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Learning Style: On Demand

Technology: Linux Foundation

Difficulty: Beginner

Course Duration: 32 Hours

Kubernetes Fundamentals (LFS258)

About This Course:

Kubernetes Fundamentals (LFS258) introduces learners to container orchestration using Kubernetes. The course provides a practical understanding of how to deploy, manage, and scale containerized applications in a Kubernetes cluster.

Course Objectives:

- Understand the fundamentals of container orchestration and the role of Kubernetes in modern infrastructure.
- Describe the architecture and core components of a Kubernetes cluster.
- Deploy and manage applications using Pods, Deployments, and ReplicaSets.
- Configure networking and expose applications using Services and Ingress.
- Manage configuration and secrets for applications running in Kubernetes.
- Perform basic cluster management tasks and monitor workloads.
- Scale applications and ensure high availability within a Kubernetes environment.
- Use the kubectl command-line tool to interact with and manage Kubernetes clusters

Audience:

- System Administrators managing containerized infrastructure
- DevOps Engineers working with cloud-native platforms
- Cloud Engineers and Architects deploying applications in Kubernetes environments
- Software Developers building and deploying containerized applications
- IT Professionals looking to start working with Kubernetes and container orchestration

Prerequisites:

- Basic understanding of Docker or container concepts
- Familiarity with Linux command line and basic system administration
- Basic knowledge of application deployment and networking concepts

Course Outline:

- Chapter 1. Course Introduction
- Chapter 2. Basics of Kubernetes
- Chapter 3. Installation and Configuration
- Chapter 4. Kubernetes Architecture
- Chapter 5. APIs and Access
- Chapter 6. API Objects
- Chapter 7. Managing State with Deployments
- Chapter 8. Helm and Kustomize
- Chapter 9. Volumes and Data
- Chapter 10. Services
- Chapter 11. Ingress
- Chapter 12. Scheduling
- Chapter 13. Logging and Troubleshooting
- Chapter 14. Custom Resource Definitions
- Chapter 15. Security
- Chapter 16. High Availability
- Chapter 17. Exam Domain Review