

DEVOPS

ADVANCED

5 DAYS

Kubernetes Foundations

Build a strong foundation in Kubernetes by understanding its architecture, components, and APIs. Learn how to deploy, scale, secure, monitor, and troubleshoot containerized applications while managing Kubernetes networking and infrastructure effectively.

Why Kubernetes?

Scalability

Kubernetes provides an automated way to scale applications up or down based on demand, ensuring that businesses can handle traffic spikes or changes in usage patterns without downtime or performance issues.

Resource optimization

Kubernetes optimizes resource usage by dynamically allocating resources to applications based on their requirements, reducing wastage and increasing efficiency.

Portability

Kubernetes allows businesses to deploy applications across different environments, such as on-premises data centers or cloud platforms, without significant changes to the application architecture or code.

What you'll be able to do

- ✓ Understanding the fundamentals of Kubernetes, including its architecture, components, and APIs
- ✓ Learning how to deploy, scale, and manage containerized applications using Kubernetes
- ✓ Understanding Kubernetes networking in practical engineering workflows
- ✓ Learning how to monitor, troubleshoot, and debug Kubernetes applications and infrastructure
- ✓ Understanding Kubernetes security concepts

Who this is for

- IT professionals
- Developers
- DevOps engineers
- System administrators

Curriculum

01 Kubernetes Foundations

- Apply kubernetes foundations with Kubernetes in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
- Validate outcomes, logs, and failure modes
- Capture reusable patterns for team standards

02 Installation and Cluster Basics

- Apply installation and cluster basics with Kubernetes in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
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03 Deploy and Manage Apps

- Apply deploy and manage apps with Kubernetes in practical DevOps workflows
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04 Storage

- Apply storage with Kubernetes in practical DevOps workflows
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05 Networking

- Apply networking with Kubernetes in practical DevOps workflows
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06 Security

- Apply security with Kubernetes in practical DevOps workflows
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07 Scaling and High Availability

- Apply scaling and high availability with Kubernetes in practical DevOps workflows
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08 Operators and API Basics

- Apply operators and api basics with Kubernetes in practical DevOps workflows
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09 Observability Essentials

- Apply observability essentials with Kubernetes in practical DevOps workflows
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10 Troubleshooting

- Apply troubleshooting with Kubernetes in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
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11 Best Practices

- Apply best practices with Kubernetes in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
- Validate outcomes, logs, and failure modes
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