

**Designing and Implementing Enterprise-Scale Analytics Solutions Using Microsoft Azure and Microsoft Power BI (DP-500)**

**Course Number:** MOC-DP-500
**Duration:** 4 days

**Overview**

This official Microsoft course, Designing and Implementing Enterprise-Scale Analytics Solutions Using Microsoft Azure and Microsoft Power BI (DP-500), teaches attendees the methods and practices for performing advanced data analytics at scale. Students learn how to implement and manage a data analytics environment, query and transform data, implement and manage data models, and explore and visualize data. In addition, attendees use Microsoft Purview, Azure Synapse Analytics, and Power BI to build analytics solutions. This course prepares students to earn certification and pass the [DP-500 exam](https://docs.microsoft.com/en-us/learn/certifications/exams/DP-500), for which every attendee receives a voucher.

**Prerequisites**

* Foundational knowledge of core data concepts and how they are implemented using Azure data services.
* Experience designing and building scalable data models, cleaning and transforming data, and enabling advanced analytic capabilities that provide meaningful business value using Microsoft Power BI.

**Materials**

All Microsoft Azure training students receive Microsoft official courseware.

**Software Needed on Each Student PC**

Attendees will not need to install any software on their computer for this class. The class will be conducted in a remote environment that Accelebrate will provide; students will only need a local computer with a web browser and a stable Internet connection. Any recent version of Microsoft Edge, Mozilla Firefox, or Google Chrome will be fine.

**Objectives**

* Implement and manage a data analytics environment
* Query and transform data
* Implement and manage data models
* Explore and visualize data

**Outline**

* Introduction to Data Analytics on Azure
	+ Explore Azure data services for modern analytics
	+ Understand concepts of data analytics
	+ Explore data analytics at scale
* Govern Data Across an Enterprise
	+ Introduction to Microsoft Purview
	+ Discover trusted data using Microsoft Purview
	+ Catalog data artifacts by using Microsoft Purview
	+ Manage Power BI artifacts by using Microsoft Purview
* Model, Query, and Explore Data in Azure Synapse
	+ Introduction to Azure Synapse Analytics
	+ Implement star schema design and query relational data in Azure
	+ Analyze data with a serverless SQL pool in Azure Synapse Analytics
	+ Optimize data warehouse query design
	+ Analyze data with a Spark Pool in Azure Synapse Analytics
* Prepare Data for Tabular Models in Power BI
	+ Choose a Power BI model framework
	+ Understand scalability in Power BI
	+ Optimize Power Query for scalable solutions
	+ Create and manage scalable Power BI dataflows
* Design and Build Scalable Tabular Models
	+ Create Power BI model relationships
	+ Enforce model security
	+ Implement DirectQuery
	+ Create calculation groups
* Optimize Enterprise-Scale Tabular Models
	+ Optimize performance using Synapse and Power BI
	+ Improve query performance with hybrid tables, dual storage mode, and aggregations
	+ Use tools to optimize Power BI performance
* Implement Advanced Data Visualization Techniques by Using Power BI
	+ Understand advanced data visualization concepts
	+ Customize core data models
	+ Monitor data in real-time with Power BI
	+ Create and distribute paginated reports in Power BI report builder
* Implement and Manage an Analytics Environment
	+ Recommend Power BI administration settings
	+ Recommend a monitoring and auditing solution for a data analytics environment
	+ Configure and manage Power BI capacity
	+ Establish a data access infrastructure in Power BI
* Manage the Analytics Development Lifecycle
	+ Recommend a deployment strategy for Power BI assets
	+ Recommend a source control strategy for Power BI assets
	+ Perform impact analysis of downstream dependencies from dataflows and datasets
	+ Recommend automation solutions for the analytics development lifecycle, including Power BI REST API
	+ Deploy and manage datasets by using the XMLA endpoint
	+ Deploy reusable assets
* Integrate an Analytics Platform into an Existing IT Infrastructure
	+ Recommend and configure a Power BI tenant or workspace
	+ Identify requirements for a solution, including features, performance, and licensing strategy
	+ Integrate an existing Power BI workspace into Azure Synapse Analytics
* Conclusion