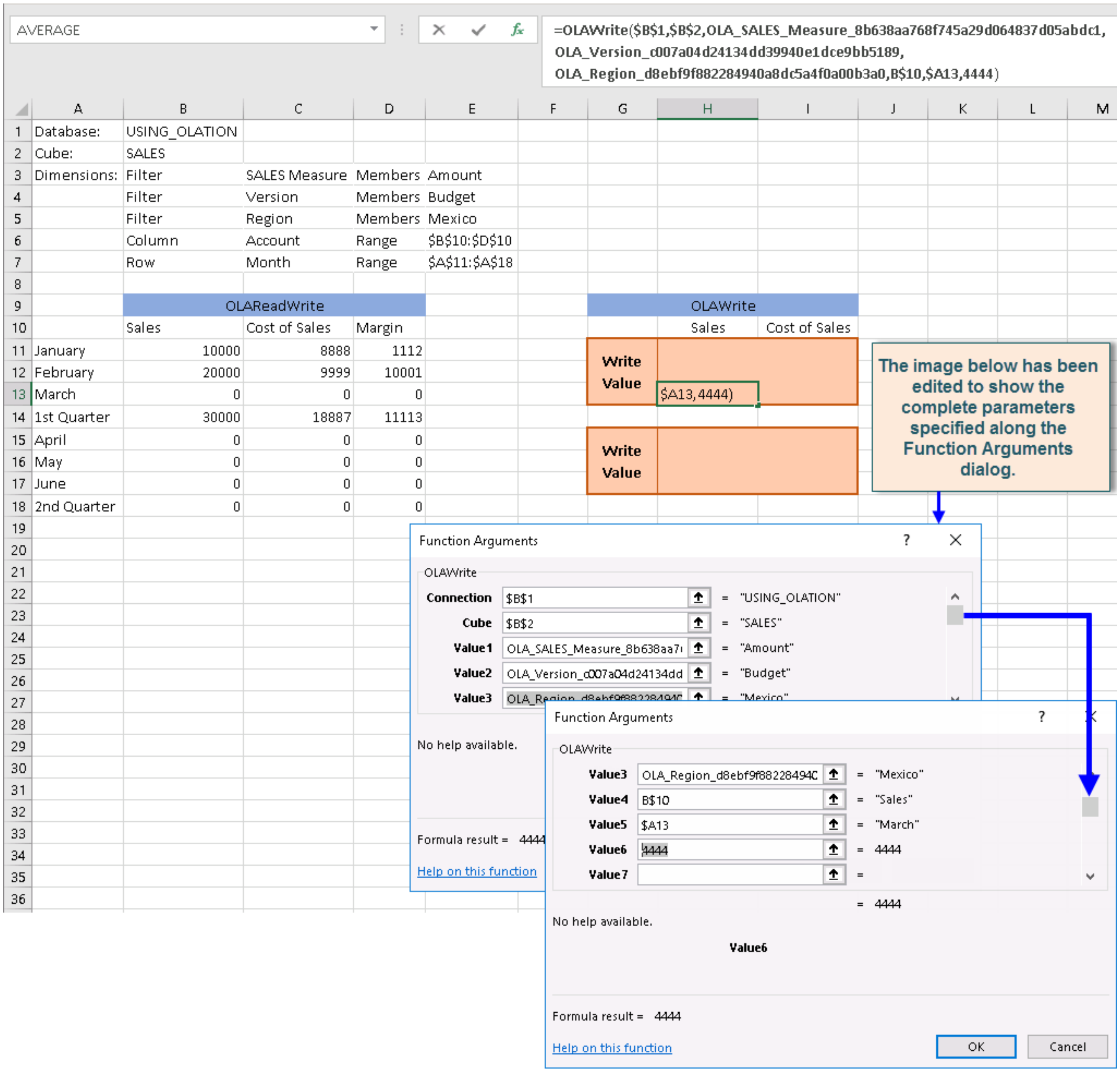
	A	B	C	D	E	F	G	H	I	J	K
1	Database:	USING_OLATION									
2	Cube:	SALES									
3	Dimensions:	Filter	SALES Measure	Members	Amount						
4		Filter	Version	Members	Budget						
5		Filter	Region	Members	Mexico						
6		Column	Account	Range	$B$10:$D$10						
7		Row	Month	Range	$A$11:$A$18						
8											
9		OLAReadWrite					OLAWrite				
10		Sales	Cost of Sales	Margin				Sales	Cost of Sales		
11	January	10000	8888	1112			Write Value				
12	February	20000	9999	10001							
13	March	0	0	0							
14	1st Quarter	30000	18887	11113							
15	April	0	0	0			Write Value				
16	May	0	0	0							
17	June	0	0	0							
18	2nd Quarter	0	0	0							
19											
20											

