SpiralTrain
developer courses

Apache Kafka Streaming Applications

Audience Course Apache Kafka Streaming Applications
The course Apache Kafka Streaming Applications is intended for developers and data engineers who want to use Apache Kafka for real-time data processing.

Prerequisites Course Apache Kafka Streaming Applications
To participate in this course, basic knowledge of messaging systems is beneficial for a good understanding.

Realization Training Apache Kafka Streaming Applications
The course has a hands-on character where theory with the use of demos is alternated with practice through exercises.
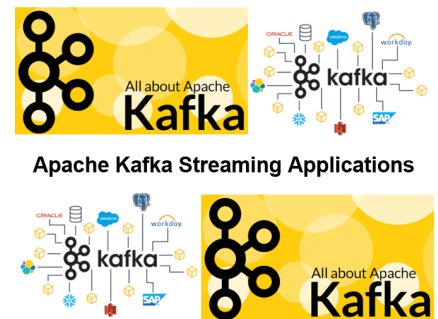
Certificate Course Apache Kafka Streaming Applications
After successful completing of the course, attendants will receive a certificate of participation in the course Apache Kafka Streaming Applications.

Duration: 2 days **Price: € 1499**

Open Schedule

Apache Kafka Streaming Applications

Content Course Apache Kafka Streaming Applications

The course Apache Kafka Streaming Applications is designed for developers and data engineers seeking a deep understanding of Apache Kafka for building robust and scalable streaming applications. Apache Kafka has emerged as a leading distributed event streaming platform, and mastering its concepts and usage is essential for professionals working in the field of real-time data processing.

Intro Apache Kafka
The course Apache Kafka Streaming Applications starts with a discussion of the architecture of Kafka and key concepts such as topics, partitions, producers, consumers, and brokers. The role of Kafka in building real-time data pipelines is also explained.

Kafka Brokers
Next more details are explained about Kafka brokers, which are the main components of Kafka's distributed architecture. Topics such as broker configuration, replication, partition replica leaders and followers and fault tolerance are discussed. And the role of Zookeeper is also explained.

Kafka Streams
Then there is attention for the Kafka Streams API with which streaming applications for real-time data processing can be built. Concepts such as processor topology, stream processors, the Kafka Streams DSL (Domain Specific Language) and KStreams are covered. The difference between statefull and stateless operations is also explained.

Topics and Storage
The course Apache Kafka Streaming Application also covers the fundamental concepts for organizing and storing data in Kafka clusters. Topics are covered with the creation, replication and compaction of topics. And Kafka storage with partitions, storage formats, Kafka tables and tiered storage is discussed as well.

Kafka Security
The security mechanisms for securing Kafka clusters and data streams are also on the course program. Topics include authentication and authorization, encryption with SSL, SASL (Simple Authentication and Security Layer), ZooKeeper security and applying request rate quotas.

Management and Scalability
Finally attention is paid to managing and scaling Kafka clusters with respect to high availability and performance. Tools and techniques for monitoring and managing Kafka clusters such as Kafka Manager and Prometheus are then discussed.

Modules Course Apache Kafka Streaming Applications

Module 1 : Intro Apache Kafka	Module 2 : Kafka Brokers	Module 3 : Kafka Streams
What is Apache Kafka?	What are Brokers?	Kafka Streams API
Apache Kafka Architecture	Producers Sourcing Data	Stream Partition
Kafka Components	Configuring Broker List	Data Record
Producers, Consumers, and Brokers	Consumers Unlocking Data	Application Instances
Topics and Partitions	Consumer Interaction	Elastic Scaling
Kafka Streams Overview	Role of Zookeeper	Processor Topology
Event Streaming in Kafka	Broker Level Options	Stream Processors
Message Serialization	Partition Replica Leaders	Stateful Operations
Message DeSerialization	Peeking into Kafka	Stateless Operations
Kafka Connect	Cluster Maintenance	KStreams
Kafka Installation	Adding Brokers	Real Time Analytics
Module 4 : Topics and Storage	**Module 5 : Kafka Security**	**Module 6 : Management and Scalability**
Topic Creation Options	Security Fundamentals	Kafka Replication
Replication Factors	Encryption with SSL	High Availability
Partitions	SSL and SASL Authentication	Scaling Kafka clusters
Partition Location	SSL Brokers and Clients	Processing Parallelism
Topic Compaction	SSL between Brokers	Fault Tolerant Processing
Kafka Storage	Authorization in Kafka	Elastic Processing
Storage is Partitioned	Access Control List	Table Compaction
Storage Formats	Role Based Access Control	Monitoring Kafka
Kafka Tables	Zookeeper Kerberos Setup	Kafka Application Logs
Tiered Storage	Network Bandwidth Quota	Optimizing Kafka
Data Movement	Request Rate Quotas	Data Skew