

## Introduction To Power BI

Interaction - 100%

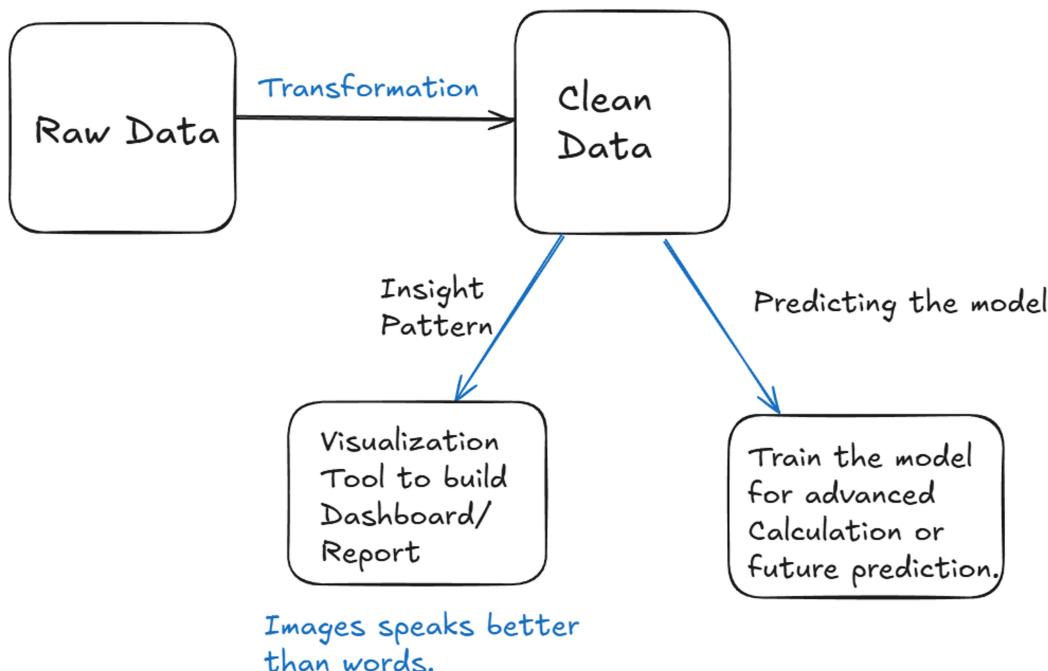
- 1 - Clear | Done
- 0 - Not Clear | Repeat

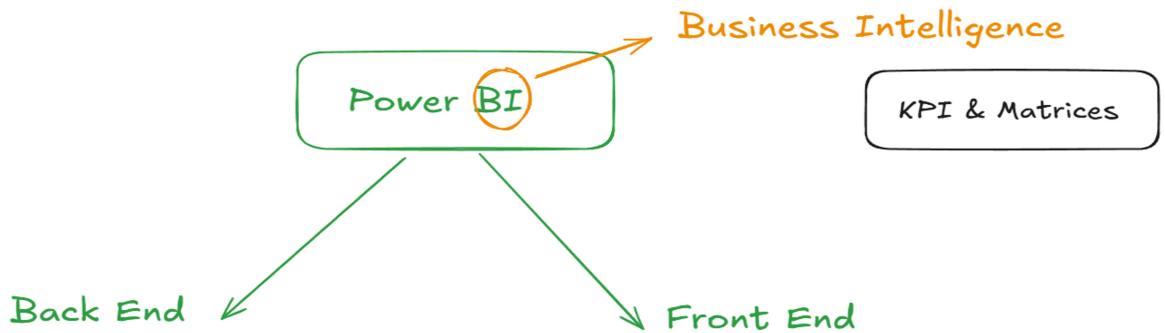
- Have you installed the Power BI?

- <https://www.microsoft.com/en-us/download/details.aspx?id=58494>

- GitHub Lecture Notes/Dataset:

- <https://github.com/KrishnaMentor/CX-115-MOR>



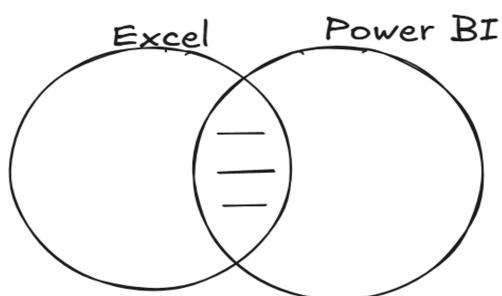


- Power Query Editor
  - Transforms data to make it clean

Report View - Dashboard / Report.

