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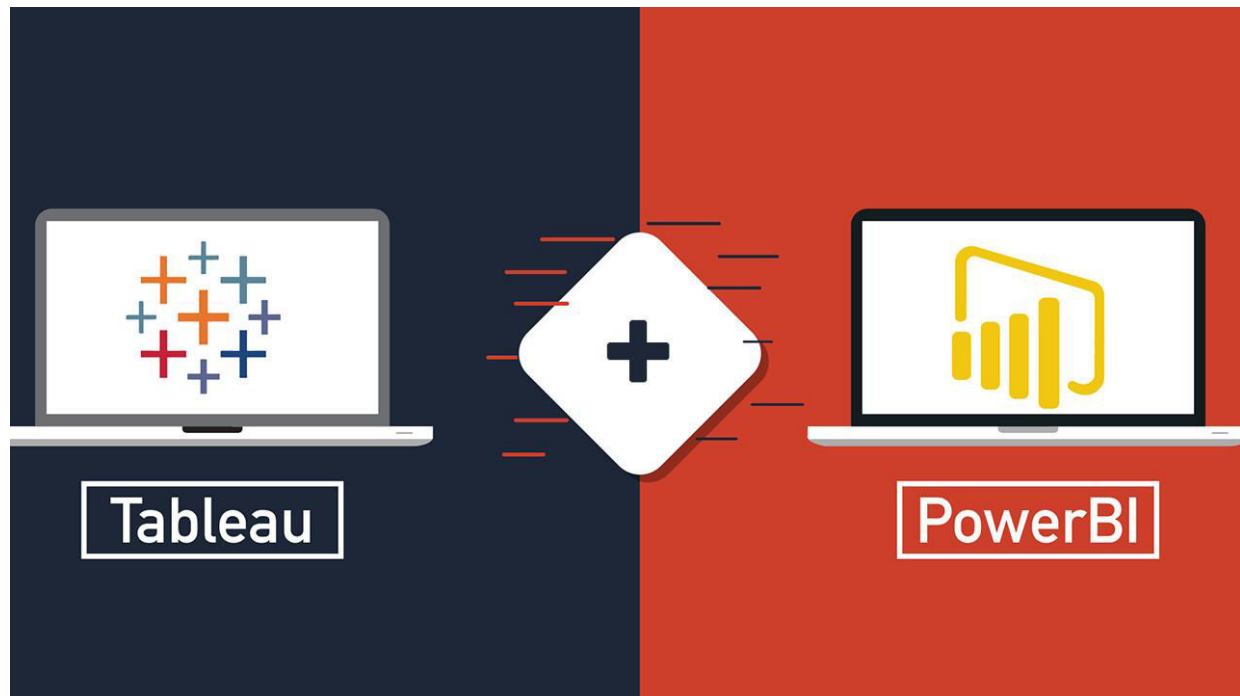


Tableau + Power BI

 9032803832

 9032803832

 [contact@techyedz.com](mailto:contact@techyedz.com)

 [www.techyedz.com](http://www.techyedz.com)

# Tableau + Power BI Combo Course

## Course Overview:

Tableau certification training program helps you learn Tableau and gets you up to work on the concepts of data visualization with a firm understanding of the Tableau architecture. You will become proficient in the concepts of filters, parameters, maps, graphs, dashboards, and table calculation. Furthermore, you will learn about data blending, data aggregation, and R connectivity with Tableau in this course. This course covers Tableau Creator functionality required for new Tableau users. It starts with simple visualisations and moves to an in-depth look at the different chart and graph functions, calculations, mapping and other functionality. The lessons are organised into modules that provide conceptual information, how-to steps, follow me (where the students follow the instructor using Tableau) and tutorials on each subject.

Power BI is a business analytics service by Microsoft. It aims to provide interactive visualizations and business intelligence capabilities with an interface simple enough for end-users to create their reports and dashboards.

It is an advanced version of the SSRS (SQL Server Reporting Services) tool.

Power BI helps to create high-end data visualization reports, which helps to understand the business flow.

Power BI is being used widely in data analytics companies to analyze customer business behavior and deliver the reports to scale their business by identifying the weak areas.

