

1. Report View.

(A Report view,

where you can create any number of report pages with visualizations).

(In Power BI, the report view is where you design and build your interactive reports).

1) Create Visualizations.

2) Add Text Boxes and Images.

3) Create Calculations and Measures: DAX (Data Analysis Expressions) to create calculated columns, measures, and calculated tables to perform Advanced Calculations and Analysis.

4) Format and Design.

5) Publish and Share.

2. Table View.

(To display data in a Tabular format).

(Get Data: First, you need to connect Power BI to your Data Source.

You can import data from various sources

such as Excel files, databases as sql server, online services, etc).

1) Get Data.

2) Data Modeling.

3) Create a Table.

4) Configure Table.

5) Interactivity.

6) Formatting.

7) Publish and Share.

3. Model View.

(Power BI make relationship between Tables).

We have 3 main Pages:-

1. Report View.

>>Data-Visualizations(Make Charts)-Filters.

2. Table View.

3. Model View.

Power BI Home:-

Where can get The data from Various Sources AS:-

1. Get-Data.

2. Excel-Work.

3. SQL-Server-Data.

4. Dataverse.

Power BI Modeling:-

1. Write DAX Expression to create New Table.

2. New table.

Make Power Query:-

Click>>Transform Data>>Power Query Editor.

In this place We Make ETL.

Where Make (Extract, transform, and load) (ETL)

is the process of combining data from multiple sources

into a large, central repository Called a Data Warehouse.

Multiple-Sources:-

Data sources, including databases

(SQL Server, MySQL, PostgreSQL, etc.),

files (Excel, CSV, XML, etc.),

online services (Salesforce, Google Analytics, etc.)

1. Get Data>>More>>Get Data.

- 2.You Can connect to Excel/Text/CSV/SQL Server.
- 3.Download Excel INC 5000 USA 2019.xlsx
- 4.2019 Inc. 5000: The Most Successful Companies in America.
- 5.Than Make Connecting.
- 6.Than Navigator.
- 7.Data Need Clean Make (Transform) Data.
- 8.If Not Need Clean Make (Load) Into Power BI.
- 9.click on file than click transform Data.
- 10.Power Query Editor.
- 11.New Source.
- 12.Every Table is Queries.
- 13.rename Tables USA,Europe.
- 14.first steps by Default.
- [Source]-[Navigation]
- [Promoted Headers]-[Changed Type].
- >>Make header for Every Column in Table.
- 15.Any New Step will in Applied-Steps.
- 16.Removed Columns step.
- 17.Delete Changed Type>>Delete Step>>Delete.
- 18.Close Window>>PowerQueryEditor>>Not Now.
- 19.Discard changes>>Discard.
- 20.Get data>>Excel>>ChooseFile>>Connect.
- 21.click file>>transform Data.
- 22.New Source>>Text/CSV>>Connect>>OK.
- 23.Rename>>USA,Rename>>Europe.
- 24.Problems in Table Data may contain:-

- 1)Columns you don't need.
- 2)Wrong data Type.
- 3)Outliers.
- 4)Blanks.
- 5)Multivalued column.
- 6)Duplicate values.
- 7)White space (Ali).
- 8)Different Capitalization(Red-red).

- 25.PowerBI Clean the Data.
- >>Clean Data As Remove Duplicate-values.
- 26.Details of Data Error.
- 27.View>>Column quality.
- Column-quality>>Give Percentage Of(Valid/Error/Empty).
- Column-distribution>>28
- توزيع البيانات.click>>Column profiling based on top 1000 Rows.
- click>>Column profiling based on Entire Data set.
- >>in the End of the Page.
- 29.if Distict==Unique:No Duplicate Values in Column.
- 30.Column profile. This feature provides a more in-depth look at the data in a column.
- >>This Feature give you Depth Look AS:-
- (1)Column-Statistics:-
- Count Column - Error - Empty - Distinct - Unique -
- Min - Max - Average - Standard deviation - Even - Odd.
- (2)Value-distribution.
- As Give You Max Column Value Rank.
- Rank.

3359.
 2(<1%).
 31.right-click>>Column-Profile>>Remove.
 32.right-click>>Column-Website>>Remove.
 من وجهة نظر Analysis33
 معينة.Go to USA Query>>To-Solve-the-Problem.
 34.click on url&Address column>>
 click>>ctrl>>right click>>RemoveColumns.
 35.right click>>copy>>right click
 >>IT System Development>>replace value.
 36.right click>>on Health>>Copy>>right click>>on health
 Replace Values>>Replace with>>Health>>Ok.
 37.We Make cleaned to text Data type.
 38.Transform>>Format>>Capitalize-Each-Word.
 39.Transform>>Format>>Trim>>RemoveSpaces.
 40.Transform>>Format>>Clean>>
 As Clean Excel File from under _score and replaceVales.
 41.Transform>>Extract>>Length.
 42.Applied-Steps>>CleanedText
 >>rightClick>>Delete Until End>>Delete.
 43.Revenue_>>Click on>>ABC>>choose>>Decimal Number>>Error.
 44.Click Error on the column>>DataFormat.Error:
 We couldn't convert to Number.Details:271.8 Million.
 45.Delete>>Changed Type1 Step.
 46.Revenue_>>right click>>Split Column>>By Delimiter>>
 Split Column by Delimiter>>Space>>Each occurrence>>Ok.
 47.Add Column>>Conditional Column.
 48.Click on>>Revenue_.2>>Value distribution
 >>Replace Value...>>Milion Replace with 1000000>>
 Billion Replace with 1000000000>>Ok.
 49.multiply Two Columns with Each Other.
 50.Add Column>>Custom Column>>New column name
 >>Custom column formula>>[Revenue_.1]*[Revenue_.2]>>Error.
 51.Click on Error>>Expression.Error: We cannot apply
 operator * to types Number and Text.
 52.Revenue_.2>>Click on ABC>>Change Data Type>>Whole Number.
 53.Applied Steps>>replace>>Changed Type2 with Added Custom
 >>Sequence-Change.
 54.Revenue>>ABC>>Whole Number.
 55.We Finish the Data-Clean.

 >>Unique:-Are the number of values which appear only once.
 >>Distinct:-Are the number of individual values
 excluding Any Duplicates.

>>Combining data in Power Query<<

1.Append.
 .Vertically combine.
 .When 2 tables or more
 have the same column names and structure.

A B C D
 ----Append>>A B C D.
 A B C D

2.Merge.
.Horizontally combine.
.When 2 tables or more have common column.

A B C

----Merge-->>A B C D E.

C D E

To Make Append-->>Must have Columns Equal;

2.Home-->>Append Queries-->>Append
>>Two tables-->>Table to Append:Europe.
>>Delete-Start-Agen;
3.Home-->>Append Queries-->^-->>Append Queries As New
>>Append-->>Two tables
>>First table:USA,Second table:Europe;
4.Append1-->>See End of Page-->>
19 COLUMNS,999+ROWS.
Column profiling based on top 1000 rows.
5.Delete Query Append1-->>right click on
>>than Delete Query-->>Delete
>>Because has Error & Nulls;
6.Back to USA Table.
7.Change Cloumn Header to be Same in USA & Europe.
rank=Rank.
name=Company.

= Table.RenameColumns("#Capitalized
Each Word1",{{"name", "Company"}})

= Table.RenameColumns("#Changed Type3",{{"rank", "Rank"}, {"name", "Company"}})

8.From USA Table Delete Table-->>New.
9.choose table-->>Revenu_.1-->>Ctrl
>>Revenu_.2-->>Remove Columns.
10.It is not a problem in the order,
The name must be the same.
11.USA Query-->>Applied Steps-->>
= Table.RemoveColumns("#Changed Type",{ "url", "Address"})
= Table.RemoveColumns("#Changed Type",{ "url", "name"})
= Table.RenameColumns("#Capitalized Each Word1",
{ {"rank", "Rank"}, {"name", "Company"} })
12.= Table.RemoveColumns("#Changed Type",{ "url"})
= Table.RenameColumns("#Changed Type3", { {"rank", "Rank"} })
= Table.RemoveColumns("#Renamed Columns1",
{ "New", "Revenue_.1", "Revenue_.2" })

13.Home-->>Choose Columns-->>Insert Step
>>Insert-->>Choose Column-->>Changed Type.
14.APPLIED STEPS-->>Changed Type-->>Home
>>Choose Columns-->>Insert Step-->>Insert
>>Choose Columns-->>Choose the columns to keep
>>Ok-->>APPLIED STEPS-->>Removed Other Columns.
15.APPLIED STEPS-->>Removed Other Columns-->>settings
>>Add Column Address-->>Choose Columns-->>Ok.
16.If Delete Column Depend on Column