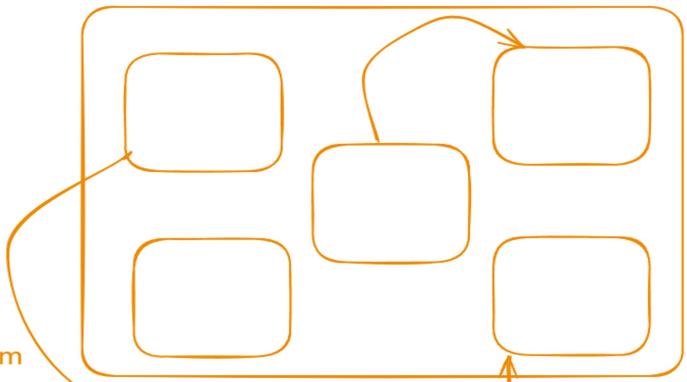
Table View or Data View : It helps you to show the data in tabular format / Structured Data.

Model View - Used for building relationship between multiple table. Using Primary Key & Foreign Key.



- They both share the same analytical engine backed by Microsoft.

Schema - Database



RDBMS - Relational Database Management System



Merged Table - High Computational Power , Less Efficient to run the query. Time Consuming.

## What is POWER BI

Microsoft Power BI is a self-service business intelligence platform, which includes both desktop and web-based applications for connecting, modeling, and visualizing data.



Microsoft Power BI

# FEATURE OF POWER BI?

## 1. Connect, transform and load millions of rows of data

- Access data from virtually anywhere (database tables, flat files, web, cloud services, folders, etc.), and create fully automated workflows to extract, transform and load data for analysis

## 2. Build relational models to blend data from multiple sources

- Create table relationships to analyze holistic performance across an entire relational data model

## 3. Define complex calculations using Data Analysis Expressions(DAX)

- Enhance datasets and enable advanced analytics with powerful and portable DAX expressions

## 4. Bring data to life with interactive reports and dashboards

- Build professional-quality reports and dashboards with best-in-class visualization tools

## 5. Develop a versatile, in-demand skill set

- Power BI is the industry leader in self-service BI, and the skills you build in this course will be highly transferrable

# Why We Use Power BI

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## 1. Data Visualization:

- Power BI helps transform raw data into interactive and visually appealing reports and dashboards.  
It makes complex data easy to understand.

## 2. Integration:

- Power BI integrates seamlessly with various data sources like Excel, SQL Server, cloud services, and more, allowing you to consolidate and analyze data from different platforms.

## 3. Business Intelligence:

- With Power BI, you can gain insights into your business performance, track key metrics, and make data-driven decisions..

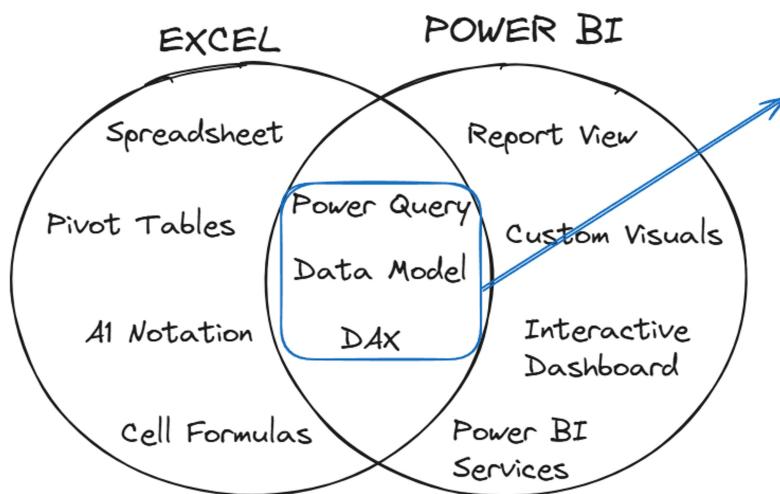
## 4. Real-time Data:

- You can connect to real-time data sources to ensure your reports and dashboards reflect the most up-to-date information.

