



RED HAT TRAINING

Redhat Amq Streams

Master Red Hat AMQ Streams to build and manage robust, event-driven architectures. Deploy and scale Kafka-based data streaming solutions efficiently.

DURATION

2 hours

LEVEL

Intermediate

FORMAT

Instructor-Led

- Globally Recognized Certification

- Expert-Led Hands-On Training

- Flexible Scheduling

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COURSE OVERVIEW

This intermediate-level Red Hat AMQ Streams course provides a comprehensive deep dive into leveraging Apache Kafka on Red Hat OpenShift, empowering IT professionals to build and manage robust, scalable, and real-time event-driven architectures. Participants will gain practical skills in deploying, configuring, and administering Kafka clusters using the AMQ Streams Operator, specifically designed for the OpenShift ecosystem. The course covers core Kafka concepts, including topics, partitions, producers, and consumers, alongside advanced topics like security, monitoring, and data integration with Kafka Connect.

By the end of this intensive training, you will be proficient in designing and implementing event streaming solutions that drive modern microservices, real-time analytics, and data pipeline requirements within an enterprise context. This course is crucial for anyone looking to harness the power of distributed streaming to enhance application responsiveness, achieve seamless data flow, and build resilient, cloud-native applications on Red Hat OpenShift. You'll not only understand the theoretical underpinnings but also gain hands-on experience that translates directly into professional competency.

Duration	2 hours
Level	Intermediate
Vendor	Red Hat

COURSE CURRICULUM

01 Module 1: Introduction to Red Hat AMQ Streams and Apache Kafka

- Understanding Event-Driven Architectures
- Core Concepts of Apache Kafka (Topics, Partitions, Producers, Consumers, Brokers)
- Introduction to Red Hat AMQ Streams on OpenShift
- Benefits of AMQ Streams: Scalability, Resilience, OpenShift Integration
- Setting Up Your Lab Environment for AMQ Streams

02 Module 2: Deploying and Managing AMQ Streams Clusters

- Overview of OpenShift and its Role with AMQ Streams
- Installing the AMQ Streams Operator on OpenShift
- Creating and Managing Kafka Clusters using Custom Resources (Kafka, KafkaTopic, KafkaUser)
- Configuring Zookeeper and Kafka Broker Components
- Scaling Kafka Clusters and Broker Operations

03 Module 3: Producing and Consuming Messages with AMQ Streams

- Developing Kafka Producers: Sending Messages to Topics
- Developing Kafka Consumers: Reading Messages from Topics and Consumer Groups
- Understanding Message Delivery Semantics (At-Most-Once, At-Least-Once, Exactly-Once)
- Serialization and Deserialization of Data
- Using Kafka Command-Line Tools for Interaction

04 Module 4: Security and Monitoring for AMQ Streams

- Implementing Authentication Mechanisms (TLS, SCRAM, OAuth)
- Configuring Authorization and Access Control Lists (ACLs)
- Encrypting Data in Transit and at Rest
- Monitoring Kafka Clusters with Prometheus and Grafana Integration
- Logging, Alerting, and Troubleshooting AMQ Streams Components

05 Module 5: Advanced AMQ Streams Features and Integrations

- Introduction to Kafka Connect for Data Integration
- Deploying and Managing Source and Sink Connectors
- Basics of Kafka Streams API for Real-time Data Processing
- Implementing Disaster Recovery with MirrorMaker
- Integrating AMQ Streams with Other OpenShift Services and External Systems

CAREER PATHWAYS

Graduates of this program are prepared for the following roles:

- > **Kafka Administrator/Engineer (Specializing in OpenShift Deployments)**
- > **Cloud-Native Application Developer (Focusing on Event-Driven Microservices)**
- > **DevOps Engineer (Managing Containerized Data Streaming Platforms)**

FREQUENTLY ASKED QUESTIONS

Q: What specific operational challenges related to data streaming and microservices will I be equipped to handle after completing this Red Hat AMQ Streams course?

Upon completion, you will be able to design and implement highly scalable, resilient, and secure event streaming platforms crucial for modern microservices architectures. You'll master deploying Kafka clusters efficiently on OpenShift, managing high message throughput, ensuring data integrity with robust security measures, and integrating diverse data sources/sinks using Kafka Connect. This directly translates to solving real-time data processing bottlenecks, enabling asynchronous communication between services, and building fault-tolerant data pipelines in enterprise environments.

Q: What are the recommended prerequisites or existing knowledge areas for optimal engagement and success in this Red Hat AMQ Streams training?

To get the most out of this course, participants should have a foundational understanding of Linux command-line operations and basic networking concepts. Familiarity with Kubernetes or Red Hat OpenShift fundamentals, including concepts like pods, deployments, and services, is highly recommended. While not strictly mandatory, a basic grasp of Java programming or experience with other programming languages will be beneficial for understanding producer/consumer client examples and Kafka Streams concepts.

Q: How does this course enhance my ability to build cloud-native applications, and what role does Red Hat OpenShift play in my learning experience?

This course specifically focuses on Red Hat AMQ Streams, which is Kafka optimized for OpenShift. You'll learn to leverage OpenShift's container orchestration capabilities to deploy, scale, and manage Kafka clusters efficiently. This integration is key for building truly cloud-native, event-driven applications that require dynamic scaling, automated deployments, and seamless integration within an enterprise Kubernetes ecosystem. The course provides hands-on experience with OpenShift-specific tools and operators, directly enhancing your cloud-native development and operations skill set.

ABOUT COMPUTER PRIDE



East Africa's Premier IT Training Center

With over 15 years of excellence, Computer Pride delivers globally recognized certification programs from leading technology vendors. Located on Kenyatta Avenue in Nairobi's CBD, our state-of-the-art facilities and expert instructors have empowered thousands of professionals across East Africa.

15+

Years of Excellence

10,000+

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50+

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READY TO ENROL?

Take the next step in your technology career.

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