

Docker and Kubernetes – 2 days

CONTENTS

In this course you will learn how to build, compose, deploy and manage Docker containers with Kubernetes, to understand the purpose and theory of Kubernetes, and how to run and manage your containerized applications.

TARGET AUDIENCE

- DevOps engineers
- Solution Architects
- Software Professionals

PREREQUISITES

Knowledge of Linux/Unix shell command

NOTE: This course is not delivered with the FoldOut methodology.

Docker Introducing

- What is Docker?
- Why use Docker?
- Containers vs Virtual Machines
- Use Cases
- Docker Environment

Docker Local Setup

- Set up the VM
- Manage the VM
- Download Docker
- Install Docker
- Quick Test

Manage Containers

- Docker run
- List running containers
- Container Lifecycle
- Container Resources
- Container Networking
- Container Logging
- Executing Commands in Running Containers
- Container Environment Variables

Docker Images

- Images General Info
- Docker Hub
- Private Repository
- Pull Images
- Build Images
- Run Built Images
- Push Images
- Dockerfile
- Docker Layers

Docker Volumes

- Understanding Volumes in Docker
- Create and Manage Volumes
- Start a Container with a Volume

Introduction to Kubernetes

- Kubernetes History
- Orchestration
- Background
- Environments
- Kubernetes Cluster Architecture
 - High/Context Level
 - Component Level
 - Pod Level
 - Container Level

Kubernetes Local Setup

- Various Kubernetes Deployment Scenarios
- Single Node Deployment

Kubernetes Basic Concepts

- Kubernetes State
- Kubernetes Objects
- Pods, ReplicaSets, Deployments
- Namespaces
- Container Images
- Healthchecks

Kubernetes Advanced Concepts

- Services
 - Headless
 - ClusterIP
 - NodePorts
 - LoadBalancers
- Ingress
- IngressControllers
- Volumes
- ConfigMaps
- Secrets

Kubernetes Administration

- kubectl Configuration
- Kubernetes Dashboard
- K9s
- Authentication
- RBAC – Authorization