

VMware - Kubernetes Foundations

Code:	EDU-VKUB
Length:	2 days
URL:	View Online

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

Skills Gained

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 authoring YAML files and its syntax
- 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 to debug issues with application deployments on Kubernetes
- Apply resource requests, limits, and probes to deployments
- Manage dynamic application configuration using ConfigMaps and Secrets
- Deploy other workloads, including StatefulSets, DaemonSets, Jobs, CronJobs
- Learn about user-facing security best practices using ServiceAccounts, RBAC, and NetworkPolicies

Who Can Benefit

- Anyone involved with using or building a Kubernetes cluster

Prerequisites

- Linux concepts and command line proficiency
- General networking proficiency

Course Details

Outline

Introduction to Containers

- What and Why Containers
- Building images
- Running containers
- Debugging containers
- Registry and image management

Kubernetes Fundamentals

- Why Kubernetes?
- YAML
- Pods
- Services
- Deployments

Kubernetes Architecture & Troubleshooting

- Cluster architecture
- Cluster components
- Namespaces
- Debugging 101

Deployment Management

- Application deployment strategies
- Controlling active deployments

Pod and Container Configurations

- Resource requests, limits, and quotas
- Probes

Kubernetes Networking

- Pod networking
- Services deep dive
- Ingress controllers

Kubectl and Resource Organization

- kubeconfig
- Namespaces deep dive
- Labels

- Node/Pod affinity
- Taints/Tolerations

Stateful Applications

- Persistent storage
- StatefulSets

Dynamic Application Configuration

- Docker dynamic configuration
- ConfigMaps
- Secrets

Additional Workloads

- Jobs
- CronJobs
- DaemonSets

Security

- Service accounts
- Role-Based access control
- Network policies
- SecurityContext

Schedule (as of 3)

Date	Location	
Jun 24, 2021 – Jun 25, 2021	Virtual	Enroll

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