Certified Kubernetes Administrator (CKA) Exam Curriculum

This document provides the curriculum outline of the Knowledge, Skills and Abilities

that a Certified Kubernetes Administrator (CKA) can be expected to demonstrate.

# CKA Curriculum

## 25% - Cluster Architecture, Installation & Configuration

* Manage role based access control (RBAC)
* Use Kubeadm 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 Kubeadm
* Implement etcd backup and restore

## 15% - 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

## 20% - Services & 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

## 10% - 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

## 30% - 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