## 5. User-Friendly Interface

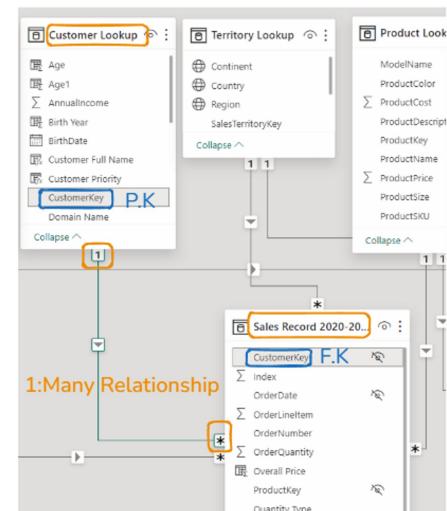
- The intuitive interface makes it accessible for users of all skill levels, from beginners to advanced analysts.

## EXCEL VS. POWER BI



- Excel and Power BI are built on top of the same analytics engines

- Power BI takes the same data transformation and modeling capabilities and adds powerful visualization and publishing tools
- Transitioning is easy; you can import an entire data model directly from Excel!



## Power BI Desktop Installation

### Microsoft Power BI Desktop

Microsoft Power BI Desktop is built for the analyst. It combines state-of-the-art interactive visualizations, with industry-leading data query and modeling built-in. Create and publish your reports to Power BI. Power BI Desktop helps you empower others with timely critical insights, anytime, anywhere.

Important! Selecting a language below will dynamically change the complete page content to that language.

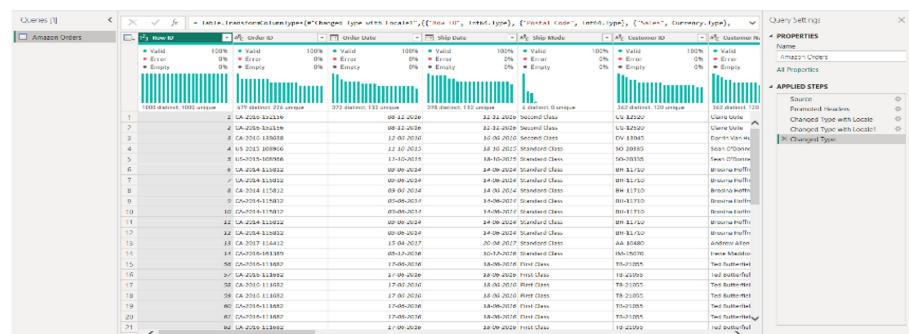
Select language

English

Download

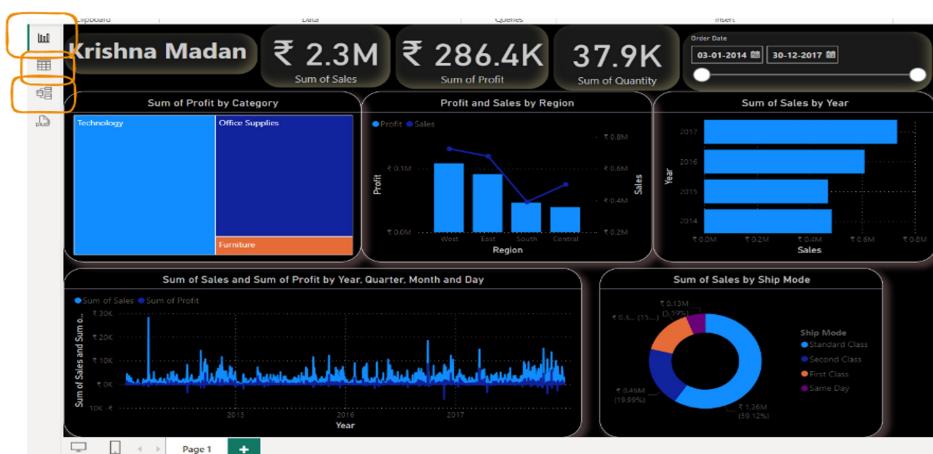
# Power BI Work Flow :

