

PL-300 Certification: Microsoft Power BI Data Analyst Training

Course description

This course explores the techniques and recommended practices for modelling, visualizing, and analyzing data in Power BI to meet both business and technical needs. Participants will learn how to connect to and prepare data from a variety of sources, including relational databases. Participants will gain a good understanding on data modelling and creating calculations on Power BI. The course also explains how to manage and publish reports so they can be shared and distributed across the organization in a secured way.

• Course level: Associate/Intermediate
• Duration: 3 days

Activities

This course includes presentations, demonstrations, and hands-on labs for participants.

Course objectives

After completing this course, learners will be able to:

- Gain a solid understanding of the core concepts and features of Power BI, including data modeling, visualizations, and data transformation.
- Learn how to import and shape data from various sources, design data models, create relationships between tables, and optimize data for analysis.
- Develop skills in creating interactive and visually compelling reports and dashboards using Power BI.
- Explore advanced techniques for data modelling, using DAX formulas, calculated columns, measures and other modelling techniques.
- Understand the different security options available in Power BI and learn how to apply them to ensure data privacy and control access to reports and dashboards.

- Learn how to integrate Power BI with other Microsoft applications, such as SharePoint, Teams, and Azure services, to enhance collaboration and extend the functionality of Power BI.
- Discover techniques for connecting to and collecting data from on-premises and cloud-based sources, including configuring data gateways and scheduling data refresh.
- Learn best practices for improving and optimizing query performance in Power BI, including data modeling techniques and query optimization.
- Explore advanced visualization techniques, such as custom visuals, bookmarks, drill-through actions, and storytelling, to create impactful and interactive reports.
- Understand how to monitor and troubleshoot Power BI solutions, including diagnosing and resolving data refresh issues, performance problems, and security concerns.

Intended audience

- Anyone interested in pursuing the Microsoft Certified Power BI Data Analyst certification.
- Anyone interested in learning how to use Power BI for data visualization and analysis.
- Data professionals and business intelligence professionals who want to learn how to accurately perform data analysis using Power BI.

Prerequisites

- Successful data analysts start this role with experience with data and visualization products and services.
- Understanding of both on-premises and cloud-based data sources will help.

Course outline

Module 1: Prepare the Data

- Get Data from Different Data Sources
    - Identify and connect to a data source
    - Change data source settings
    - Select a shared dataset or create a local dataset
    - Select a storage mode
    - Use Microsoft Dataverse
    - Change the value in a parameter
    - Connect to a data flow
- Clean, Transform, and Load the Data
    - Profile the data
    - Resolve inconsistencies, unexpected or null values, and data quality issues
    - Identify and create appropriate keys for joins
    - Evaluate and transform column data types
    - Shape and transform tables
    - Combine queries

    - Apply user-friendly naming conventions to columns and queries
    - Configure data loading
    - Resolve data import errors

Module 2: Model the Data

- Design a Data Model
    - Define the tables
    - Configure table and column properties
    - Design and implement role-playing dimensions
    - Define a relationship's cardinality and cross-filter direction
    - Design a data model that uses a star schema
    - Create a common date table
- Develop a Data Model
    - Create calculated table
    - Create hierarchies
    - Create calculated columns
    - Implement row-level security roles
    - Use the Q&A feature
- Create Model Calculations by Using DAX
    - Create basic measures by using DAX
    - Use CALCULATE to manipulate filters
    - Implement Time Intelligence using DAX
    - Replace implicit measures with explicit measures
    - Create semi-additive measures
    - Use quick measures
- Optimize Model Performance
    - Remove unnecessary rows and columns
    - Identify poorly performing measures, relationships, and visuals

Module 3: Visualize and Analyze the Data

- Create Reports
    - Add visualization items to reports
    - Choose an appropriate visualization type
    - Format and configure visualizations
    - Use a custom visual
    - Apply and customize a theme
    - Configure conditional formatting
    - Apply slicing and filtering
    - Configure the report page
    - Use the Analyze in Excel feature
    - Choose when to use a paginated report

- Create Dashboards
    - Manage tiles on a dashboard
    - Configure mobile view
    - Use the Q&A feature
    - Add a Quick Insights result to a dashboard
    - Apply a dashboard theme
    - Pin a live report page to a dashboard
- Enhance Reports for Usability and Storytelling
    - Configure bookmarks
    - Create custom tooltips
    - Edit and configure interactions between visuals
    - Configure navigation for a report
    - Apply sorting
    - Configure Sync Slicers
    - Group and layer visuals by using the selection pane
    - Drilldown into data using interactive visuals
    - Export report data
    - Design reports for mobile devices
- Identify Patterns and Trends
    - Use the Analyze feature in Power BI
    - Identify outliers
    - Choose between continuous and categorical axis
    - Use groupings, binnings, and clustering
    - Use AI visuals
    - Use the Forecast feature
    - Create reference lines by using the Analytics pane

Module 4: Manage and Secure Power BI

- Manage Files and Datasets
    - Identify when a gateway is required
    - Configure a dataset scheduled refresh
    - Configure row-level security
    - Provide access to datasets
    - Manage global options for files
- Manage Workspaces
    - Create and configure a workspace
    - Assign workspace roles
    - Configure and update a workspace app
    - Publish, import, or update assets in a workspace
    - Apply sensitivity labels to workspace content
    - Configure subscriptions and data alerts

- Promote or certify Power BI content

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