The **CKA** program was created by the Cloud Native Computing Foundation (CNCF), in collaboration with The Linux Foundation, to help develop the Kubernetes ecosystem. As one of the highest velocity open source projects, Kubernetes use is exploding.

The online exam consists of a set of performance-based items (problems) to be solved in a command line and candidates have 3 hours to complete the tasks.

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

This includes these general domains and their weights on the exam:

* + Application Lifecycle Management 8%
  + Installation, Configuration & Validation 12%
  + Core Concepts 19%
  + Networking 11%
  + Scheduling 5%
  + Security 12%
  + Cluster Maintenance 11%
  + Logging / Monitoring 5%
  + Storage 7%
  + Troubleshooting 10%

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| **1.   Kubernetes Platform** |
| * Comparison with Docker Swarm |
| * Orchestration and Various Tools |
| * History of Kubernetes |
| **2.   Introduction** |
| * Kubernetes Terminology |
| * Kubernetes Architecture |
| * Kubernetes Cluster Architecture |
| * Kubernetes API Primitives |
| * Kubernetes Services and Network Primitives |
| **3.   Kubernetes Setup and Validation** |
| * Building the Kubernetes Cluster on Ubuntu |
| * Release Binaries, Provisioning and Types of Clusters |
| * Installing Kubernetes Master and Nodes |
| * Building a Highly Available Kubernetes Cluster |
| * Configuring Secure Cluster Communications |
| * Testing The Cluster |
| **4.   Managing Cluster** |
| * Managing the Kubernetes Cluster |
| * Upgrading the Kubernetes Cluster |
| * Backing Up and Restoring a Kubernetes Cluster |
| **5.   Networking** |
| * Cluster Communications |
| * Pod and Node Networking |
| * Container Network Interface (CNI) |
| * Service Networking |
| * Ingress Rules and Load Balancers |
| * Cluster DNS |
| **6.   Scheduling** |
| * Pod Scheduling within the Kubernetes Cluster |
| * Configuring the Kubernetes Scheduler |
| * Running Multiple Schedulers for Multiple Pods |
| * Scheduling Pods with Resource Limits and Label Selectors |
| * DaemonSets and Manually Scheduled Pods |
| * Displaying Scheduler Events |
| **7.   Application Lifecycle Management** |
| * Deploying Applications in the Kubernetes Cluster |
| * Deploying an Application, Rolling Updates, and Rollbacks |
| * Configuring an Application for High Availability and Scale |
| * Creating a Self-Healing Application |
| **8.   Storage** |
| * Managing Data in the Kubernetes Cluster * Persistent Volumes |
| * Volume Access Modes |
| * Persistent Volume Claims |
| * Applications with Persistent Storage |
| **9.   Security** |
| * Securing the Kubernetes Cluster |
| * Kubernetes Security Primitives |
| * Cluster Authentication and Authorization |
| * Creating TLS Certificates |
| **10.  Logging and Monitoring** |
| **11.   Troubleshooting** |