springpeople

COURSE NAME

Kafka Advanced

DURATION

2 Days

COURSE OVERVIEW

This Kafka Advance training helps you master the Apache Kafka Ecosystem, Architecture, Core Concepts and Operations, Extended APIs . After this training you will have clear understanding about master concepts such as Topics, Partitions, Brokers, Syn and ASyn Producers, Consumers and different Kafka connect clients for HDFS, Elastic Search and File.

PRE-REQUISITES OF THE PARTICIPANTS

1. Knowledge of Java
2. Basic knowledge of Kafka

OBJECTIVE

After the completion of this course, you will be able to:

- Ø Understand Kafka Architecture to achieve highest possible scalabilty, availability and throughput.
- Ø Understand how to store Schema using Kafka-Schema registry
- Ø How to build real time streaming application using Kafka-Streams and K-SQL

LAB REQUIREMENTS DETAILS

Hardware/Software requirements:

1. 8 GB RAM windows machine/Mac machine
2. Internet connection for setting up Maven project

COURSE CONTENT

Day 1

Kafka Review

- Apache Kafka Architecture
- Kafka components
- Broker
- Producer
- Consumer
- Topics

- Partitions

Kafka Internals

- Cluster Membership
- Request Processing
- Storage Management
- Topic Compaction
- Replication in Kafka
- Reliable Data Delivery

Kafka Clusters

- Kafka Cluster Internals
- Capacity Planning
- Single-cluster Deployment
- Multi-cluster Deployment
- Commissioning and Decommissioning Brokers

Cross Cluster Data Mirroring

- Cross Datacenter Communication
- Deployment Strategies
- Kafka MirrorMaker
- Configuring and Deploying MirrorMaker
- Other Mirroring Solutions

Day 2

Building Kafka Pipelines

- Kafka in ETL Pipeline
- Kafka Connect Overview
- Kafka Connect Architecture
- Implementing a Pipeline
- Common Use Cases

Kafka Stream Processing

- Stream Processing Concepts
- Kafka Streams
- Kafka Streams Architecture
- Design Considerations
- Choosing a Stream Processing Framework
- Using KStream and KTable

Securing Kafka

- Kafka Security Overview
- Wire Encryption using SSL
- Kerberos Authentication
- Understanding Authorization
- Security Best Practices

Kafka Tuning

- Tuning Brokers
- Tuning OS
- Tuning Cross Data Center Communication
- Tuning MirrorMaker
- Best Practices