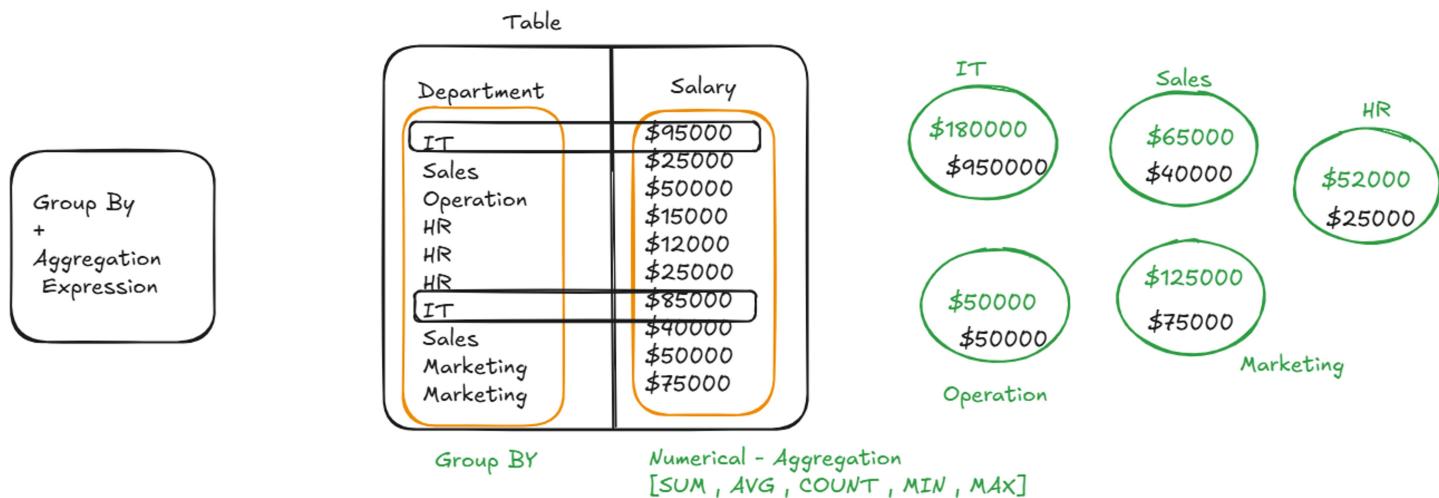


Power BI - Data Transformation - p1

1. Importing data to Power BI ----> Power Query Editor --> Transforming the data.



Step 1 : Get the data

The screenshot shows the 'Get Data' interface in Power BI. On the left, a sidebar lists common data sources: Excel workbook, Power BI semantic models, Dataflows, Dataverse, SQL Server, Analysis Services, Text/CSV (which is selected), Web, OData feed, Blank query, Power BI Template Apps, and More... A blue box highlights the 'Text/CSV' option. On the right, a preview window titled 'Preview of your table / dataset' shows the 'AdventureWorks Calendar Lookup.csv' file. The preview includes settings for 'File Origin' (1252 Western European (Windows)), 'Delimiter' (Comma), and 'Data Type Detection' (Based on first 200 rows). The preview itself shows a list of dates from 2020-01-01 to 2020-01-19. At the bottom of the preview window, a note says 'The data in the preview has been truncated due to size limits.' Below the preview, there are buttons for 'Extract Table Using Examples', 'Load', 'Transform Data', and 'Cancel'. Arrows point from the 'Load' and 'Transform Data' buttons to the text 'It loads to the Front End' and 'Power Query Editor - Transform' respectively.

Get data

Excel workbook

OneLake

SQL Server

Ent

Common data sources

Power BI semantic models

Dataflows

Dataverse

SQL Server

Analysis Services

Text/CSV

Web

OData feed

Blank query

Power BI Template Apps

More...

Preview of your table / dataset

AdventureWorks Calendar Lookup.csv

File Origin: 1252 Western European (Windows)

Delimiter: Comma

Data Type Detection: Based on first 200 rows

Date

2020-01-01

2020-01-02

2020-01-03

2020-01-04

2020-01-05

2020-01-06

2020-01-07

2020-01-08

2020-01-09

2020-01-10

2020-01-11

2020-01-12

2020-01-13

2020-01-14

2020-01-15

2020-01-16

2020-01-17

2020-01-18

2020-01-19

The data in the preview has been truncated due to size limits.