Data is loaded & transformed in the Power Query Editor

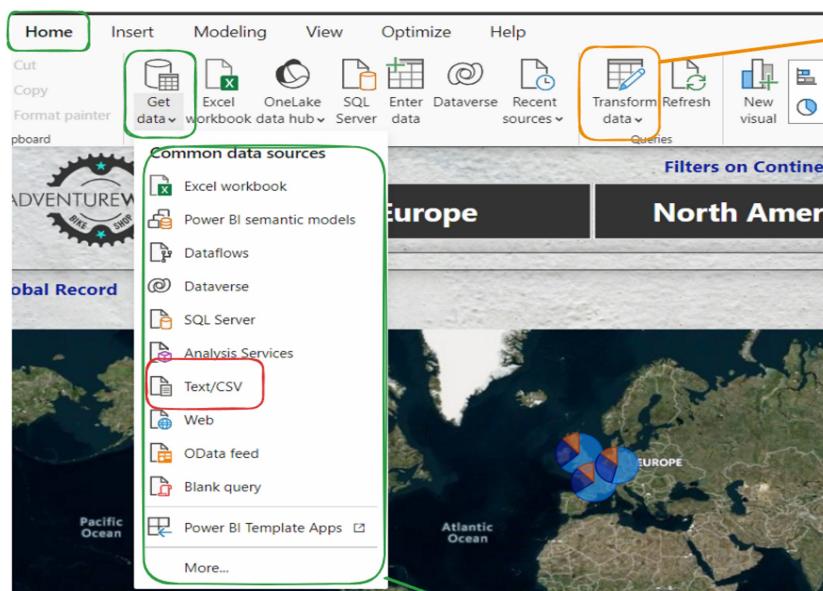


Data models are configured in the Model View

Power Query Editor - Backend



Front End



Importing the data from various platform.

## Power Query Editor

A screenshot of a GitHub repository page for 'CX-115-MOR'. The 'Code' tab is selected. A modal window titled 'Clone' is open, showing options for 'HTTPS', 'SSH', and 'GitHub CLI'. The 'HTTPS' URL is listed as <https://github.com/KrishnaMentor/CX-115-MOR.git>. At the bottom of the modal, the 'Download ZIP' button is highlighted with a blue box.

Step1: Import the data using "Get Data" - Calender.csv [Text/CSV].

A screenshot of the Power BI 'Get Data' interface. The 'Text/CSV' option is highlighted with a green box. On the right, a file browser dialog titled 'Open' shows a list of CSV files in a folder named 'BikeShop-CX115'. The file 'AdventureWorks Calendar Lookup' is selected and highlighted with a green box. The 'Open' button at the bottom right of the dialog is also highlighted with a green box.

AdventureWorks Calendar Lookup.csv

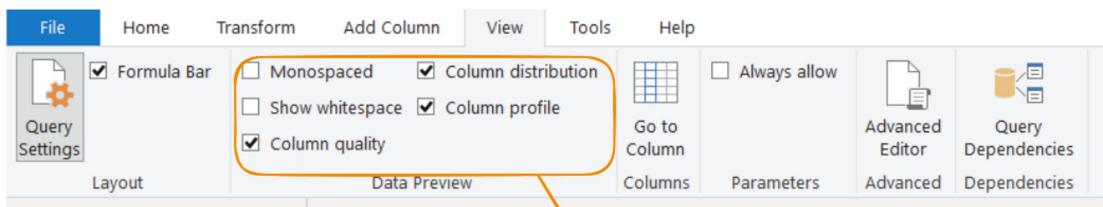
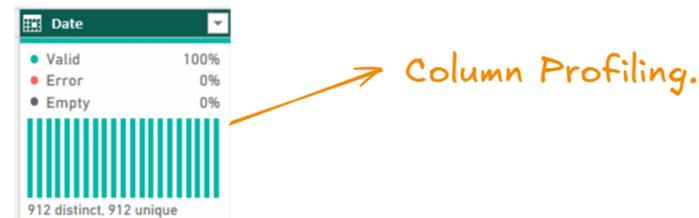
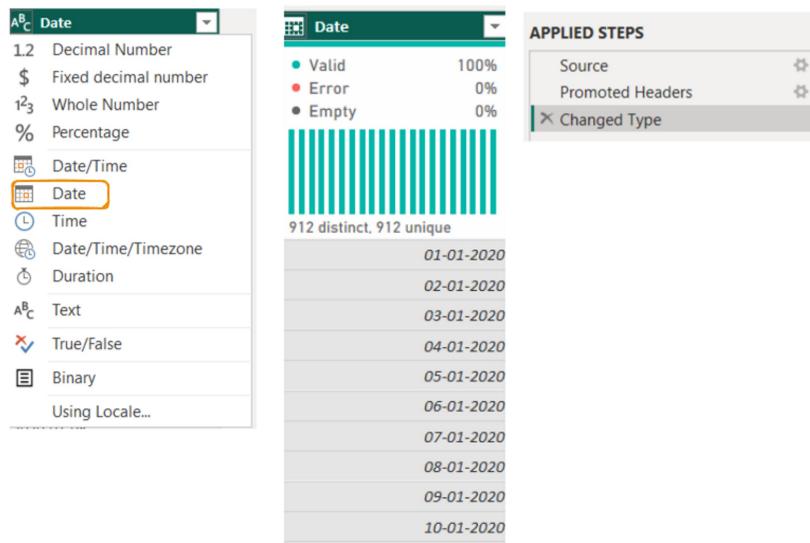
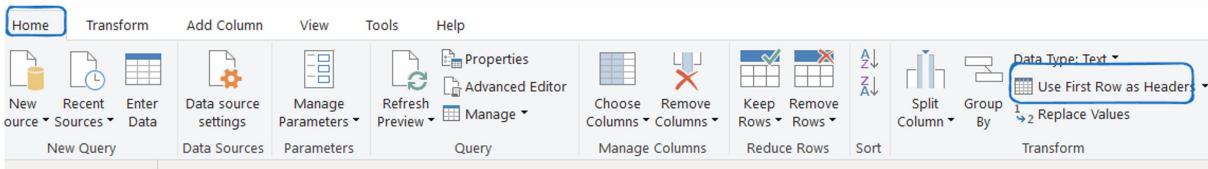
The screenshot shows the Power Query Editor interface. At the top, there are settings for 'File Origin' (1252: Western European (Windows)), 'Delimiter' (Comma), and 'Data Type Detection' (Based on first 200 rows). Below this is a preview pane showing a single column named 'Date' containing dates from 2020-01-01 to 2020-01-19. A note at the bottom of the preview says, 'The data in the preview has been truncated due to size limits.' At the bottom right are three buttons: 'Load' (highlighted with a green box), 'Transform Data', and 'Cancel'.

