

DWDM Lab by Usman Shehzaib

Lab Task Week # 8. MDX Queries on Cube

In this Week you will learn how to run MDX expressions on Cube. Remember to start SSMS and SQL Server 2019 before you proceed. Following tasks will be performed on a DSV which you have already created.

i. All members with single axis retrieval

This query will retrieve all measures on a single column axis

```
SELECT [Measures].Members  
on COLUMNS  
FROM [Adventure Works DW2019 cube lab]
```

ii. Multiple members with single axis retrieval DWDM Lab Manual Mr. Usman Shehzaib CUI Lahore Campus

This query will retrieve multiple members (3 in this case) on column axis

```
SELECT  
{  
[Measures].[Discount Amount - Fact Reseller Sales],  
[Measures].[Tax Amt],  
[Measures].[Unit Price]  
}  
on COLUMNS  
FROM [Adventure Works DW2019 cube lab]
```

iii. Multiple Axis with single value retrieval

This query will retrieve sales amount measure on column axis English promotion category on rows axis and a product Headlights Dual Beam on pages axis

```
SELECT [Measures].[Sales Amount] on COLUMNS,  
[Dim Promotion].[English Promotion Category].[English Promotion Category] on ROWS,  
[Dim Product].[Model Name].&[Headlights - Dual-Beam] ON PAGES  
FROM [Adventure Works DW2019 cube lab]
```

iv. Query for Multiple axis retrieval

```
SELECT [Measures].[Sales Amount] on COLUMNS,  
[Dim Promotion].[English Promotion Category].[English Promotion Category] on ROWS,  
[Dim Product].[Color].[Color] ON PAGES,  
[Dim Product].[Model Name].[Model Name] ON SECTIONS  
FROM [Adventure Works DW2019 cube lab]
```

v. Query for Named Set

```
SELECT [Measures].[Sales Amount] on COLUMNS,  
  
{[Dim Product].[English Product Name].&[Bearing Ball],  
[Dim Product].[English Product Name].&[Chainring Bolts],  
[Dim Product].[English Product Name].&[All-Purpose Bike Stand]} ON ROWS
```

FROM [Adventure Works DW2019 cube lab]

We can also name a set as following.

WITH SET [BikeItems] AS ' {[Dim Product].[English Product Name].&[Bearing Ball],
[Dim Product].[English Product Name].&[Chainring Bolts],
[Dim Product].[English Product Name].&[All-Purpose Bike Stand]}

Now the query will be of following format

SELECT [Measures].[Sales Amount] on COLUMNS,
[BikeItems] ON ROWS
FROM [Adventure Works DW2019 cube lab]

vi. Query to apply Non empty function on a set

WITH SET [BikeItems] AS {[Dim Product].[English Product Name].&[Bearing Ball],
[Dim Product].[English Product Name].&[Chainring Bolts],
[Dim Product].[English Product Name].&[All-Purpose Bike Stand]}

SELECT [Measures].[Sales Amount] on COLUMNS,
NONEMPTY([BikeItems]) ON ROWS
FROM [Adventure Works DW2019 cube lab]

vii. Query to get a new calculated member.

In this Query profit is being calculated with subtraction of two attributes and being displayed on columns

WITH MEMBER MEASURES.[Profit] AS [Measures].[Sales Amount]-
[Measures].[Total Product Cost]
SELECT measures.Profit ON COLUMNS,
[Dim Sales Territory].[Sales Territory Country].MEMBERS ON ROWS

FROM [Adventure Works DW2019 cube lab]

viii. Query using set Operators (+) UNION operator

SELECT [Measures].[Sales Amount] on COLUMNS,
{[Dim Customer].[French Occupation].&[Direction]} + {[Dim Customer].[French Occupation].&[Technicien]}
on rows
FROM [Adventure Works DW2019 cube lab]

We can also use (,) for this

SELECT [Measures].[Sales Amount] on COLUMNS,
{[Dim Customer].[French Occupation].&[Direction] , [Dim Customer].[French Occupation].&[Technicien]}
on rows
FROM [Adventure Works DW2019 cube lab]

ix. Query using set Operators (*) CROSS Product

This query will generate cross product of two professions with two different product lines.

SELECT [Measures].[Sales Amount] on COLUMNS,
{[Dim Customer].[French Occupation].&[Direction] , [Dim Customer].[French Occupation].&[Technicien]} *
{[Dim Product].[Product Line].&[R] , [Dim Product].[Product Line].&[T]} on rows
FROM [Adventure Works DW2019 cube lab]