

Training: The Linux Foundation  
CKA Certified Kubernetes Administrator

## TRAINING GOALS:



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

### Overview

The Certified Kubernetes Administrator (CKA) program was created by The Linux Foundation and the Cloud Native Computing Foundation (CNCF) as a part of their ongoing effort to help develop the Kubernetes ecosystem. As one of the highest velocity open source projects, Kubernetes use is exploding.

There are no pre-requisites for this exam.

Exam Delivery: Online

Duration of Exam: 3 Hours

Certification Valid: 3 Years

Version of Software: Kubernetes v1.14

Includes:

- 12 Month Exam Eligibility
- Free Exam Retake
- PDF Certificate

### Domains & Competencies

The CKA Certification focuses on the skills required to be a successful Kubernetes Administrator in industry today.

The CKA Certification exam includes these general domains and their weights on the exam:

Application Lifecycle Management – 8%

- Understand deployments and how to perform rolling update and rollbacks

- Know various ways to configure applications
- Know how to scale applications
- Understand the primitives necessary to create a self-healing application

#### Installation, Configuration & Validation – 12%

- Design a Kubernetes Cluster
- Install Kubernetes Masters and Nodes
- Configure secure cluster communications
- Configure a highly-available Kubernetes cluster
- Know where to get the Kubernetes release binaries
- Provision underlying infrastructure to deploy a Kubernetes cluster
- Choose a network solution
- Choose your Kubernetes infrastructure configuration
- Run end-to-end tests on your cluster
- Analyze end-to-end test results
- Run Node end-to-end Tests
- Install and use kubeadm to install, configure, and manage Kubernetes clusters

#### Core Concepts – 19%

- Understand the Kubernetes API primitives
- Understand the Kubernetes cluster architecture
- Understand Services and other network primitives

#### Networking – 11%

- Understand the networking configuration on the cluster nodes
- Understand Pod networking concepts
- Understand Service Networking
- Deploy and configure network load balancer
- Know how to use Ingress rules
- Know how to configure and use the cluster DNS
- Understand CNI

#### Scheduling – 5%

- Use label selectors to schedule Pods
- Understand the role of DaemonSets
- Understand how resource limits can affect Pod scheduling

- Understand how to run multiple schedulers and how to configure Pods to use them
- Manually schedule a pod without a scheduler
- Display scheduler events

#### Security - 12%

- Know how to configure authentication and authorization
- Understand Kubernetes security primitives
- Know how to configure network policies
- Create and manage TLS certificates for cluster components
- Work with images securely
- Define security contexts
- Secure persistent key value store

#### Cluster Maintenance - 11%

- Understand Kubernetes cluster upgrade process
- Facilitate operating system upgrades
- Implement backup and restore methodologies

#### Logging / Monitoring - 5%

- Understand how to monitor all cluster components
- Understand how to monitor applications
- Manage cluster component logs
- Manage application logs

#### Storage - 7%

- Understand persistent volumes and know how to create them
- Understand access modes for volumes
- Understand persistent volume claims primitive
- Understand Kubernetes storage objects
- Know how to configure applications with persistent storage

#### Troubleshooting - 10%

- Troubleshoot application failure
- Troubleshoot control plane failure
- Troubleshoot worker node failure
- Troubleshoot networking

## Exam details

This exam is an online, proctored, performance-based test that requires solving multiple issues from a command line running Kubernetes. Candidates have 3 hours to complete the tasks.

The exam is based on Kubernetes v1.14

## Additional information

LFS458 Kubernetes Administration training is an excellent preparation for the Certified Kubernetes Administrator (CKA) exam.

## Policies & Resources

Please review the Candidate Handbook, Curriculum Overview and Exam Tips along with other recommended resources below.

- [Candidate Handbook](#)
- [Curriculum Overview](#)
- [Exam Tips](#)
- [Frequently Asked Questions](#)
- [Certification and Confidentiality Agreement](#)
- [Verify Certification](#)
- [CKA Reseller FAQs](#)

## Difficulty level

