Certified Kubernetes Administrator (CKA) Training Course

The Certified Kubernetes Administrator (CKA) program equips you with the essential skills to effectively manage Kubernetes clusters, ensuring high availability and efficient application deployment.

SYS-101

Course Outcomes

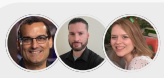
Professional, practical, & hands-on live instructor-led training

Start as a beginner and graduate as a certified professional, with the skills, experience, and job-search know how to get your career started.

Start Today

Potential Career Tracks

Kubernetes Administrator | DevOps Engineer | Cloud Engineer | Container Solutions Architect | Infrastructure Engineer | Site Reliability Engineer



Taught by Industry Veterans &
World Class Instructors

Introduction to Certified Kubernetes Administrator (CKA)

Course Overview

Intellectual Point's Certified Kubernetes Administrator (CKA) Training Course offers a comprehensive pathway to mastering Kubernetes, a leading open-source platform for container orchestration. The course is tailored to equip learners with the essential skills needed to deploy, manage, and scale containerized applications using Kubernetes. Through a series of hands-on labs and real-world scenarios, participants will build a strong foundational understanding of Kubernetes concepts and capabilities. This course also focuses on preparing candidates for the Certified Kubernetes Administrator exam, thereby providing an opportunity to validate their skills with a respected credential.

Throughout the training, you will explore critical areas such as Kubernetes architecture, installation, configuration, networking, and storage solutions. You'll gain practical experience in managing clusters, deploying applications, and ensuring their high availability and scalability. By the end of the course, you will be able to administrate clusters with confidence and efficiency in various cloud and on-premises environments.

Obtainable Skills

Kubernetes Architecture and Components | Application Deployment and Management | Troubleshooting and Maintaining Clusters | Security Implementations in Kubernetes | Cluster Installation and Configuration | Monitoring and Logging | Scaling and High Availability | Networking and Storage Solutions | Certification Exam Preparedness

Course Insights

Audience Profile

The Certified Kubernetes Administrator (CKA) Training Course is geared towards IT professionals, developers, and system administrators who are eager to enhance their skills in modern cloud-native technologies. It is ideal for individuals with a basic understanding of containerization and cloud computing concepts, looking to deepen their expertise in Kubernetes orchestration. This course is ideal for tech enthusiasts keen on developing insights into deploying and managing microservices applications at scale while aspiring to boost their career in today's rapidly advancing technology landscape.

Course Outcomes

By the end of this course, participants will:

1. Acquire the ability to design and create Kubernetes clusters in diverse environments.
2. Gain proficiency in deploying, scaling, and monitoring containerized applications effectively.
3. Develop skills to ensure operational excellence through efficient resource management.
4. Execute robust security practices to harden Kubernetes environments.
5. Prepare comprehensively for the Certified Kubernetes Administrator exam to validate expertise.

Module by Module Learning *Outline*

6 Modules

Module 1: Introduction to Kubernetes and Its Architecture

Learning Objectives:

- Understand the core concepts and benefits of Kubernetes.
- Familiarize with the Kubernetes architecture and its components.

Topics Covered

Kubernetes Fundamentals:

- Overview of container orchestration and Kubernetes role.
- Introduction to Kubernetes components like nodes and clusters.

Kubernetes Architecture:

- Detailed examination of Master and Worker nodes.
- Understanding Kubernetes API Server, Controller Manager, Scheduler, etcd, and kubelet.

Module 2: Installing and Configuring Kubernetes Clusters

Learning Objectives:

- Install Kubernetes on various platforms.
- Configure and manage Kubernetes clusters effectively.

Topics Covered

Cluster Setup and Configuration:

- Installing Kubernetes using kubeadm.
- Configuring and validating cluster network settings.

Tools and Best Practices

- Introduction to kubectl and its usage.
- Best practices for managing Kubernetes configurations.

Module 3: Deploying and Managing Applications in Kubernetes

Learning Objectives:

- Deploy containerized applications using Kubernetes
- Manage the lifecycle of applications in a Kubernetes environment.

Topics Covered

Application Deployment:

- Creating and using Deployment and StatefulSet objects.
- Managing application updates and rollbacks.

Lifecycle Management:

- Understanding Pods, Volumes, and Namespaces
- Configuring and managing Kubernetes ConfigMaps and Secrets.

Module 4: Networking and Storage Solutions in Kubernetes Title

Learning Objectives:

- Implement network policies within a Kubernetes cluster.
- Understand storage options and how to integrate them with Kubernetes.

Topics Covered

Networking in Kubernetes:

- Configuring network policies and services.
- Managing Kubernetes Ingress and Load Balancers.

Kubernetes Storage:

- Introduction to Persistent Volumes and Persistent Volume Claims.
- Integrating cloud storage solutions with Kubernetes.

Module 5: Scaling Applications and Ensuring High Availability

Learning Objectives:

- Implement auto-scaling and boost application availability.
- Monitor resource utilization and performance.

Topics Covered

Scaling Strategies:

- Horizontal Pod Autoscaling.
- Resource Requests and Limits configuration.

Monitoring and Logging:

- Using Kubernetes Dashboard and external monitoring tools.
- Implementing logging practices for Kubernetes clusters

Module 6: Certification Exam Readiness

Learning Objectives:

- Consolidate knowledge to prepare for the CKA exam.
- Gain insights on exam structure and key focus areas.

Topics Covered

Exam Preparation Strategies:

- Reviewing critical topics and potential exam questions.
- Time management tips and practical exam techniques.

Practice Exams and Mock Tests:

- Undertaking simulated exam scenarios.
- Analyzing performance and areas for improvement.