>>Give Error in Table.
 17.right click>>Address>>Split Column
 >>By Delimiter>>Insert Step>>Insert>>
 Split Column by Delimiter>>Comma
 >>Each occurrence>>Ok.
 18.Split Address into>>4Columns>>
 Address.1>>Address.2>>Address.3>>Address.4
 19.
 #Address.1>>Country>>Insert.
 #right click>>Address.2>>Remove>>Insert.
 #Copy Column>>City>>From Europe Table>>
 Address.2>>right Click Column>>
 rename>>city>>Ok.
 20.right Click>>Address.4>>Remove.
 21.Europe>>Growth>>right click>>Copy>>
 right click>>growth_%>>Rename>>Growth.
 22.complete to be column Header Equal
 into two Table Europe and Usa Table.
 23.Must all header Equal to Append.
 24.Remove Column founded.
 25.Rename name column>>Company.
 26.Append Queries>>Append Queries as new
 >>Append>>Two tables>>Europe>>Usa>>oK.
 27.Result is Append table.
 28.Country>>Search>USA.
 29.when make Append Table must to be sure
 that Same Structure and Same Column Name.
 30.The Best Append Tables First
 >>Than Apply Functions As Split and Custom Column.
 31.Revenue>>right click>>Split Column
 >>By Delimiter>>Space>>Each occurrence
 >>Ok.
 32.Split it into Revenue.1&Revenue.2;
 Revenue.1>>Decimal Number.
 33.Click Revenue.2>>View>>Column profile
 >>Value distribution>>Million>>right click
 >>Replace Values>>Replace Values
 >>Replace Value with 1000000>>Ok.
 34.Billion Replace Value with 1000000000.
 35.File>>Custom Column>>Create New Column
 >>Custom Column>>New Column Name
 >>Custom column formula>>=[Revenue.1]*[Revenue.2]
 >>Ok.
 36.Revenue.1>>right click>>Remove.
 >>>Revenue.2>>right click>>Remove.
 37.-----End Append-----

 1.Click USA Table>>Home>>Append Quiries
 >>Append>>Two tables>>Table to Append:Europe
 >>Ok.
 APPLIED STEPS>>Appended Query>>right click
 >>Rename>>2
 أضافة مدينة دبي.right-click>>USA>>Duplicate>>Home
 >>Choose Columns>>Choose Columns>>Ok.
 3.Duplicate As Copy Table;

1.Transform data.
(1)Transform data.
(2)Data source settings.
2.Power Query Editor>>Home
>>Data source settings>>Change Source.

1.Learn How to Read the-Error&Solve It.

>>When Finish all processing
on the Tables As Append>>Close&Apply.

>>Back to the Power Query Editor.

1.Home>>Transform data>>Europe>>City
>>right click>>Group By>>Basic>>City
>>TotalCompanies>>Count Rows>>Ok.
2.APPLIED STEPS>>right click>>
Grouped Rows Step>>Rename
>>TotalCompany/City.
3.New Table TotalCompany/city>>Home>>Group By
>>Basic>>City>>New Column name:Count
>>Operation:Count Rows>>Ok.
4.right click>>reference.
5.Group By>>Advanced>>Country>>Add grouping
>>City>>
New Column name Operation Column
totalcom CountRows
avg(grow) Average Growth
>>Ok.
>>rename Table>>G2.

6.Tools>>Diag-nose Step>>Diagnostics
>>Power Query runs A special Evaluation
of just the step you're looking at.
7.Tools>>Start Diagnostics>>Revenue_
>>right click>>Split Column>>By Delimiter..
>>Space>>Each Occurrence>>Ok>>Stop-Diagnostics.
8.Home>>Group By>>Step>>Basic>>
Step
New column name:duration
Operation:Sum
Column:Exclusive Duration>>Ok.
>>in-End>>Close&Apply<<

1.>>The Visualizations.
2.>>Data>>Has>>Tables.
3.Data>>USAEurope>>right click
>>New Measure>>Growth_(avg)=AVERAGE(USAEurope[Growth]).
4.USAEurope>>Growth_(avg)>>ClickonIt>>Growth_(avg)
>>Narrative>>Growth (avg) is 503.46
5.Data>>USAEurope>>right click>>New measure
>>#Indus=DISTINCTCOUNT(Europe[Industry]>>
>>click on #indus>>Visualizations>>Card.

6.Data>>USAEurope>>right click>>New measure
>>TotalRev = SUM(USAEurope[Revenue])
>>Click on>>TotalRev>>Card.
7.End.

- 1.Home>>Transform data>>Power Query Editor.
- 2.New Source>>Blank Query>>Write your Function.
- 3.Home>>Advanced Editor>>Query1.

let

DollarToLE=(LEAmount as number) =>
LEAmount * 31

in

DollarToLE

- 4.Enter Parameter>>LEAmount

>>Invoke>>InvokeFunction.

- 5.Home>>Manage Parameters

>>New Parameter>>Name:\$Price

>>Decimal Number>>Current Value:47>>Ok.

- 6.(LEAmount as number) =>

LEAmount * #" \$Price"

- 7.Enter Parameter

LEAmount

100

Invoke

4700

- 8.Home>>Manage Parameters>>New Parameter

>>Name:fff>>

you can give me latest price of dollar vs LE

>>Dicimal Number>>100>>Ok.

- 9.fxQuery1>>right click>>Rename

>>LEto\$converter.

- 10.(LEAmount as number , DollarVal as number) =>

LEAmount * #" \$Price"

Enter Parameters

LEAmount:

DollarVal:

Invoke

11.

(LEAmount as number ,
DollarVal as number) =>

LEAmount * DollarVal

- 12.has>>Data Set.

- 13.Home>>Enter Data>>column Title

>>Income in \$>>>>Enter the Data>>Ok.

- 14.Table>>right click>>rename

>>salariesIn\$.

- 15.Add Column>>Invoke Custom Function

>>LE>>LEto\$conv

#New Column Name:LE

#Function Query.

#LEAmount:IncomeIn\$

#DollarVal:47

#Ok

- 16.>>New Column LE with

>>salaries Dollar value.

- 17.New Column currency>>

Invoke Custom Function

>>Complete Data Than Ok.

- 18.Add Column>>LE2>>

[#"Income in \$"]*[currency]>>Ok.


```

-----
1.(amnt as number , currval as number ) =>
  amnt*currval
2.Transform Data.
3.New Source>>BlankQuery>>Query1>>
right click>>Advanced Editor>>
let
  Curr = (amnt as number , currval as number) =>
    amnt*currval
in
  Curr
4.Home>>EnterData>>CreateTable>>Column
>>IncomeIn$ & currency>>Ok.
5.Add Column>>InvokeCustomFunction>>
LE>>Query1>>IncomeIn$>>Column Name
>>currency>>Ok.

```

```

-----
>>DataTable;
1.Home>>New Source>>BlankQuery>>Home
>>Advanced Editor>>WriteYourCode>>
List.Dates(
start as date,
count as number,
step as duration)
>>
let
  Startdate = #date(2011,1,1),
  Enddate = #date(2012,1,1),
  Duration = Duration.From(Enddate-Startdate),
  Duration_Days = Duration.Days(Duration),
  Date = List.Dates(Startdate,Duration_Days,
    #duration(1,00,00,00))
in
  Date
2.Asked ChatGPT.
>>power bi Query Create List of Days
from 2011/1/1 to 2012/1/1Code.
Query3.
>>Advanced Editor.
let
  // Define the start and end dates.
  StartDate = #date(2011, 1, 1),
  EndDate = #date(2012, 1, 1),
  // Calculate the number of days between the start and end dates.
  NumberOfDays = Duration.Days(EndDate - StartDate),
  // Generate a list of dates starting from
  the start date and ending on the end date.
  DateList = List.Dates(StartDate, NumberOfDays, #duration(1, 0, 0, 0))
in
  DateList
>>Done.
3.
Manage Parameters.
Name:StartDate.

```

Type:Date.

Current Value:1/1/2015>>Ok.

4.

Manage Parameters.

Name:EndDate.

Type:Date.

Current Value:1/1/2016>>Ok.

5.

```
let
    // Define the start and end dates
    StartDate = StartDate,
    EndDate = EndDate,

    // Calculate the number of days between the start and end dates
    NumberOfDays = Duration.Days(EndDate - StartDate),

    // Generate a list of dates starting from
    // the start date and ending on the end date
    DateList = List.Dates(StartDate,
        NumberOfDays,
        #duration(1, 0, 0, 0))
```

in

DateList

6.Asked the ChatGPT.

let

```
// Get the minimum date from
//the "OrderDate" column in the "OrderHeader" table.
StartDate = List.Min(OrderHeader[OrderDate]),
// Get the maximum date from the "OrderDate"
//column in the "OrderHeader" table
EndDate = List.Max(OrderHeader[OrderDate]),

// Calculate the number of days between the start and end dates.
NumberOfDays = Duration.Days(EndDate - StartDate),

// Generate a list of dates starting from
//the start date and ending on the end date.
DateList = List.Dates(StartDate, NumberOfDays, #duration(1, 0, 0, 0))
```

in

DateList

7.

OrderHeader>>TheNameOfTheTable.

OrderDate>>Header of Column.

8.

Query3>>File>>To Table>>Convert this list into Table>>Ok.

9.

#ABC123>>>Date.

#Add Column>>Date>>Year>>Year.

#Add Column>>Month>>Days in Month.

#Add Column>>Month>>Name of Month.

#Add Column>>Extract>>First Characters>>Count>>3>>Ok.

#Rename MonthShort.

>>Home>>Advanced Editor.

