

## **Analyzing Data with Power BI**

### **Course Outline**

#### **Module 1: Introduction to Self-Service BI Solutions**

Introduces business intelligence (BI) and how to self-serve with BI.

#### **Lessons**

- Introduction to business intelligence
- Introduction to data analysis
- Introduction to data visualization
- Overview of self-service BI
- Considerations for self-service BI
- Microsoft tools for self-service BI

#### **Lab : Exploring an Enterprise BI solution**

- Viewing reports
- Creating a Power BI report
- Creating a Power BI dashboard

After completing this module, students will be able to:

- Describe the trends in BI
- Describe the process of data analysis in Power BI.
- Use the key visualizations in Power BI.
- Describe the rationale for self-service BI.
- Describe considerations for self-service BI.
- Understand how you can use Microsoft products to implement a BI solution.

#### **Module 2: Introducing Power BI**

This module introduces Power BI desktop, and explores the features that enable the rapid creation and publication of sophisticated data visualizations.

#### **Lessons**

- Power BI
- The Power BI service

#### **Lab : Creating a Power BI dashboard**

- Connecting to Power BI data
- Create a Power BI dashboard

After completing this module, students will be able to:

- Develop reports using the Power BI Desktop app.
- Use report items to create dashboards on the Power BI portal.
- Understand the components of the Power BI service including licensing and tenant management.

### **Module 3: Power BI**

At the end of this module students will be able to explain the rationale and advantages of using Power BI.

#### **Lessons**

- Using Excel as a data source for Power BI
- The Power BI data model
- Using databases as a data source for Power BI
- The Power BI service

#### **Lab : Importing data into Power BI**

- Importing Excel files into Power BI
- Viewing reports from Excel files

After completing this module, students will be able to:

- Describe the data model and know how to optimize data within the model.
- Connect to Excel files and import data
- Use on-premises and cloud Microsoft SQL Server databases as a data source, along with the R script data connector
- Take advantage of the features of the Power BI service by using Q&A to ask questions in natural query language, and create content packs and groups.

### **Module 4: Shaping and Combining Data**

With Power BI desktop you can shape and combine data with powerful, built-in tools. This module introduces the tools that are available for preparing your data, and transforming it into a form ready for reporting.

#### **Lessons**

- Power BI desktop queries
- Shaping data
- Combining data

#### **Lab : Shaping and combining data**

- Shape power BI data

- Combine Power BI data

After completing this module, students will be able to:

- Perform a range of query editing skills in Power BI
- Shape data, using formatting and transformations.
- Combine data together from tables in your dataset.

### **Module 5: Modeling data**

This module describes how to shape and enhance data.

#### **Lessons**

- Relationships
- DAX queries
- Calculations and measures

#### **Lab : Modeling Data**

- Create relationships
- Calculations

After completing this module, students will be able to:

- Describe relationships between data tables.
- Understand the DAX syntax, and use DAX functions to enhance your dataset.
- Create calculated columns, calculated tables and measures.

### **Module 6: Interactive Data Visualizations**

This module describes how to create and manage interactive data visualizations

#### **Lessons**

- Creating Power BI reports
- Managing a Power BI solution

#### **Lab : Creating a Power BI report**

- Connecting to Power BI data
- Building Power BI reports
- Creating a Power BI dashboard

After completing this module, students will be able to:

- Use Power BI desktop to create interactive data visualizations.
- Manage a power BI solution.

### **Module 7: Direct Connectivity**

This module describes various connectivity options using Power BI.

#### **Lessons**

- Cloud data
- Connecting to analysis services

#### **Lab : Direct Connectivity**

- Direct connectivity from Power BI desktop
- Direct connectivity from the Power BI service

After completing this module, students will be able to:

- Use Power BI direct connectivity to access data in Azure SQL data warehouse, in addition to big data sources such as Hadoop
- Use Power BI with SQL Server Analysis Services data, including Analysis services modes running in multidimensional mode.

#### **Module 8: The Developer API**

This module describes the developer API within Power BI.

#### **Lessons**

- The developer API
- Custom visuals

#### **Lab : Using the developer API**

- Using custom visuals

After completing this module, students will be able to:

- Describe the developer API.
- Use the developer API to create custom visuals.

#### **Module 9: Power BI mobile app**

This module describes the Power BI mobile app.

#### **Lessons**

- Power BI mobile apps
- Using the Power BI mobile app
- Power BI embedded