DA100: *Analyzing Data with Power BI*

Duration: 4 Days; Instructor-led

COURSE DESCRIPTION
This course will discuss the various methods and best practices that are in line with business and technical requirements for modeling, visualizing, and analyzing data with Power BI. The course will also show how to access and process data from a range of data sources including both relational and non-relational data. This course will also explore how to implement proper security standards and policies across the Power BI spectrum including datasets and groups. The course will also discuss how to manage and deploy reports and dashboards for sharing and content distribution. Finally, this course will show how to build paginated reports within the Power BI service and publish them to a workspace for inclusion within Power BI.

AUDIENCE
The audience for this course is data professionals and business intelligence professionals who want to learn how to accurately perform data analysis using Power BI. This course is also targeted toward those individuals who develop reports that visualize data from the data platform technologies that exist on both in the cloud and on-premises.

PREREQUISITES
Successful Data Analysts start this role with experience of working with data in the cloud.

Specifically:
- Understanding core data concepts.
- Knowledge of working with relational data in the cloud.
- Knowledge of working with non-relational data in the cloud.
- Knowledge of data analysis and visualization concepts.

METHODOLOGY
This program will be conducted through Instructor-led (classroom)

WHAT YOU WILL LEARN
After completing this course, you 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.

COURSE OUTLINE

Module 1: Get Started with Microsoft Data Analytics
This module explores the different roles in the data space, outlines the important roles and responsibilities of a Data Analysts, and then explores the landscape of the Power BI portfolio.
- Data Analytics and Microsoft
- Getting Started with Power BI

Module 2: Prepare Data in Power BI
This module explores identifying and retrieving data from various data sources. You will also learn the options for connectivity and data storage, and understand the difference and performance implications of connecting directly to data vs. importing it.
- Get data from various data sources
- Optimize performance
- Resolve data errors

Module 3: Clean, Transform, and Load Data in Power BI
This module teaches you the process of profiling and understanding the condition of the data. They will learn how to identify anomalies, look at the size and shape of their data, and perform the proper data cleaning and transforming steps to prepare the data for loading into the model.
- Data shaping
- Enhance the data structure
- Data Profiling

Module 4: Design a Data Model in Power BI
This module teaches the fundamental concepts of designing and developing a data model for proper performance and scalability. This module will also help you understand and tackle many of the common data modeling issues, including relationships, security, and performance.
- Introduction to data modeling
- Working with tables
- Dimensions and Hierarchies

Module 5: Create Model Calculations using DAX in Power BI
This module introduces you to the world of DAX and its true power for enhancing a model. You will learn about aggregations and the concepts of Measures, calculated columns and tables, and Time Intelligence functions to solve calculation and data analysis problems.
- Introduction to DAX
- DAX context
- Advanced DAX

Module 6: Optimize Model Performance
In this module you are introduced to steps, processes, concepts, and data modeling best practices necessary to optimize a data model for enterprise-level performance.

- Optimze the model for performance
- Optimize DirectQuery Models
- Create and manage Aggregations

Module 7: Create Reports
This module introduces you to the fundamental concepts and principles of designing and building a report, including selecting the correct visuals, designing a page layout, and applying basic but critical functionality. The important topic of designing for accessibility is also covered.
- Design a report
- Enhance the report

Module 8: Create Dashboards
In this module you will learn how to tell a compelling story through the use of dashboards and the different navigation tools available to provide navigation. You will be introduced to features and functionality and how to enhance dashboards for usability and insights.
- Create a Dashboard
- Real-time Dashboards
- Enhance a Dashboard

Module 9: Create Paginated Reports in Power BI
This module will teach you about paginated reports, including what they are how they fit into Power BI. You will then learn how to build and publish a report.
- Paginated report overview
- Create Paginated reports

Module 10: Perform Advanced Analytics
This module helps you apply additional features to enhance the report for analytical insights in the data, equipping you with the steps to use the report for actual data analysis. You will also perform advanced analytics using AI visuals on the report for even deeper and meaningful data insights.
- Advanced Analytics
- Data Insights through AI visuals

Module 11: Create and Manage Workspaces
This module will introduce you to Workspaces, including how to create and manage them. You will also learn how to share content, including reports and dashboards, and then learn how to distribute an App.
- Creating Workspaces
- Sharing and Managing Assets

Module 12: Manage Datasets in Power BI
In this module you will learn the concepts of managing Power BI assets, including datasets and workspaces. You will also publish datasets to the Power BI service, then refresh and secure them.
- Parameters
- Datasets

Module 13: Row-level security
This module teaches you the steps for implementing and configuring security in Power BI to secure Power BI assets.
- Security in Power BI