10.

let

```

// Define the start and end dates
StartDate = StartDate,
EndDate = EndDate,

// Calculate the number of days between the start and end dates
NumberOfDays = Duration.Days(EndDate - StartDate),

// Generate a list of dates starting from
//the start date and ending on the end date
DateList = List.Dates(StartDate, NumberOfDays, #duration(1, 0, 0, 0)),
#"Converted to Table" = Table.FromList(DateList,
    Splitter.SplitByNothing(),
    null, null, ExtraValues.Error),
#"Changed Type" = Table.TransformColumnTypes(#"Converted to Table",{{"Column1", type date}}),
#"Inserted Year" = Table.AddColumn(#"Changed Type", "Year", each Date.Year([Column1]),
Int64.Type),
#"Inserted Days in Month" = Table.AddColumn(#"Inserted Year", "Days in Month",
each Date.DaysInMonth([Column1]), Int64.Type),
#"Inserted Month Name" = Table.AddColumn(#"Inserted Days in Month",
"Month Name", each Date.MonthName([Column1]), type text),
#"Inserted First Characters" = Table.AddColumn(#"Inserted Month Name",
"First Characters", each Text.Start(Text.From([Column1], "en-US"), 3), type text),
#"Removed Columns" = Table.RemoveColumns(#"Inserted First Characters",{ "First Characters"}),
#"Inserted First Characters1" = Table.AddColumn(#"Removed Columns",
"First Characters", each Text.Start([Month Name], 3), type text),
#"Renamed Columns" = Table.RenameColumns(#"Inserted First Characters1",{ "First Characters",
"Month Short"}})
in
    #"Renamed Columns"
11.
Date.StartOfYear()>>Return Start of Year.
12.>>>AdvancedEditor<<<
let
    // Define the start and end dates
    StartDate = StartDate,
    EndDate = EndDate,

    // Calculate the number of days between the start and end dates
    NumberOfDays = Duration.Days(EndDate - StartDate),

    // Generate a list of dates starting from the start date and ending on the end date
    DateList = List.Dates(StartDate, NumberOfDays, #duration(1, 0, 0, 0)),
    #"Converted to Table" = Table.FromList(DateList,
    Splitter.SplitByNothing(), null, null, ExtraValues.Error),
    #"Changed Type" = Table.TransformColumnTypes(#"Converted to Table",{{"Column1", type date}}),
    #"Inserted Year" = Table.AddColumn(#"Changed Type", "Year", each Date.Year([Column1]),
Int64.Type),
    #"Inserted Days in Month" = Table.AddColumn(#"Inserted Year", "Days in Month",
each Date.DaysInMonth([Column1]), Int64.Type),
    #"Inserted Month Name" = Table.AddColumn(#"Inserted Days in Month", "Month Name",
each Date.MonthName([Column1]), type text),
    #"Inserted First Characters" = Table.AddColumn(#"Inserted Month Name", "First Characters",
each Text.Start(Text.From([Column1], "en-US"), 3), type text),
    #"Removed Columns" = Table.RemoveColumns(#"Inserted First Characters",{ "First Characters"}),
    #"Inserted First Characters1" = Table.AddColumn(#"Removed Columns",

```

```
"First Characters", each Text.Start([Month Name], 3), type text),  
    #"Renamed Columns" = Table.RenameColumns(#"Inserted First Characters1",{{"First Characters",  
"Month Short"}})  
in  
    #"Renamed Columns"
```


>>Boosting Power Query Performance:

Leveraging Query Folding,

Diagnostic Analysis.

1.If You Get Data Form SQL Server.

>>Can View Code From Advanced Editor.

>>APPLIED STEPS>>right click>>View Native Query.

2.If You Make any Thing>>SQL-Query.

>>All APPLIED STEPS ACTION

As Removed,Added,Changed.

3.Database from SQL Server>>Make Transformation

>>Power BI Editor.

4.Group By>>Total Duration>>

Sum>>Exclusive Duration.

5.Daigonse Step.

6.Daigonse Step>>Home>>Group By>>Basic

>>Exclusive Duration>>TimeTaken

>>Sum>>Exclusive Duration>>Ok.

7.Click Time Taken>>Sort Ascending.

8.Column has Date Type>>

Power Bi Date Table Spilt Better.

9.5/31/2011 12:00:00AM.

>>To Be Good At Microsoft PL-300

Certification exam.

>>You Must Good At:-

تعزيز أداء Power Query

#Boosting Power Query Performance:

1

الاستفادة من طي الاستعلام.Leveraging Query Folding,

2

التحليل التشخيصي.Diagnostic Analysis.

>>As Exclusive Duration.

>>How it take Time To Run it.

What Is a Power BI Developer?

>>Power BI developers work in business intelligence (BI)

—typically part of a company's analytics team.

Their main tasks are to preprocess and analyze data and

design visualizations to turn them into actionable

insights valuable to business stakeholders.

>>To Business Stakeholders(لأصحاب المصلحة في قطاع الأعمال).

Power BI Data Analyst.

Some Roles:-

>>Integration>>Analysis>>Report

>>Dashboard>>Chart>>OLTP>>OLAP>>ETL.

>>OLTP Architecture and System Design.

1>>Operational-Environment2

البيئة التشغيلية.>>Business-Strategy3

استراتيجية العمل.>>Business-Process4

طريقة العمل.>>The OLTP Database Contains information on

المنتجات,Product

Customer/Supplier العملاء والموردين,

Transactions المعاملات,

Employees5

.>>Extract, Transform, Load (ETL) Process.

>>Then loaded into the (OLAP) Database,

الذي هو مرادف لبيئة مستودع البيانات

which is synonymous with the Data Warehouse Environment.

6>>Data Warehouse and Data Mart.

>>Data Warehouses are Central Repositories.

>>Data Mart Access specific information of Unit or Department.

7>>Data Mining, Analytics, and Decision Making.

The data stored in the Data Warehouse and

Data Mart is used for

Analysis, Data mining, and Decision making.

OLTP include:

ATMs, financial transaction systems

and online banking applications;

online bookings,

ticketing and reservation systems;

>>OLTP uses Normalized or Denormalized models.

>>OLAP include Business reporting for

sales,

marketing,

management reporting,

business process management (BPM).

OLTP uses relational databases.

OLAP uses

1.star Schema,

2.snowflake Schema.

Microsoft Power BI Data Analyst Professional Certificate.

Microsoft PL-300 Certification Exam.

>>Business Intelligence Filed.

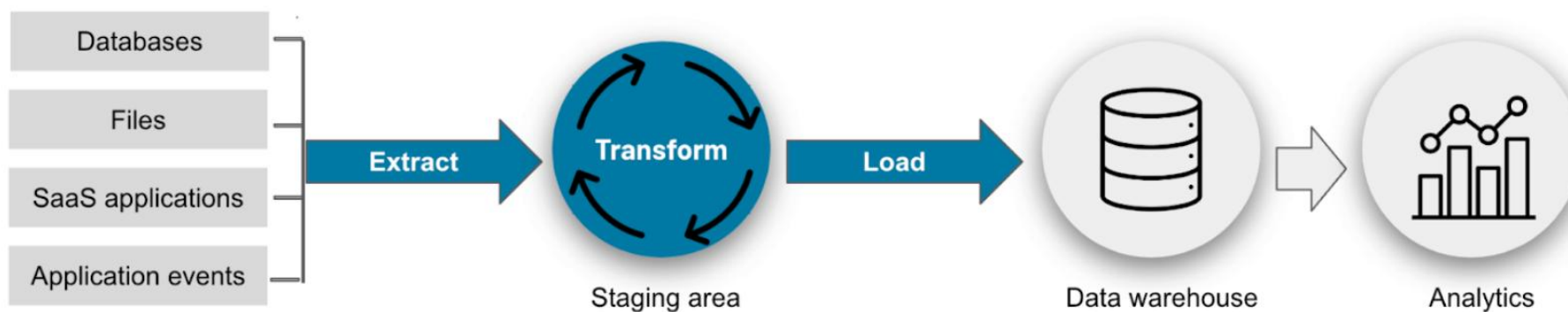
Business Intelligence Analyst,

Business Data Analyst,

Power BI Analyst.

>>Future Business Data Scientist.

HOW ETL WORKS



Activate Windows
Go to Settings to activate Windows.

Day Three(Data Modeling)نمذجة البيانات..

Data Modeling In Power BI Part1:-

>>We Must have the best model in Models.

يجب أن يكون لدينا أفضل نموذج في النماذج

>>The Work is:-

1.Data Modeling 50%.

2.Reporting 50%.

>>You Must USE ETL To Have Good Model.

>>from Flat table or Database to>>Star-Schema.

>>Fact tables has Measures,

Agg Functions,FK of Dimension table.

>>Dimensions Tables has Categorical data,PK.

Flat table files Examples:-

1>>CSV (Comma-Separated Values).

2>>TSV (Tab-Separated Values).

3>>Excel File.

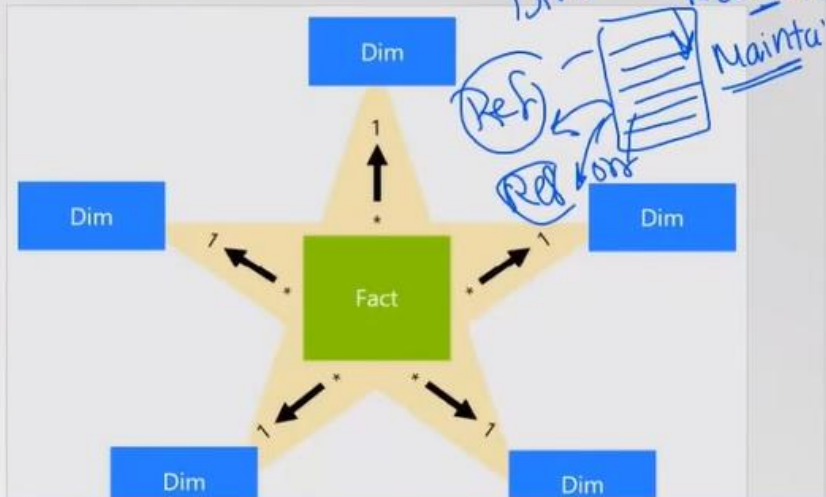
>>How to you prepare yourself for Track.

