

ADVANCED KUBERNETES BOOT CAMP

2 Days Classroom
3 Days Live Online

Individual: \$2450

Group: \$2350

GSA: \$2340

Credits: 21 PDUs

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www.cprime.com/learning

COURSE OVERVIEW

In this advanced Kubernetes training course, an experienced technologist will guide you through critical topics around Kubernetes that will help you build enterprise applications. You will explore the vast ecosystem from the Cloud Native Computing Foundation (CNCF) for tools and projects available in Kubernetes.

COURSE OUTLINE

Part 1: Core Concepts

1. Kubernetes architecture
2. Imperative commands and descriptive manifests
3. Pods, deployments, services, namespaces, DaemonSets
4. Exercise: Working with Pods
5. Exercise: Working with ReplicaSet
6. Exercise: Working with Deployments
7. Exercise: Working with Services
8. Multi-containers
9. Init containers
10. Exercise: Working with StatefulSet
11. Working with multiple clusters (kubeconfig)
12. Kubernetes design patterns

Part 2: Networking in Kubernetes

1. Ingress networking
2. Exercise: Working with Ingress
3. Networking policies
4. Exercise: Working with Networking Policies
5. What's a service mesh?
6. Introduction to Istio
7. Observability with Istio
8. Networking security with Istio
9. Canary releases with Istio
10. Exercise: Working with Istio

Part 3: Creating Scalable and Fault-Tolerant Applications

1. Working with configuration
2. Exercise: Working with ConfigMaps
3. Working with probes
4. Exercise: Working with Probes

5. Configuring requests and limits
6. Taints and tolerations
7. Exercise: Working with Taints and Tolerations
8. Node selectors
9. Configuring scaling policies
10. Exercise: Configuring scaling policies

Part 4: Development Workflow in Kubernetes

1. Packaging and managing applications with Helm
2. Exercise: Working with Helm
3. Continuous delivery in Kubernetes
4. Exercise: Continuous Delivery with Flux
5. Logging and monitoring systems
6. Troubleshooting application failures
7. Exercise: Troubleshooting Applications
8. Development Toolbox: State of the art

Part 5: Developing Stateful Services

1. Understanding persistent volumes
2. Exercise: Working with PV and PVC
3. Backup and restore in Kubernetes
4. Exercise: Backup and restore with Velero
5. Databases in Kubernetes

Part 6: Security Practices and Recommendations

1. Authentication and Authorization
2. Integration with AWS and IAM
3. Docker image and pods security
4. Pod Security Context and Policies
5. Secrets encryption using KMS
6. Exercise: Security in Kubernetes

See website for full outline

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