

Service Mesh Training

COURSE CONTENT

GET IN TOUCH



Multisoft Systems
B - 125, Sector - 2, Noida



(+91) 9810-306-956



info@multisoftsystems.com



www.multisoftsystems.com

About Multisoft

Train yourself with the best and develop valuable in-demand skills with Multisoft Systems. A leading certification training provider, Multisoft collaborates with top technologies to bring world-class one-on-one and certification trainings. With the goal to empower professionals and business across the globe, we offer more than 1500 training courses, which are delivered by Multisoft's global subject matter experts. We offer tailored corporate training; project Based Training, comprehensive learning solution with lifetime e-learning access, after training support and globally recognized training certificates.

About Course

Service Mesh Training by Multisoft Systems is designed to help professionals master the backbone of modern microservices communication. As cloud-native applications grow in scale and complexity, managing service-to-service interactions becomes essential. A service mesh provides a dedicated infrastructure layer that handles traffic management, observability, security, and reliability without requiring changes to application code.

Module 1: Introduction to Service Mesh

- ✓ Understanding microservices communication challenges
- ✓ What is a service mesh
- ✓ Components: Data plane and control plane
- ✓ Benefits of using a service mesh
- ✓ Popular service mesh tools overview: Istio, Linkerd, Consul

Module 2: Core Concepts and Architecture

- ✓ Sidecar proxy pattern
- ✓ Service discovery and endpoint management
- ✓ Load balancing strategies
- ✓ Traffic routing basics
- ✓ Observability fundamentals
- ✓ Security and policy enforcement basics

Module 3: Deploying a Service Mesh

- ✓ Preparing Kubernetes cluster for service mesh
- ✓ Installing Istio, Linkerd, and Consul
- ✓ Architecture walkthrough for each platform
- ✓ Configuring ingress and egress gateways
- ✓ Understanding namespaces and mesh expansion

Module 4: Traffic Management

- ✓ Traffic shifting and canary deployments
- ✓ Weighted routing and fault injection
- ✓ Retries, timeouts, and circuit breaking
- ✓ Request shadowing and mirroring
- ✓ Advanced routing policies

Module 5: Security in Service Mesh

- ✓ Zero trust architecture
- ✓ Mutual TLS (mTLS) configuration
- ✓ Authentication and authorization policies
- ✓ Role-based access control (RBAC)
- ✓ Securing services without code changes

Module 6: Observability and Monitoring

- ✓ Distributed tracing with Jaeger and Zipkin
- ✓ Metrics and dashboards using Prometheus and Grafana
- ✓ Logs and access patterns
- ✓ Monitoring latency and error rates
- ✓ Using telemetry for performance optimization

Module 7: Integrating with Kubernetes and DevOps

- ✓ Service mesh with CI/CD pipelines
- ✓ GitOps and mesh configuration management
- ✓ Integrating with Helm and YAML workflows
- ✓ using mesh with cloud platforms (AWS, Azure, GCP)

Module 8: Advanced Service Mesh Features

- ✓ Policy enforcement and rate limiting
- ✓ Multi-cluster and multi-tenant service mesh
- ✓ Managing large-scale microservices
- ✓ Mesh federation and cross-cluster communication
- ✓ High availability and resilience strategies

Module 9: Troubleshooting and Best Practices

- ✓ Identifying misconfigurations

- ✓ Debugging traffic flow
- ✓ Verifying mTLS and policy settings
- ✓ Performance tuning for large deployments