- Define the **OLAWrite** formula: in Cell **H13** click the **Function** button beside the formula bar. In the Insert Function dialog that appears, choose **PowerExcel.ExcelFunctions** as the category, select **OLAWrite** from the function list and click **OK.**

- In the Function Arguments dialog box, define the parameters:
  - Click on Connection field and then click on cell **B1** (the cell reference for *USING_OLATION* database). Use an Absolute reference so the connection reference appears as **$B$1**.
  - Click on the Cube field, then click on cell **B2** (the cell reference for the *SALES* cube); again, use an absolute reference (**$B$2**).
  - Click on the Value 1 field, then click on cell **E3** (the cell reference for the Filter Member *Amount* in the *SALES Measure* Dimension).
  - Click on the Value 2 field, then click on cell **E4** (the cell reference for the Filter Member *Budget* of the *Version* Dimension).
  - Click on the Value 3 field, then click on cell **E5** (the cell reference for the Filter Member *Mexico* of the *Region* Dimension).
  - Click on the Value 4 field, then click on cell **B10** (which is the cell reference for the Column Member *Sales* of the *Account* Dimension); use the absolute row reference, thus **B$10**.
  - Click on the Value 5 field, then click on cell **A13** (the cell reference for the Row Member *March* of the *Month* Dimension); use the absolute column reference, thus **$A13**.

- Lastly, click on the Value 6 field, then type a new *Sales* value for the month of *March*—for example, **4444**. This is our write value.

  Note: Notice that the corresponding Database, Cube and other references appear in each corresponding field.



AVERAGE

=OLAWrite($B$1,$B$2,OLA_SALES_Measure_8b638aa768f745a29d064837d05abdc1, OLA_Version_c007a04d24134dd39940e1dce9bb5189, OLA_Region_d8ebf9f882284940a8dc5a4f0a00b3a0,B$10,$A13,4444)

	A	B	C	D	E	F	G	H	I
1	Database:	USING_OLATION							
2	Cube:	SALES							
3	Dimensions:	Filter	SALES Measure	Members	Amount				
4		Filter	Version	Members	Budget				
5		Filter	Region	Members	Mexico				
6		Column	Account	Range	$B$10:$D$10				
7		Row	Month	Range	$A$11:$A$18				
8									
9		OLAReadWrite					OLAWrite		
10		Sales	Cost of Sales	Margin				Sales	Cost of Sales
11	January	10000	8888	1112			Write Value		
12	February	20000	9999	10001					
13	March	0	0	0				$A13,4444)	
14	1st Quarter	30000	18887	11113					
15	April	0	0	0			Write Value		
16	May	0	0	0					
17	June	0	0	0					
18	2nd Quarter	0	0	0					

The image below has been edited to show the complete parameters specified along the Function Arguments dialog.

Function Arguments

OLAWrite

Connection	$B$1	=	"USING_OLATION"
Cube	$B$2	=	"SALES"
Value1	OLA_SALES_Measure_8b638aa7	=	"Amount"
Value2	OLA_Version_c007a04d24134dd	=	"Budget"
Value3	OLA_Region_d8ebf9f882284940	=	"Mexico"

No help available.

Formula result = 4444

Help on this function

Function Arguments

OLAWrite

Value3	OLA_Region_d8ebf9f88228494C	=	"Mexico"
Value4	B$10	=	"Sales"
Value5	$A13	=	"March"
Value6	4444	=	4444
Value7		=	

