**Workshop 09/11/2021**

Creating a Azure SQL server from Azur portal

Graphical user interface, text, application, email

Description automatically generated

Deployed the SQL server on Azure and this is the overview of SQL ServerA screenshot of a computer

Description automatically generated

Creating a SQL Database on Azure through portalGraphical user interface, text, application, email

Description automatically generated

Sample SQL database on AzureGraphical user interface, text, application, email

Description automatically generated

Updating firewall on SQL database to access from local Client connection

Graphical user interface, Word

Description automatically generated with medium confidence

Running a simple Query in Query editor of AzureGraphical user interface, application

Description automatically generated

Connecting azure SQL database and running a simple Query in Azure Data Studio

Table

Description automatically generated

Connecting azure SQL database and running a simple Query in DBeaverA screenshot of a computer

Description automatically generated with medium confidence

Connecting SQL database hosted on Azure to PowerBIGraphical user interface, application

Description automatically generated

Added a new Column in the table using powerBI

Graphical user interface, text, application

Description automatically generated

Query I used is: CustomerName = CONCATENATE('SalesLT Customer'[LastName], CONCATENATE(", ", 'SalesLT Customer'[FirstName]) )

**Data Visualizations in powerBI**

1. **Visualization from workshop demo**

Here we are showing the total due by customers, which can be filtered by country name. For more information you can check PowerBI file

A screenshot of a computer

Description automatically generated

1. **Total Sales**

The SQL Qurey for the total Sales is

SELECT   format(sum(SubTotal), 'c', 'en-US' ) as SubTotal,

    format(sum(TaxAmt), 'c', 'en-US' ) as TaxAm,

    format(sum(Freight), 'c', 'en-US' ) as Freight ,

    format(sum(TotalDue), 'c', 'en-US' ) as TotalDue

FROM SalesLT.SalesOrderHeader

The Output from Query editor is as followsGraphical user interface, text, application

Description automatically generated

The visualization in PowerBI is as followsChart, sunburst chart

Description automatically generated

The Query for Line total is as follows  
Graphical user interface, text, application, email

Description automatically generated

1. **Total sales by country – ranked/sorted (highest to lowest)**

Here we are trying to visualize the total sales, grouping by country

The SQL Query is

with temp as (select a.CountryRegion, ca.CustomerID

from [SalesLT].[Address] a join [SalesLT].[CustomerAddress] ca

on a.AddressID = ca.AddressID)

SELECT  CountryRegion, format(sum(TotalDue), 'c', 'en-US' )as "Total Due"

FROM SalesLT.SalesOrderHeader soh

    join Temp t

    on t.CustomerID = soh.CustomerID

GROUP BY CountryRegion

The result of SQL Query in Query editor is as follows Graphical user interface, text, application, email

Description automatically generated

The Visualization in PowerBI is as followsChart, treemap chart

Description automatically generated

1. **Total sales by city & country -ranked/sorted (highest to lowest)**

The SQL Query is

with temp as (select a.CountryRegion, a.City, ca.CustomerID

from [SalesLT].[Address] a join [SalesLT].[CustomerAddress] ca

on a.AddressID = ca.AddressID)

SELECT  CountryRegion, City, format(sum(TotalDue), 'c', 'en-US' )as "Total Due"

FROM SalesLT.SalesOrderHeader soh

    join Temp t

    on t.CustomerID = soh.CustomerID

GROUP BY CountryRegion, City

Order By sum(TotalDue) Desc

The result of SQL Query in Azure is as follows (Affected rows – 29) Graphical user interface, text, application, email

Description automatically generated

The Visualization in PowerBI using stacked bar cahrt is as follows Chart, bar chart

Description automatically generated

The visualization in PowerBI using map is as follows Map

Description automatically generated

powerBi visualization using treemap using random colors is as follows Chart, treemap chart

Description automatically generated

powerBI visualization using treemap where the color of treemap is indicating the magnitude ofTotalDue by customers in each city is as follows Chart, treemap chart

Description automatically generated

1. **Total sales by customer (person) –ranked/sorted (highest to lowest)**

The SQL Query is

with temp as (select a.CountryRegion, a.AddressLine1, a.City, a.PostalCode, c.CustomerID, c.EmailAddress, c.FirstName, c.LastName

from [SalesLT].[Address] a join [SalesLT].[CustomerAddress] ca

on a.AddressID = ca.AddressID

join [SalesLT].[Customer] c on c.CustomerID = ca.CustomerID)

SELECT  CONCAT(FirstName, ', ', LastName) AS CustomerName, EmailAddress, AddressLine1, City, CountryRegion, PostalCode,

format(sum(TotalDue), 'c', 'en-US' )as "Total Due"

FROM SalesLT.SalesOrderHeader soh

    join Temp t on t.CustomerID = soh.CustomerID

GROUP BY FirstName, LastName, EmailAddress, AddressLine1, City, CountryRegion, PostalCode

Order By sum(TotalDue) Desc

The result of the above Query in SQL editor is as follows(affected rows – 32)

Graphical user interface, text, application

Description automatically generated

The Visualization in PowerBI using stacked bar is as follows: A picture containing graphical user interface

Description automatically generated

Second Visualization in PowerBI is as follows:Graphical user interface, application, table

Description automatically generated

1. **Total sales by customer (company) –ranked/sorted (highest to lowest)**

The SQL Query is

SELECT  c.CompanyName, format(sum(TotalDue), 'c', 'en-US' )as "Total Due"

FROM SalesLT.SalesOrderHeader soh

    join [SalesLT].[Customer] c

    on c.CustomerID = soh.CustomerID

GROUP BY CompanyName

Order By CompanyName Desc

The result of Query in SQL editor is as follows (affected row – 32)Graphical user interface, text, application, email

Description automatically generated

The Visualization in PowerBI is as follows Chart, bar chart, histogram

Description automatically generated

1. **Sales by product category –ranked/sorted (highest to lowest)**

The SQL Query is as follows:

SELECT  pc.Name, format(sum(LineTotal), 'c', 'en-US' )as "Line Total"

FROM [SalesLT].[SalesOrderDetail] sod

    join [SalesLT].[Product] p

    on p.ProductID = sod.ProductID

    join [SalesLT].[ProductCategory] pc

    on pc.ProductCategoryID = p.ProductCategoryID

GROUP BY pc.Name

Order By sum(LineTotal) Desc

The Result of above Query in editor is as follows (affected rows – 26)

Graphical user interface, text, application, email

Description automatically generated

The visualization in PowerBI using stacked bar is as follows: A picture containing graphical user interface

Description automatically generated

The visualization in PowerBI using treemap is as follows Chart, treemap chart

Description automatically generated

The Visualization in Power BI using treemap where the intensity of color represents the magnitude of Line Total is as follows Chart, treemap chart

Description automatically generated

1. **Sales by product category –ranked/sorted (highest to lowest)**

The SQL Query is as follows

SELECT   pc.Name as "Category", p.name as "Product Name",

    format(sum(LineTotal), 'c', 'en-US' )as "Line Total", sum(sod.OrderQty) as "Quantity"

FROM [SalesLT].[SalesOrderDetail] sod

    join [SalesLT].[Product] p

    on p.ProductID = sod.ProductID

    join [SalesLT].[ProductCategory] pc

    on pc.ProductCategoryID = p.ProductCategoryID

GROUP BY p.name, pc.Name

Order By sum(LineTotal) Desc

The result in the Query editor is as follows Graphical user interface

Description automatically generated with medium confidence

The Visualization in PowerBI is as follows Chart

Description automatically generated