Introduction to Docker Kubernetes and OKD

Duration: 5 days (8hrs/day)

1. **Docker administration**

   - Introduction to Containers
   - Introduction to Docker
   - Downloading and Installing Docker
   - Docker Essential Commands
   - Docker Engine
   - Understanding Docker Images
   - Building Docker Images
   - Storing and Retrieving Docker Images from Docker Hub
   - Private Registry
   - Managing Cgroups
   - Building Containers from Images
   - Understand Storage Plugins
   - Networking Docker Containers
   - Data Persistence with Volumes
   - Linux Capabilities
   - Creating and Managing Certificates

2. **Core Concepts of Kubernetes**

   - Cluster Orchestration
   - Looking at K8S Origination at Google
   - Open Source
   - Benefits
   - Design Principles

3. **Navigating Kubernetes Architecture**

   - Master/Node
   - Kubectl
   - Replication Controller
   - Kubelet
   - Kube-Proxy
   - Persistent Volumes
   - Etcd
   - High Availability

4. Using Kubernetes Features

- Pods
- Labels
- Services
- Namespaces
- Resource Quota

5. The OKD Container Platform.

- The Role of Containers & Container Orchestration
- Introduction to OKD
- Kubernetes and OKD Architecture
- Installation of OKD

6. Introduction To Docker

- Installation of Docker
- Docker Essential Commands
- Creating Containers
- Managing Data in Docker
- Docker Networking
- Docker Repositories
- Build Images
- Docker File

7. Core Concepts of OKD

- Pods
- Services
- Replication Controllers
- Persistent Volume(PV)
- Persistent Volume Claim(PVC)
- Deployment Config
- Build Config

8. Managing OKD

- Introduction to YAML
- Creating and Managing Pods
- Init Containers
- Labels & Selector
- Managing Replication Controllers