Enterprise Computing Solutions - Education Services

TRAINING OFFERING

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VMware Kubernetes Fundamentals and Cluster Operations

CODE:	LENGTH:	PRICE:
EDU-VMW-VKFCO	32 Hours (4 days)	$3,400.00

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

Upon completing this course, the learner will be able to meet these overall 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

The primary audience for this course is anyone who is preparing to build and run Kubernetes clusters.

Prerequisites

Before taking this course, you should have completed the following courses: Linux concepts and command line proficiency General networking proficiency

Program

Module 1: Course Introduction Introductions and objectives Module 2: Containers What and Why containers Building images Running containers Registry and image management Module 3: Kubernetes Overview Kubernetes project Plugin interfaces Building Kubernetes Kubectl CLI Module 4: Beyond Kubernetes Basics Kubernetes objects YAML Pods, replicas, and deployments Services Deployment management Rolling updates Controlling deployments Pod and container configurations Module 5: Kubernetes Networking Networking within a pod Pod-to-Pod Networking Services to Pods ClusterIP, NodePort, and LoadBalancer Ingress controllers Service Discovery via DNS Module 6: Stateful Applications in Kubernetes Stateless versus Stateful Volumes Persistent volumes claims StorageClasses StatefulSets Module 7: Additional Kubernetes Considerations Dynamic configuration ConfigMaps Secrets Jobs, CronJobs Module 8: Security Network policy Applying a NetworkPolicy SecurityContext runAsUser/Group Service accounts Role-based access control Module 9: Logging and Monitoring Logging for various objects Sidecar logging Node logging Audit logging Monitoring architecture Monitoring solutions Octant VMware vRealize® Operations Manager™ Module 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.