Extract Table Using Examples

Load

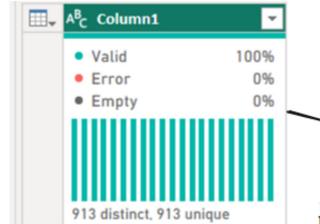
Transform Data

Cancel

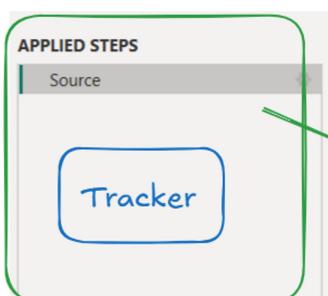
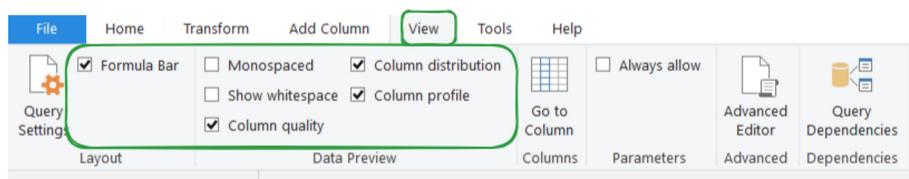
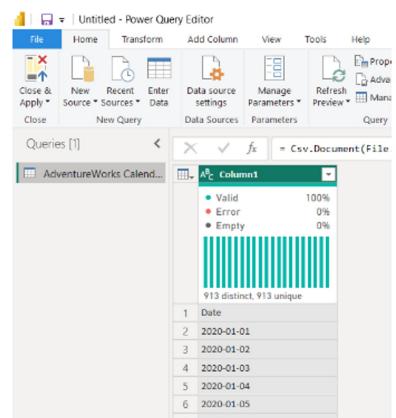
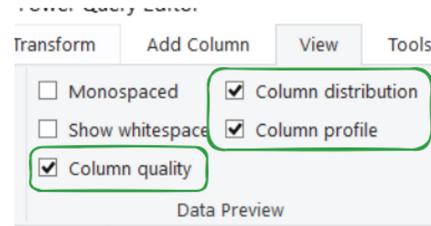
It loads to the Front End

Power Query Editor - Transform

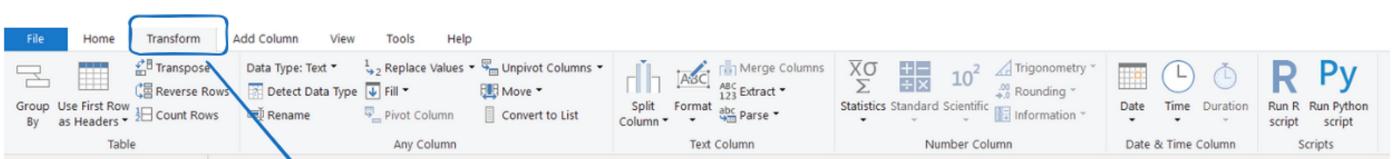
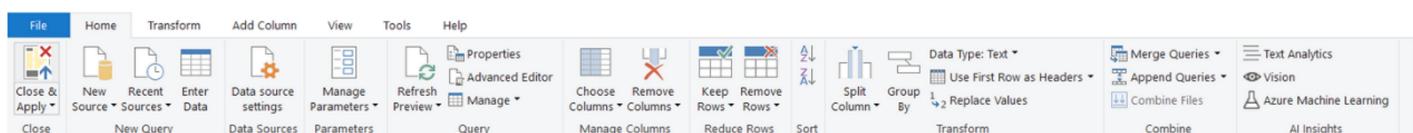
"If you are bringing the data for the first time , never load it to the front End.
Rather go to Back End make it perfect and then load it"



View Page



"Its a block that show all the steps you perform while transforming the data."



"We can change the 'in place' content "

num = 15



"Adding a new column for analysis"

Step 2 : Promoting the headers.

Promote our first row to header.

