

Advanced Techniques for Setting Data in Motion with Confluent Cloud

OEM: IBM • Code: CONFLUENTCLOUD2G

COURSE DESCRIPTION

Take your Confluent Cloud expertise to the next level. As the direct continuation of the 1-day introductory course, this 2-day deep dive empowers you to architect secure, global, multi-cloud streaming environments using Cluster Linking, Schema Linking, Terraform, RBAC, and Audit Logs.

AUDIENCE PROFILE

- This course is designed for Confluent and Apache Kafka architects, DevOps and operators/administrators who have recently started working with Confluent Cloud and need to go deeper into this service to set their data in motion with Confluent Cloud. This course is designed to enable Confluent Cloud users to follow best practices when designing their Confluent Cloud organization, to connect to external data systems to import/export data, to choose what networking option is the most suitable for their use cases, to create multi-region architectures with Cluster Linking and Schema Linking and much more.

PREREQUISITES

- Understanding of the basics of Confluent Cloud (Environments, Types of clusters, API Key/Secret, RBAC & ACLs, User and Service Accounts)
- Understanding of how Kafka, Schema Registry and Kafka Connect work
- Understanding of network technologies as they relate to Confluent products
- General knowledge of terminal commands

COURSE OBJECTIVES

By the end of this course, participants will be able to:

- Apply best practices when designing your Confluent Cloud Organization
- Integrate Data Contracts & Schema Registry in your workloads, enable Schema Validation to prevent poisoning data pipelines
- Mirror data between Kafka clusters using Schema Linking and Cluster Linking for Disaster Recovery
- Discover and understand your streams and their relationships using Stream Lineage and Stream Catalog
- Integrate external data systems in Confluent Cloud using managed connectors using SMTs and Dead Letter Queues
- Understand the different networking options available in Confluent Cloud
- Automate the infrastructure deployment in Confluent Cloud using Terraform
- Examine the Audit Logs generated by Confluent and evaluate the Metrics API and Notifications
- Creating schemas in Schema Registry using Confluent Cloud console, Confluent CLI, and REST API

- Replicating schemas between clusters using exporters with Schema Linking
- Mirroring topics from one cluster to another using Cluster Linking
- Creating fully managed connectors in Confluent Cloud to import/export data
- Using Terraform to deploy and manage Confluent Cloud infrastructure
- Monitoring your Confluent Cloud clusters using Audit Logs, Metrics API and Notifications

COURSE OUTLINE

Module 1: Stream Governance - Stream Lineage & Stream Catalog

- Stream Governance
- Stream Lineage
- Stream Catalog

Module 2: Stream Governance - Stream Quality

- Stream Quality: Data Contracts & Schema Registry
- Stream Quality: Schema Validation
- Stream Quality: Schema Linking
- Lab Module 02: Working with Schema Linking

Module 3: Move Data with Cluster Linking

- What is Cluster Linking?
- Cluster Linking Lifecycle
- Cluster Linking Security Overview
- Most Common Use Cases
- Lab Module 03: Move Data with Cluster Linking

Module 4: Kafka Connect in Confluent Cloud

- What is Connect? (OPTIONAL)
- Using Connectors in Confluent Cloud
- Security Considerations
- Networking with External Systems
- Self-Managed Connectors
- Lab Module 04: Connect in Confluent Cloud

Module 5: Confluent Cloud Networking

- Networking Fundamentals (OPTIONAL)
- Confluent Cloud Overview
- Secure Public Endpoints
- VPC/VNet Peering
- AWS Transit Gateway

- Private Link
- Networking Summary

Module 6: Automate, Deploy, and Manage in Confluent Cloud

- Terraform and the Confluent Provider
- Lab Module 06: Automate, Deploy, and Manage in Confluent Cloud

Module 7: Monitoring, Metrics and Audit Logs in Confluent Cloud

- Audit Logs
- Metrics
- Notifications
- Lab Module 07: Monitoring, Metrics and Audit Logs in Confluent Cloud

Module 8: Real-Life Use Case

- Instructor-led Practical Lab - Real-Life Use Case
- Lab Module 08: Real-Life Use Case