Load the data to the Front End.

It brings the data to P.Q.E for transforming.

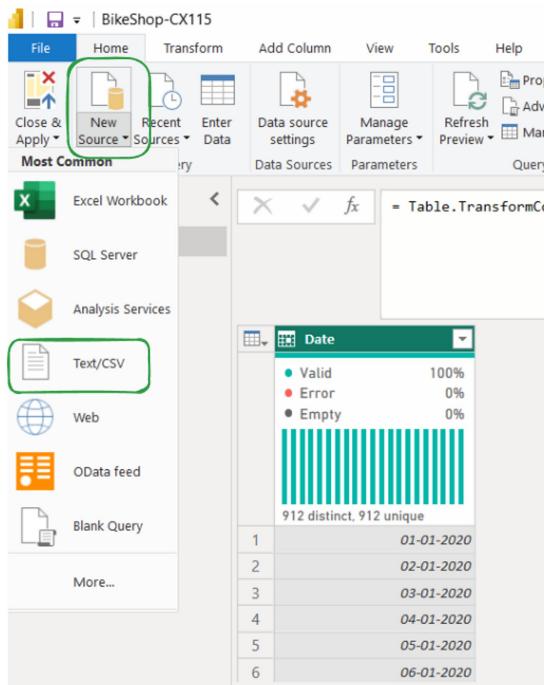
The screenshot shows the Power BI Desktop interface. The top ribbon includes File, Home, Transform, Add Column, View, Tools, and Help. The 'Queries [1]' pane on the left lists 'AdventureWorks Calendar'. The main area displays a preview of the 'Date' column with 912 distinct values. The 'Properties' pane on the right shows the name 'AdventureWorks Calendar Lookup'. The 'Applied Steps' pane details the transformation process, which includes 'Source' (AdventureWorks Calendar) and 'Change Type' (specifically for the Date column).

M-Code

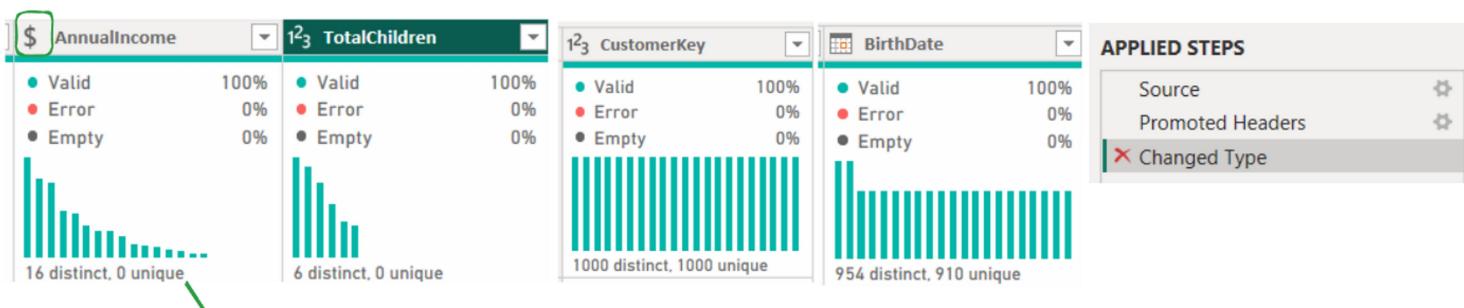


Column Profiling.