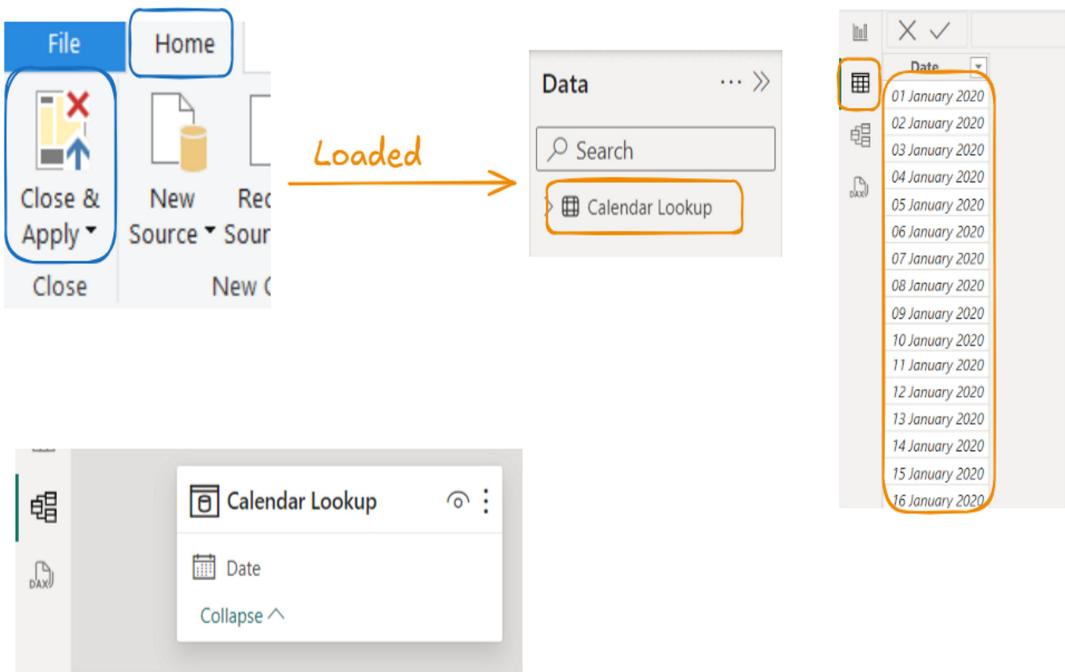
APPLIED STEPS

- Source
- Promoted Headers

Step3 : Changing the data type of each column.

APPLIED STEPS

- Source
- Promoted Headers
- Changed Type

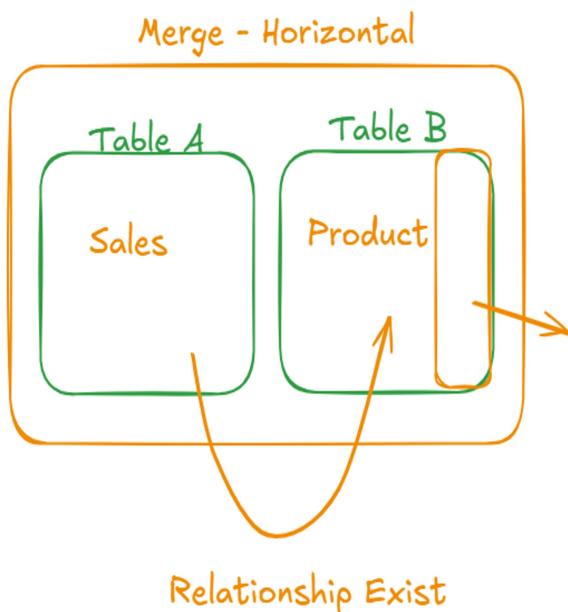


FRONT-END VS. BACK-END

- Power BI Desktop essentially has two distinct environments: a front-end and a back-end
 - The front-end includes the Data, Model & Report views, where most of the modeling, analysis and visualization takes place
 - The back-end includes the Power Query Editor, where raw data is extracted, transformed, and loaded to the front-end (ETL)

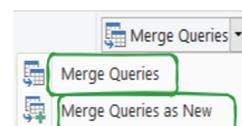
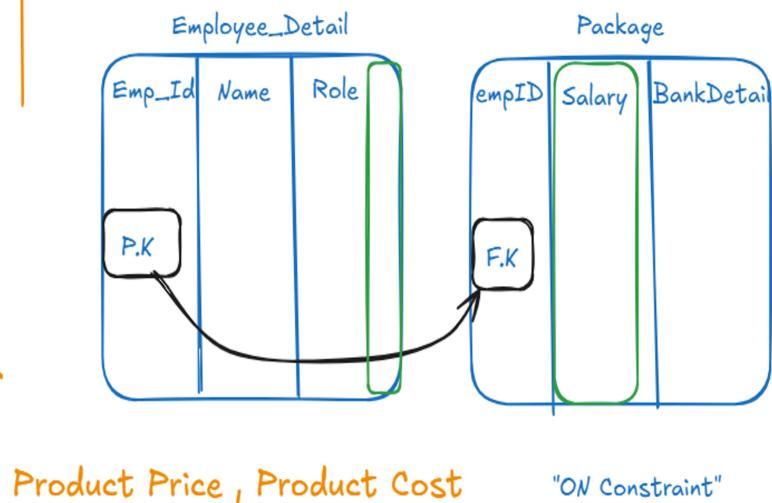
BACK-END

