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# Azure Synapse Analytics training

2 days (14 hours)

## Presentation

Azure Synapse Analytics is **14 times faster and costs 94% less than** other cloud providers. Azure Synapse lets you create powerful dashboards using data from many sources, such as a data lake. This analytics service combines integration, data warehousing and Big Data analysis. With Azure Synapse, you can manage your data through a single program, simplifying your data handling tasks. What's more, you don't need to code to integrate the various services. Our Azure Synapse Analytics training course will teach you how to use the tool, including an overview of the architecture and interface, how to integrate and analyze data, and how to improve the program's performance.

## Objectives

- Understanding the benefits of Cloud Computing and Azure Synapse Analytics
- Integrate data from a variety of sources
- Orchestrating and securing data flows
- Analyze your data with Azure Synapse

## Target audience

- Data Engineer
- Architects
- System administrators
- Data miners
- Data scientists
- Data analysts
- Business intelligence analysts
- Market intelligence analysts

## Prerequisites

- Knowledge of databases
- Knowledge of SQL
- An Azure account with Synapse Analytics functionality

# Azure Synapse Analytics training program

## Introduction

- What is cloud computing?
- Why migrate your data warehouses to the cloud?
- Architecture of the data management model with Azure
- Introducing Azure Synapse
- Interface presentation
- Create your first workspace

## Loading data

- Best practices for successful data ingestion
- The different types of data ingestion
- Load data with CTAS
- Loading data with Azure Data Factory
- Loading data with Copy Into Statement
- Loading data with PolyBase
- Load data into SQL pools using copy activity
- Transformation with mapping data streams
- Creating an Azure Machine Learning service

## SQL Synapse

- Azure Synapse SQL architecture
- Features and limits
- Cost management
- Best practices for dedicated SQL pools
- Best practices for SQL serverless pools

## Data analysis

- Creating a dedicated SQL pool
- Data connection with SSMS
- Introducing Synapse Studio
- Analyze your data with a SQL pool
- Data analysis with Spark
- Integrating pipelines and activities

- Visualizing with Power BI

## Security

- Checking compliance with Azure Policy
- Protect your data
- Encryption
- Network security
- Access control and authentication

## Azure Synapse Tuning

- Configuring Synapse for optimum performance
- Manage workspaces
- Backup and restoration
- Monitoring
- Troubleshooting

## Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

## Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

## Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

## Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

## Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

## Sanction

A certificate will be issued to each trainee who completes the course.