



MICROSOFT TRAINING

Building Advanced Analytic Solutions on Azure Using Synapse Course Overview

Design and implement advanced analytic solutions on Azure using Synapse. Master data warehousing and integration.

DURATION

8 Hours

LEVEL

Intermediate

FORMAT

Instructor-Led

- Globally Recognized Certification

- Expert-Led Hands-On Training

- Flexible Scheduling

Computer Pride | 1st Floor, ICEA Building, Kenyatta Avenue, Nairobi | www.computer-pride.co.ke

COURSE OVERVIEW

This advanced course, "Building Advanced Analytic Solutions on Azure Using Synapse," is meticulously designed for data professionals looking to master the intricacies of Azure Synapse Analytics, Microsoft's unified analytics platform. Participants will dive deep into integrating big data and data warehousing workloads, learning to build scalable and high-performance analytical solutions. The curriculum focuses on leveraging key Synapse components such as SQL pools (dedicated and serverless), Apache Spark pools, Data Explorer pools, and pipelines for robust data ingestion, processing, and orchestration, ensuring you gain hands-on expertise with cutting-edge cloud analytics.

By completing this course, you will gain the expertise to transform raw data into actionable insights, driving strategic business decisions across your organization. You will learn to design, implement, and monitor comprehensive analytical solutions on Azure, covering everything from data lake integration to advanced query optimization and security best practices. This training empowers you to architect and manage modern data platforms, ensuring efficient data processing and delivering critical business intelligence with confidence and precision, ultimately elevating your professional profile in the rapidly evolving data landscape.

Duration	8 Hours
Level	Intermediate
Vendor	Microsoft

COURSE CURRICULUM

01 Module 1: Introduction to Azure Synapse Analytics

- Understanding the Azure Synapse Ecosystem and its unified capabilities
- Navigating and utilizing Synapse Studio for data professionals
- Integrating Azure Data Lake Storage Gen2 with Synapse
- Managing Synapse Workspaces and resource provisioning
- Comparing Azure Synapse with other Azure data services for optimal selection

02 Module 2: Data Ingestion and Integration with Synapse Pipelines

- Designing and implementing ETL/ELT processes using Azure Synapse Pipelines
- Connecting and ingesting data from various on-premises and cloud sources
- Utilizing Data Flow activities for code-free data transformation at scale
- Mastering Copy Data activity and advanced data movement strategies
- Monitoring and troubleshooting Synapse pipeline execution and performance

03 Module 3: Data Warehousing with Synapse SQL Pools

- Designing and implementing Dedicated SQL Pools for enterprise data warehousing
- Optimizing Dedicated SQL Pool performance through distributions, indexing, and partitioning
- Exploring the capabilities and use cases of Serverless SQL Pools
- Querying data directly in Data Lake Storage using Serverless SQL Pools
- Implementing robust security measures within Synapse SQL environments

04 Module 4: Big Data Analytics with Apache Spark Pools

- Introduction to Apache Spark within the Azure Synapse environment
- Working effectively with Spark notebooks (Python, Scala, .NET) for data manipulation
- Processing and transforming large datasets efficiently with Spark DataFrames
- Implementing stream processing solutions with Spark Structured Streaming

- Integrating Spark with other Synapse components for comprehensive analytics

05 Module 5: Data Orchestration, Monitoring, and Security Best Practices

- Implementing advanced Synapse Pipeline orchestration (triggers, parameters, dependencies)
- Monitoring Synapse Analytics workloads, resource utilization, and performance metrics
- Implementing end-to-end security measures and compliance in Synapse
- Applying Role-Based Access Control (RBAC) and network security features
- Understanding data masking, encryption, and data governance within Synapse

06 Module 6: Advanced Analytics and Data Visualization Integration

- Integrating Azure Machine Learning with Synapse for predictive analytics
- Building and deploying analytical models directly within Synapse
- Connecting Azure Synapse Analytics to Power BI for business intelligence
- Creating interactive dashboards and reports from Synapse data
- Best practices for data visualization and presenting insights effectively

CAREER PATHWAYS

Graduates of this program are prepared for the following roles:

- > **Azure Data Platform Engineer**
- > **Big Data Solutions Architect**
- > **Senior Business Intelligence Developer (Azure Focus)**

FREQUENTLY ASKED QUESTIONS

Q: What are the recommended prerequisites for effectively undertaking this "Building Advanced Analytic Solutions on Azure Using Synapse" course?

While this is an intermediate-level course, participants should have a foundational understanding of core Azure services, especially Azure Storage (Blob, Data Lake Storage Gen2), and a working knowledge of SQL. Familiarity with data warehousing concepts and basic scripting (e.g., Python or T-SQL) will also be highly beneficial for maximizing your learning experience and absorbing the advanced Synapse concepts more readily.

Q: How does this course specifically contribute to my preparation for Microsoft certification exams, such as the Azure Data Engineer Associate (DP-203)?

This course is meticulously designed to cover significant domains within the Azure Data Engineer Associate certification (DP-203), particularly those related to designing and implementing data warehousing and big data solutions using Azure Synapse Analytics. You will gain practical, hands-on experience with key Synapse features, data ingestion, processing, and orchestration, directly aligning with the skills measured in the exam, thereby substantially boosting your readiness for the certification.

Q: What real-world challenges will I be equipped to solve in my organization after completing this Synapse course?

Upon completion, you will be proficient in architecting and implementing scalable analytical solutions that unify data warehousing and big data. You will be able to ingest and process massive datasets, optimize queries for performance, build robust ETL/ELT pipelines, and integrate diverse data sources to deliver comprehensive business intelligence. This

enables you to tackle challenges like consolidating disparate data silos, improving data processing efficiency, and providing deeper, faster insights to stakeholders, leading to more informed business decisions.

ABOUT COMPUTER PRIDE



East Africa's Premier IT Training Center

With over 15 years of excellence, Computer Pride delivers globally recognized certification programs from leading technology vendors. Located on Kenyatta Avenue in Nairobi's CBD, our state-of-the-art facilities and expert instructors have empowered thousands of professionals across East Africa.

15+

Years of Excellence

10,000+

Professionals Trained

50+

Vendor Certifications

READY TO ENROL?

Take the next step in your technology career.

Location

1st Flr, ICEA Building
Kenyatta Ave, Nairobi

Email

info@computer-pride.co.ke

Phone

+254 705 900 900

www.computer-pride.co.ke