## Course Outline:

# Tableau

## Chapter - I: The Tableau Environment The

### Tableau Workspace

- Data Window
- Toolbar, Status Bar
- Tooltips, Cards and Shelves

- Reorganizing the Workspace
- Workbooks and Sheets
- Changing the Repository Location

## **Chapter - II Connect to Data**

- How to Connect to a Data Source
- Connect Live/Import
- Editing a Connection
- Replace Data Source
- Replacing Field References
- Renaming the Connection
- Duplicating the Connection
- Refreshing the Data
- Closing the Connection
- Clipboard Data Sources
- Number of Records
- Latitude and Longitude,
- Measure Names

### **1) Data Types and Roles**

- Data Types
- Data Roles

### **2) Joining Tables**

- Adding Tables
- Editing Tables
- Custom SQL

### **3) Working with Multiple Connections**

- Understanding Data Blending
- Adding a Secondary Connection
- Defining/Edit Relationships

#### **4) Data Window Features and Functions(1 Hr)**

- Folders
- Sort
- Find Fields
- Rename Fields
- Combine Fields
- Hide or Unhide Fields
- Add Fields to the Data Window (calculation field)

#### **5) Editing Field Properties**

- Comments
- Aliases
- Hierarchies
- Colors
- Shapes
- Formats
- Sort & by; Aggregation
- Grouping
- Sets
- Aggregation & Disaggregation

### **Chapter - III: Building Data Views**

#### **1) Parts of the View**

- Table Components
- Headers, Axes
- Panes, Cells, Marks Card
- Using Stepped Color
- Mark Borders
- Titles
- Captions
- Field Labels
- Legends

#### **2) Building Views Manually**

- Dragging Fields
- Shelves and Cards
- Multidimensional Hierarchies
- Example - Building Data Views Manually

### **3) Building Views Automatically**

- Show Me
- Add to Sheet: Double-Click

### **All Views - 24 Types**

### **4) Filtering**

- Adding Filters
- Sharing Filters
- Context Filters

### **5) Actions**

- Filter Actions
- Highlight Actions
- URL Actions
- Running Actions
- Actions and Dashboards
- Using Field and Filter Values in Actions

## **Chapter - IV: Advanced Analysis**

### **1) Calculations**

- Aggregations
- Calculated Fields (Create, copy-paste, Formula, )
- If/then, case calculations
- Table Calculations
- Binned Data
- Totals

- Percentages

## **2) Parameters**

- Creating Parameters
- Editing Parameters
- Using Parameters in Calculations
- Using Parameters in Filters
- Using Parameters in Reference Lines
- Parameter Controls

## **3) Using Multiple Measures**

- Individual Axes
- Blended Axes
- Dual Axes
- Combination Charts

## **4) Forecasting**

- Forecasting Constraints
- How Forecasting Works in Tableau
- To Create a Forecast
- Forecast Field Results
- Configure Forecast Options
- Forecast Descriptions
- Troubleshooting Forecasting
- Resolving Forecasting Errors

## **5) Trend Lines and Statistics**

- Adding Trend Lines
- Removing Trend Lines
- The Trend Line Model
- Removing Factors from the Model
- Assessing Trend Line Significance
- Assumptions
- Trend Line Model Terms

## **6) Background Images**

- Adding Background Images
- Setting up the View
- Managing Background Images

## **7) Background Map**

- Geographic Roles
- Building a Map View
- Map Options
- Setting a Default Location
- Editing Locations
- Custom Geo-coding
- Background Map Source
- Map Storing and Working Offline

## **Chapter - V: Publish and Share**

### **1) Formatting**

- Worksheet Level Formatting
- Formatting Specific Parts of the View
- Copying and Pasting Formatting
- Clearing Formatting
- Workbook Themes
- Resizing the Table
- Editing Axes
- Annotations and Mark Labels

### **2) Dashboards**

- Creating Dashboards
- Organizing Dashboards
- Understanding Dashboards and Worksheets

### **3) Saving and Exporting**

- Saving Your Work
- Reverting Workbooks
- Exporting Your Work
- Exporting the Data Source Connection
- Copying Information between Workbooks