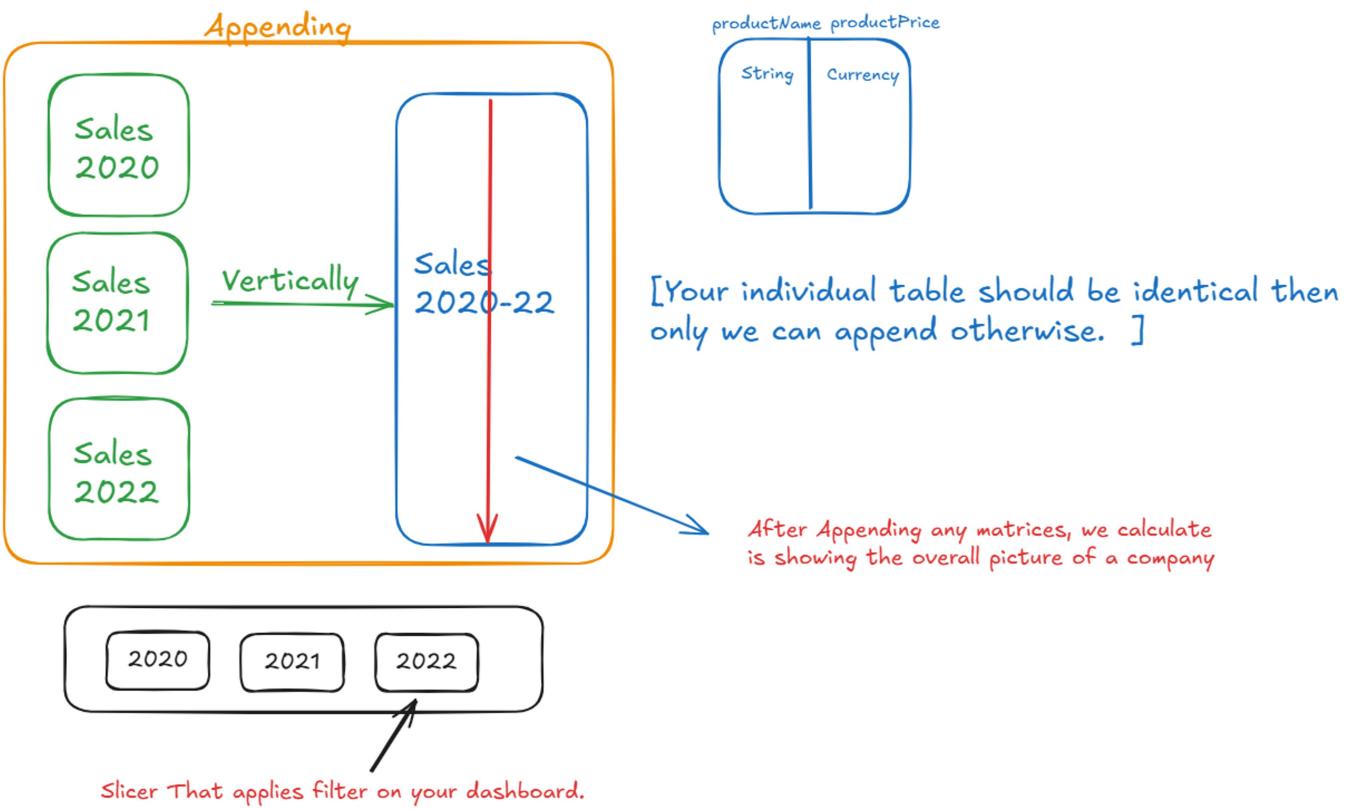
- Connect & extract data using pre-built connectors
- Profile & QA the data to explore, clean and prepare it for modeling and analysis
- Transform & shape tables to add new features, modify values, group records, or sort and filter columns
- Merge or append queries to join and combine them prior to loading to the front-end