>>I take Power BI ITI Course in YouTube from Data-Zone.

Strat schema in PBI

Strat schema is the most preferred approach in BPI

- Usability ✓
- Dax Easier ✓
- Better Performance
- Faster Refresh

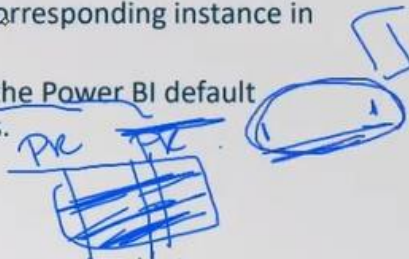


Relationships

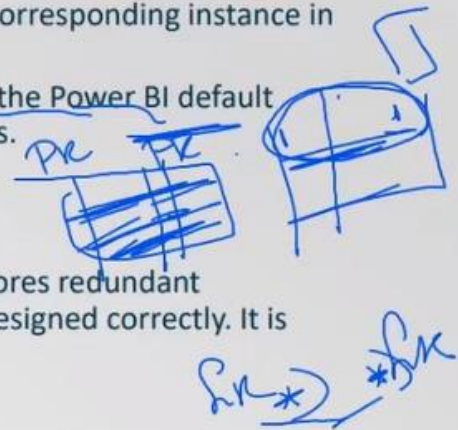
- Many-to-one (*:1) or one-to-many (1: *) relationship
 - Describes a relationship in which you have many instances of a value in one column that are related to only one unique corresponding instance in another column.
 - Is the most common type of directionality and is the Power BI default when you are automatically creating relationships.
- One-to-one (1:1) relationship
 - Requires unique values in both tables.
 - Is not recommended because this relationship stores redundant information and suggests that the model is not designed correctly. It is better practice to combine the tables.
- Many-to-many (.) relationship
 - Does not require unique values in either table in a relationship.

Fact * → Dim

Dim 1 ← Fact



- Describes a relationship in which you have many instances of a value in one column that are related to only one unique corresponding instance in another column.
- Is the most common type of directionality and is the Power BI default when you are automatically creating relationships.
- One-to-one (1:1) relationship
 - Requires unique values in both tables.
 - Is not recommended because this relationship stores redundant information and suggests that the model is not designed correctly. It is better practice to combine the tables.
- Many-to-many (.) relationship
 - Does not require unique values in either table in a relationship.
 - Is not recommended: a lack of unique values introduces confusion and your users might not know which column of values is referring to what.



Active and inactive relationship

To use the inactive relationship

```
Order_DueDate = CALCULATE(
    DISTINCTCOUNT(Orders[OrderDetailID]), USERRELATIONSHIP(Orders[DueDate], Dates[Date]))
```

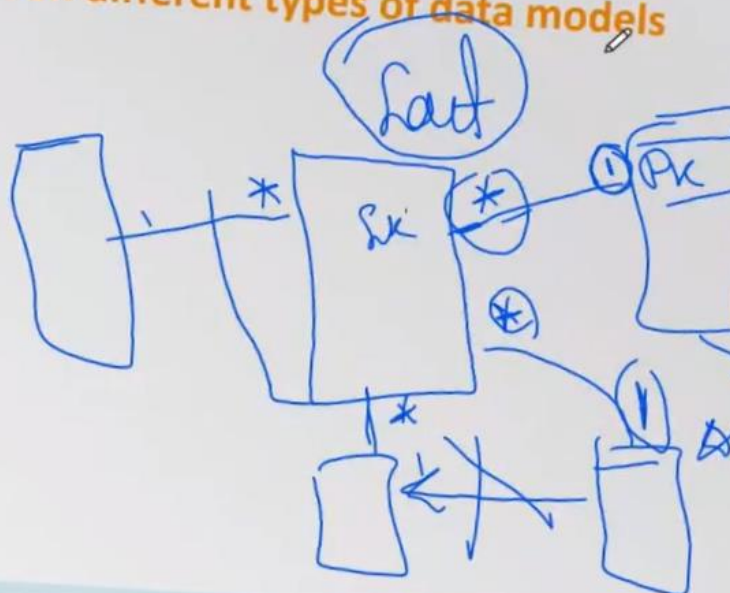




Data Model

We can make our report on different types of data models
Like:

- Flat table ✓
- Database ✓
- DWH
 - Star schema
 - Snowflake schema
 - Galaxy schema



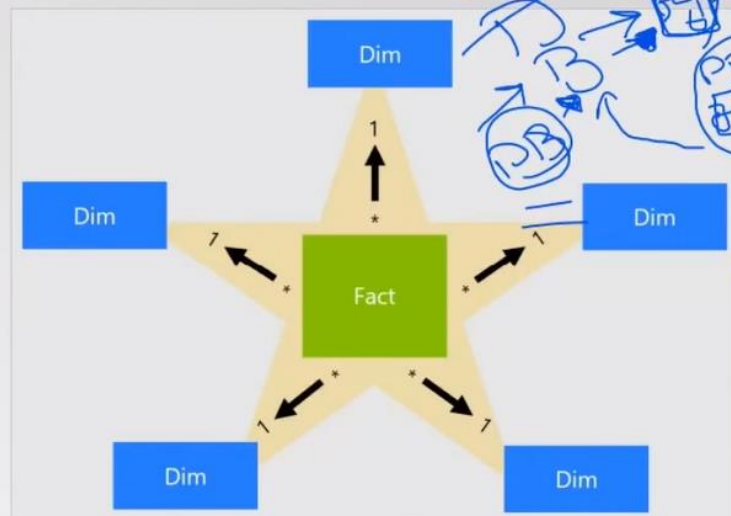
A good data model offers the following benefits:

- Data exploration is faster.
- Aggregations are simpler to build.
- Reports are more accurate.
- Writing reports takes less time.
- Reports are easier to maintain in the future.

Star Schema in FDI

Star schema is the most preferred approach in BPI

- Usability
- Dax Easier
- Better Performance
- Faster Refresh



Download-Database>>SQL-Server>>.>>Connect
>>Databases>>right click>>Restore Database
>>Device>>...>>Select backup devices
>>AdventureWorksDW2020>>Ok.

Power BI Desktop>>Add Data to your report>>
>>You can Import Data From Excel&SQL Server.

Home>>SQL Server>>SQL Server Database>>Server:..
>>Database:Null>>Import>>Advanced options>>
>>SQL statement(optional,requires Database).
>>You Can Select specific Columns>>OK.
>>SQL-Server-Database
>>Use my current Credentials>>Connect>>Navigator.

#Import>>Take All File to PowerBIDesktop
>>High Speed>>High Performance.
>>Can Apply Function From Power-BI-Desktop.
#DirctQuery>>Take Just A Query From Database.

1>>Gateway power bi access Sql-server.
2>>Power Bi tools used to make Reports.

1>>It Allows Power BI to connect to data sources
that are not Directly Accessible from
the cloud, Such As Databases, files.

>>The main types of Gate-ways:-
1>>On-Pre-mises Data Gateway.
2>>Power BI Data Management Gateway.
3>>Power BI DirectQuery for Analysis-Services.

SQL-Server>>Connect>>Navigator>>
AdventureWorkDW2020>>Choose Your Data.

Columns in DataBase. شرح عملي كيف تخزين

فاتورة مبيعات اجلة

Create Your Table From It.

عدنان

للحوم الطازجة و المجمدة و المواد الغذائي

WPCC-PC 01.2018:15:31:13 17 بيانات الفتورة

فاتورة مبيعات اجلة 016556

Total Line	QTY	Unit	Price	
كلوركس	8	1	8.00	
حليب جودي علبه 384 م	6	6.75	40.50	
مكرولة 500 ج	3	3.5	10.50	
زبادي ممزوج يوتي النسيم	8	1.25	10.00	
مفروم لحم وط	1	30	30.00	
دجاج سيرا 1100 جرام	1	20	20.00	
ارز الجوهرة 1 ك	3	5.5	16.50	

الصف	Subtotal	7 40.5	
عدد الوحدات	TaxAmt	60	
0.00 المدفوع	Frieght		236
0.00 المسترد	totalDue		الزبون

>>This-Your-Column-Name:-

1>>OrderHeader.

2>>SalesPerson:-3

>>OrderDate:-17 01.2018.

4>>CustomerID:-WPCC-PC.

5>>SalesOrderID:-016556.

6>>OderDetails:-من الصف لحد كلوركس

OrderID,Products ,Person,Location.

(1) Tea,Cofee,NESCAFÉ 5 18

Product,orderID,Home ,SalePerson,Location.

1 ,1 ,Tea ,Ali ,Cairo.

2 ,1 ,Cofee ,Ali ,Cairo.