#### **4) Tableau Server Comprehensive**

- Create the First Admin User& users
- Create Projects and Groups
- Assign Permissions to Projects
- Publishing Workbooks
- Publishing Data Sources
- Setting Permissions
- Opening Workbooks from the Server
- Importing Data Sources from the Server
- User Filtering

## **Microsoft Power BI Certification Training**

### **Course Outline:**

#### **Introduction**

- Power BI Introduction
- Data Visualization, Reporting
- Business Intelligence(BI), Traditional BI, Self-Serviced BI
- Cloud Based BI, On Premise BI
- Power BI Products
- Power BI Desktop (Power Query, Power Pivot, Power View)
- Flow of Work in Power BI Desktop
- Power BI Report Server, Power BI Service, Power BI Mobile
- Flow of Work in Power BI / Power BI Architecture
- A Brief History of Power BI

#### **Desktop Installation & Service Overview**

- Power BI Desktop Installation



- Building Blocks of Power BI
- Datasets, Visualizations, Reports, Dashboards, Tiles
- Power BI Desktop User Interface
- Fields Pane, Visualizations pane, Ribbon, Views, Pages Tab, Canvas
- Overview of Power Query / Query Editor – Extract, Transform & Load Data
- Connecting to Data Sources, Establish connection to the Excel source
- Importing Data into Power BI or Query Editor
- Transforming the Data using Power Query
- Model the Data using Power Pivot – Relationship View
- Creating New Measures and New Columns using DAX – Data View
- Visualizing the Data using Power View and Power Maps – Report View
- Saving and Publishing the Visuals or Reports
- Logon to Power BI Service
- View the Reports in PBI Service and Share the reports

### **Introduction to Power Query – Extract, Transform & Load**

- Data Transformation, Benefits of Data Transformation
- Shape or Transform Data using Power Query
- Overview of Power Query / Query Editor, Query Editor User Interface
- The Ribbon (Home, Transform, Add Column, View Tabs)
- The Queries Pane, The Data View / Results Pane, The Query Settings Pane,
- Formula Bar
- Advanced Editor – Complete ETL Code
- Saving Your Work – Applying ETL Changes – Loading into Power Pivot Model
- Power Query Conceptually

### **Datatypes and Filters in Power Query**

- Datatypes, Changing the Datatype of a Column
- Filters in Power Query
- Auto Filter / Basic Filtering
- Filter a Column using Text Filters
- Filter a Column using Number Filters
- Filter a Column using Date Filters

- Filter Multiple Columns

### **Inbuilt Column Transformations**

- Remove Columns / Remove Other Columns
- Name / Rename a Column
- Reorder Columns or Sort Columns
- Add Column / Custom Column
- Split Columns
- Merge Columns
- PIVOT, UNPIVOT Columns
- Transpose Columns

### **In built Row Transformations**

- Header Row or Use First Row as Headers
- Keep Top Rows, Keep Bottom Rows
- Keep Range of Rows
- Keep Duplicates, Keep Errors
- Remove Top Rows, Remove Bottom Rows, Remove Alternative Rows
- Remove Duplicates, Remove Blank Rows, Remove Errors
- Group Rows / Group By

### **Append Queries / Union Queries**

- Append Queries
- Append Queries as New
- Append 2 or more files individually with different queries
- Appending multiple files of same type from a folder using single query
- Query Options
- Copy Query, Paste Query
- Delete Query, Rename Query
- Enable Load, Include in report Refresh
- Duplicate Query, Reference Query
- Move to Group, Move Up, Move Down

## **Merge Queries / Join Queries**

- Merge Queries, Merge Queries as New
- Default Types of Joins / Join Kinds / Merge Type
- Left Outer (all from first, matching from second)
- Right Outer (all from second, matching from first)
- Full Outer (all rows from both)
- Inner (only matching rows)
- Left Anti (rows only in first)
- Right Anti (rows only in second)
- Cartesian Join or Cross Join

## **Power BI Data Modeling – Relationship View**

- Data Modeling Introduction
- Relationship, Need of Relationship
- Relationship Types / Cardinality in General
- One-to-One, One-to-Many (or Many-to-One), Many-to-Many
- AutoDetect the relationship, Create a new relationship, Edit existing relationships
- Make Relationship Active or Inactive
- Delete a relationship
- Cross filter direction (Single, Both), Assume Referential Integrity

