

Analyzing Data with Power BI

Length: 3 Days

Course Description: The main purpose of the course is to give students a good understanding of data analysis with Power BI. The course includes creating visualizations, the Power BI Service, and the Power BI Mobile App.

Audience Profile: The course will likely be attended by SQL Server report creators who are interested in alternative methods of presenting data.

Course Completion: After completing this course, students will be able to:

- Perform Power BI desktop data transformation
- Describe Power BI desktop modelling
- Create a Power BI desktop visualization
- Implement the Power BI service
- Describe how to connect to Excel data
- Describe how to collaborate with Power BI data
- Connect directly to data stores
- Describe the Power BI developer API
- Describe the Power BI mobile app

Prerequisites: Before attending this course, students must have:

- Excellent knowledge of relational databases and reporting
- Some basic knowledge of data warehouse schema topology (including star and snowflake schemas)
- Some exposure to basic programming constructs (such as looping and branching)
- An awareness of key business priorities such as revenue, profitability, and financial accounting is desirable
- Familiarity with Microsoft Office applications – particularly Excel

COURSE CONTENT

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 models 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