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COURSE NAME

Kafka Essential

DURATION

2 Days

LEARNING OBJECTIVES

- Understand different real world business use cases
- Compare Kafka feature with other Messaging queue
- Install Kafka cluster
- Build application using Kafka as message queue
- Write application using Kafka as Publish-Subscribe system

LAB REQUIREMENTS DETAILS

Hardware –
Intel Core i3 or above, 8GB RAM, 50GB Free Space

Software –
Windows 7 or above 64-bit, Oracle VirtualBox 5.x, Adobe PDF Reader

COURSE CONTENT

Day 1

Messaging and Big Data
Introduction to Big data
Importance for messaging queue
Need for distributed messaging queue
Conventional solutions and associated problems
Why we need Apache Kafka

Kafka Overview
What is Apache Kafka
Kafka Features and terminologies
Real life Kafka Case Studies
Installing Kafka

Kafka Architecture
Architecture Overview
Core concepts
Kafka components
Broker
Producer
Consumer
Topics
Partitions
Different versions of Kafka

Kafka Design
Designing Kafka
Message Compression
Cluster Mirroring
Replication

Day 2

Writing Producers and Consumers
Producer partitioning
Custom, Round Robin, Field Based Partition
Producer Java API
Types of Producer - sync,async
Consumer Queuing
Consumer Broadcast
Consumer Java API

Administering Kafka
Consumer Groups
Dynamic Configuration Changes
Managing Partitions
Unsafe Operation
Message Encryption using SSL

Managing Kafka
Kafka Metrics
Client Monitoring
Lag Monitoring
Logging in Kafka
Error Handling in Kafka
Troubleshooting Kafka
Kafka Best Practices

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Kafka Integration Strategies
RDBMS Data Replication using Kafka
Kafka Streams
Integrating Kafka with Hadoop
Integrating Kafka with Spark