

Azure Enterprise Data Analyst Associate

DP-500: Designing and Implementing Enterprise-Scale Analytics Solutions Using Microsoft Azure and Microsoft Power BI

Overview

Course Duration: 32 Hours.

About This Course

DP-500 covers methods and practices for performing advanced data analytics at scale. build on existing analytics experience and learn to implement and manage a data analytics environment, query, transform data, implement, and manage data models, explore and visualize data.

You will use Microsoft Purview, Azure Synapse Analytics, and Power BI to build analytics solutions.

Audience Profile

Candidates for this course should have subject matter expertise in designing, creating, and deploying enterprise-scale data analytics solutions. Specifically, candidates should have advanced Power BI skills, including managing data repositories and data processing in the cloud and on-premises, along with using Power Query and Data Analysis Expressions (DAX). They should also be proficient in consuming data from Azure Synapse Analytics and should have experience querying relational databases, analyzing data by using Transact-SQL (T-SQL), and visualizing data.

At Course Completion

After completing this course, students will be able to:

- Help collect enterprise-level requirements for data analytics solutions that include Azure and Power BI.
- Advise on data governance and configuration settings for Power BI administration.
- Monitor data usage.
- Optimize performance of the data analytics solutions.

Course Outline

Module 1: Introduction to data analytics on Azure.

Explore Azure data services, concepts of data analytics, and what you need to implement modern analytics at scale.

After completing this module, students will be able to:

- Understand the Azure data ecosystem.
- Explore modern analytics solution architecture.
- Understand concepts of data analytics.
- Explore data analytics at scale.
- Understand data analytics types.
- Explore the data analytics process.
- Understand types of data and data storage.
- Explore data team roles and responsibilities.
- Review tasks and tools for data analysts.
- Scale analytics with Azure Synapse Analytics and Power BI.
- Strategies to scale analytics.

Module 2: Govern data across an enterprise.

Use Microsoft Purview to register and scan data, catalog data artifacts, find data for reporting, and manage Power BI artifacts to improve data governance in your organization.

After completing this module, students will be able to:

- Introduction to Microsoft Purview.
- Discover trusted data using Microsoft Purview.
- Catalog data artifacts by using Microsoft Purview.
- Manage Power BI assets by using Microsoft Purview.
- Integrate Microsoft Purview and Azure Synapse Analytics.
- Search for assets.
- Browse assets.
- Use assets with Power BI.
- Integrate with Azure Synapse Analytics.
- Register and scan data.
- Classify and label data.
- Search the data catalog.
- Register and scan a Power BI tenant.
- Search and browse Power BI assets.
- View Power BI metadata and lineage.
- Catalog Azure Synapse Analytics data assets in Microsoft Purview.
- Connect Microsoft Purview to an Azure Synapse Analytics workspace.
- Search a Purview catalog in Synapse Studio.
- Track data lineage in pipelines.
- Integrate Azure Synapse Analytics and Microsoft Purview.

Module 3: Model, query, and explore data in Azure Synapse.

Query and explore data in Azure Synapse Analytics. You'll learn how to query and visualize data in a data lake and a data warehouse.

After completing this module, students will be able to:

- Introduction to Azure Synapse Analytics.
- Use Azure Synapse serverless SQL pool to query files in a data lake.
- Analyze data with Apache Spark in Azure Synapse Analytics.
- Analyze data in a relational data warehouse.
- Understand Azure Synapse serverless SQL pool capabilities and use cases.
- Query files using a serverless SQL pool.
- Create external database objects.
- Query files using a serverless SQL pool.
- Get to know Apache Spark.
- Use Spark in Azure Synapse Analytics.
- Analyze data with Spark.
- Visualize data with Spark.
- Analyze data with Spark.
- Design a data warehouse schema.
- Create data warehouse tables.
- Load data warehouse tables.
- Query a data warehouse.
- Explore a data warehouse.
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Module 4: Prepare data for tabular models in Power BI.

Designing reports for enterprise scale requires more than just connecting to data. Understanding Power BI model frameworks and strategies for scalability and optimization are key to a successful enterprise implementation.

After completing this module, students will be able to:

- Choose a Power BI model framework.
- Understand scalability in Power BI.
- Create and manage scalable Power BI dataflows.
- Describe the significance of scalable models.
- Implement Power BI data modeling best practices.
- Configure large datasets.
- Create a star schema model.
- Define use cases for dataflows.
- Create reusable assets.

- Implement best practices.
- Create a dataflow.

Module 5: Design and build tabular models.

introducing the foundational components of designing scalable tabular models using Power BI.

After completing this module, students will be able to:

- Create Power BI model relationships.
- Use DAX time intelligence functions in Power BI Desktop models.
- Create calculation groups.
- Enforce Power BI model security.
- Use tools to optimize Power BI performance.
- Use DAX time intelligence functions.
- Additional time intelligence calculations.
- Create Advanced DAX Calculations in Power BI Desktop.
- Understand calculation groups.
- Explore calculation groups features and usage.
- Create calculation groups in a model.
- Create calculation groups.
- Restrict access to Power BI model data.
- Restrict access to Power BI model objects.
- Apply good modeling practices.
- Enforce model security.
- Use Performance analyzer.
- Troubleshoot DAX performance by using DAX Studio.
- Optimize a data model by using Best Practice Analyzer.
- Use tools to optimize Power BI performance.

Module 6: Implement advanced data visualization techniques by using Power BI.

Visualizing data in Power BI. You'll learn about visuals in Power BI reports, using Power BI to visualize real-time data, and visualizing data in paginated reports.

After completing this module, students will be able to:

- Understand advanced data visualization concepts.
- Monitor data in real-time with Power BI.
- Create paginated reports.
- Describe Power BI real-time analytics.
- Set up automatic page refresh.
- Create real-time dashboards.

- Set-up auto-refresh paginated reports.
- Monitor data in real-time with Power BI.
- Introduction to paginated reports.
- Get data.
- Create a paginated report.
- Work with charts on the report.
- Publish the report.

Module 7: Manage the analytics development lifecycle.

introducing the foundational components of implementing lifecycle management techniques for Power BI assets.

After completing this module, students will be able to:

- Design a Power BI application lifecycle management strategy.
- Create and manage a Power BI deployment pipeline.
- Create and manage Power BI assets.
- Understand the deployment process.
- Create a deployment pipeline.
- Assign a workspace.
- Deploy content.
- Work with deployment pipelines.
- Create reusable Power BI assets.
- Explore Power BI assets using lineage view.
- Manage a Power BI dataset using XMLA endpoint.
- Create reusable Power BI assets.