

DOCKER

➤ Introduction

- ✓ Introduction
- ✓ Docker Overview

➤ Docker Commands

- ✓ Image and Containers
- ✓ Understanding docker architecture
- ✓ Docker host, Docker client, Docker registry
- ✓ Basic Docker Commands
- ✓ Advanced Docker Run Features
- ✓ Creating multi container architecture using --link

➤ Docker Compose

- ✓ Creating dev environment
- ✓ Creating testing environment
- ✓ Creating ci-cd environment
- ✓ Creating LAMP architecture

➤ Docker File

- ✓ Creating customized docker images using “commit”
- ✓ Creating customized docker images using dockerfile

➤ Docker Networking

- ✓ Docker Networking
- ✓ Setting up virtual bridge and overlay networks

➤ Docker Volumes

- ✓ Simple docker volumes
- ✓ Docker volume containers

➤ Docker Registry

- ✓ Setting up public registry
- ✓ Setting up private registry

DOCKER SWARM

➤ Introduction

- ✓ Introduction
- ✓ Introduction to container orchestration

➤ Docker Swarm

- ✓ Docker Swarm in Depth
- ✓ Creating services in swarm
- ✓ Running application on services
- ✓ Load balancing using Swarm
- ✓ Scalling using docker swarm
- ✓ Rolling update using Swarm
- ✓ Handling fail over scenarios using Swarm

➤ Advanced Networking

- ✓ Advanced Networking – Overlay Networking

➤ Docker Stacks

- ✓ Docker Stacks
- ✓ Deploying services in Stack
- ✓ Creating microservices architecture in Stack

KUBERNETES

➤ **Kubernetes Overview**

- ✓ Introduction
- ✓ Containers Overview
- ✓ Demo – Docker
- ✓ Container Orchestration
- ✓ Kubernetes Architecture

➤ **Setup Kubernetes**

- ✓ Kubernetes Setup – Kubeadm
- ✓ play-with-k8s.com

➤ **Kubernetes Concepts**

- ✓ PODs
- ✓ ReplicaSet
- ✓ Replication Controllers

➤ **Kubernetes Concepts-PODs, ReplicaSets, Deployments**

- ✓ Introduction to YAML
- ✓ PODs with YAML
- ✓ Replication Controllers and ReplicaSets using yaml
- ✓ Container Orchestration in Kubernetes
- ✓ Load Balancing using Kubernetes
- ✓ High availability using Kubernetes
- ✓ Scalling in Kubernetes
- ✓ Performing Rolling updates and roll back
- ✓ Handling Fail over scenarios
- ✓ Deployments
- ✓ Deployments – Update and Rollback

➤ **Networking in Kubernetes**

- ✓ Basics of Networking in Kubernetes
- ✓ Demo – Networking in Kubernetes

➤ **Services**

- ✓ Service – NodePort
- ✓ Demo – Services
- ✓ Services – ClusterIP

➤ **Microservices Architecture**

- ✓ Microservices Application
- ✓ Deploying Microservices Application Kubernetes Cluster