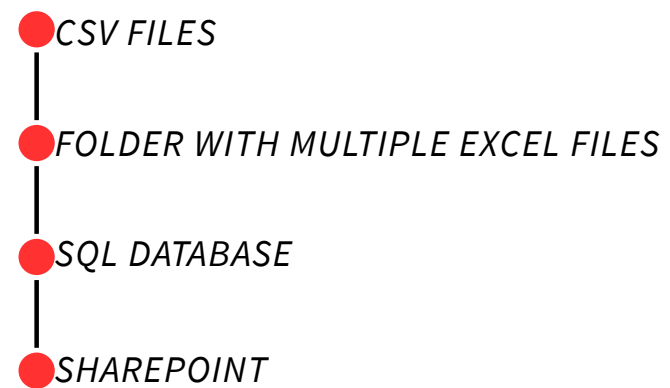


POWER BI INTRODUCTION & DATA IMPORT

- ✓ 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



DATA MODELING IN POWER BI

- ✓ 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



DAX (DATA ANALYSIS EXPRESSIONS) IN POWER BI

✓ 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.



VISUALIZATIONS IN POWER BI



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.