= 4444

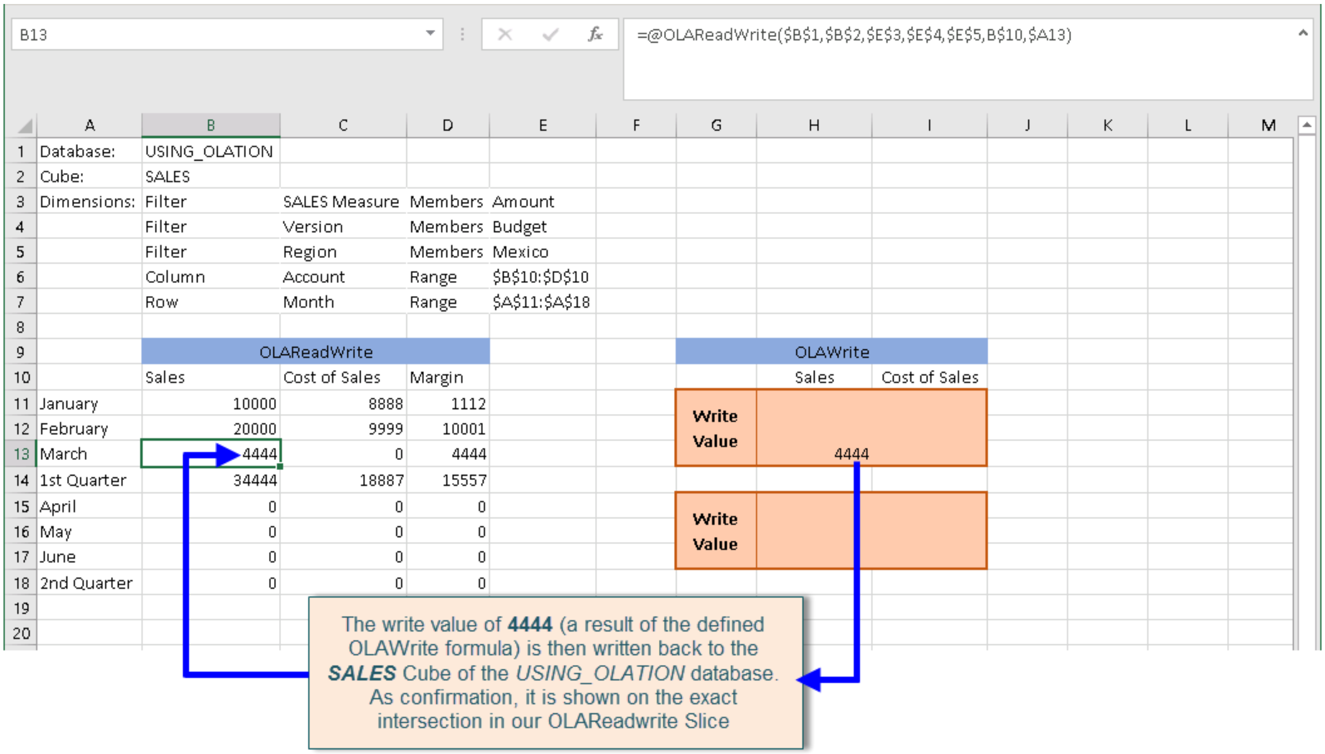
No help available.

Value6

Formula result = 4444

Help on this function

- Click **OK**. Press **Enter**, then click the **Refresh** button along the PowerExcel Tab of the Excel ribbon. Notice the intersection in the ReadWrite section of the Slice, Cell **B13**, now has the value **4444**.



