

KOENIG SOLUTIONS · COURSE OUTLINE

DP-3027: Implement a Data Engineering Solution with Azure Databricks

Learn to build, optimise and govern streaming data pipelines with Spark, Delta Live Tables and Unity Catalog on Azure Databricks.

8 Hours

DURATION

8

MODULES

43

TOPICS

8

HANDS-ON EXERCISES

COURSE OVERVIEW

Learn how to harness the power of Apache Spark and scalable clusters running on the Azure Databricks platform to manage and execute large-scale data engineering workloads in the cloud. This learning path covers real-time streaming, Delta Live Tables, performance tuning, CI/CD automation, data governance, and integration with other Azure services.

WHO THIS COURSE IS FOR

Data Engineers

Data Architects

BI Developers

Database Administrators

Data Analysts

LEARNING OBJECTIVES

- Implement incremental and streaming data processing with Spark and Delta Live Tables
- Optimize performance and manage costs in data pipelines
- Automate workflows using Databricks Jobs and CI/CD practices
- Govern data access, quality, and compliance with Unity Catalog
- Use SQL Warehouses for query-based analytics
- Integrate Azure Databricks with Azure Data Factory for end-to-end orchestration

8 Modules, 43 Topics

01

Exercise

Perform Incremental Processing with Spark Structured Streaming

TOPICS

- Introduction
- Set up real-time data sources
- Optimize Delta Lake for incremental processing
- Handle late data and out-of-order events
- Monitoring and performance tuning

02

Exercise

Implement Streaming Architecture Patterns with Delta Live Tables

TOPICS

Introduction · Event-driven architectures · Ingest data with structured streaming · Maintain data consistency and reliability · Scale streaming workloads

03

Exercise

Optimize Performance with Spark and Delta Live Tables

TOPICS

- Introduction
- Optimize performance with Spark and Delta
- Perform cost-based optimization and query tuning
- Use change data capture (CDC)
- Use enhanced autoscaling
- Implement observability and data quality metrics

04

Exercise

Implement CI/CD Workflows in Azure Databricks

TOPICS

Introduction · Version control and Git integration · Unit testing and integration testing · Environment configuration · Rollback and roll-forward strategies

05

Exercise

Automate Workloads with Azure Databricks Jobs

TOPICS

Introduction · Implement job scheduling and automation · Optimize workflows with parameters · Handle dependency management · Implement error handling and retry logic · Best practices and guidelines

06

Exercise

Manage Data Privacy and Governance with Azure Databricks

TOPICS

Introduction · Data encryption techniques · Access control · Data masking and anonymization · Compliance frameworks and secure sharing · Data lineage and metadata management · Governance automation

07

Exercise

Use SQL Warehouses in Azure Databricks

TOPICS

Introduction · Get started with SQL Warehouses · Create databases and tables · Create queries and dashboards

08

Exercise

Run Azure Databricks Notebooks with Azure Data Factory

TOPICS

Introduction · Understand notebooks and pipelines · Create linked services · Use notebook activities in pipelines · Use parameters in notebooks

HANDS-ON EXERCISES

Practise What You Learn

#	MODULE	ACTIVITY
01	Perform Incremental Processing with Spark Structured Streaming	Real-time ingestion and processing with Delta Live Tables
02	Implement Streaming Architecture Patterns with Delta Live Tables	End-to-end streaming pipeline
03	Optimize Performance with Spark and Delta Live Tables	Optimize data pipelines
04	Implement CI/CD Workflows in Azure Databricks	CI/CD workflows
05	Automate Workloads with Azure Databricks Jobs	Automate data ingestion and processing
06	Manage Data Privacy and Governance with Azure Databricks	Unity Catalog implementation
07	Use SQL Warehouses in Azure Databricks	Use a SQL Warehouse

#	MODULE	ACTIVITY
08	Run Azure Databricks Notebooks with Azure Data Factory	Run notebooks with Azure Data Factory

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

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Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

Flexi (Self-Paced)

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