3 ,1 ,Nescafe,Ali ,Cairo.

As A Power BI Developer Company may Ask You:-

1>>Database design.

2>>An Entity Relationship Diagram (ERD).

3>>Normalization-or-Denormalization.

#SQL Server>>Server name:.>>Connect>>Databases

>>AdventureWorksDW2020.

#PowerBI Desktop>>SQL Server>>.

>>AdventureWorksDW2020>>import>>Ok.

>>Navigator>>LocalSQL Database:AdventureWorkDW2020

1.Navigator.

2.Search:head

Download>>AdventureWorks2017.bak;

>>Downloading and Restoring
the AdventureWorks2017 Sample Database.

Connect-to-Server>>Servername:.>>Connect

>>Databases>>rightclick>>RestoreDatabase

>>Device>>E:>>AdventureWorks2017.bak>>OK.

>>AdventureWorks2017 - Full Database Backup<<

#PowerBI Desktop>>Home>>SQL Server>>

SQL Server database>>Server:.>>

AdventureWorks2017>>Import>>Ok.

>>Navigator>>SearchTable>>ChooseTable.

>>Click on the Table;

1>>OrderHeader>>Sales.SalesOrderHeader;

2>>OderDetails>>Sales.SalesOrderDetail;

3>>Sales.SalesTerritory;
4>>Sales.vSalesPerson;
5>>Production.Product;
6>>Production.ProductCategory;
7>>Production.ProductSubcategory;
8>>Sales.Customer;
9>>Load>>Table Selected;
>>Load<<

1>>The Tables Load in Data Section.

>>Direct Query No {Table-View}.

1>>Filters.
2>>Visualizations.
3>>Data.
>Data-Section
>>has all Tables&Columns&CalculatedColumns;

Table-View>>View Table Columns&Rows.

Model-View.
1>>Power BI Desktop detect
the relationship by Yourself Between Tables.
2>>Right Click>>^>>Properties>>

>>DataModel<<
#TypesofDataModelsLike:-
1.Flat table.
2.Database.
3.DWH:-
 1.Star-schema.
 2.Snowflake-schema.
 3.Galaxy-schema.

>>AdventureWorks2017;

MS-Sql-Server>>Server-name:.>>Connect
>>Databases>>AdventureWorks2017
>>Database Diagrams>>right click>>
New Database Diagram.

Fact Table>>Dimantion بناع الشيء الوصف

>>Dimantion وصفTable;

Dim(1)<-----Fact(*);

Prefered Realationship>>1 To Many.

Power-BI-Desktop>>Model-View;

A Fact Table>>Has Foreign keys.

A Dimension Table>>Has Primary keys.

>>Has Descriptions and Details.

>>Star schema in PBI.

Star schema is the most preferred Approach in PBI.

Dim<---Fact--->Dim.

1>>Usability.

2>>Dax Easier.

3>>Better Performance.

4>>Faster Refresh.

>>Most-recommended-Relationship.

>>'Many-to-one(*:1)or one-to-Many(1:*)Relationship';

>>Power BI Automatically creating relationships;

>>Not-Recommended-Relationship.

>>'One-to-one(1:1)Relationship';

>>Requires unique values in both tables;

>>Not-Recommended-Relationship.

>>'Many-to-many(.)-Relationship';

>>Model-View<<

>>How To Make Star Schema.

1.Production-productSubcategory-TABLE:-

>>Has one ID:-ProductCategoryID;

>>Is A Dimension TABLE;

2.Sales SalesOrderDetail-TABLE:-

>>Has Many IDs:-ProductID,

SalesOrderDetailID,SalesOrderID,

SpecialOfferID;

>>IS A Fact TABLE;

>>Is Many* Relationship;

3.Sales SalesOrderHeader-TABLE:-

>>Has Many IDS:-BillToAddressID,

CreditCardID,CurrencyRateID,

CustomerID,SalesOrderID,SalesPersonID,

ShipMethodID,ShipToAddressID,TerritoryID;

>>IS A Fact TABLE;

>>IS Many* Relationship;

4.Sales SalesTerritory-TABLE:-

>>Has one ID:-TerritoryID;

>>Is A Dimension TABLE;

>>IS One1 Relationship;

5.Sales Customer-TABLE:-

>>Has ID:-CustomerID.

>>IS A Dimension TABLE;

Sales SalesOrderDetail-TABLE;

Sales SalesOrderHeader-TABLE;
>>[IS A FACT TABLE];

Sales Customer>>*----V----1
>>right click>>Delete>>
DeleteRelationship>>Yes;

>>A Dimension Not has Relationship
with Another Dimension.

>>Two FACT Table Must Merge It;

>>The best Approach is Star Schema.

>>Delete ALL Relations Between Dimensions.

>>right click>>Delete-Relationship>>Yes;

Sales SalesOrderDetail>>ProductID
>>Take it to>>Drag & Drop>>ProductID
>>Production Product;

Sales SalesOrderDetail
>>*----1>>Production Product;

Sales SalesOrderHeader>>SalesPersonID
>>Take it to>>{Drag & Drop}>>BusinessEntityID
>>Sales vSalesPerson;

Sales SalesOrderHeader>>CustomerID
>>Take it to>>{Drag & Drop}>>CustomerID
>>Sales Customer;

Sales SalesOrderHeader>>TerritoryID
>>Take it to>>{Drag & Drop}>>TerritoryID
>>Sales SalesTerritory;

#TWO TABLES NO Keys NOW:-
1>>Production ProductCategory;
2>>Production ProductSubcategory;

Production Product>>ProductSubcategoryID
>>Take it to>>{Drag & Drop}
>>ProductSubcategoryID
>>Production ProductSubcategory;

#Production ProductCategory
>>ProductCategoryID>>Take it to
>>[Drag & Drop]>>ProductCategoryID
>>Production ProductSubcategory;

>>WE Must Merge in one Table:-
1.Production Product TABLE.
2.Production ProductSubcategory TABLE.
3.Production ProductCategory TABLE.

>>To be in On Dimension TABLE;
>>The 3 Tables وصف البعد Product TABLE;

#>>Dimension describe
the Object As Teacher Customer Student.
#>>As A human being who is Described
by properties like {Name and Address}.

Example:-(SalesPerson).
>>BusinessEntityID,AddressLine1,AddressLine2,
City,EmailAddress,FirstName,LastName,JobTitle,
PhoneNumber,PostalCode.

#>>A one-to-many Relationship.

Edit relationship;

1_____>_____*

>>right click>>Properties

>>Edit-relationship.

Sales SalesTerritory1_____>_____*

Sales SalesOrderHeader;

>>Cardinality:-

1>>Many to one(*:1)

2>>One to many(1:*)

>>Cross filter direction:-

1>>Single

2>>Both

#Edit relationship:-

#>Sales SalesOrderHeader

#>Sales SalesTerritory

>>Cardinality>>Many to one(*:1)

>>Cross filter direction>>Both

#>>Both Not preferred.

#>>Single preferred.

Edit relationship>>

Cross filter direction>>Single;

Cross filter Direction;

اتجاه المرشح المتقاطع

>>Transform data:-

>>Use the Power Query Editor to Connect,
Prepare,and Transform data.

Transform data>>

Power QueryEditor>>Queries:-Rename Queries;

1>>Sales SalesOrderHeader>>OrderHeader.

2>>Sales SalesOrderDetail>>OrderDetail.

3>>Sales SalesTerritory>>Territory.

4>>Sales vSalesPerson>>SalesPerson.
5>>Production Product>>Product.
6>>Production ProductCategory>>ProductCategory.
7>>Production ProductSubCategory>>ProductSubCategory.
8>>Sales Customer>>Customer.

>>Queries>>right-click>>Rename;

Home>>MergeQueries>>OrderHeader&OrderDetail;
-->>Choose Key Match Between Them>>Ok;

Home>>Click on>>OrderHeader>>Merge Queries
>>Merge>>OrderDetail>>Key Matches
>>SalesOrderID>>OK;
>>APPLIED STEPS>>Merged Queries;

OrderHeader>>OrderHeader(Fact);

OrderDetail>>right click>>Enable Load
>>Continue;

OrderDetail
Table
Table
Table
Table

OrderDetail>>(<-->)>>clickon>>
Use original column name as prefix
>>SalesOrderID>>OK>>فكيت الجداول;

Product>>Merge>>ProductSubcategory
>>Matching Key>>ProductSubcategoryID
>>OK;

click on>>Product>>Merge Queries
>>ProductSubcategory>>Matching with Key
>>ProductSubcategoryID>>OK;

ProductSubcategory clickon <-->
clickon ProductSubcategoryID;
>>OK;

APPLIED STEPS>>Expanded ProductSubcategory;

#Column>>Name.1>>Doubleclick>>
Subcategory;

#Column>>Name>>Doubleclick>>
Product;

#ProductCategoryID;
>>USE ProductCategoryID
>>To MERGE Third TABLE;

Product>>MergeQueries>>Merge>>
Select A table & matching columns
to create a merged table;
>>ProductCategory>>Merge With Key
>>ProductCategoryID>>OK;

APPLIED STEPS>>Merged Queries1;

1>>Queries>>ProductCategory>>right click
>>Enable Load>>Continue;
2>>Queries>>ProductSubcategory>>right click
>>Enable Load>>Continue;
>>Enable-Load==Disable-Load;

USE Product Table Only;

#>>Right Click>>Rename;
OrderHeader(Fact);
Territory(Dim);
SalesPerson(Dim);
Product(Dim);
Customer(Dim);

>>The Next Step Is The Analysis<<

1>>The Measures can make on it
An Aggregate function;
2>>MIN, MAX, AVG, SUM, and COUNT.
3>>Requirement in Analysis need column or not.
4>>Remove Columns not needed in the Analytics.

