Camel Integration and Development with Red Hat Fuse on OpenShift (AD 421)

COURSE OVERVIEW

Camel Integration and Development with Red Hat Fuse on OpenShift (AD421) is a hands-on, lab-based course that gives Java™ developers and architects an understanding of Apache Camel and the enhancements and tools Red Hat offers in support of Camel development.

This course is based on Red Hat® Enterprise Linux® 7.5, Red Hat® OpenShift® Container Platform 3.9, Red Hat® Fuse 7.1, and Apache Camel 2.21.

Camel and Red Hat Fuse enable developers to create complex integrations in a simple and maintainable format. 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.

This course can assist in preparing for the Red Hat Certified Specialist in Camel Development exam (EX421).

WHO WILL BENEFIT FROM THIS COURSE?

- Java developers who need to learn how to use Camel, implement enterprise integration patterns (EIPs), and develop integration applications with Camel
- Java architects who need to understand how Apache Camel can be used in software architectures requiring integration between applications

PREREQUISITES

- Experience in developing and deploying Java EE 7 applications
- Experience with relational databases, JDBC, and SQL
- Experience with Java development tools such as Maven and Eclipse

COURSE OBJECTIVES

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.
- Increase message throughput by implementing parallel processing in routes.
- Deploy routes with Red Hat OpenShift Container Platform.

COURSE OUTLINE

Introduce Red Hat Fuse and Camel

- Describe how Red Hat Fuse and Camel are used to integrate applications.

Create routes

- Develop simple Camel routes.

Transform data

- Convert messages between data formats using implicit and explicit transformation.

Create tests for routes and error handling with Camel

- Develop reliable routes by developing route tests and handling errors.

Route with Java beans

- Create dynamic routes in Camel using Java beans.

Implement REST services

- Enable REST support on Camel with Java REST APIs.

Deploy Camel routes

- Package and deploy Camel applications for deployment with Red Hat Fuse.

Implement transactions

- Provide data integrity in route processing by implementing transactions.

Implement parallel processing

- Improve route processing throughput using Camel parallel processing mechanisms.

Create microservices with Red Hat Fuse

- Create microservices from Camel routes.

Deploy microservices with Red Hat Fuse on OpenShift

- Deploy microservices based on Camel routes to an OpenShift cluster using Red Hat Fuse on OpenShift.

Perform comprehensive review

- Demonstrate use of the knowledge gained in this course by coding Camel routes.

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