5 Days

CKA-Certified Kubernetes Administrator

Duration: 5 Days [40 hours]

Certified Kubernetes Administrator online training course is developed for the Kubernetes Administrators who needed learning concepts of developing the Kubernetes ecosystem. Certified Kubernetes Administrator certification course will validate that these professionals have the skills, knowledge, and competency to perform the functions and responsibilities of Kubernetes administrators. The Certified Kubernetes Administrator Certification demonstrates on the skills required to be a recognized Kubernetes Administrator in industry.

Course Details

Course Outline

Module 1 – Core Concepts

- Overview of Container Orchestration
- Introduction to Kubernetes
- Kubernetes Architecture

Module 2 – Installation, Configuration & Validation

- Design a Kubernetes Cluster
- Installation of Kubernetes Master and Nodes
- Choose a Network Solution
- Verify Installation

Module 3 – Managing Resources

- Managing Pods
- Managing Labels & Selector
- Managing Replication Controller & Replica Set
- Managing Service

Module 4 – Scheduling

- Manual Scheduling
- Taint and Tolerations
- Node Selector
- Node Affinity
-

Module 5 – Application Lifecycle Management

- Overview of Deployment
- Deployment Strategies
- Managing Deployment
-

Module 6 – Environment Variable

- Plain Key

- Config Map
- Secret
- Mount Variable as Volume

Module 7 – Storage

- Volumes
- Persistent Volumes
- Persistent Volume Claim

Module 8 – Security

- Kubernetes Authentication
- Managing Users in Kubernetes
- Service Account
- Managing Roles and Role Binding
- Managing Cluster Role and Cluster Role Binding
- Security Context

Module 9 – Cluster Maintenance

- OS Upgrade
- Upgrade Cluster Version
- Static Pod
- ETCD Backup
- Cron Job

Module 10 – Logging and Monitoring

- Understand how to Monitor all Cluster Components
- Understand how to Monitor Applications
- Manage Cluster Components Logs
- Manage Application Logs
- Prometheus Tool

Module 11 – Networking in Kubernetes

- Kubernetes Networking
- Understand CNI
- Understand Pod Networking Concepts
- Configure DNS
- Configure and Manage Ingress Rule
- Namespace
- Metal Load Balancer

Module 12 – Troubleshooting

- Troubleshoot ETCD Failure
- Troubleshoot Kubelet Failure
- Troubleshoot Container Runtime Failure
- Troubleshoot Scheduler Failure

Module 13 – High Availability Cluster

- Multi-Master Setup

Pre Requisite

- Linux Introduction and Docker administration training or
- Working experience on Linux and container Technology.

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