

# Power BI Training Topic Outline

Yuvraj Singh Tomar, IT Executive, Dvertex Information Systems

---

## Lesson 1: Introduction to Power BI

- **Objective:** To provide a foundational understanding of Power BI and its significance in business intelligence.
  - **Key Topics:**
    - Overview of Power BI
    - Introduction to Power BI Desktop, Power BI Service, and Power BI Mobile
    - Business Intelligence and its role in decision-making
    - Power BI vs. Excel for data analysis
  - **Activities:**
    - Hands-on exploration of Power BI interface
    - Basic report creation
- 

## Lesson 2: Power BI Interface and Components

- **Objective:** To familiarize participants with the Power BI user interface and its key components.
  - **Key Topics:**
    - Power BI Desktop Layout: Fields, Visualizations, Report View, and Data View
    - Power BI Service and Power BI Mobile features
    - Power BI ribbon tools and functionality
    - Overview of Power Query Editor
  - **Activities:**
    - Navigating Power BI Desktop
    - Introduction to Power BI Service
- 

## Lesson 3: Connecting and Transforming Data

- **Objective:** To teach participants how to connect to various data sources and transform the data using Power Query.
- **Key Topics:**
  - Connecting Power BI to different data sources (Excel, SQL, Web, etc.)

- Data transformation: Removing duplicates, changing data types, and data shaping
  - M code basics for advanced transformations
  - Filtering, sorting, and transforming columns
  - **Activities:**
    - Importing data from Excel and CSV files
    - Hands-on data transformation using Power Query Editor
- 

#### Lesson 4: Creating and Customizing Visuals

- **Objective:** To teach participants how to create and customize various types of visuals in Power BI.
  - **Key Topics:**
    - Types of visuals: Tables, Charts (Bar, Line, Pie, etc.), Maps, Cards
    - Creating and customizing visuals (color, font size, labels, etc.)
    - Formatting visuals and reports for better insights
    - Using slicers and filters
  - **Activities:**
    - Create different types of visuals (charts, tables, and maps)
    - Customize reports using formatting tools
- 

#### Lesson 5: Data Modeling Basics

- **Objective:** To introduce data modeling concepts and how to create relationships between tables.
  - **Key Topics:**
    - Data modeling overview and best practices
    - Types of relationships: One-to-One, One-to-Many, Many-to-Many
    - Creating relationships between tables
    - Using calculated columns and measures
  - **Activities:**
    - Build a basic data model
    - Create relationships between tables
- 

#### Lesson 6: DAX for Beginners

- **Objective:** To provide an introduction to Data Analysis Expressions (DAX) and how to use it for calculations and analysis.
  - **Key Topics:**
    - What is DAX and its importance
    - Basic DAX functions: SUM, AVERAGE, COUNT, etc.
    - Creating calculated columns and measures
    - Introduction to time-intelligence functions
  - **Activities:**
    - Write simple DAX expressions to calculate new fields
    - Use DAX for filtering and aggregation
- 

## Lesson 7: Publishing and Sharing Reports

- **Objective:** To teach how to publish and share Power BI reports within organizations or with external users.
  - **Key Topics:**
    - Publishing reports to Power BI Service
    - Creating dashboards and reports in Power BI Service
    - Sharing reports with colleagues and external users
    - Setting up Power BI workspaces and apps
  - **Activities:**
    - Publish a report to Power BI Service
    - Create a dashboard from reports
- 

## Lesson 8: Power BI Security and Administration

- **Objective:** To introduce security features and administrative controls in Power BI.
- **Key Topics:**
  - User roles and permissions in Power BI Service
  - Row-level security (RLS) for data protection
  - Power BI Administration: Monitoring, auditing, and managing usage
  - Managing workspaces and data access
- **Activities:**
  - Set up Row-level security for a report

- Explore the Power BI Admin Portal
- 

## Lesson 9: Integrating Power BI with Other Tools

- **Objective:** To explore how Power BI integrates with other Microsoft and third-party tools to enhance functionality.
  - **Key Topics:**
    - Integrating Power BI with Excel, SQL, and Azure
    - Using Power Automate with Power BI for workflows
    - Embedding Power BI reports in SharePoint and web apps
    - Power BI API for custom integrations
  - **Activities:**
    - Connect Power BI to an SQL Server database
    - Use Power Automate to trigger reports based on data changes
- 

## Additional Resources:

- **Power BI Official Documentation:** <https://docs.microsoft.com/en-us/power-bi/>
  - **Power BI Community Forum:** <https://community.powerbi.com/>
  - **Recommended Books:**
    - *The Definitive Guide to DAX* by Marco Russo & Alberto Ferrari
    - *Power BI Cookbook* by Brett Powell
- 

## Conclusion:

By the end of this training, participants will be equipped with the foundational knowledge and skills necessary to use Power BI for data visualization, reporting, and business intelligence. Hands-on activities throughout the topics ensure that participants gain practical experience to apply in their work environments.

---