COURSE OVERVIEW

Course Name:

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

COURSE DURATION: 4 Days

Gauteng:
3rd Floor, 34 Whitely Road
Melrose Arch
Johannesburg
2196

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192 Bram Fischer Drive
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INTRODUCTION

This course covers methods and practices for performing advanced data analytics at scale. Students will build on existing analytics experience and will learn to implement and manage a data analytics environment, query and transform data, implement and manage data models, and explore and visualize data. In this course, students will use Azure Purview, Azure Synapse Analytics, and Power BI to build analytics solutions.

DELIVERY METHOD

Our courses have flexible delivery options:

- In-person classroom training at the Impactful training facilities
  - Johannesburg, Durban, Cape Town
- Virtual instructor-led training
- Nationally: on-site at the client

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INTENDED AUDIENCE

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.

PREREQUISITES

Before attending this course, it is recommended that students have:

- A foundational knowledge of core data concepts and how they're implemented using Azure data services. For more information see Azure Data Fundamentals.
- 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. For more information see Power BI Data Analyst.

COURSE CONTENT

The various objectives and chapters that will be covered include:

Explore Azure data services for modern analytics
Understand analytics solutions in the Azure data ecosystem. Explore the architecture of a scalable analytics solution to meet business needs.

Understand concepts of data analytics
Explore key concepts of data analytics, including types of analytics, data, and storage. Explore the analytics process and tools used to discover insights.

Explore data analytics at scale
Describe data analytics at scale and understand the roles of a data team. Learn about the responsibilities of an enterprise data analyst and what tools are available to build scalable solutions.

Introduction to Microsoft Purview
In this module, you'll evaluate whether Microsoft Purview is the right choice for your data discovery and governance needs.

Discover trusted data using Microsoft Purview
Use Microsoft Purview Studio to discover trusted organizational assets for reporting.

Catalog data artifacts by using Microsoft Purview
Register, scan, catalog, and view data assets and their relevant details in Microsoft Purview.

Manage Power BI assets by using Microsoft Purview
Improve data governance and asset discovery using Power BI and Microsoft Purview integration.

Integrate Microsoft Purview and Azure Synapse Analytics
Microsoft Purview with Azure Synapse Analytics to improve data discoverability and lineage tracking.

Introduction to Azure Synapse Analytics
Learn about the features and capabilities of Azure Synapse Analytics - a cloud-based platform for big data processing and analysis.

Use Azure Synapse serverless SQL pool to query files in a data lake
With Azure Synapse serverless SQL pool, you can leverage your SQL skills to explore and analyze data in files, without the need to load the data into a relational database.

Analyze data with Apache Spark in Azure Synapse Analytics
Apache Spark is a core technology for large-scale data analytics. Learn how to use Spark in Azure Synapse Analytics to analyze and visualize data in a data lake.

Analyze data in a relational data warehouse
Relational data warehouses are a core element of most enterprise Business Intelligence (BI) solutions, and are used as the basis for data models, reports, and analysis.

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

Understand scalability in Power BI
Scalable data models enable enterprise-scale analytics in Power BI. Implement data modeling best practices, use large dataset storage format, and practice building a star schema to design analytics solutions that can scale.

Create and manage scalable Power BI dataflows
Create Power BI transformation logic for reuse across your organization with Power BI dataflows. Learn how to combine Power BI dataflows with Power BI Premium for scalable ETL, and practice creating and consuming dataflows.

Create Power BI model relationships
Power BI model relationships form the basis of a tabular model. Define Power BI model relationships, set up relationships, recognize DAX relationship functions, and describe relationship evaluation.

Use DAX time intelligence functions in Power BI Desktop models
By the end of this module, you'll learn the meaning of time intelligence and how to add time intelligence DAX calculations to your model.

Create calculation groups
In this module you'll learn what calculation groups are, explore key features and usage scenarios, and learn to create calculation groups.

Enforce Power BI model security
Enforce model security in Power BI using row-level security and object-level security.

Use tools to optimize Power BI performance
Use tools to develop, manage, and optimize Power BI data model and DAX query performance.

Understand advanced data visualization concepts
Create cohesive, inclusive, and efficient Power BI reports to effectively communicate results.

Monitor data in real-time with Power BI
Describe real-time analytics in Power BI using automatic page refresh, real-time dashboards, and auto-refresh in paginated reports.

Create paginated reports
Paginated reports allow report developers to create Power BI artifacts that have tightly controlled rendering requirements. Paginated reports are ideal for creating sales invoices, receipts, purchase orders, and tabular data. This module will teach you how to create reports, add parameters, and work with tables and charts in paginated reports.

Provide governance in a Power BI environment
Power BI governance is a set of rules, regulations, and policies that define and ensure the effective, controlled, and valuable operation of a BI environment. In this module, you'll learn the fundamental components and practices necessary to govern a Power BI tenant.

Facilitate collaboration and sharing in Power BI
You've created dashboards and reports. Perhaps you want to collaborate on them with your coworkers. Or maybe you're ready to distribute them more widely. What's the best way to collaborate and share them? In this module, we compare your options.

Monitor and audit usage
Usage metrics help you understand the impact of your dashboards and reports. When you run either dashboard usage metrics or report usage metrics, you discover how those dashboards and reports are being used throughout your organization, who's using them, and for what purpose. Knowing who is taking what action on which item in your Power BI tenant can be critical in helping your organization fulfill its requirements, like meeting regulatory compliance and records management. This module outlines what is available in usage metrics reports and audit logs.

Provision Premium capacity in Power BI
Power BI Premium is a dedicated, capacity-based offering. Learn about the differences between Power BI Pro and Power BI Premium, and how Power BI Premium manages capacity resources. Featured tools you can use with Power BI premium are also covered.

Establish a data access infrastructure in Power BI
Working with on-premises data sources requires configuring a gateway between Power BI and the on-premises data source. This module examines how to work with gateways and SQL Server Analysis Services (SSAS) data sources that are used either for scheduled refresh or for live connections.

Broaden the reach of Power BI
You can broaden the reach of Power BI by sharing your reports beyond your Power BI environment. You can publish reports to the public internet, embed reports in Microsoft Teams or in PowerApps, and place BI reports in a SharePoint online web part. There's also a special version of Power BI service called Microsoft Power BI Embedded (PBIE) which allows application developers to embed fully interactive reports into their applications without having to build their own data visualizations and controls from scratch.

Automate Power BI administration
Cmdlets are functions written in PowerShell script language that execute commands in the Windows PowerShell environment. Running these cmdlets will allow you to interact with your Power BI Platform without having to go through the admin portal in a web browser. Combine these cmdlets with other PowerShell functions to write complex scripts that can optimize your workflow.

Build reports using Power BI within Azure Synapse Analytics
In this module, you will learn how you can build Power BI reports from within Azure Synapse Analytics.

Design a Power BI application lifecycle management
The use of OneDrive, Git repositories, and Power BI deployment pipelines allows us to follow application lifecycle management techniques. This reduces administrative overhead and provides continuity in the development process.

Create and manage a Power BI deployment pipeline

Deployment pipelines enable creators to develop and test Power BI content in the Power BI service before the content is made available for consumption by users. It offers creators improved productivity, faster delivery of content updates, and reduced manual work and errors. The tool is designed as a pipeline with three stages: development, test, and production.

Create and manage Power BI assets

Creating shared data assets for your analytics environment provides structure and consistency. Maintaining those assets is as important, and XMLA endpoint provides additional administrative capabilities.