

Message-based system with Kafka

Course Outline:

- **Section 1: Introduction to Streaming Systems**

- Fast data
- Streaming architecture
- Lambda architecture
- Message queues
- Streaming processors

- **Section 2: Introduction**

- Architecture
- Comparing Kafka with other queue systems (JMS / MQ)
- Concepts
- Messages
- Topics
- Partitions
- Brokers
- Producers
- Consumers, Consumer Groups
- Zookeeper
- Message retention

- **Section 3 : Programming With Kafka**

- Hardware / Software requirements
- Installing and Configuring Kafka
- Client API
- Sending messages to Kafka
- Commits and Offsets
- Schema
- Lab : Installation
- Lab : Writing Kafka clients in Java

- **Section 4 : Kafka in Production**

- Security
 - How secure Kafka, and secure client communications (SASL, Kerberos)
- Monitoring : monitoring tools
- Capacity Planning : estimating usage and demand