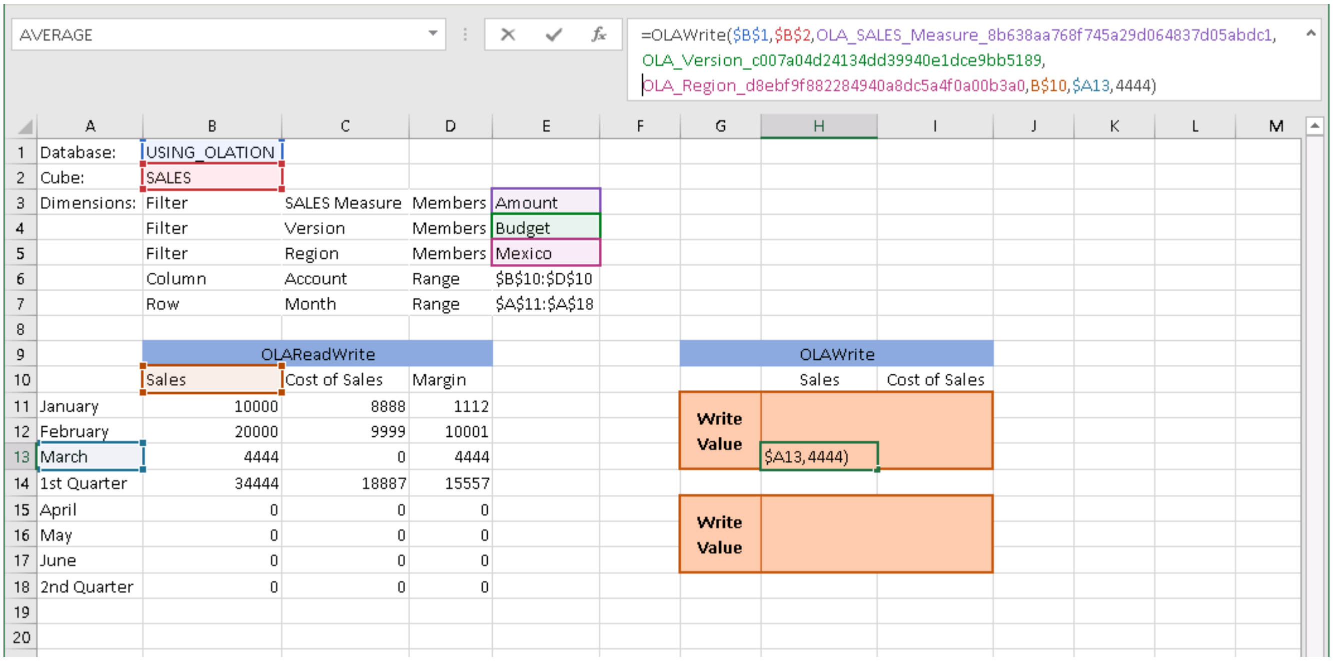
B13

=@OLAReadWrite($B$1,$B$2,$E$3,$E$4,$E$5,B$10,$A13)

	A	B	C	D	E	F	G	H	I
1	Database:	USING_OLATION							
2	Cube:	SALES							
3	Dimensions:	Filter	SALES Measure	Members	Amount				
4		Filter	Version	Members	Budget				
5		Filter	Region	Members	Mexico				
6		Column	Account	Range	$B$10:$D$10				
7		Row	Month	Range	$A$11:$A$18				
8									
9		OLAReadWrite					OLAWrite		
10		Sales	Cost of Sales	Margin				Sales	Cost of Sales
11	January	10000	8888	1112			Write Value		
12	February	20000	9999	10001					
13	March	4444	0	4444				4444	
14	1st Quarter	34444	18887	15557					
15	April	0	0	0			Write Value		
16	May	0	0	0					
17	June	0	0	0					
18	2nd Quarter	0	0	0					
19									
20									

The write value of **4444** (a result of the defined OLAWrite formula) is then written back to the ***SALES*** Cube of the *USING_OLATION* database. As confirmation, it is shown on the exact intersection in our OLAReadwrite Slice

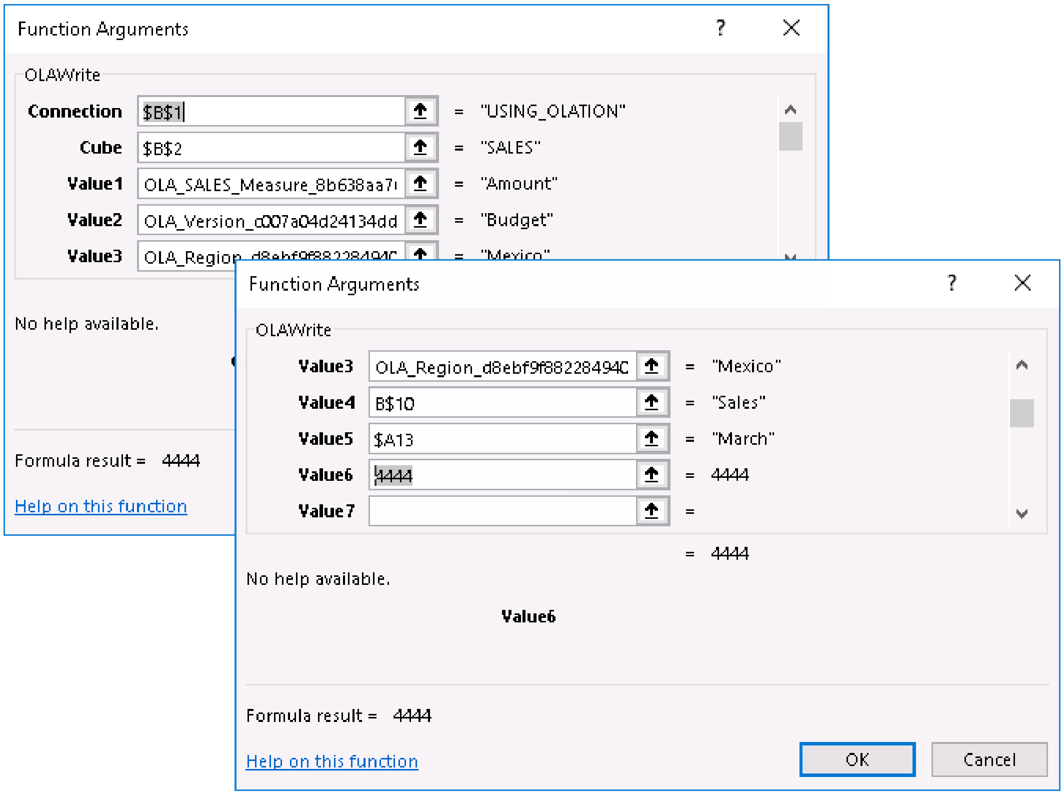
- Click on the **OLAWrite** formula in cell **H13,** then click on the formula bar (notice that the cursor is at the end of the formula). This will show the corresponding cell references of the formula.



