20778 - Analyzing Data with Power BI

Course ID #: 1401-807-ZZ-W

Hours: 21

Course Content

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.

At 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.

Target Student:

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

Delivery Method:

This course is delivered through a mix of instructor-led training (ILT) and hands-on labs.

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Topics:

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

Completing this module, allows you 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

Completing this module, allows you 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

Completing this module, allows you 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, build-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

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Completing this this module, allows you 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

Completing this module, allows you 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

Completing this module, allows you 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

Completing this module, allows you 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 modles running in multidimentional mode.

Module 8: Developer API
This module describes the developer API within Power BI.
Lessons
- The developer API
- Custom visuals

Completing this module, allows you 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

Completing this module, allows you 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.