Building Resilient Microservices with Istio and Red Hat OpenShift Service Mesh

Course code: DO328

As of January 2026, only in-person Red Hat training is available for purchase under the original terms. Virtual training (VT) courses are offered exclusively as part of the annual RHLS Course subscription can be found here.How to schedule a virtual course in the Red Hat Learning Subscription can be found here.Control, manage, trace, monitor, and test your microservices with Red Hat OpenShift Service MeshBuilding Resilient Microservices with Istio and Red Hat OpenShift Service Mesh (DO328) is an introduction to Red Hat OpenShift Service Mesh that teaches students installation, service monitoring, service resilience, and service security with Red Hat OpenShift Service Mesh.Red Hat OpenShift created an enterprise-ready, multitenant platform that made deploying and scaling microservice applications efficient and repeatable. But as these architectures become larger and more complex, defining how these services interact with each other is increasingly difficult. Red Hat OpenShift Service Mesh comprises three products: Istio, Jaeger, and Kiali, facilitating a zero-trust network for managing secure service interactions, providing service tracing, and creating a visual representation of communication pathways.This course is based on Red Hat OpenShift® Container Platform 4.6 and Red Hat OpenShift Service Mesh 2.0.

Who is the course for

This course is designed for developers who want to deploy, manage, and secure microservices applications on Red Hat OpenShift.

What we teach you

- Install Red Hat OpenShift Service Mesh on an OpenShift cluster.
- Apply release strategies by controlling service traffic.
- Build service resilience with load balancing and failovers.
- Test service resilience with chaos testing.
- Enforce service security.
- Observe, measure, and trace network traffic with OpenShift Service Mesh.

Required skills

- Take our
- free assessment
- to gauge whether this offering is the best fit for your skills.
- Attending Red Hat Cloud-native Microservices Development with Quarkus (DO378) or demonstrating equivalent experience in creating microservice applications is recommended, but not required
- Attending Red Hat OpenShift I: Containers &Kubernetes (DO180) and Red Hat OpenShift Development II: Containerizing Applications (DO288), and passing the Red Hat Certified Specialist in OpenShift Application Development exam (EX288), or possessing basic OpenShift experience, is strongly recommended.

Course outline

Introduction to Red Hat OpenShift Service Mesh

Describe the basic concepts of microservice architecture and OpenShift Service Mesh.

Install Red Hat OpenShift Service Mesh

Deploy Red Hat OpenShift Service Mesh on Red Hat OpenShift Container Platform.

Observe a service mesh

Trace and visualize an OpenShift Service Mesh with Jaeger and Kiali.

Control service traffic

Manage and route traffic with OpenShift Service Mesh.

Release applications with service mesh

Release applications with canary and mirroring release strategies.

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Test service resilience with chaos testing

Gauge the resiliency of Red Hat OpenShift Service Mesh with chaos testing.

Build resilient services

Use OpenShift Service Mesh strategies to create resilient services.

Secure services with OpenShift Service Mesh

Secure and encrypt services in your application with Red Hat OpenShift Service Mesh.
Note: Course outline is subject to change with technology advances and as the nature of the underlying job evolves.

What you need to know

Impact on the organization

Microservice architectures with Red Hat OpenShift Service Mesh enable organizations to improve application security, resilience, and scalability, while decreasing developer overhead. Red Hat OpenShift Service Mesh adds an additional level of security for data in transit with mutual TLS encryption and a zero-trust network. This leads organizations to improved time to market, as well as improved insight into their microservice architecture, by being able to visualize and trace data flow throughout their applications. These insights can dictate better resource allocation for applications as well as more quickly identifying defects in specific microservices.
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

You will be able to use the concepts in this course to simplify and more efficiently manage their service interactions. You will learn how to install and configure Red Hat OpenShift Service Mesh to define, monitor, manage, and secure service interaction within their microservice architecture. This course is intended to illustrate the ease of Red Hat OpenShift Service Mesh's "sidecar" approach and to highlight the benefits of service resilience and monitoring that the product provides.

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