Data4Every1

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MS-PL300T00: DESIGN & MANAGE ANALYTICS SOLUTIONS USING POWER BI

DURATION	LEVEL	TECHNOLOGY	DELIVERY METHOD	CERTIFICATION
3 Day	Intermediate	Microsoft Power BI	Instructor-led	PL-300 Exam

INTRODUCTION

This course covers 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 show how to access and process data from a range of data sources including both relational and non-relational sources. Finally, this course will also discuss how to manage and deploy reports and dashboards for sharing and content distribution.

AUDIENCE PROFILE

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 at those individuals who develop reports that visualize data from the data platform technologies that exist both in the cloud and on-premises.

PREREQUISITES

Before attending this course, students must have:

- Basic understanding of data concepts
- Experience with data analysis
- Familiarity with Power BI basics
- Knowledge of core business concepts
- Ability to work with data sources

COURSE OBJECTIVES

After completing this course, students will be able to:

- Prepare and clean data for analysis
- Model data using Power BI
- Create interactive reports and dashboards
- Apply DAX for calculations and measures
- Manage and optimize data performance
- Share and distribute Power BI content securely

COURSE CONTENT

Module 1: Get started with Microsoft data analytics

Explore the role of a data analyst and how Power BI tools transform data into impactful reports and dashboards that support trusted, data-driven decisions across the business.

Module 1.1: Discover data analysis

Would you like to explore the journey of a data analyst and learn how a data analyst tells a story with data? In this module, you explore the different roles in data and learn the different tasks of a data analyst.

Module 1.2: Get started building with Power BI

Learn about Power BI, the building blocks and flow of Power BI, and how to create compelling, interactive reports.

Module 1.3: Introduction to end-to-end analytics using Microsoft Fabric

Discover how Microsoft Fabric can meet your enterprise's analytics needs in one platform. Learn about Microsoft Fabric, how it works, and identify how you can use it for your analytics needs.

Module 1.4: Get started with Copilot in Power BI

Copilot in Power BI increases productivity when developing semantic models and reports using Power BI. Copilot also allows you to interact with your data using natural language to gain insights.

Module 2: Prepare data for analysis with Power BI

You'll learn how to use Power Query to extract data from different data sources, choose a storage mode, and connectivity type. You'll also learn to profile, clean, and load data into Power BI before you model your data.

Module 2.1: Get data in Power BI

You'll learn how to retrieve data from a variety of data sources, including Microsoft Excel, relational databases, and NoSQL data stores. You'll also learn how to improve performance while retrieving data.

Module 2.2: Clean, transform and load data in Power BI

Power Query has an incredible number of features that are dedicated to helping you clean and prepare your data for analysis. You'll learn how to simplify a complicated model, change data types, rename objects, and pivot data. You'll also learn how to profile columns so

that you know which columns have the valuable data that you're seeking for deeper analytics.

Module 2.3: Choose a Power BI model Framework

Describe model frameworks, their benefits and limitations, and features to help optimize your Power BI data models.

Module 3: Model Data with Power BI

Data modeling configures and shapes your prepared data to design a semantic model with the necessary relationships and calculations using Data Analysis Expressions (DAX). This process ensures accurate analysis and sets you up to create clear, impactful Power BI reports.

Module 3.1: Configure a semantic model

Semantic models organize complex data into an intuitive structure, enhancing data visualization and enabling efficient, insightful reporting for better decision-making.

Module 3.2: Write DAX formulas for semantic models

Data Analysis Expressions (DAX) is a formula language for Power BI that enables you to create calculations, add logic, and enhance data analysis within your reports and semantic models.

Module 3.3: Create DAX calculations in semantic models

Adding DAX calculations to Power BI semantic models allows you to define custom logic within your data model, to enable deeper analysis and data-driven business decisions.

Module 3.4: Modify DAX filter context in semantic models

Modifying the filter context in DAX lets you control how calculations evaluate data in Power BI semantic models. Gain deeper insights and tailor your analysis in your reports by choosing exactly what data is included in calculations.

Module 3.5: Use DAX time intelligence functions in semantic models

DAX time intelligence functions in Power BI enable users to analyze and compare data across different time periods, supporting insightful reporting on trends, growth, and performance over time.

Module 3.6: Create visual calculations in Power BI Desktop

Calculations in Power BI are necessary to enrich data analysis. Visual calculations simplify complex formulas, enhance performance, and reduce maintenance.

Module 3.7: Optimize a model for performance in Power BI

Performance optimization, also known as performance tuning, involves making changes to the current state of the semantic model so that it runs more efficiently. Essentially, when your semantic model is optimized, it performs better.

Module 4: Design effective reports in Power BI

Use data visualization and storytelling techniques to create insightful, dynamic Power BI reports that engage users, highlight key findings, and help inform decisions based on data.

Module 4.1: Scope report design requirements

Identify your audience, choose suitable report types, and define interface and experience requirements to effectively plan your report design.

Module 4.2: Design Power BI Reports

Design effective Power BI reports that are visually appealing and easy to understand with consistent report structure, interactive objects, and filtering.

Module 4.3: Enhance Power BI report designs for the user experience

Design reports with intuitive navigation and enable users to explore data in an easy way that is meaningful to them.

Module 4.4: Perform analytics in Power BI

Advanced analytics helps you gain deeper insights into your data, identify trends, and make data-driven decisions. Power BI provides a variety of tools and features to help you analyze your data effectively.

Module 5: Manage and secure Power BI

Ensure content is accessible and distributed effectively in Power BI to foster collaboration and informed decision-making. Protect sensitive information with robust security, building trust across your organization..

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Module 5.1: Manage workspaces in Power BI Service
Explore the Power BI service, create and manage workspaces, and distribute reports to users.

Module 5.2: Manage semantic models in Power BI
Semantic models are the foundation for report development in Power BI. Efficient management ensures data connectivity and improves report performance and accuracy.

Module 5.3: Choose a content distribution method
Choose a content distribution method for Power BI.

Module 5.4: Create dashboards in Power BI
Microsoft Power BI dashboards are different than Power BI reports. Dashboards allow report consumers to create a single artifact of directed data that is personalized just for them. Dashboards can be composed of pinned visuals that are taken from different reports. Where a Power BI report uses data from a single semantic model, a Power BI dashboard can contain visuals from different semantic models.

Module 5.5: Secure data access in Power BI
Row-level security (RLS) and Object-level security (OLS) allows you to create a single or a set of reports that targets data for a specific user. In this module, you'll learn how to implement RLS by using either a static or dynamic method and how Microsoft Power BI simplifies testing RLS in Power BI Desktop and Power BI service. In addition, you'll learn how to implement OLS to restrict access to Power BI model objects.

ASSOCIATED CERTIFICATIONS & EXAM

This course will prepare delegates to write the PL-300 Power BI Data Analyst Associate exam.