



Enterprise Computing Solutions - Education Services

TRAINING OFFERING

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CODE:	LENGTH:	PRICE:
VMW_KFCO	32 Hours (4 days)	€2,760.00

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