

# **Analyzing Data with Microsoft Power BI (MS-20778)**

**Modality: Virtual Classroom**

**Duration: 3 Days**

**SATV Value: 3**

## **About this course:**

The main focus of the MS-20778 course is to offer in-depth knowledge of data analysis with Power BI (Power Business Intelligence). The main segments of this course involve Power Business Intelligence, Power Business Intelligence mobile applications, and the power of visualization.

Candidates who wish to give their career a kick starts should consider taking the course.

On average, a Business Intelligence Analyst earns \$60,297 annually.

## **Course Objective:**

At the end of this course, each individual will be able to:

- Use all that Power Business Intelligence offers
- Analyze data using Power BI
- Execute Power BI on desktop data
- Connect different data stores
- Use visualizations with Power BI
- Incorporate Power BI with Excel spreadsheets
- Use Power BI as a modeling tool
- Use and implement the Power BI developer API

## **Audience:**

The target audience for this course is the SQL professionals who are responsible for Reports.

## **Prerequisites:**

For this course, you should have a strong understanding of the following concepts:

- Hands-on experience of working with Microsoft Office applications including Microsoft Excel
- Experience of working with Report and Relational Database
- Strong concepts of basic programming such as looping and branching

## **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: Modelling data

This module describes how to shape and enhance data.

### Lessons

- Relationships
- DAX queries
- Calculations and measures

### Lab : Modelling 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: 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**

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

After completing this module, students will be able to:

- Describe the Power BI mobile app.
- Download and use the Power BI mobile app.
- Describe Power BI embedded and when you would want to use it.