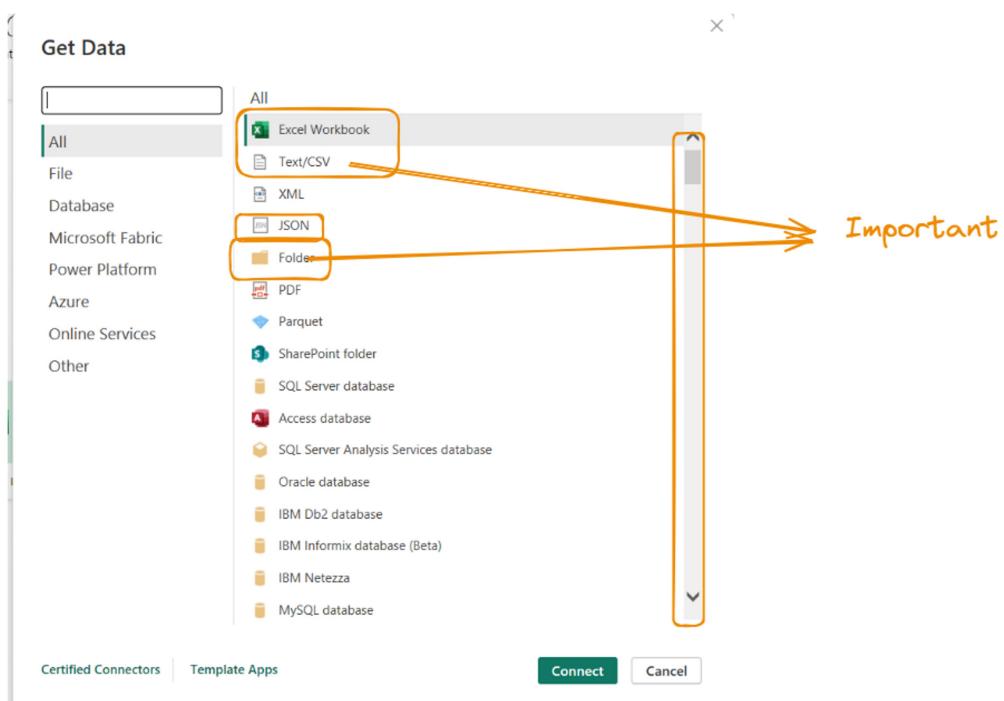
FRONT-END

- Build data models by creating table relationships between primary and foreign keys
- Add calculated measures & columns using Data Analysis Expressions (DAX)
- Design reports to visualize the data and create interactive, dynamic dashboards
- Publish & share your Power BI workbooks using Power BI Service (cloud application)





TYPES OF DATA CONNECTORS



POWER QUERY EDITOR

The screenshot shows the Power Query Editor interface with the following components highlighted:

- Queries Pane**: Shows a list of all queries, including "Transform file from Sales Data", "Customer Lookup", and "Customer".
- Table Preview**: Displays a preview of the data, showing columns like "First Name", "Last Name", and "Marital Status".
- Formula Bar**: Shows the formula being edited, which is "Table.RemoveColumns(FILTERED Rows, {"Customer"})".
- Query Settings Dialog**: Opened, showing the **PROPERTIES** section with "Name" set to "Customer Lookup" and the **APPLIED STEPS** section listing various transformations applied to the query.
- Query Editing Tools**: A callout pointing to the "Transform" tab in the ribbon, which includes tools like Transpose, Unpivot Columns, Merge Columns, and Trigonometry.

QUERY EDITING TOOLS

The **HOME** tab includes **general settings** and **common table transformation tools**

The screenshot shows the Power Query Editor ribbon with the **Home** tab selected. The ribbon includes the following tabs: File, Home, Transform, Add Column, View, Tools, and Help. Under the Home tab, there are several icons for common tasks such as Close & Apply, New Source, Enter Data, Data source settings, Manage Parameters, Refresh, Advanced Editor, Choose Columns, Remove Columns, Keep Rows, Remove Rows, Split Column, Group By, Sort, and Transform. The Transform tab is also visible in the ribbon.

The **TRANSFORM** tab includes tools to **modify existing columns** (splitting/grouping, transposing, extracting text, etc.)

The screenshot shows the Power Query Editor ribbon with the **Transform** tab selected. The ribbon includes the following tabs: File, Home, Transform, Add Column, View, Tools, and Help. Under the Transform tab, there are various icons for modifying columns, including Group, Use First Row as Headers, Count Rows, Transpose, Reverse Rows, Detect Data Type, Rename, Pivot Column, Convert to List, Split Column, Format, Text Column, Number Column, Date & Time Column, and Scripts. The Home tab is also visible in the ribbon.

The **ADD COLUMN** tools **create new columns** (based on conditional rules, text operations, calculations, dates, etc.)

The screenshot shows the Power Query Editor ribbon with the **Add Column** tab selected. The ribbon includes the following tabs: File, Home, Transform, Add Column, View, Tools, and Help. Under the Add Column tab, there are various icons for creating new columns, including Column From Custom Examples, Invoke Custom Function, Conditional Column, Index Column, Duplicate Column, Format, From Text, From Number, From Date & Time, and AI Insights. The Home tab is also visible in the ribbon.