

CKA Exam Prep Lab

Duration: 2 Days

CKA Exam Overview:

The purpose of the Certified Kubernetes Administrator (CKA) exam is to provide assurance that CKAs have the skills, knowledge, and competency to perform the responsibilities of Kubernetes administrators.

Hands-On Format: This hands-on class is approximately 80/20 lab to lecture ratio, combining engaging lecture, demos, group activities and discussions with comprehensive machine-based practical programming labs and project work.

Module 1 – Cluster Architecture, Installation & Configuration

- Use Kubectl to install a basic cluster
- Manage a highly-available Kubernetes cluster
- Provision underlying infrastructure to deploy a Kubernetes cluster
- Perform a version upgrade on a Kubernetes cluster using Kubectl
- Implement etcd backup and restore
- Manage Role Based Access Control (RBAC)

Module 2 – Workloads & Scheduling

- Understand deployments and how to perform rolling update and rollbacks
- Use ConfigMaps and Secrets to configure applications
- Know how to scale applications
- Understand the primitives used to create robust, self-healing, application deployments
- Understand how resource limits can affect Pod Scheduling
- Awareness of manifest management and common templating tools

Module 3 – Service & Networking

- Understand host networking configuration on the cluster nodes
- Understand connectivity between Pods
- Understand ClusterIP, NodePort, LoadBalancer service types and endpoints
- Know how to use Ingress controllers and Ingress resources
- Know how to configure and use CoreDNS
- Choose an appropriate container network interface plugin

Module 4 – Storage

- Understand storage classes, persistent volumes
- Understand volume mode, access modes and reclaim policies for volumes
- Understand persistent volume claims primitive
- Know how to configure applications with persistent storage

Module 5 – Troubleshooting

Evaluate cluster and node logging
Understand how to monitor applications
Manage container stdout & stderr logs
Troubleshoot application failure
Troubleshoot cluster component failure
Troubleshoot networking