The Column Will Removed From OrderHeader(Fact).

1>>RevisionNumber;
2>>Status;
3>>SalesOrderNumber;
4>>AccountNumber;
5>>BillToAddressID;
6>>ShipToAddressID;
7>>ShipMethodID;
8>>CreditCardID;
9>>CreditCardApprovalCode;
10>>CurrencyRateID;
11>>Comment;
12>>rowguid;
13>>ModifiedDate;
14>>CarrierTrackingNumber;
15>>SpecialOfferID;
16>>rowguid.1;
17>>ModifiedDate.1;

Ctrl>>Click-On>>Click on All Column
>>right click>>Remove Columns;

The Column Will Removed From Customer(Dim).

1>>StoredID;
2>>TerritoryID;
3>>AccountNumber;
4>>rowguid;
5>>ModifiedDate;

Ctrl>>Click on;

Select>>StoreID,TerritoryID,
AccountNumber,rowguid,ModifiedDate
>>right click>>Remove columns;

Customer(Dim):-CustomerID,PersonID;

The Column Will Removed From Territory(Dim);

1>>SalesYTD;
2>>SalesLastYear;
3>>CostYTD;
4>>CostLastYear;
5>>rowguid;
6>>ModifiedDate;

Territory(Dim):-
TerritoryID,Name,CountryRegionCode,Group;

Ctrl>>Click>>rightClick>>Remove Columns;

>>Close & Apply<<

>>Load<<

Customer(Dim);
Territory(Dim);
>>OrderHeader(Fact);
SalesPerson(Dim);
Product(Dim);

>>Star Schema<<

A date dimension;

>>The Date Dimension table has Date-specific
Attributes that include Day, Date, Weeks, quarter, Months,Years;

>>Data model that allows us to Analyze performance
more effectively Across different time periods.

1>>Time Period As Day Week Month Year;
2>>Than Make Analysis on this Period Time;

A date dimension:-

1>>Consistency in Analysis==Accuracy;
2>>Ability to do Analysis based on public holidays
>>(Easter Monday,Good Friday,etc);

1>>How To Create A Date Dimension;

>>Ways that you can build a common Date Table are:-

1>>Source-data;

2>>DAX;

3>>Power-Query;

>>DAX.

1>>Create-Measure.

2>>Create-Table.

3>>Create-Calculated-column.

>>Calculations;

1>>New measure;

2>>New column;

3>>New table;

#Report view>>Modeling>>Calculations:-

1>>New measure;

2>>Quick measure;

3>>New column;

4>>New table;

Report-view>>Modeling>>New-table

>>Date(Dim)=CALENDAR((1/1/2011),(31/12/2017))>>OK;

Date(Dim) = CALENDAR(StartDate,EndDate);

>>Returns A table with one column of

all dates between StartDate and EndDate;

1>>CALENDAR()>>StartDate & EndDate;

2>>CALENDAR(AUTO())>>Calculate-AUTO;

Report View>>Modeling>>New table>>

Date(Dim) = CALENDAR((1/1/2011),(31/12/2017))

>>Data>>Date(Dim);

Table View>>To View Table;

>>You may have incorrect-Date;

Date(Dim) =

CALENDAR(DATE(2011,1,1),DATE(2017,12,31));

DATE(Year,Month,Day);

Date(Dim) = CALENDAR(DATE(2011,1,1),

DATE(2017,12,31));>>OK;

Date Column is Static;

Date(Dim) = CALENDAR(DATE(2011,1,1),TODAY());

Date(Dim) = CALENDAR(
MIN('OrderHeader(Fact)'[OrderDate]),
MAX('OrderHeader(Fact)'[OrderDate]))

Date>>right click>>new column>>
Year=YEAR('Date(Dim)'[Date])

Year>>right click>>new column>>
Month.no = 'Date(Dim)'[Date].[MonthNo]

Month.no>>right click>>new column>>
Day.no = 'Date(Dim)'[Date].[Day]

Day.no>>right click>>new column>>
Quarter='Date(Dim)'[Date].[Quarter]

Quarter =
'Date(Dim)'[Year]
& "." &
'Date(Dim)'[Date].[Quarter]

Month.short =
FORMAT('Date(Dim)'[Date],"mmm")

Month.short>>Rightclick>>Newcolumn
>>Day = FORMAT('Date(Dim)'[Date],"ddd")

Day>>Rightclick>>Newcolumn>>
WeekDay = IF('Date(Dim)'[Day]="Fri" ||
'Date(Dim)'[Day]="Sat",FALSE(),TRUE())

>>We Created Date(Dim);

Report View>>Date(Dim):-

1>>Date;
2>>Day;
3>>Day.no;
4>>Month.no;
5>>Month.short;
6>>Quarter;
7>>WeekDay;
8>>Year;

Model View>>Date(Dim)>>
OrderHeader(Fact)<--->Date(Dim);

Drag and Drop:-Date>>To>>OrderDate;

Drag and Drop:-ShipDate>>To>>Date;

>>Make This Relationship Active;
right click on the <-----> Properties;
>>Can't Make Relation-ship Active;

Than Solve The Lab;

>>Data Warehouse Design<<

The Fact Table:-

1>>Key-Column.

>>Foreign Keys column Allows

joins with Dimension tables;

>>Example:Product_id, time_id,
Location_id;

2>>Measures or Fact Data.

>>Measures columns contain

the data that is being Analyzed.

>>Measures those that contain
Numeric facts.MIN MAX AVG SUM COUNT.

>>Example:Sales_income,NO_of_unit_sold,
Net_profit;

The Dimension Table:-

>>The Primary key Column uniquely.

>>Has descriptive Attributes.

>>For Example:A customer dimension's Attributes
could include first and last name, birth date,
gender, Qualification, Address etc.,

1>>A Star Schema contains two types of tables –
Fact table and Dimension table.

2>>A Snowflake Schema Fact Table and
Multiple levels Dimension Table.

3>>A Galaxy Schema Multiple Fact Tables
Share Multiple Dimension tables.

The SQL CREATE DIMENSION statement;

SYNTAX:

CREATE DIMENSION <DIMENSION_NAME>

LEVEL <LEVEL NAME> IS<TABLE_NAME.COLUMN NAME>

HIERARCHY <HIERARCHY NAME>

(<CHILD LEVEL_NAME> CHILD OF <PARENT LEVEL_NAME>)

ATTRIBUTE <LEVEL NAME> DETERMINES (<COLUMN NAME>)

Microsoft Power BI Analyst Professional.

>>Power BI DAX Back to Basics

Scalar Vs Tabular Functions.

>>Data Analysis Expressions (DAX):-

is a formula expression language used in

Analysis Services, Power BI,

and Power Pivot in Excel.

DAX formulas include functions, operators,
and values to perform Advanced Calculations and Queries
on data in related Tables and Columns.

>>After This WE Will Learn DAX.

Introduction To DAX.

What is DAX ?

Data Analysis Expressions (DAX):-

Are a set of functions and operations that can be used to build formulas and expressions in Microsoft SQL Server Analysis Services, Excel Power Pivot, and Power BI Desktop.

A Dax function is a predefined formula that performs calculations on the values passed to it as Arguments.

The DAX Syntax.

1>>Total Sales = SUM(Sales(SalesAmount))

A:Total Sales>>Measure,Column, or Table name.

B:The Equal sign operator(=),beginning of Formula.

C:SUM>>The DAX Function.

D:Parenthesis()>>Contains one or more Arguments.

E:Sales>>The referenced Table.

F:SalesAmount>>The referenced Column.

>>Can return Value or Table.

2>>Dates = CALENDAR("2011-5-31","2014-5-1")

3>>Creating measures using DAX.

4>>Table>>right Click>>New measure.

5>>Measure tools>>MeasuresTable>>Home table;

6>>Types of DAX Functions:-

1.Date-and-Time.

2.Aggregation.

3.Filter.

4.Time-Intelligence.

5.Information.

6.Logical.

7.Math & Trigo-nometric Functions.

8.Parent & Child.

9.Statistical.

10.Text.

11.Other.

7>>Date & Time Functions.

1.CALENDER.

2.DAY/MONTH/YEAR().

3.HOUR/MINUTE/SECOND().

4.TODAY/NOW().

5.WEEKDAY/WEEKNUM().

6.EDate().

7.EOMONTH().

8.ENDOFQUARTER().

9.ENDOFYEAR().

10.STARTOFMONTH().

11.DATEADD().

12.DATESINPERIOD().

13.DATESBETWEEN().

8>>Create New Table>>MansouraDay5DAX

>>rightClick>>New measure;

1.Day = TODAY()

9>>Make measure:Summarization (Don't Summarize).

10>>Day = FORMAT(TODAY(),"yy/mm/dd")

Day = FORMAT(TODAY(),"yy,mmm,ddd")

11>>Time = NOW()

Time = FORMAT(NOW(),"hh:mm")

12>>Card-visualizations>>123.

