

Data Modelling in Power BI

@learnatcloudanalytics

Power BI Desktop Workflow



Get Data

Search

All

- Text/CSV
- XML
- Database
- JSON
- Microsoft Fabric
- Power Platform
- Azure
- Online Services
- Other

Excel Workbook

File Home Transform Add Column View Tools Help

Close & Apply New Source Recent Sources Enter Data Data source settings Parameters Refresh Preview Advanced Editor Choose Columns Remove Columns Keep Rows Remove Rows Split Column Group By Data Type: Whole Number Use First Row as Headers Replace Values Merge Queries Append Queries Combine Files Text Analytics Vision Azure Machine Learning

Queries [8]

Orders

Row ID	A/C	Order ID	Order Date	Day of Week	A/C, Customer ID
1	US-2019-103800		03-01-2019	4	DP-13000
2	US-2019-112326		04-01-2019	5	PO-19195
3	US-2019-112326		04-01-2019	5	PO-19195
4	US-2019-112326		04-01-2019	5	PO-19195
5	US-2019-141817		05-01-2019	6	MB-18085
6	US-2019-167199		06-01-2019	0	ME-17320
7	US-2019-167199		06-01-2019	0	ME-17320

Dim_Countries

- Country Code
- IncomeGroup
- Region
- SpecialNotes

Fact_Pop_Data

- Country Code
- Country Name
- Pop Year
- Pop Year range

Merge2

- Country Code
- Country Name
- Pop Year
- Pop Year range

Business Scenario

Business Requirement:

Given 2 tables, **Customers** and **Orders**, Business would like to analyze the **total Sales** for each Customer.

Problem Statement:

- Total Sales for each Customer is displaying the same value

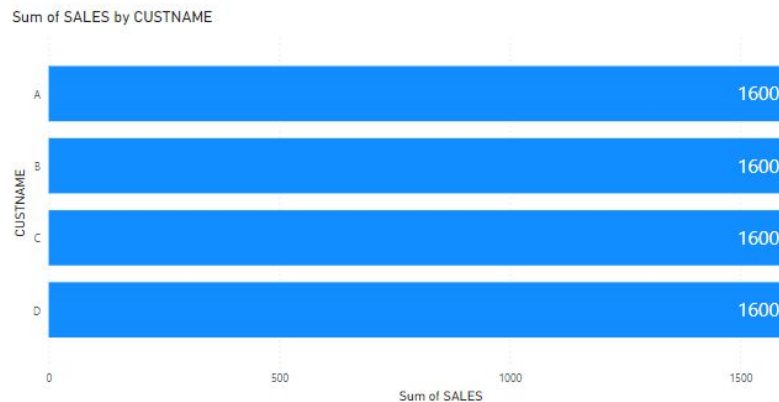
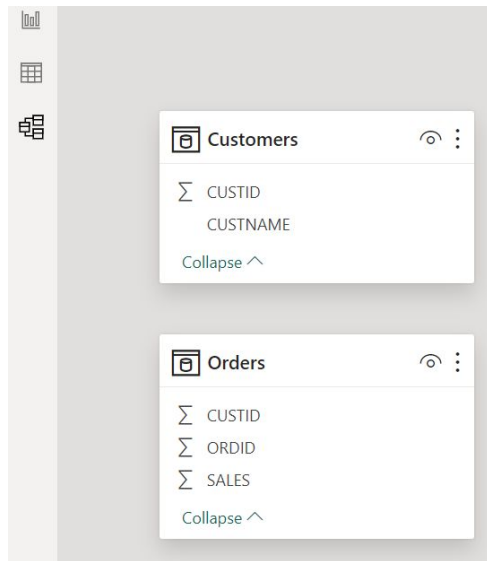
Customers	
File	Edit View
CUSTID, CUSTNAME	
1, A	
2, B	
3, C	
4, D	

Orders		
File	Edit	View
ORDID, CUSTID, SALES		
01, 1, 100		
02, 1, 200		
03, 2, 250		
04, 2, 300		
05, 3, 350		
06, 3, 400		

Is it a Data Model?