## **Enhancing the Data Model - DAX**

- What is DAX, Calculated Column, Measures
- DAX Table and Column Name Syntax
- Creating Calculated Columns, Creating Measures
- Implicit Vs Explicit Measures
- Calculated Columns Vs Measures
- DAX Syntax & Operators
- DAX Operators
- Types of Operators
- Arithmetic Operators, Comparison Operators, Text Concatenation Operator, Logical Operators

## **DAX Functions Categories**

- Date and Time Functions
- Logical Functions
- Text Functions
- Math & Statistical Functions
- Filter Functions
- Time Intelligence Functions

## **DAX Date & Time Functions**

- YEAR, MONTH, DAY
- WEEKDAY, WEEKNUM
- FORMAT (Text Function) à Month Name, Weekday Name
- DATE, TODAY, NOW
- HOUR, MINUTE, SECOND, TIME
- DATEDIFF, CALENDAR
- Creating Date Dimension Table

## **DAX Text Functions**

- LEN, CONCATENATE (&)
- LEFT, RIGHT, MID
- UPPER, LOWER
- TRIM, SUBSTITUTE, BLANK

## **DAX Logical Functions**

- IF
- TRUE, FALSE
- NOT, OR, IN, AND
- IFERROR
- SWITCH

## **DAX Math and Statistical Functions**

- INT
- ROUND, ROUNDUP, ROUNDDOWN

- DIVIDE
- EVEN, ODD
- POWER, SIGN
- SQRT, FACT
- SUM, SUMX
- MIN, MINX
- MAX, MAXX
- COUNT, COUNTX
- AVERAGE, AVERAGEX
- COUNTROWS, COUNTBLANK

#### **DAX Filter Functions**

- CALCULATE
- ALL
- RELATED

#### **DAX Time Intelligence Functions**

- Time Intelligence Introduction
- TOTALMTD, TOTALQTD, TOTALYTD
- PREVIOUSDAY, PREVIOUSMONTH, PREVIOUSQUARTER, PREVIOUSYEAR
- NEXTDAY, NEXTMONTH, NEXTQUARTER, NEXTYEAR
- SAMEPERIODLASTYEAR
- YOY Growth
- MOM Growth

#### **Report View / Power View**

- Report View User Interface
- Fields Pane, Visualizations pane, Ribbon, Views, Pages Tab, Canvas
- Visual Interactions
- Interaction Type (Filter, Highlight, None)
- Visual Interactions Default Behavior, Changing the Interaction

#### **Filters in Power View**

- Filter Types
- Visual Level Filters, Page Level Filters, Report Level Filters, Drill Through Filters
- Filter Sub Types
- Basic Filtering, Advanced Filtering, Top N, Relative Date Filtering
- Numeric field filters, Text field filters, Date and Time field Filters

### **Grouping, Binning & Sorting**

- Grouping and Binning Introduction
- Using grouping, Creating Groups on Text Columns
- Using binning, Creating Bins on Number Column and Date Columns
- Sorting Data in Visuals
- Changing the Sort Column, Changing the Sort Order
- Sort using column that is not used in the Visualization
- Sort using the Sort by Column button

### **Hierarchies and Drill-Down Reports**

- Hierarchy Introduction, Default Date Hierarchy
- Creating Hierarchy, Creating Custom Date Hierarchy
- Change Hierarchy Levels
- Drill-Up and Drill-Down Reports
- Data Actions, Drill Down, Drill Up, Show Next Level, Expand Next Level
- Drilling filters other visuals option

### **Power BI Visualizations**

- Visualizing Data, Why Visualizations
- Visualization types, Field Wells
- Visuals for Filtering, Visualizing Categorical Data, Visualizing Trend Data
- Visualizing KPI Data, Visualizing Tabular Data, Visualizing Geographical Data
- Leveraging Power BI Custom Visuals

### **Visuals for Filtering**

- Slicer Visualization
- When to use a Slicer

- Create and format Slicer Visualization
- Hierarchy Slicer (Custom Visualization)
- When to use a Hierarchy Slicer
- Create and format Hierarchy Slicer
- Advantages of Hierarchy Slicer