13>>EnMonth = EDMONTH(Date_Dim[Date],0)

EnMonth = EDMONTH(Date_Dim[Date],1)

14>>DATEADD() Function.

SELECT DATEADD(year, 1, '2017/08/25') AS DateAdd;

>>2018-08-25 00:00:00.000

15>>Next3years = DATEADD(Dates[Date],3,YEAR)

16>>Next3years = format(DateADD(Dates[Date],3,YEAR),"yy,mmm,dd")

17>>CALENDAR (DATE (2015, 1, 1), DATE (2021, 12, 31));

>>Formula returns a table with Dates between
January 1st, 2015 and December 31st, 2021.

18>>Aggregation.

1.AVERAGE()

2.AVERAGEX()

3.COUNT,DISTINCTCOUNT,COUNTBLANK,
DISTINCTCOUNTNOBLANK()

4.COUNTA()

5.COUNTX()/COUNTAX()

19>>MansouraDay5Dax.>>rightClick>>New measure

>>TotalDue_UseSumX =

SUMX(Orders,Orders[LineTotal]+Orders[Freight]+Orders[TaxAmt])

20>>TotalDue_OnlineOrderFlags =

SUMX(FILTER(Orders,Orders[Online[OnlineOrderFlag]]=TRUE())
,[TotalDue])

21>>Aggregation>>AVERAGEX Function.

>>AVERAGEX(<table>,<expression>).

1>>Visualization types in Power BI.

2>>3

اكتب الفعل>>card power bi.

4>>project visualization tools used.

>>DAX function reference.

>>Learn>>Data Analysis Expressions (DAX)>>IF;

New table right click new measure write Dax function.

>>For and While Loops in DAX.

>>DAX in Power BI.

Importance of DAX function in Power BI.

What is DAX in Power BI>>Analytics-Vidhya.

1>>Create your PBI Dashboard from scratch (Full Project);
2>>load csv file in Power BI Desktop;
3>>Download>>forbes_2023_billionaires.csv;
4>>Home>>Get data>>Text/CSV>>Connect>>
forbes_2023_billionaires.csv>>Load;
5>>To View Data>>Table view>>Data>>
forbes_2023_billionaires;
6>>Forbes Idea of Project:-
>>focusing on business, investing,
technology, entrepreneurship,
leadership, and lifestyle.
>>Entrepreneurship.
7>>Report view>>Visualizations
>>Build visual>>Format your report page
>>Canvas settings>>Type:Custom>>Height:1500px
>>Width:1000px>>Vertical alignment:Top;
8>>Zoom- _____ +>>zoom Out&zoom In;
9>>Canvas background:-
Layoutتخطيط
Icons>>Flaticon;
Inspiring Dashboardsملوحات ملهمة;
Adobe-Color: Color generator;
Adobe-Color: Color theme from image;
Novypro Dashboard:All Dashboards;
>>Create your Business Intelligence Portfolio;
novyPro>>Power BI Developers;
Business Intelligence BI Dashboards:-
>>Combine>>Charts, Graphs and Reports in a Single Screen.
10>>novypro>>Search by Project or Developer's Name.
>>SAM MARTIN - SALES ANALYSIS | FP20 CHALLENGE #1 -JAN2023
11>>Take A Screenshot To SALES ANALYSIS Project.
>>Cut the Image>>window + shift + s>>ctrl + v>>SaveImage;
12>>Adobe Color Extract Theme>>Drag and Drop Your File
>>Get-The-Colors-Code;
#D943A4
#F2A7DE
#333340
#676673
#F2F2F2
13>>Adobe Color Extract Theme:-novyPro-Power BI-Project:-
Supply Chain Challenge by Codebasics - OCT 2022;
#F2A35E
#A63F03
#F27C38
#F2F2F2
#262626
14>>Figma>>Design file>>Ahmed abdelmoneim
>>Top bar>>Choose>>Rectangle>>1000x1500;
15>>Zoom/View options>>28%Percentage;
>>Design>>W:1000>>H:1500;
Make 4 Rectangle>>189x161>>right click
>>copy 3 Times>>Take Color Code:#A63F03
>>Fill>>Hex #A63F03>>For 4 Rectangles;
16>>We Have Rectangle1000x1500 And
4Rectangle189x161 in the Top;

17>>Explain Everything You Did in Figma:-
1.Rectangle>>1128x1512.
2.Rectangle>>1057x78>>T text>>1057x78>>
Forbes Top Billionaires;
3.Rectangle>>189x1311>>in Left;
4.4Rectangle>>190x161>>Right;
5.2Rectangle>>841x200;
6.2Rectangle>>400x200;
7.2Rectangle>>400x200;
8.2Rectangle>>400x200;
9.4Circle>>69x74;>>in>>Step4;
18>>FlatIcon>>Free Icons>>Access vector icons
>>Search>>demographics>>Icons>>People Together
>>Edit icon>>Choose a new color>>#F27C38>>
Download>>PNG>>512px>>Free download
>>People together.png;
19>>FlatIcon>>Search>>males>>Female And Male Shapes
>>Edit Icon>>#F27C38>>
Download>>PNG>>512px>>Free download;
20>>FlatIcon>>Search>>Male free icon>>
Edit icon>>Choose a new color>>#F27C38
>>Download>>PNG>>512px>>Free download;
21>>FlatIcon>>Search>>female>>Hairstyle
>>#F27C38>>Download;
22>>FlatIcon>>Search>>Age Range free icon
>>Edit icon>>Choose New Color>>#F27C38
>>Download>>PNG>>512px>>Free Download;
23>>Drag and drop>>Images>>Figma;
24>>click on Icon>>60x60>>W:60>>H>>60;
25>>But the Icon in the Circle;
26>>Don't click on Any Thing
>>Export-Untitled;
27>>Design>>Export Untitled>>Export;
28>>Take Figma Shape Dimension>>1128x1512;
29>>Power BI Desktop>>Home>>Visualizations
>>Format Your Report Page
>>Canvas settings>>Hight:1512>>Width:1128;
30>>Canvas background>>Image>>Browse>>Open
>>Forbes Top Billionaires>>الشفافيةTransparency:0%;
>>0% To have a pure image;
31>>Home>>Enter Data>>Create Table>>
Name:MeasuresTable>>Load;Load>>MeasuresTable;
32>>Data>>MeasuresTable>>right click>>New measure
>>Demographics = COUNTROWS(forbes_2023_billionaires)
>>Column:Demographics>>Delete Column1;
33>>#Billionaires=COUNTROWS(forbes_2023_billionaires);
34>>MeasuresTable>>rightClick>>New measure>>
female = CALCULATE([#Billionaires],
forbes_2023_billionaires[gender]="F");
35>>MeasuresTable>>rightClick>>New measure>>
Male = CALCULATE([#Billionaires],
forbes_2023_billionaires[gender]="M");
36>>MeasuresTable>>rightClick>>New measure>>
Female% = DIVIDE([Female],[#Billionaires]);
37>>Data>>MeasureTable>>rightClick>>New measure

```

>>Male% = DIVIDE([Male],[#Billionaires]);
38>>Age(Avg)=AVERAGE(forbes_2023_billionaires[age]);
39>>TotalWealth=SUM(forbes_2023_billionaires[finalWorth]);
40>>MeasuresTable:-
#Billionaires-Age(Avg)-female-Female%-Male-Male%-TotalWealth;
41>>Than>>Make-Visualizations;
42>>Clickon>>#Billionaires>>Visualizations>>Card123;
43>>Visualizations>>Format your visual>>Search
>>background>>off;
44>>Clickon>>#BillionairesCard123>>Visualizations>>
Format your visual>>Visual>>Callout value>>Color
>>More colors>>Adobe Color Extract Theme>>#333333
>>Font:35>>Display:Thousands>>Value decimal:2;
>>Category label>>Font:20;
>>Category label>>off;
>>General>>Properties>>Size
>>Height:102>>Width:194;
45>>right click on>>{2.64K}visualize>>CopyVisual
>>Ctrl v>>Darg&Drop>>SecondRectangle>>click>>
than>>MeasuresTable>>Male;
46>>Same Step 45>>MeasuresTable>>Male%>>Visual
>>Format your visual>>Display units>>Auto
>>Clickon>>Male%>>Than Click>>%>>87.23%;
>>DecimalPlaces:0>>General>>Properties>>H:50,W:97;
47>>Copy Visual>>Same Step 46>>MeasuresTable>>Clickon
>>#Billionaires>>Than>>female;
>>Visual>>Display units:None>>Value decimal places:0;
48>>Copy Visual>>Same Step 47>>Female%>>click on %
>>Visual>>Display units>>Auto;>>Width:97>>Height:50;
49>>Copy Visual>>Age(Avg)>>Display units:Auto,Display:0;
Added>>Transform data>>forbes_2023_billionaires>>
column age>>Whole Number>>Close&Apply.
50>>Ctrl>>click>>All MeasuresVisual>>Format
>>Align>>Distribute horizontally>>Align bottom;
51>>Data>>forbes_2023_billionaires>>click>> $\sum$ age
>> $\sum$ Don't summarize;
52>>Click>> $\sum$ Summarization:Sum;
53>>Visualizations>>Line Chart;
>>>>Data Cleaning Cycle<<<<
54>>T-Data>>Column:finalWorth
>>Whole Number>>Close&Apply;>>Load;
55>> $\sum$ age To TotalWealth>>Visualizations
>>Clustered column chart.
56>>Click on>> $\sum$ age>>Don't summaize;
>>>>Delete Step 55 Try Agen;
57>>MeasuresTable:age>>
forbes_2023_billioneires:TotalWealth
>>Visualizations>>Clustered column chart.
>>TotalWealth by age.
58>>forbes_2023>>age>>right click>>New group
>>Bin size*:5>>OK;>>We Create age(bins).
59>>Data>>age(bins)>>right click>>Edit group
>>Min value & Max value;
60>>TotalWealth&age(bins)>>Clustered-column-chart.
61>>Click on Visual>>Using>>Visual&General