AVERAGE

=OLAWrite($B$1,$B$2,OLA_SALES_Measure_8b638aa768f745a29d064837d05abdc1,
OLA_Version_c007a04d24134dd39940e1dce9bb5189,
OLA_Region_d8ebf9f882284940a8dc5a4f0a00b3a0,B$10,$A13,4444)

	A	B	C	D	E	F	G	H	I
1	Database:	USING_OLATION							
2	Cube:	SALES							
3	Dimensions:	Filter	SALES Measure	Members	Amount				
4		Filter	Version	Members	Budget				
5		Filter	Region	Members	Mexico				
6		Column	Account	Range	$B$10:$D$10				
7		Row	Month	Range	$A$11:$A$18				
8									
9		OLAReadWrite					OLAWrite		
10		Sales	Cost of Sales	Margin				Sales	Cost of Sales
11	January	10000	8888	1112			Write Value		
12	February	20000	9999	10001					
13	March	4444	0	4444				$A13,4444)	
14	1st Quarter	34444	18887	15557					
15	April	0	0	0			Write Value		
16	May	0	0	0					
17	June	0	0	0					
18	2nd Quarter	0	0	0					
19									
20									



Function Arguments

OLAWrite

Connection	$B$1	=	"USING_OLATION"
Cube	$B$2	=	"SALES"
Value1	OLA_SALES_Measure_8b638aa7(	=	"Amount"
Value2	OLA_Version_c007a04d24134dd	=	"Budget"
Value3	OLA_Region_d8ebf9f88228494C	=	"Mexico"

No help available.

Formula result = 4444

Help on this function

Function Arguments

OLAWrite

Value3	OLA_Region_d8ebf9f88228494C	=	"Mexico"
Value4	B$10	=	"Sales"
Value5	$A13	=	"March"
Value6	4444	=	4444
Value7		=	

= 4444

No help available.

