KOENIG SOLUTIONS · COURSE OUTLINE

Kafka with Python: Producer/Consumer APIs

Learn to build Kafka producers and consumers with Python, covering core architecture, APIs, 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

- **Software Developers**
- **Data Engineers**
- **System Administrators**
- **Backend Developers**
- **DevOps Engineers**

PREREQUISITES

- Intermediate knowledge of Python

TOOLS AND REQUIREMENTS

Lab Requirement

- Koenig DC/linux

LEARNING OBJECTIVES

- Describe Kafka core concepts such as brokers, topics and partitions
- Explain replication and event streaming in Kafka
- Identify the purpose of Producer, Consumer and Admin Client APIs
- Build a Kafka producer and consumer using Python
- Configure a Kafka topic and set up a project environment
- Analyse Kafka producer and consumer design and offsets
- Compare message delivery guarantees and log compaction
- Apply Kafka command-line tools for topic and consumer group 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

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