Iverson Associates Sdn Bhd (303330-M)
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Tel: 03-7726 2678   Fax: 03-7727 9737   Website: www.iverson.com.my

Course Outline :: DO283::

Module Title   :   DO283: Red Hat Application Development II Implementing Microservice Architectures

Duration   :   5 days

Overview

Building on Red Hat Application Development I: Programming in Java EE (AD183), the introductory course for Java EE application development, Red Hat Application Development II: Implementing Microservice Architectures (DO283) emphasizes learning architectural principles and implementing microservices in Java EE, primarily based on MicroProfile with WildFly Swarm and OpenShift.

This course is based on Wildfly Swarm 2018.3.3.

You will build on Java EE application development fundamentals and focus on how to develop, monitor, test, and deploy modern microservices applications. Many enterprises are looking for a way to take advantage of cloud-native architectures, but many do not know the best way to go about it. These enterprises have monolithic applications written in Java Enterprise Edition (JEE).

Course summary

- Deploy and monitor microservice-based applications.
- Implement a microservice with MicroProfile.
- Implement unit and integration tests for microservices.
- Use the config specification to inject data into a microservice.
- Create a health check for a microservice.
- Implement fault tolerance in a microservice.
- Secure a microservice using the JSON Web Token (JWT) specification.

Audience

This course is designed for Java developers.

Prerequisites

- Deploy and monitor microservice-based applications.
- Implement a microservice with MicroProfile.

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Outline

Describe microservice architectures

Describe components and patterns of microservice-based application architectures.

Deploy microservice-based applications

Deploy portions of the course case study applications on an OpenShift cluster.

Implement a microservice with MicroProfile

Describe the specifications in MicroProfile, implement a microservice with some of the specifications, and deploy it to an OpenShift cluster.

Test microservices

Implement unit and integration tests for microservices.

Inject configuration data into a microservice

Inject configuration data from an external source into a microservice.

Create application health checks

Create a health check for a microservice.

Implement fault tolerance

Implement fault tolerance in a microservice architecture.

Develop an API gateway

Describe the API gateway pattern and develop an API gateway for a series of microservices.

Secure microservices with JWT

Secure a microservice using the JSON Web Token specification.

Monitor microservices

Monitor the operation of a microservice using metrics, distributed tracing, and log aggregation.

Note: Course outline is subject to change with technology advances and as the nature of the underlying job evolves.

For questions or confirmation on a specific objective or topic, contact a training specialist online.

Recommended next exam or course

- **Red Hat Certified Enterprise Microservices Developer Exam (EX283)**

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Course Outline :: DO283::

- **Red Hat OpenShift I: Containers & Kubernetes (DO180)**
    - Highly recommended for those who don't have OpenShift experience
- **Red Hat OpenShift Development II: Containerizing Applications (DO288)**

Outcomes

Impact on the organization

Many organizations are struggling with how to make the move from monolithic applications to applications based on microservices, as well as how to reorganize their development paradigm to reap the benefits of microservice development in a DevOps economy. In particular, many organizations are invested in Java programming frameworks and Red Hat® OpenShift Container Platform. This course exposes you to the Wildfly Swarm runtime for streamlined deployment on OpenShift clusters.

Red Hat has created this course in a way intended to benefit our customers, but each company and infrastructure is unique, and actual results or benefits may vary.

Impact on the individual

As a result of attending this course, you will understand how to develop, monitor, test, and deploy microservice-based Java EE applications using Wildfly Swarm and Red Hat OpenShift.

You should be able to demonstrate the following skills:

- Deploy and monitor microservice-based applications.
- Implement a microservice with MicroProfile.
- Implement unit and integration tests for microservices.
- Use the config specification to inject data into a microservice.
- Create a health check for a microservice.
- Implement fault tolerance in a microservice.
- Secure a microservice using the JSON Web Token (JWT) specification.