Value6

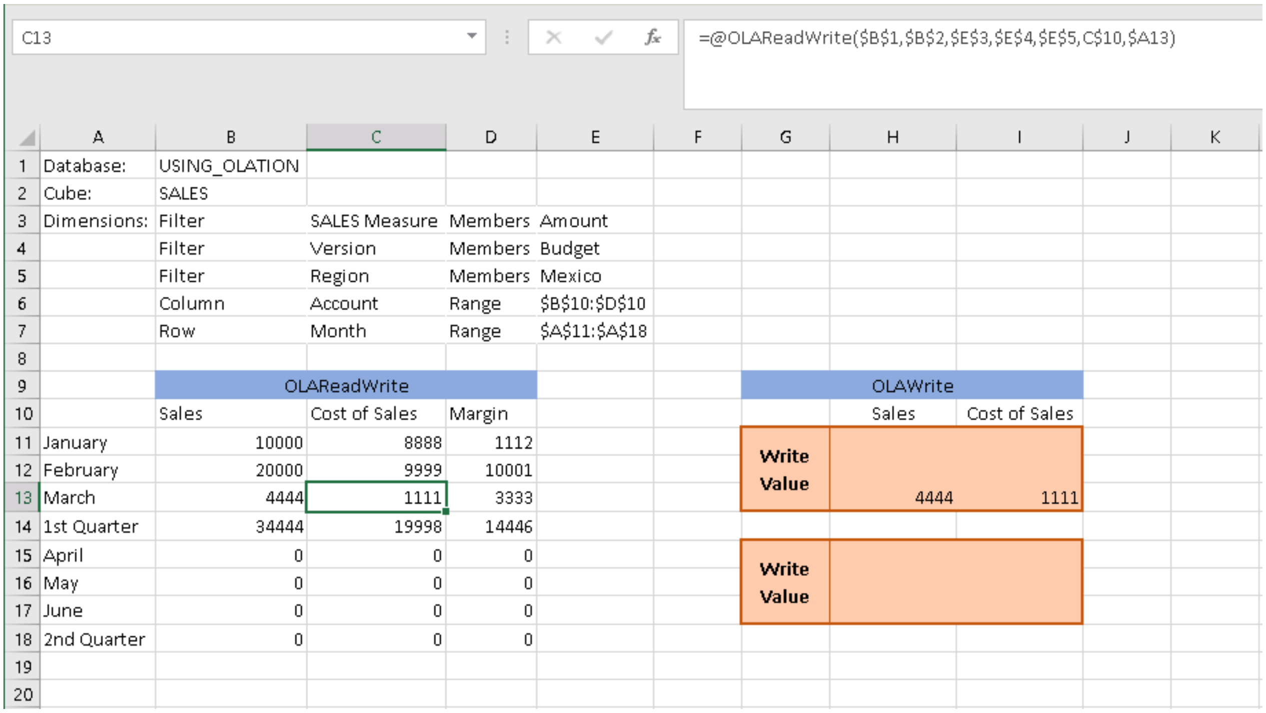
Formula result = 4444

Cell References:

=OLARead($B$1,$B$2,OLA_SALES_Measure_8b638aa768f745a29d064837d05abdc1,OLA_Version_c007a04d24134dd39940e1dce9bb5189,OLA_Region_d8ebf9f882284940a8dc5a4f0a00b3a0,B$10,$A13,4444)

- $B$1– the Database name or the PowerExcel connection name/cell reference that contains the name of the Database or the PowerExcel connection, i.e., **USING_OLATION**
- $B$2 – the Cube in the Database, i.e., **SALES** Cube
- OLA_SALES_Measure_8b638aa768f745a29d064837d05abdc1 – the ***Amount*** Member in the *SALES Measure* Dimension [Filter reference]
- OLA_Version_c007a04d24134dd39940e1dce9bb5189 – the ***Budget*** Member in the *Version* Dimension [Filter reference]
- OLA_Region_d8ebf9f882284940a8dc5a4f0a00b3a0 – the ***Mexico*** Member in the *Region* Dimension [Filter reference]
- B$10 – the Column Member reference ***Sales*** from the *Account* Dimension [Column reference].
- $A13 – the Row Member reference ***March*** from the *Month* Dimension [Row reference].
- 4444 – the new Sales value for March to be written back to the database.

- Next, write the same formula in cell **I13**, but this time, change the month reference to **Cost of Sales** (**C$10**) and the write value to **1111**. Press **Enter** then click the **Refresh** button along the PowerExcel Tab of the Excel ribbon.



