KOENIG
step forward

KOENIG SOLUTIONS · COURSE OUTLINE

Kafka with Java: Producer/Consumer APIs & Streams

Learn to build Kafka producers, consumers and streaming applications in Java, from core architecture to design and operations.

3 Days	4	22	11
8 HOURS A DAY	MODULES	TOPICS	HANDS-ON LABS

COURSE OVERVIEW

In this fast-track course, you'll gain essential skills in Kafka's core architecture, APIs, and operations. Through intensive labs, learn to set up, design, and manage Kafka systems efficiently. Equip yourself to handle real-time data streaming and processing at scale. This course is your express route to becoming a Kafka expert, ready to tackle challenges in the tech industry with confidence and expertise.

WHO THIS COURSE IS FOR

- **Java Developers**
- **Kafka Administrators**
- **Data Engineers**
- **Backend Engineers**
- **Streaming Application Developers**

PREREQUISITES

- Intermediate knowledge of Java

TOOLS AND REQUIREMENTS

Lab Requirement

- Koenig DC/linux

LEARNING OBJECTIVES

- Explain Kafka core concepts such as brokers, topics and partitions
- Describe the roles of producers, consumers and replication
- Apply the Producer, Consumer and Admin Client APIs
- Build producer and consumer applications with Java
- Configure Kafka topics and manage consumer offsets
- Compare message delivery guarantees and log compaction
- Apply Kafka quotas to control client resource usage
- Use Kafka command-line tools for topic operations

COURSE SYLLABUS

4 Modules, 22 Topics

01

Introduction to Apache Kafka

TOPICS

- Events and event streaming
- Brokers
- Topics
- Producers
- Consumers
- Partitions
- Replication
- Kafka Connect
- Kafka Streams

02

Kafka APIs

TOPICS

Producer API · Consumer API · Admin Client API · Connect API · Kafka Streams API

Getting Started with Apache Kafka

7 Labs

04

Kafka Design

TOPICS

- Kafka and File System
- Batch Processing for Efficiency
- Kafka Producer Design
- **Kafka Consumer Design:** Consumers, Consumer Groups, and Offsets
- Message Delivery Guarantees
- Log Compaction
- Kafka Quotas

05

4 Labs

Kafka Tools and Operations

TOPICS

Kafka Command-Line Interface (CLI) Tools

HANDS-ON LABS

Practise What You Learn

#	MODULE	ACTIVITY
03	**Getting Started with Apache Kafka**	■ Setup project ■ Kafka Setup ■ Create topic ■ Build producer ■ Build consumer ■ Producer events ■ Consume events
05	**Kafka Tools and Operations**	■ How to use Kafka Command-Line Interface (CLI) Tools ■ Topic Operations ■ Choose and Change the Partition Count ■ View Consumer Group Info

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

Learn the Way That Suits You

Classroom Training | Live Online Classes (ILO) | Fly-Me-A-Trainer (FMAT) | Flexi (Self-Paced) | 1-on-1 Training

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