Cloud-native Integration with Red Hat Fuse and Apache Camel

Kód kurzu: AD221

Red Hat Fuse, based on the Apache Camel project, is a lightweight, flexible integration platform that enables rapid integration of cloud-native applications, both on-premise and in the cloud.Camel development is organized around: Routes that define a sequence or flow of processing.Processors that transform, interpret, and modify messages within a Camel route. Components that enable the creation of endpoints that interact with the outside world for acquiring and transmitting data.Cloud-native Integration with Red Hat Fuse (AD221) emphasizes learning architectural patterns and implementing integration services based on Apache Camel and OpenShift. Camel and Red Hat Fuse enable developers to create complex integrations in a simple and maintainable format. You will learn how to use the most common integration components in Camel and develop, test, and deploy integration focused applications on OpenShift. This course is based on Red Hat Fuse 7.10 and OpenShift 4.

Pre koho je kurz určený

- This course is designed for Java developers focused on implementing integration solutions in an enterprise.

Čo Vás naučíme

- Deploy Fuse applications on Red Hat OpenShift Container Platform
- Implement REST APIs with the Camel REST DSL
- Implement unit tests, error handling, and mocks for Camel routes
- Implement Enterprise Integration Patterns (EIP) using Camel components
- Integrate Camel applications with a database
- Integrate Camel applications with Apache Kafka
- Integrate Cloud-native services using Camel K
- Consume REST services using the Camel HTTP component

Požadované vstupné znalosti

- Experience with Java application development or Red Hat Application Development I: Programming in Java EE (AD183).
- Be proficient in using an IDE such as Visual Studio Code.
- Experience with Maven and version control is recommended, but not required.
- Experience with Red Hat OpenShift or Introduction to OpenShift Applications (DO101) is recommended, but not required.

Osnova kurzu

Introduction to Red Hat Fuse and Camel

Describe the architecture of Red Hat Fuse and Camel and how they are used to integrate applications.

Create Camel routes

Implement Camel routes and develop custom processors

Implement enterprise integration patterns

Describe the most commonly used enterprise integration patterns and implement them using Camel components.

Create tests for routes and error handling

Develop reliable routes by creating unit tests and mocks, and by handling errors.

Integrate services using asynchronous messaging

Integrate microservices using Apache Kafka and ActiveMQ (JMS)

Implement transactions

Provide data integrity in route processing by implementing transactions.

Build and consume REST services

Implement and consume REST services with Camel.

Integrate cloud-native services

Deploy cloud-native microservices based on Camel Routes and Camel K components to an OpenShift cluster

Čo musíte vedieť

Impact on the organization

Accelerate cloud-native integration with Red Hat Fuse and Camel, resulting in less development time spent maintaining and designing integration solutions with enterprise patterns.

Impact on the Individual

As a result of taking this course, you will have a strong understanding of fundamental Camel concepts, commonly used Camel components and their configurations, and Camel deployment options. You will also develop a thorough grasp of enterprise integration patterns to solve integration problems.

You will be able to demonstrate these skills:

- Develop Camel routes to integrate systems such as JMS, FTP, Databases, and REST services.
- Filter and transform messages to create integration routes that are highly reliable.
- Develop tests and use mock components to thoroughly test routes.
- Create reliable routes by implementing transactional routes that prevent data loss.
- Deploy Camel routes to Red Hat OpenShift Container Platform.

22.02.2025 09:52:09