

Certified Kubernetes Administrator (CKA)

Course Duration ~45 Hours · Exam-Aligned Curriculum

Troubleshooting — 30%

Cluster Architecture — 25%

Services & Networking — 20%

Workloads — 15%

Storage — 10%

In short: This is an instructor-led certification program mapped 1:1 to the official CNCF/Linux Foundation Certified Kubernetes Administrator (CKA) curriculum (2025 overhaul). Because the CKA exam is fully performance-based, the course is fully hands-on: you build and upgrade clusters with kubeadm, secure them with RBAC and Network Policies, configure Services, Ingress, and the Gateway API, manage storage, work with Helm, Kustomize, CRDs & Operators, and drill troubleshooting under exam-like time pressure — finishing with full-length timed mock exams. On completion you are ready to pass the CKA and take on Kubernetes Administrator, Platform Engineer, and DevOps roles.

Certification	Certified Kubernetes Administrator (CKA)	Offered by	CNCF with The Linux Foundation
Exam basis	Kubernetes v1.35 (tracks latest minor version, ~4–8 weeks after release)	Format	Online, proctored, performance-based — live command-line tasks (no multiple choice)
Duration	2 hours	Passing score	66%
Attempts	Includes 2 attempts within 12 months	Prerequisites	None (basic Linux CLI familiarity recommended)

Domain 1: Troubleshooting

30%

ESTIMATED TIME

12–13 Hours

TOPICS

- Troubleshoot clusters and nodes
- Troubleshoot cluster components (control plane and worker node components)
- Monitor cluster and application resource usage
- Manage and evaluate container output streams (logs)
- Troubleshoot services and networking

HANDS-ON

- Repair broken clusters: failed kubelets, control-plane outages, NotReady nodes
- Trace a failing Service end-to-end with logs, events, and DNS checks

Assessment: Timed Troubleshooting Lab

Domain 2: Cluster Architecture, Installation & Configuration**25%****ESTIMATED TIME**

10–11 Hours

TOPICS

- Manage role-based access control (RBAC)
- Prepare underlying infrastructure for installing a Kubernetes cluster
- Create and manage Kubernetes clusters using kubeadm
- Manage the lifecycle of Kubernetes clusters (including upgrades)
- Implement and configure a highly available control plane
- Use Helm and Kustomize to install cluster components
- Understand extension interfaces (CNI, CSI, CRI, etc.)
- Understand Custom Resource Definitions (CRDs) and Operators

HANDS-ON

- Bootstrap a multi-node cluster with kubeadm and perform a version upgrade
- Configure RBAC roles/bindings and deploy components with Helm and Kustomize

Assessment: Quiz + Lab**Domain 3: Services & Networking****20%****ESTIMATED TIME**

8–9 Hours

TOPICS

- Understand connectivity between Pods
- Define and enforce Network Policies
- Use ClusterIP, NodePort, and LoadBalancer service types and endpoints
- Use the Gateway API and Ingress controllers to configure Ingress
- Understand and use CoreDNS

HANDS-ON

- Expose an application via ClusterIP, NodePort, and Ingress/Gateway API routes
- Lock down traffic with Network Policies and debug CoreDNS resolution

Assessment: Quiz + Lab**Domain 4: Workloads & Scheduling****15%****ESTIMATED TIME**

6–7 Hours

TOPICS

- Understand application deployments and how to perform rolling updates and rollbacks
- Use ConfigMaps and Secrets to configure applications
- Configure workload autoscaling
- Understand the primitives used to create robust, self-healing application deployments
- Configure Pod admission and scheduling (limits, node affinity, etc.)

HANDS-ON

- Roll out, update, and roll back a Deployment with probes and autoscaling
- Schedule Pods with resource limits, affinity rules, and taints/tolerations

Assessment: Quiz + Lab

Domain 5: Storage

10%

ESTIMATED TIME

4–5 Hours

TOPICS

- Implement storage classes and dynamic volume provisioning
- Configure volume types, access modes, and reclaim policies
- Manage Persistent Volumes (PVs) and Persistent Volume Claims (PVCs)

HANDS-ON

- Create a StorageClass and dynamically provision volumes for a stateful app
- Bind PVs/PVCs with different access modes and reclaim policies

Assessment: Quiz + Lab**Exam Readiness & Mock Exams****ESTIMATED TIME**

4–5 Hours

TOPICS

- Exam environment walkthrough (remote desktop, allowed documentation)
- kubectl productivity: aliases, imperative commands, JSONPath
- Task triage and time-management strategy

HANDS-ON

- Two full-length timed mock exams on live clusters
- Detailed review and weak-area drills

Assessment: Mock Exams