Enterprise Computing Solutions - Education Services

TRAINING OFFERING

You can reach us at:

Arrow ECS B.V., Kromme Schaft 5, 3991 AR Houten, The Netherlands

Email: education.ecs.nl@arrow.com
Phone: +31 20 582 6109

DP-500T00: Designing and Implementing Enterprise-Scale Analytics Solutions Using Microsoft Azure and Microsoft Power BI

CODE:	LENGTH:	PRICE:
MCS_DP-500T00	32 Hours (4 days)	€2,290.00

Description

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

Objectives

Skills gained
• Implement and manage a data analytics environment
• Query and transform data
• Implement and manage data models
• Explore and visualize data

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.

Programme

Module 1: Introduction to data analytics on Azure
This module explores key concepts of data analytics, including types of analytics, data, and storage. Students will explore the analytics process and tools used to discover insights and learn about the responsibilities of an enterprise data analyst and what tools are available to build scalable solutions.
Lessons
• Explore Azure data services for modern analytics
• Understand concepts of data analytics
• Explore data analytics at scale
After completing this module, students will be able to:
• Describe types of data analytics
• Understand the data analytics process
• Define data job roles in analytics
• Understand tools for scaling analytics solutions
Module 2: Govern data across an enterprise

This module explores the role of an enterprise data analyst in organizational data governance. Students will explore the use of Microsoft Purview to register and catalog data assets, to discover trusted assets for reporting, and to scan a Power BI environment.
Lessons
• 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
After completing this module, students will be able to:
• Browse, search, and manage data catalog assets.
• Use data catalog assets with Power BI.
• Use Microsoft Purview in Azure Synapse Studio.
• Register and scan a Power BI environment using Microsoft Purview.
Module 3: Model, query, and explore data in Azure Synapse
This module explores the use of Azure Synapse Analytics for exploratory data analysis. Students will explore the capabilities of Azure Synapse Analytics including the basics of data warehouse design, querying data using T-SQL, and exploring data using Spark notebooks.
Lessons
• 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
Lab : Query data in Azure
Lab : Explore data in Spark notebooks
Lab : Create a star schema model
After completing this module, students will be able to:
• Understand when to use Azure Synapse Analytics in reporting solutions.
• Query data with SQL.
• Query data with Spark.
Module 4: Prepare data for tabular models in Power BI
This module explores the fundamental elements of preparing data for scalable analytics solutions using Power BI. Students will explore model frameworks, considerations for building data models that will scale, Power Query optimization techniques, and the implementation of Power BI dataflows.
Lessons
• Choose a Power BI model framework
• Understand scalability in Power BI
• Optimize Power Query for scalable solutions
• Create and manage scalable Power BI dataflows
Lab : Create a dataflow
After completing this module, students will be able to:
• Choose an appropriate Power BI model framework.
Module 5: Design and build scalable tabular models
This module explores the critical underlying aspects of tabular modeling for building Power BI models that can scale. Students will learn about model relationships and model security, working with direct query, and using calculation groups.
Lessons
• Create Power BI model relationships
• Enforce model security
• Implement DirectQuery
• Create calculation groups
Lab : Create model relationships
Lab : Enforce model security
Lab : Design and build tabular models
Lab : Create calculation groups
After completing this module, students will be able to:
Module 6: Optimize enterprise-scale tabular models
This module covers key aspects of performance optimization using large-format data. Students will explore optimization using Synapse, Power BI, and external tools.
Lessons
• 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
Lab : Use tools to optimize Power BI performance
Lab : Improve query performance using aggregations
Lab : Improve query performance with dual storage mode
Lab : Improve performance with hybrid tables
After completing this module, students will be able to:
Module 7: Implement advanced data visualization techniques by using Power BI
This module explores data visualization concepts including accessibility, customization of core data models, real-time data visualization, and paginated reporting.

Lessons
• 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
Lab : Monitor data in real-time with Power BI
Lab : Create and distribute paginated reports in Power BI Report Builder
After completing this module, students will be able to:
Module 8: Implement and manage an analytics environment
This module explores key considerations for implementing and managing Power BI. Students will understand key recommendations for administration and monitoring of Power BI, including configuration and management of Power BI capacity.
Lessons
• 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
After completing this module, students will be able to:
Module 9: Manage the analytics development lifecycle
This module explores considerations for deployment, source control, and application lifecycle management of analytics solutions. Students will understand what to recommend and will be able to deploy and manage automated and reusable Power BI assets.
Lessons
• 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
Lab : Create reusable Power BI assets
After completing this module, students will be able to:
Module 10: Integrate an analytics platform into an existing IT infrastructure
This module explores the integration of a Power BI analytics solution into existing Azure infrastructure. Students will understand Power BI tenant and workspace configurations, along with considerations for Power BI deployment in an organization.
Lessons
• 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

Session Dates

On request. Please contact us

Additional Information

This training is also available as onsite training. Please contact us to find out more.