### **Visualizing Categorical Data**

- Create and Format Bar and Column Charts
- Create and Format Stacked Bar Chart Stacked Column Chart
- Create and Format Clustered Bar Chart, Clustered Column Chart
- Create and Format 100% Stacked Bar Chart, 100% Stacked Column Chart
- Create and Format Pie and Donut Charts
- Create and Format theTree Map Visual
- Create and Format Scatter Charts

### **Visualizing Trend Data**

- Line and Area Charts
- Create and Format Line Chart, Area Chart, Stacked Area Chart
- Combo Charts
- Create and Format Line and Stacked Column Chart, Line and Clustered Column Chart
- Create and Format Ribbon Chart, Waterfall Chart, Funnel Chart

### **Visualizing KPI Data**

- Create and Format Gauge Visual, KPI Visual
- Create and Format Card Visualization, Multi Row Card

### **Visualizing Tabular Data, Geographical Data & R Script Visual**

- Create and Format Table Visual, Matrix Visualization
- Create and Format Map Visual, Filled Map Visual, Arc GIS Maps Visual
- Create and Format R Script Visual

### **Power BI Service Introduction**

- Power BI Service Introduction, Power BI Cloud Architecture

- Creating Power BI Service Account, SIGN IN to Power BI Service Account
- Publishing Reports to the Power BI service, Import / Getting the Report to PBI Service
- My Workspace / App Workspaces Tabs
- DATASETS, WORKBOOKS, REPORTS, DASHBOARDS
- Working with Datasets, Creating Reports in Cloud using Published Datasets
- Power BI Datasets Live Connection using Desktop
- Working with Workbooks, working with Reports, Sharing Reports

### **Dashboards Development**

- Creating Dashboards
- Pin Visuals and Pin LIVE Report Pages to Dashboard
- Advantages of Dashboards
- Interacting with Dashboards
- Adding Tiles to Dashboards
- Web Content, Image, Text Box, Video
- Formatting Dashboard
- Sharing Dashboard

### **Data Gateways**

- Introduction to Data Gateways
- How Data Gateways work
- Connect to an on premise Data Source by using a Data Gateway
- Download Data Gateway
- Installing a Data Gateway
- Types of Gateways
- On-premises Data Gateway, On-premises Data Gateway (personal mode)
- Manage Data Gateway
- Add and Remove Administrators
- Add Data Source, Add or Remove Users to a Data Source
- Refresh On Premise Data
- Configuring Automatic Refresh using Schedules



## **Collaboration in Power BI using App Workspace**

- Introduction to App Workspaces
- Create an App Workspace
- Add Members to App Workspace to Collaborate
- App Workspace Access
- Admin, Member, Contributor

## **Sharing Power BI Content using Apps and Content Packs**

- Introduction to App
- Publish an App
- Update a Published App
- Manage Content in App
- Include in App, Exclude in App
- Sharing App
- Entire Organization, Specific individuals or group
- Un publishing an App
- Content Pack Introduction
- Create Content Pack
- Sharing Content Packs
- Specific Groups, My Entire Organization
- Selecting the Content / Items to Publish or Share

## **Row Level Security in Power BI**

- Introduction to Row Level Security
- Row Level Security (RLS) with DAX
- Manage Roles, Creating Roles, Testing Roles
- Adding Members to Roles in Power BI Service
- Dynamic Row Level Security
- Creating Users Table and Adding to the Model
- Capturing users using UserName () or UserPrincipalName () DAX Functions

### **Prerequisites:**

- Basic SQL
- Basic Coding Knowledge
- Any one programming knowledge

### **Who Can attend:**

- Data Scientists, Business Intelligence Professionals, and Testing Professionals
- Statisticians, Business Analysts, and Project Managers
- Data Visualization Analysts and Functional Experts
- Graduates and professionals looking to move into the analytics domain

### **Number of Hours: 70hrs**

### **Certification: Tableau Certified Associate / Professional / Desktop Specialist / Server Associate / Server Professional**

### **Key Features:**

- One to One Training
- Online Training
- Fastrack & Normal Track
- Resume Modification
- Mock Interviews
- Video Tutorials
- Materials
- Real Time Projects
- Virtual Live Experience
- Preparing for Certification