



CLOUD NATIVE COMPUTING FOUNDATION

# CERTIFIED KUBERNETES ADMINISTRATOR

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Certified Kubernetes Administrator

# EXAM OVERVIEW

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

A solid understanding of containers, and Docker in particular, will be of value. If you are not comfortable with Docker, you are encouraged to take our Docker Deep Dive training program.

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Where we are  
**TODAY**





## Cluster Architecture, Installation & Configuration - 25%

- 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

## Workloads & Scheduling - 15%

- 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

## Services & Networking - 20%

- 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



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# Table of CONTENTS

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## Storage - 10%

- 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

## Troubleshooting - 30%

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



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