



## **Certified Kubernetes Application Developer (CKAD)**

- ✦ Master Kubernetes Application Development with CNCF's Developer-Focused Certification.
- ✦ The Certified Kubernetes Application Developer (CKAD) exam certifies that users can design, build, configure, and expose cloud native applications for Kubernetes.

### **Prerequisites**

- ✦ Developer-focused certification
- ✦ Application lifecycle management
- ✦ Cloud-native application design
- ✦ CNCF industry recognition



## **Module 1. Application Design and Build (20%)**

- ✦ Define, build and modify container images
- ✦ Understand Jobs and CronJobs
- ✦ Understand multi-container Pod design patterns
- ✦ Utilize persistent and ephemeral volumes

## **Module 2. Application Deployment (20%)**

- ✦ Use Kubernetes primitives to implement common deployment strategies.
- ✦ Understand Deployments and how to perform rolling updates.
- ✦ Use the Helm package manager to deploy existing packages.

## **Module 3. Application Observability and Maintenance (15%)**

- ✦ Understand API deprecations
- ✦ Implement probes and health checks
- ✦ Use provided tools to monitor Kubernetes applications
- ✦ Utilize container logs
- ✦ Debug in Kubernetes



## **Module 4. Application Environment, Configuration and Security (25%)**

- ✦ Discover and use resources that extend Kubernetes (CRD)
- ✦ Understand authentication, authorization and admission control
- ✦ Understanding and defining resource requirements, limits and quotas
- ✦ Understand ConfigMaps
- ✦ Create & consume Secrets
- ✦ Understand ServiceAccounts
- ✦ Understand SecurityContexts.

## **Module 5. Services and Networking (20%)**

- ✦ Demonstrate basic understanding of NetworkPolicies
- ✦ Provide and troubleshoot access to applications via services
- ✦ Use Ingress rules to expose applications