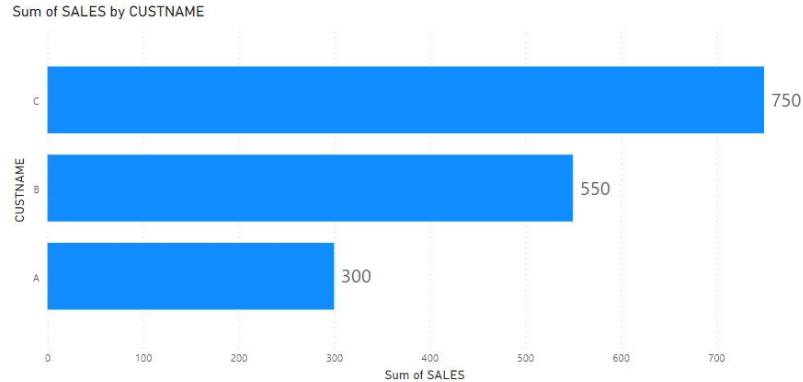
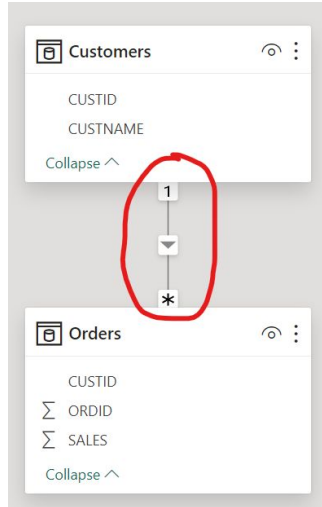
This is not a
Data Model



Data Modelling

- **Data Modelling** is all about collecting multiple tables from same data source or from multiple data sources to communicate with each other with the use of relationships.

Relationship



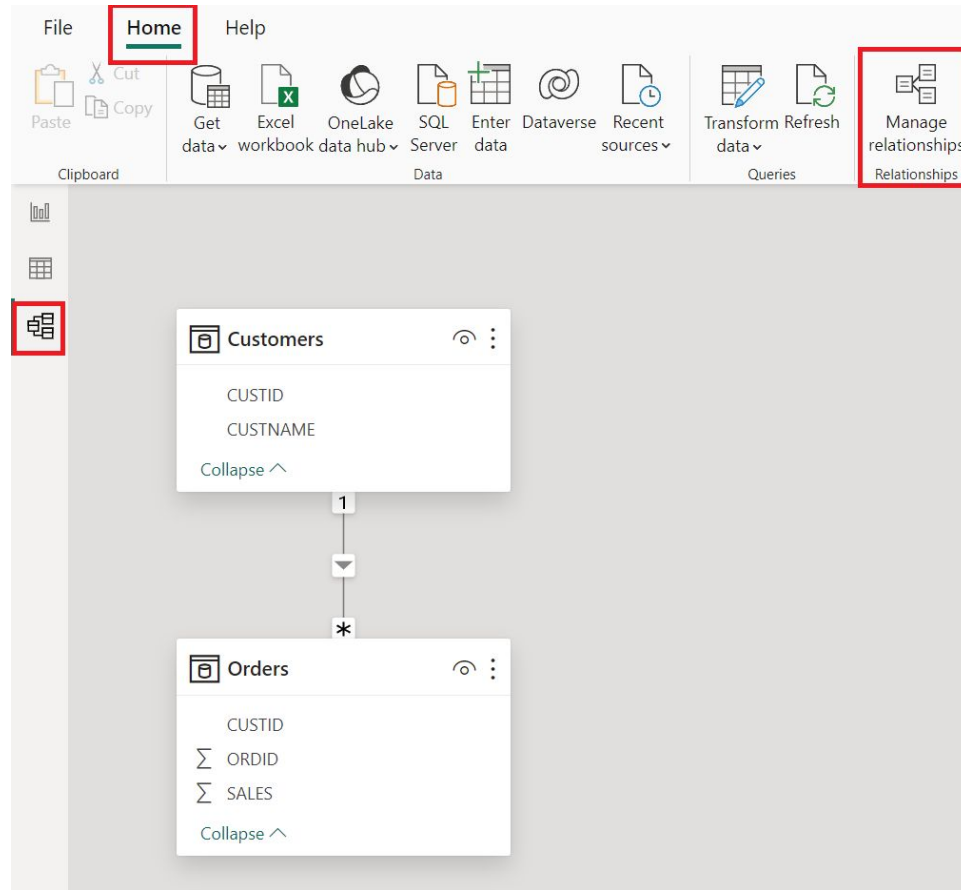
Displays right data

What is Relationship?

