



TRAINING OFFERING

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| CODE: | LENGTH: | PRICE: |
|----------|-------------------|-----------|
| VMW_KFCO | 32 Hours (4 days) | €1,360.00 |

Description

This four-day course is the first step in learning about Containers and Kubernetes Fundamentals and Cluster Operations. Through a series of lectures and lab exercises, the fundamental concepts of containers and Kubernetes are presented and put to practice by containerizing and deploying a two-tier application into Kubernetes.

Objectives

By the end of the course, you should be able to meet the following objectives:

- Build, test, and publish Docker container images
- Become familiar with YAML files that define Kubernetes objects
- Understand Kubernetes core user-facing concepts, including pods, services, and deployments
- Use kubectl, the Kubernetes CLI, and become familiar with its commands and options
- Understand the architecture of Kubernetes (Control plane and its components, worker nodes, and kubelet)
- Learn how to troubleshoot issues with deployments on Kubernetes
- Apply resource requests, limits, and probes to deployments
- Manage dynamic application configuration using ConfigMaps and Secrets
- Deploy other workloads, including DaemonSets, Jobs, and CronJobs
- Learn about user-facing security using SecurityContext, RBAC, and NetworkPolicies

Audience

Anyone who is preparing to build and run Kubernetes clusters

Prerequisites

- Linux concepts and command line proficiency
- General networking proficiency

Programme

- | | | | |
|---|---|--|------------------------------------|
| 1. Course Introduction: | 2. Containers: | 3. Kubernetes Overview: | 4. Beyond Kubernetes Basics: |
| • Introductions and objectives | • What and Why containers | • Kubernetes project | • Kubernetes objects |
| 5. Kubernetes Networking: | • Building images | • Plugin interfaces | • YAML |
| • Networking within a pod | • Running containers | • Building Kubernetes | • Pods, replicas, and deployments |
| • Pod-to-Pod Networking | • Registry and image management | • Kubectl CLI | • Services |
| • Services to Pods | | | • Deployment management |
| • ClusterIP, NodePort, and LoadBalancer | 6. Stateful Applications in Kubernetes: | | • Rolling updates |
| • Ingress controllers | • Stateless versus Stateful | | • Controlling deployments |
| • Service Discovery via DNS | • Volumes | | • Pod and container configurations |
| | • Persistent volumes claims | | |
| | • StorageClasses | 7. Additional Kubernetes Considerations: | |
| | • StatefulSets | • Dynamic configuration | |
| | | • ConfigMaps | |
| | | • Secrets | |
| | | • Jobs, CronJobs | |

- 8. Security:
 - Network policy
 - Applying a NetworkPolicy
 - SecurityContext
 - runAsUser/Group
 - Service accounts
 - Role-based access control
- 9. Logging and Monitoring:
 - Logging for various objects
 - Sidecar logging
 - Node logging
 - Audit logging
 - Monitoring architecture
 - Monitoring solutions
 - Octant
 - VMware vRealize® Operations Manager™
- 10. Cluster Operations:
 - Onboarding new applications
 - Backups
 - Upgrading
 - Drain and cordon commands
 - Impact of an upgrade to running applications
 - Troubleshooting commands
 - VMware Tanzu™ portfolio overview

Session Dates

On request. Please [Contact Us](#)

Additional Information

[This training is also available as onsite training. Please contact us to find out more.](#)