

## Building Resilient Microservices with Istio and Red Hat OpenShift Service Mesh

Duration: 90 Days Course Code: DO328

### Overview:

#### Control, manage, trace, monitor, and test your microservices with Red Hat OpenShift Service Mesh

Building 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.

Following course completion, you will receive a 45-day extended access to hands-on labs for any course that includes a virtual environment.

**Note:** This course is offered as a four day virtual class or self-paced. Durations may vary based on the delivery. For full course details, scheduling, and pricing, select your location then “get started” on the right hand menu.

#### e-Learning

Interactive self-paced content that provides flexibility in terms of pace, place and time to suit individuals and organisations. These resources also consist of online books, educational podcasts and vodcasts, and video-based learning.

### Target Audience:

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

### Objectives:

- Install Red Hat OpenShift Service Mesh on a Red Hat 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.

### Prerequisites:

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.

## Content:

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|--|--|---|
| Introduction to Red Hat OpenShift Service Mesh                                       | Control service traffic  | Build resilient services  |
| Describe the basic concepts of microservice architecture and OpenShift Service Mesh. | Manage and route traffic with OpenShift Service Mesh.                      | Use OpenShift Service Mesh strategies to create resilient services.   |
| Install Red Hat OpenShift Service Mesh   | Release applications with service mesh                                     | Secure services with OpenShift Service Mesh   |
| Deploy Red Hat OpenShift Service Mesh on Red Hat OpenShift Container Platform.       | Release applications with canary and mirroring release strategies.         | Secure and encrypt services in your application with Red Hat OpenShift Service Mesh.                                |
| Observe a service mesh   | Test service resilience with chaos testing                                 | Note: Course outline is subject to change with technology advances and as the nature of the underlying job evolves. |
| Trace and visualize an OpenShift Service Mesh with Jaeger and Kiali.                 | Gauge the resiliency of Red Hat OpenShift Service Mesh with chaos testing. |   |

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## Additional Information:

### Technology considerations:

Internet access is required.

### 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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## Further Information:

For More information, or to book your course, please call us on Head Office Tel.: +974 40316639

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