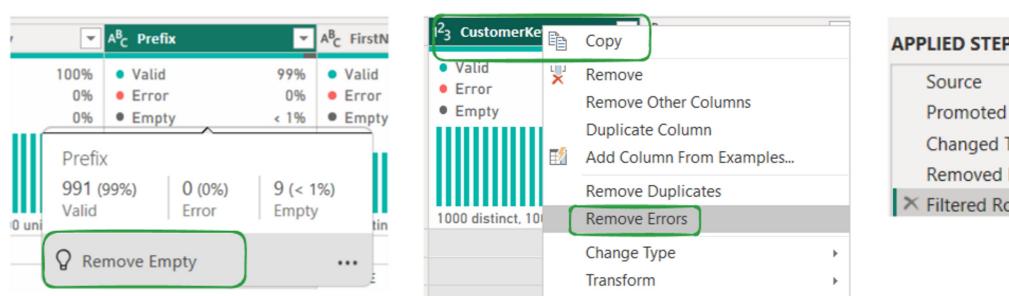
Now let's learn how we can import data directly to Power Query Editor.



### Customer Lookup

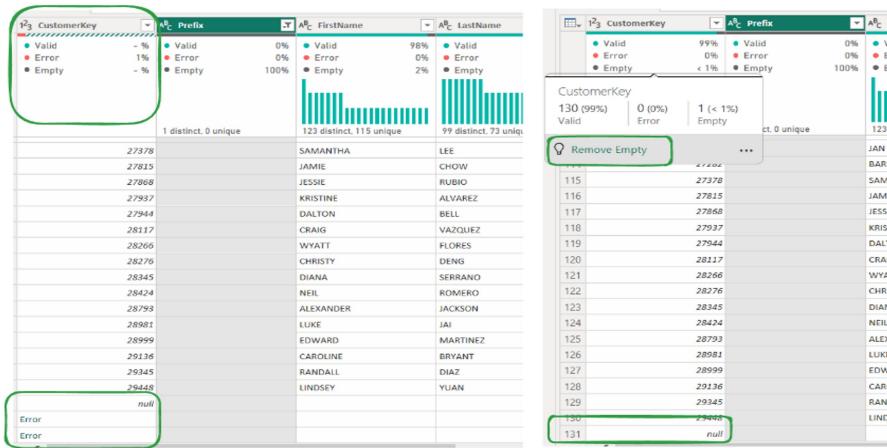


Exact Currency needs to be aligned in Table View.



### APPLIED STEPS

- Source
- Promoted Headers
- Remove Errors**
- Changed Type
- Removed Errors
- Filtered Rows



## Customer Key

1000

- Valid 100%
- Error 0%
- Empty

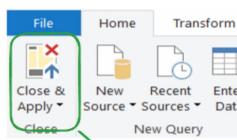
- Valid
- Error
- Empty

- Copy Quality Metrics
- Copy Value Distribution
- Keep Duplicates
- Keep Errors
- Remove Duplicates
- Remove Empty
- Remove Errors
- Replace Errors
- Show the column quality peek
- Show the column distribution peek

991 (99%)

- Valid 0 (0%)
- Error 9 (< 1%)
- Empty

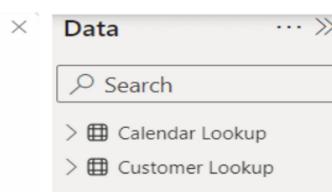
- Valid 99%
- Error 0%
- Empty < 1%



It loads the clean data back to Front End.

## Load

- Calendar Lookup  
Creating connection in model...
- Customer Lookup  
Creating connection in model...



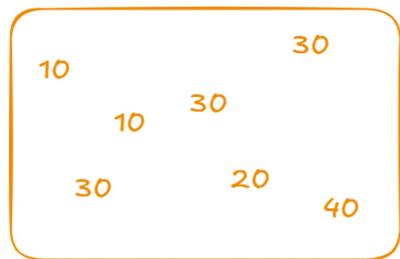
Cancel

4

2

Distinct - 1 or more

Unique - Exactly one



10 - 2

[10,20,30,40]

20 - 1

[20,40]

30 - 3

40 - 1