- Relationships create a logical connection between different tables or data sources.
- Enables users to run queries for related data across multiple tables.
- Each block represents a table and the lines between them represent relationships.

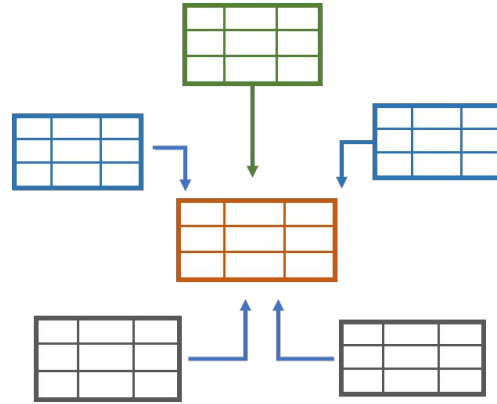


Model View

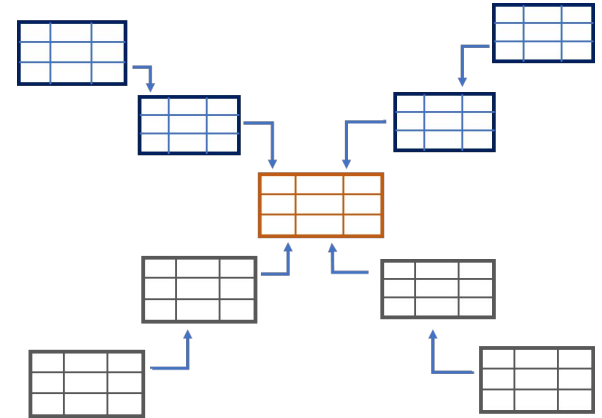


Dimensional Modelling

- Star Schema
- Snowflake Schema



Star Schema




Snowflake Schema

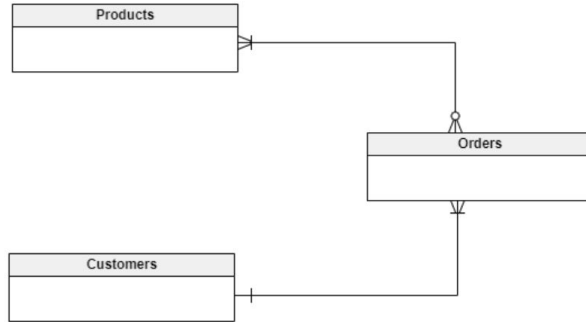
Cardinality

- It identifies the exact relationship between two tables.

4 Types

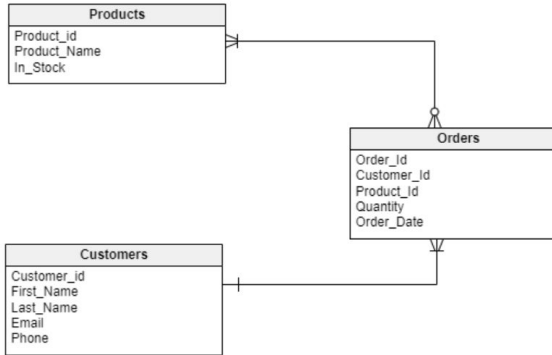
- One-to-One
 - One-to-Many
 - Many-to-One
 - Many-to-Many
- 

Model Types



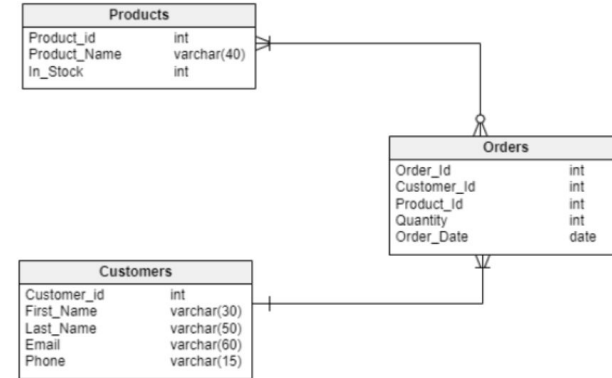
Conceptual

Identifying & Grouping Business data



Logical

Establishing a Structure for the data



Physical

Designing database specific elements