```

>>To Create Your Design;
>>As Titles,Datalabels,X-axis&Y-axis;
>>Click on Visual>>Visual>>Columns>>Color>>#E87E33;
62>>right click>>age(bins)>>Rename>>Age Group;
>>Format-Visual>>Data-Labels>>Position>>Inside center;
>>Y-axis>>Title>>Off;
63>>Filters>>Age Group>>Filter type>>Advanced filtering
>>is greater than>>19>>Apply filter;
64>>Visualizations>>Visual>>Y-axis>>Values:Off>>Title:Off;
65>>Copy>>Visual:TotalWealth by Age Group>>Ctrl+v;
66>>Convert-To>>Stacked-bar-chart>>MeasuresTable:TotalWealth
>>forbes_2023_billionaires:category;
>>Build Visual>>Y-axis:category>>X-axis:TotalWealth;
>>Visual>>Y-axis>>Title>>Off;
>>Filters>>category>>Top N>>Top>>7>>By value
>>Drag-and-Drop>>MeasuresTable>>TotalWealth
>>Apply-filter;

67>>philanthropyScore>>نقاط العمل الخيري

>>forbes_2023_billionaires>>right click

>>New Column>>

Donner = IF(forbes_2023_billionaires
[philanthropyScore] > 0, TRUE(),FALSE())

Donner = IF(forbes_2023_billionaires[philanthropyScore] > 0, TRUE(),FALSE())

Donner = IF(forbes_2023_billionaires[philanthropyScore] > 0, TRUE(),FALSE())

Donner = IF(ISBLANK(forbes_2023_billionaires[philanthropyScore])
, FALSE(),TRUE())

Is blank convert to Null;

>>Report View.

68>>Report View>>Data>>MeasuresTable:#Billionaires
>>forbes_2023_billionaires>>phian-thropy-Score>>
Visualizations>>Donut chart>>Visual>>Slices>>Colors
>>1 2 3 4 5>>#E87E33>>all 5 by Degrees;

69>>#Billionaires by phian-thropy-Score>>Filters
>>phianthropyScore>>Basic filtering>>Select all
>>Select-1-2-3-4-5;

70>>General>>Visual border>>red>>Shadow>>red;

71>>rightClick>>Copy>>TotalWealth by Age Group>>
>>#Billionaires by country.
>>TotalWealth by country.
>>Copy>>Ctrl+v>>Line-Chart;
>>Filters>>#Billionaires>>country>>Top N
>>Top>>10>>Drag&Drop>>country>>Apply filter;

72>>Visualizations>>Map>>Earth;

73>>Select or drag fields to populate this Visual;

74>>Map and filled map visuals are Disabled;

75>>Go to file ----> Option and settings ---->
Options ----> Global(Security)-
Enable Map and filled map visuals.
76>>Map>>
MeasuresTable>>TotalWealth;
forbes_2023_billionaires>>country>>city;
Locations:country&city;
Map settings>>Style:Grayscale;;
77>>#Billionaires by philanthropyScore>>Copy>>Ctrl+v;
78>>MeasuresTable>>#Billionaires;
forbes_2023_billionaires>>gender;
>>#Billionaires by gender;
79>>Filters>>print Male&Female Only;
>>Visual>>Slices>>Colors>>#E87E33;
80>>Visualizations>>Slicer>>
forbes_2023_billionaires>>organization;
81>>Format Your Visual.
visual>>Slicer header>>
Text>>B>>#E87E33>>15;
Values>>B>>#E87E33>>12;
Slicer header>>Off;
General>>Title>>On>>Organization
>>Heading2>>13>>B>>Center;
82>>Create Buttons Move into Pages>>
>>Insert>>Buttons>>Blank;
-->>Blank>>With>>Size>>H:75>>W:190;
83>>Page1>>rightClick>>Rename>>Demographics;
84>>+>>New-Page>>Page1>>rightClick>>Industry;
85>>+>>New-Page>>Page1>>rightClick>>Summary;
86>>+>>New-Page>>Page1>>rightClick>>Map;
87>>Page Navigator>>Navigate on the Pages;
88>>Clickon>>Button
>>General>>Effects>>Background>>#EB895F;
>>Button>>Style>>Text>>Demographics;
>>Style>>Icon>>Icon Type:Custom>>Browse;
>>Style>>State>>Default>>On hover
>>remove Icon&Large Size;
89>>How To Go to Page When Click on Button;
Clickon Button>>Action>>Off
>>Type:-Page navigation;
>>Destination:-None;
90>>Copy3 Times>>Button Demographics>>Ctrl+c>>Ctrl+v;
>>Edit 3 Buttons Name:-Industry,Summary,Map;
91>>Ctrl+c>>CopyAll>>Thing in Pages
>>than>>Make Button Actions;
92>>
Button>>Type:Page navigation>>Destination:Demographics;
Button>>Type:Page navigation>>Destination:Industry;
Button>>Type:Page navigation>>Destination:Summary;
Button>>Type:Page navigation>>Destination:Map;
>>Change in All Pages;
>>Demographics>>Industry>>Summary>>Map;
93>>Move to Another Page>>Ctrl+Click;
94>>BookMArk
>>Copy Slicer>>rightClick>>Copy>>Ctrl+v


```
-->>filter with>>Year&Category;
-->>year&category>>forbes_2023_billionaires;
>>Click on the Slicer>>
Summarization:Don't summarize>>Sum
>>General>>Title>>Text>>Year;
>>General>>Title>>Text>>category;
95>>Dashboard96
  خـلـها تـبـان و تـخـتـقـي
  <<فيها زحمة>>FlatIcon>>Search for icons>>filters
>>Edit icon>>New Color>>#E87E33>>Download>>PNG;
97>>Insert>>image>>filter>>Open;
98>>FlatIcon>>close>>Close free icon>>Edit-icon;
>>Choose A New>>#E87E33>>Download>>PNG>>512px;
99>>Insert>>Image>>close>>open;
100>>filter&close>>Top of Slicer>>Same Position&Size;
>>Size:96&91>>Position:81&623;
101>>View>>Filters>>Selection>>
1#image>>Hide&show visual>>Hide;
2#Hide>>Category&Year;
3#Organizations>>With Brothers;
4#Ctrl+Click>>Right-Click>>Group;
5#Group1>>Rename>>DoubleClick>>Slicer;
6#When Click on filter Show the Slicers;
7#View>>Bookmarks>>ADD Bookmarks>>ADD;
8#Bookmark 1>>DoubleClick>>Rename>>OpenSlicer;
9#Bookmark 2>>DoubleClick>>Rename>>CloseSlicer;
10#image X>>Action>>Off>>Bookmark>>CloseSlicer;
11#image filter>>Action>>Off>>Bookmark>>OpenSlicer;
12#Ctrl+Click>>filter>>to Open Slicers;
>>Can Open & Close filter;
```

```
>>Extract Theme<<
102>>Save the Color>>Click-on>>Themes;
>>Customize theme>>Apply;
>>Use if you want Change ColorThemes;
>>Save Current theme>>Save;
>>Browse for Themes;
>>Themes.json>>Edit with Notepad++;
>>Can Change Font family>>Apply;
>>Replace>>Find What>>Find Next;
>>Find What:Arial>>Replace All;
103>>How to Publish Dashboard in Power Bi;
1#Enter your email address;
2#Sign in;
104>>NovyPro>>PowerBI>>Account;
105>>Sign in PowerBI
>>ahmedabdelmoneim260@novyPro.com
>>PowerBI>>free>>license>>Ok.
106>>Sign-in>>Publish
>>Microsoft Power BI Desktop>>Save
>>Publish to Power BI
>>My workspace>>Select
>>Publishing to Power BI
>>PBIForbesProject.pbix
```

107>>Power BI Sign in.
>>To view Power BI Dashboard Report;
>>Enter Power BI Email;
>>novyPro>>PowerBI>>ahmedabdelmoneim260@novyPro.com
108>>Open>>With>>Microsoft365(Office);
-->>Microsoft365>>Power BI;
109>>Welcome to Microsoft 365>>
PBIForbesProject>>

اكتب الفعل

We Make Analysis Billionaires Insights;
HardWorkToGetMoney;
AnalysisBillionaireForbesProject;
United states of America Canada;
I am Self Made Billionaires one Day;

Study categorys by self Choose fields;

novyPro:Business Intelligence Developers;

PowerBI>>Data Warehouse;
Dashboard.
Power BI Reports in Web Page.
Figma.
Figma: The Collaborative Interface Design Tool.
microsoft business intelligence.
Adobe Color extract themes.
Flaticon Icon.
novyPro>>BusinessIntelligence.