



Implementing a Data Analytics Solution with Azure Synapse Analytics (DP-3012)

COURSE OVERVIEW

This is a single day Instructor-Led course designed to give the learners instruction on the SQL dedicated and serverless Spark pools and providing instruction of data wrangling and the ELT process using Synapse Pipelines which is very similar to those familiar with Azure Data Factory (ADF) to move data into the Synapse dedicated pool database.

WHO WILL BENEFIT FROM THIS COURSE?

The Audience should have familiarity with notebooks that use different languages and a Spark engine, such as Databricks, Jupyter Notebooks, Zeppelin notebooks and more. They should also have some experience with SQL, Python, and Azure tools, such as Data Factory.

COURSE OBJECTIVES

Students will learn:

- 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
- Use Delta Lake in Azure Synapse Analytics
- Analyze data in a relational data warehouse
- Build a data pipeline in Azure Synapse Analytics

COURSE OUTLINE

Module 1: Introduction to Azure Synapse Analytics

- Identify the business problems that Azure Synapse Analytics addresses.
- Describe core capabilities of Azure Synapse Analytics.
- Determine when to use Azure Synapse Analytics.

Module 2: Use Azure Synapse serverless SQL pool to query files in a data lake

- Identify capabilities and use cases for serverless SQL pools in Azure Synapse Analytics
- Query CSV, JSON, and Parquet files using a serverless SQL pool
- Create external database objects in a serverless SQL pool

Module 3: Analyze data with Apache Spark in Azure Synapse Analytics

- Identify core features and capabilities of Apache Spark.
- Configure a Spark pool in Azure Synapse Analytics.
- Run code to load, analyze, and visualize data in a Spark notebook.



Module 4: Use Delta Lake in Azure Synapse Analytics

- Describe core features and capabilities of Delta Lake.
- Create and use Delta Lake tables in a Synapse Analytics Spark pool.
- Create Spark catalog tables for Delta Lake data.
- Use Delta Lake tables for streaming data.
- Query Delta Lake tables from a Synapse Analytics SQL pool.

Module 5: Analyze data in a relational data warehouse

- Design a schema for a relational data warehouse.
- Create fact, dimension, and staging tables.
- Use SQL to load data into data warehouse tables.
- Use SQL to query relational data warehouse tables.

Module 6: Build a data pipeline in Azure Synapse Analytics

- Describe core concepts for Azure Synapse Analytics pipelines.
- Create a pipeline in Azure Synapse Studio.
- Implement a data flow activity in a pipeline.
- Initiate and monitor pipeline runs.

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