

Developing Applications with Red Hat OpenShift Serverless and Knative

Course Duration: 16 Hours

Course code DO244

1. Course Overview

This hands-on, lab-based course teaches developers and SREs how to build and deploy event-driven, auto-scaling serverless applications and functions using Knative on Red Hat OpenShift. Attendees learn to focus on core business logic by offloading operational complexity to the OpenShift Serverless platform. Through working with Knative Serving and Knative Eventing, participants implement, scale, version, and traffic-split serverless workloads and develop functions natively on OpenShift. Based on OpenShift Serverless 1.23 and Container Platform 4.10, this training helps accelerate cloud-native delivery with minimal infrastructure overhead.

2. What you'll learn?

This course aims to empower developers and DevOps professionals to build, deploy, and manage serverless applications using Red Hat OpenShift Serverless and Knative. Participants will gain practical skills in creating event-driven, scalable, and container-based applications while leveraging the simplicity and power of serverless technologies on a Kubernetes platform. By the end of the course, learners will be able to confidently develop and manage serverless workloads in enterprise-grade environments.

3. Target Audience

- Application developers working with Kubernetes or OpenShift
- Cloud-native developers looking to build serverless applications
- DevOps engineers and site reliability engineers (SREs)
- Architects designing microservices-based solutions
- Professionals seeking to modernize legacy applications for the cloud

4. Pre-Requisites

Before enrolling in this course, participants should have a solid understanding of container fundamentals and Kubernetes concepts, as well as some experience with developing applications in a cloud environment. Familiarity with the OpenShift platform will further enhance the learning experience and help bridge the gap between serverless theory and hands-on practice.

- Basic knowledge of containers and Kubernetes
- Experience developing applications in any modern programming language
- Familiarity with Red Hat OpenShift (recommended)
- Fundamental understanding of DevOps practices and cloud-native principles

5. Course content

Module 1: Introduction to OpenShift Serverless & Knative

- Understand the architecture and core features of Red Hat OpenShift Serverless and Knative

Module 2: Building Serverless Applications with Knative Serving

- Develop and deploy serverless applications.
- Auto-scale, version, and split traffic using Knative Serving

Module 3: Event-Driven Applications with Knative Eventing

- Implement event-driven serverless workflows using Knative Eventing

Module 4: Developing with OpenShift Serverless Functions

- Create and run serverless functions in multiple languages within OpenShift

Module 5: Managing Serverless Applications

- Monitor and troubleshoot Knative services and event-driven applications.
- Implement resource limits, scaling policies, and observability for serverless workloads.
- Apply best practices for lifecycle management of serverless applications.

Module 6: Integrating Serverless into Cloud-Native Workflows

- Combine serverless applications with microservices and CI/CD pipelines.
- Explore use cases for hybrid cloud and edge with OpenShift Serverless.
- Prepare serverless workloads for production deployment and scaling.

