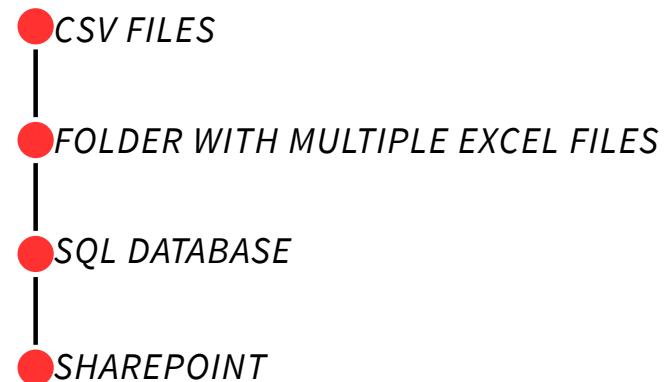


POWER BI INTRODUCTION & DATA IMPORT

- WHAT IS POWER BI?
- WHY POWER BI?
- BENEFITS OF USING POWER BI
- POWER BI INSTALLATION
- INITIAL SETUP SETTINGS
- POWER BI INTERFACE – CORE VIEWS
- POWER BI COMPONENTS
- POWER BI DESKTOP VS POWER BI SERVICE
- DATA SOURCES IN POWER BI
- HOW TO IMPORT DATA FROM DIFFERENT SOURCES





POWER QUERY IN POWER BI

WHAT IS POWER QUERY?

WHY POWER QUERY?

POWER QUERY INTERFACE OVERVIEW

DATA TRANSFORMATION BASICS

Understanding Applied Steps

Renaming Columns, Changing Data Types

Removing & Reordering Columns

Sorting & Filtering Data

HOME TAB

Data Source Settings

Reduce Rows (Keep / Remove Rows)

Remove Columns / Choose Columns / Go to Column

Merge & Append Queries

Close & Apply

VIEW TAB

Column Quality

Formula Bar

Query Settings Pane

TRANSFORM TAB

Detect Data Type

Count Rows

Replace Value / Error

Remove Duplicates

Split Column

Format

Extract

Merge Columns

Pivot / Unpivot Columns

Fill (Down/Up)

ADD COLUMN TAB

Custom Column

Conditional Column

Column from Examples

Duplicate Column

WHAT IS A DATA MODEL? **WHY DO WE NEED A DATA MODEL?** **TYPES OF TABLES IN DATA MODEL**

Identify Fact and Dimension tables

Primary Key & Foreign Key

 RELATIONSHIPS IN POWER BI

One-to-Many (1:*) → Most common (1 Customer → Many Sales).

Many-to-One (*:1) → Reverse of above.

One-to-One (*:1) → One record in a table matches exactly one record in another table.

Many-to-Many (:) → Advanced cases.

Cardinality

Cross Filter Direction → Single or Both.

 DATA MODELING APPROACHES

Star Schema (Best Practice)

Snowflake Schema

 BEST PRACTICES IN DATA MODELING

 **INTRODUCTION TO DAX**

WHAT IS DAX?

WHY DAX IS IMPORTANT IN POWER BI.

TYPES OF DAX CALCULATIONS: CALCULATED COLUMNS, MEASURES, TABLES.

ROW CONTEXT VS FILTER CONTEXT

 **AGGREGATION FUNCTIONS**

SUM , MIN , MAX , MAXX , COUNT , COUNTA , AVERAGE , SUMX , COUNTROWS , CALCULATE , RANKX , CONCATENATE and FORMAT .

 **DATE & TIME INTELLIGENCE**

CALENDAR , CALENDARAUTO , DAY , MONTH , YEAR , TODAY ,
TOTALYTD , TOTALMTD , SAMEPERIODLASTYEAR , PREVIOUSMONTH
PREVIOUSYEAR , DATESINPERIOD , LASTDATE , DATESADD and
DATESBETWEEN

 **FILTER FUNCTIONS**

ALL , ALLEXPECT , ALLSELECTED , FILTER and TREATAS

 **LOGICAL FUNCTIONS**

IF , IFERROR , SWITCH , AND , OR

 **RELATIONSHIP FUNCTIONS**

RELATED , LOOKUPVALUE and USERELATIONSHIP

 **PERFORMANCE OPTIMIZATION**

USING VARIABLE TO IMPROVE PERFORMANCE

AVOIDING ROW-BY-ROW CALCULATIONS.

INTRODUCTION TO VISUALIZATIONS

- What is Data Visualization?
- Importance of choosing the right chart
- Types of visuals in Power BI (built-in vs custom)

BASIC VISUALS

- Card Visuals → Showing KPIs (Sales, Profit, Count of Customers)
- Table & Matrix → Tabular data view, subtotals, drill-down

COMPARISON & TREND VISUALS

- Bar & Column Charts → Comparing values across categories
- Line & Area Charts → Trend over time (Year → Month → Day)
- Combo Chart → Compare two measures (Sales vs Profit)

PART-TO-WHOLE & HIERARCHY VISUALS

- Pie & Donut Charts → Market share / percentage breakdown
- Tree Map → Hierarchical sales contribution (Category → Subcategory)

ADVANCED ANALYTICAL VISUALS

- KPI & Gauge Charts → Actual vs Target performance
- Maps (Filled Map, Bubble Map) → Sales by Region/State

INTERACTIVITY IN REPORTS

- Slicers → Year, Category, Region filtering
- Drill Down / Drill Up → Navigate levels of data
- Drillthrough → Jump to a detailed page
- Tooltips → Show extra details on hover

REPORT NAVIGATION & CONTROL

- Bookmarks → Save specific views
- Buttons & Navigation → Interactive report design
- Edit Interactions → Control how visuals filter each other

FORMATTING & DESIGN

- Visual formatting (colors, labels, titles, backgrounds)
- Conditional formatting (based on values)
- Report design best practices (clean, simple, professional)

POWER BI SERVICE

INTRODUCTION

What is Power BI Service?

Difference between Power BI Desktop & Service

WORKSPACES

Personal vs Shared Workspace

Roles (Viewer, Member)

POWER BI APPS

Creating Apps for users

Publishing and updating Apps

PUBLISHING REPORTS

How to publish from Power BI Desktop to Service

RLS (ROW LEVEL SECURITY)

DATA REFRESH

Manual refresh

Scheduled refresh

BY THE END OF THE TRAINING, STUDENTS WILL COMPLETE AN END-TO-END PROJECT WHERE THEY WILL DESIGN AND PUBLISH A PROFESSIONAL POWER BI DASHBOARD USING REAL-WORLD DATA.

