



MICROSOFT TRAINING

AD483 Developing Event-Driven Applications with Apache Kafka and Red Hat AMQ Streams with Exam Course Overview

Develop robust event-driven applications using Apache Kafka and Red Hat AMQ Streams. Master message streaming for scalable, real-time solutions.

DURATION

2 hours

LEVEL

Intermediate

FORMAT

Instructor-Led

- Globally Recognized Certification

- Expert-Led Hands-On Training

- Flexible Scheduling

Computer Pride | 1st Floor, ICEA Building, Kenyatta Avenue, Nairobi | www.computer-pride.co.ke

COURSE OVERVIEW

This intermediate-level course, "AD483 Developing Event-Driven Applications with Apache Kafka and Red Hat AMQ Streams," is meticulously designed to equip IT professionals with the essential skills to build and manage modern, scalable, and resilient event-driven applications. You will delve into the core concepts of event-driven architecture, understanding how to leverage Apache Kafka for real-time data streaming and Red Hat AMQ Streams for enterprise-grade Kafka deployment and management. The course emphasizes practical application, guiding you through the process of developing robust producers and consumers, handling data streams, and ensuring high availability and fault tolerance in your distributed systems. This includes hands-on experience with configuration, security, and monitoring within a Red Hat ecosystem.

By completing AD483, participants will gain expertise in a critical technology stack that powers many of today's high-performance applications and microservices. You will learn to integrate various systems through a unified messaging backbone, enabling real-time data processing and responsive application behavior. This certification not only validates your ability to develop and deploy event-driven solutions but also significantly enhances your professional profile, opening doors to advanced roles in modern software development, data architecture, and enterprise integration.

Duration	2 hours
Level	Intermediate
Vendor	Microsoft

COURSE CURRICULUM

01 Module 1: Introduction to Event-Driven Architecture and Apache Kafka Fundamentals

- Understanding Event-Driven Architecture (EDA) principles and benefits
- Key concepts of Apache Kafka: brokers, topics, partitions, offsets, consumers, producers
- Setting up a local Kafka environment and basic command-line operations
- Exploring common Kafka use cases and architectural patterns

02 Module 2: Developing Kafka Producers and Consumers

- Implementing Kafka Producers: sending messages with various acknowledgment settings
- Data serialization and deserialization techniques
- Developing Kafka Consumers: polling for records, committing offsets
- Understanding consumer groups, rebalancing, and parallel processing

03 Module 3: Advanced Kafka Features and Ecosystem

- Leveraging Kafka Connect for data integration (source and sink connectors)
- Introduction to the Kafka Streams API for real-time stream processing
- Implementing Kafka security: authentication (SASL/SSL) and authorization (ACLs)
- Strategies for ensuring message delivery guarantees and fault tolerance

04 Module 4: Red Hat AMQ Streams for Enterprise Deployment and Management

- Introduction to Red Hat AMQ Streams: architectural components and advantages
- Deploying and managing Kafka clusters using AMQ Streams on OpenShift/Kubernetes
- Configuring AMQ Streams listeners, network policies, and persistent storage
- Monitoring AMQ Streams clusters with Prometheus and Grafana

Module 5: Building and Deploying Event-Driven Applications with AMQ Streams

- 05**
- Designing effective event schemas and data contracts for interoperability
 - Implementing common eventing patterns (e.g., Sagas, CQRS) within applications
 - Integrating event-driven microservices with other enterprise systems
 - Best practices for developing, testing, and deploying robust event-driven applications on OpenShift

CAREER PATHWAYS

Graduates of this program are prepared for the following roles:

- > **Kafka Engineer / Streaming Data Engineer**
- > **Enterprise Integration Architect**
- > **Microservices Developer (Specializing in Eventing)**

FREQUENTLY ASKED QUESTIONS

Q: What foundational knowledge is recommended before taking the AD483 course to maximize learning and success?

While not strictly mandatory, participants will greatly benefit from foundational knowledge in Java development (or another JVM language) and a basic understanding of Linux command-line tools. Familiarity with core concepts of distributed systems or containerization platforms like Kubernetes/OpenShift is a plus, but the course is designed to cover the essentials of event-driven architecture and Red Hat AMQ Streams deployment comprehensively.

Q: How does AD483 specifically prepare me for integrating Kafka with other enterprise systems using Red Hat AMQ Streams in a production environment?

The AD483 course provides in-depth knowledge of Kafka Connect, which is crucial for enterprise integration, enabling you to seamlessly move data between Kafka and various databases, message queues, or cloud services. Furthermore, it covers how Red Hat AMQ Streams facilitates secure and scalable Kafka deployments, including network configuration, authentication, authorization, and monitoring, ensuring your integrations are robust and production-ready within an enterprise context.

Q: What kind of event-driven application scenarios will I be proficient in designing and implementing after completing the AD483 certification?

Upon completion of AD483, you will be proficient in designing and implementing a wide array of event-driven application scenarios. This includes building real-time data ingestion pipelines, developing highly responsive microservices that communicate asynchronously via events, creating systems for real-time analytics and fraud detection, and enabling efficient integration of disparate enterprise systems for data synchronization and command propagation. You will gain the practical skills to architect solutions for high-throughput, low-latency data processing requirements.

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+

Professionals Trained

50+

Vendor Certifications

READY TO ENROL?

Take the next step in your technology career.

Location

1st Flr, ICEA Building
Kenyatta Ave, Nairobi

Email

info@computer-pride.co.ke

Phone

+254 705 900 900

www.computer-pride.co.ke