C13

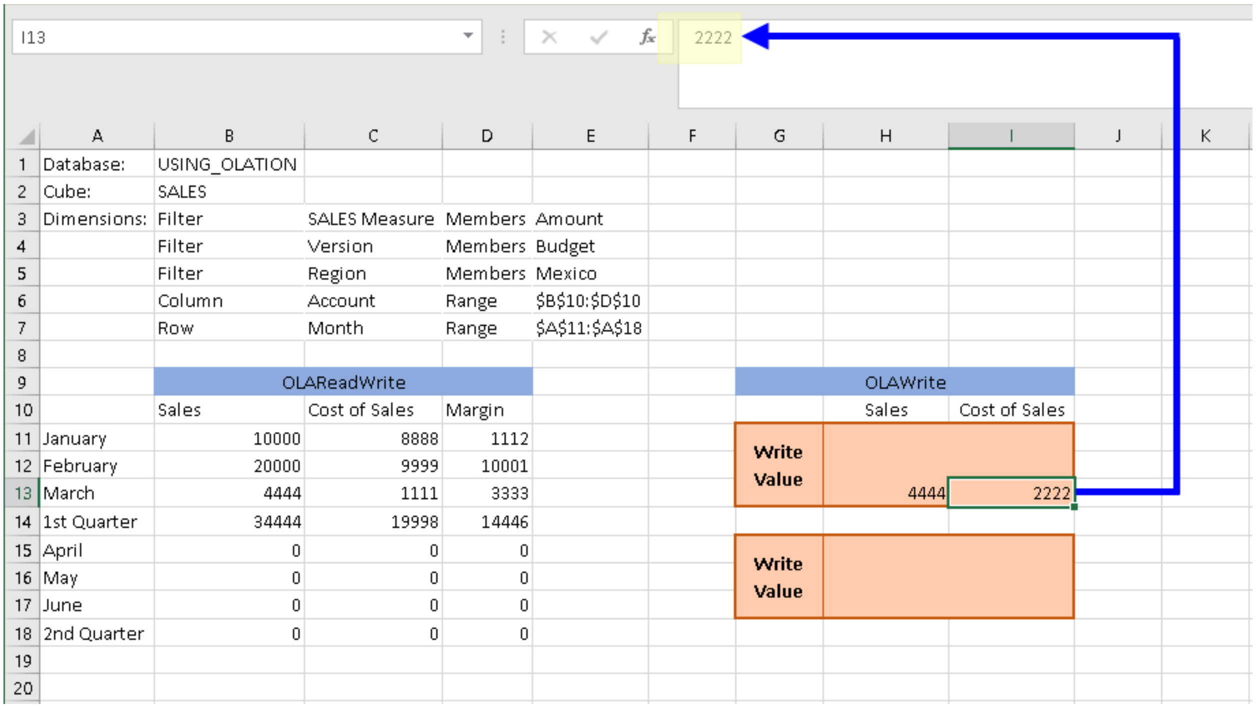
=@OLAReadWrite($B$1,$B$2,$E$3,$E$4,$E$5,C$10,$A13)

	A	B	C	D	E	F	G	H	I	J	K
1	Database:	USING_OLATION									
2	Cube:	SALES									
3	Dimensions:	Filter	SALES Measure	Members	Amount						
4		Filter	Version	Members	Budget						
5		Filter	Region	Members	Mexico						
6		Column	Account	Range	$B$10:$D$10						
7		Row	Month	Range	$A$11:$A$18						
8											
9		OLAReadWrite					OLAWrite				
10		Sales	Cost of Sales	Margin				Sales	Cost of Sales		
11	January	10000	8888	1112			Write Value				
12	February	20000	9999	10001							
13	March	4444	1111	3333				4444	1111		
14	1st Quarter	34444	19998	14446							
15	April	0	0	0			Write Value				
16	May	0	0	0							
17	June	0	0	0							
18	2nd Quarter	0	0	0							
19											
20											

- Once again, the value is saved back to the *USING_OLATION* database: the new *Cost of Sales* value appears at the same intersection in the PowerExcel ReadWrite section of the Slice (cell **C13**).

- Notice also that the relative aggregate points are updated as well (*1st Quarter* values and *Margin* values).

- When you click over the cells with an **OLAWrite** formula, the corresponding formulas will appear in the formula bar. However, unlike the OLAReadWrite formula, where typing a value will not erase the formula, if you type in a value in the cell with an **OLAWrite** formula, the formula will be deleted and replaced with the value you have entered.
  As an example, in Cell **I11**, type **2222** and click **Enter**.



I13 2222

	A	B	C	D	E	F	G	H	I	J	K
1	Database:	USING_OLATION									
2	Cube:	SALES									
3	Dimensions:	Filter	SALES Measure	Members	Amount						
4		Filter	Version	Members	Budget						
5		Filter	Region	Members	Mexico						
6		Column	Account	Range	$B$10:$D$10						
7		Row	Month	Range	$A$11:$A$18						
8											
9		OLAReadWrite					OLAWrite				
10		Sales	Cost of Sales	Margin				Sales	Cost of Sales		
11	January	10000	8888	1112			Write Value				
12	February	20000	9999	10001							
13	March	4444	1111	3333				4444	2222		
14	1st Quarter	34444	19998	14446							
15	April	0	0	0			Write Value				
16	May	0	0	0							
17	June	0	0	0							
18	2nd Quarter	0	0	0							
19											
20											

- Note that when you click on the cell, the **OLAWrite** formula is gone and the formula bar shows, simply, the value 2222.