

Managing Container with Docker and Podman + Kubernetes for Administrator Bootcamp

Course Overview

In today's speed-driven competitive landscape, Container Technology and Docker have become fundamental infrastructure components that eliminate development environment constraints, optimize resource usage, and significantly enhance software delivery efficiency for microservices architectures. However, as applications scale and grow in complexity, managing numerous containers requires Kubernetes to act as a Container Orchestration tool, ensuring system stability, automated scaling, and centralized management.

Designed for System Administrators and Software Developers, this course provides comprehensive knowledge ranging from container fundamentals and management using Docker to enterprise-level Kubernetes cluster administration. Participants will acquire essential practical skills in managing Kubernetes clusters, cloud-native storage, security implementations, and maintaining production-ready infrastructure for large-scale enterprise applications.

Prerequisites

- Basic knowledge of the Linux operating system
- Basic knowledge of networking

Course Contents

- Container Concept and Introduction
- Container Operation with Command
 - Run, Create, Exec etc.
- Container Image
- Container Image Operation
- Container Registry
- Advanced Container Image
 - Building Containerized Application with Dockerfile
 - Reduce Container Image by Building Multi-stage Builds
- Container Networking
- Keep Persistent Data with Volume
- Troubleshooting Container Application, Debugging and Logging
- Multi Container Application Stacks
- Container Orchestrator with Kubernetes
- Implement Docker Security and API
- Kubernetes
 - What is Kubernetes?
 - Cluster Architecture
 - Cluster Installation and Upgrade

- Workloads
 - Basic YAML
 - Pods
 - Static Pods
 - Workload Resources
 - ReplicaSets
 - Deployments
 - DaemonSets
 - Namespaces
 - Labels and Selectors
 - Resource Requirements and Limits
- Scheduling
 - Manual Scheduling
 - Taints and Tolerations
 - Node Selectors
 - Node Affinity
- Services, Loadbalancing and Networking
 - Services
 - ClusterIP
 - NodePort
 - LoadBalancer
 - ExternalName
 - DNS for Services and Pods
 - Ingress controllers and Ingress resources
- Application Management
 - Application Logs
 - Commands and Arguments
 - ConfigMaps in Applications
 - Secrets in Applications
 - Configure Environment Variables
 - Rolling Updates and Rollbacks
 - Scale Applications
 - Multi Container PODs
 - InitContainers
- Security
 - Kubeconfig
 - Role Based Access Controls
 - Image Security
 - Network Policy
- Storage
 - Volumes
 - Persistent Volumes
 - Persistent Volume Claims
 - Persistent Volume Claims in PODs
 - Storage Class

Course Length:

5 Days

For More Information Please Contact: Vnohow (Thailand) Co., Ltd.

90/31 Sathorn Thani Building 1, 12FL, North Sathorn Road, Silom, Bangrak, Bangkok 10500 Thailand

Tel +662-634-3287-9, +662-634-3299 Email vnohow@vnohow.com Website www.vnohow.com