



CNCF/KUBERNETES TRAINING

Certified Kubernetes Security Specialist (CKS)

Master advanced Kubernetes security techniques. Become a CKS and protect clusters from evolving threats.

DURATION

2 hours

LEVEL

Advanced

FORMAT

Instructor-Led

- Globally Recognized Certification

- Expert-Led Hands-On Training

- Flexible Scheduling

Computer Pride | 1st Floor, ICEA Building, Kenyatta Avenue, Nairobi | www.computer-pride.co.ke

COURSE OVERVIEW

The Certified Kubernetes Security Specialist (CKS) course is an advanced program designed for experienced Kubernetes professionals seeking to master the crucial domain of container and cluster security. In today's dynamic cloud-native landscape, securing Kubernetes deployments is paramount, and this certification validates your ability to build, deploy, and maintain secure Kubernetes environments. This course delves into a comprehensive array of security topics, ensuring you gain the expertise to protect your infrastructure from a myriad of threats.

This intensive training covers essential technologies and best practices, including hardening Kubernetes cluster components (API server, etcd, Kubelet), implementing robust network policies for microservice isolation, securing host operating systems, managing secrets effectively, and establishing a secure software supply chain. You will learn to utilize admission controllers, implement pod security standards, perform image scanning, and leverage runtime security tools like Falco for threat detection. The course emphasizes practical, hands-on experience, preparing you not just for the CKS exam but for real-world security challenges.

By completing this certification, you will not only validate your advanced security expertise in Kubernetes but also significantly enhance your professional value. You will be equipped to design and implement secure cloud-native architectures, mitigate risks, and ensure compliance, making you an indispensable asset in any organization leveraging Kubernetes. This certification opens doors to high-demand roles that require deep knowledge of securing distributed systems and containerized applications.

Duration	2 hours
Level	Advanced
Vendor	CNCF/Kubernetes
Exam Code	CKS

COURSE CURRICULUM

01 Module 1: CKS Overview & Cluster Setup Hardening

- CKS Exam objectives and preparation strategies
- Hardening the Kubernetes API Server (Kube-apiserver)
- Securing etcd backups and communication
- Restricting access to the Kubernetes API with RBAC
- Kubelet security configurations and best practices
- Introduction to Network Policies

02 Module 2: System Hardening & Minimizing Microservice Vulnerabilities

- Securing Host Operating Systems (AppArmor, Seccomp, SELinux)
- Kernel hardening via sysctls
- Implementing Pod Security Standards (PSS) and Admission Controllers
- Fine-tuning Network Policies for namespace isolation
- Secrets Management best practices (e.g., ExternalSecrets, CSI Secrets Store Driver)
- Ensuring least privilege for containers

03 Module 3: Supply Chain Security & Preventing Vulnerabilities

- Container Image Scanning and vulnerability management

- Enforcing image security with Admission Controllers (e.g., OPA Gatekeeper, Kyverno)
- Understanding and mitigating insecure image registries
- Ensuring image immutability and trust
- Secure base image selection strategies
- Best practices for preventing supply chain attacks

04 Module 4: Monitoring, Logging, and Runtime Security

- Configuring Kubernetes Audit Logs for security monitoring
- Implementing Runtime Security tools (e.g., Falco for real-time threat detection)
- Designing secure logging and monitoring solutions for Kubernetes
- Incident response and forensic readiness in Kubernetes environments
- Compliance considerations for Kubernetes security (e.g., PCI DSS, HIPAA)
- Best practices for cluster-wide security visibility

CAREER PATHWAYS

Graduates of this program are prepared for the following roles:

- > **Cloud Security Engineer (Kubernetes Focus)**
- > **DevSecOps Engineer (Kubernetes Specialist)**
- > **Senior Kubernetes Platform Engineer**

FREQUENTLY ASKED QUESTIONS

Q: How does the CKS certification enhance my ability to design and implement secure cloud-native architectures?

This course dives deep into practical strategies for hardening Kubernetes clusters, from securing the control plane and worker nodes to implementing robust network policies and managing secrets. You'll gain hands-on experience with tools and techniques critical for building resilient, secure cloud-native applications, directly applicable to designing and deploying secure architectures that meet stringent security requirements.

Q: What are the recommended prerequisites for someone considering the Certified Kubernetes Security Specialist (CKS) course?

The CKS certification is considered an advanced-level credential. It is strongly recommended that candidates hold a valid Certified Kubernetes Administrator (CKA) certification, as the CKS builds upon the foundational knowledge and practical skills covered in the CKA. A solid understanding of Kubernetes fundamentals, Linux administration, and general security concepts is essential to succeed in this course and the subsequent exam.

Q: Beyond the CKS exam objectives, what practical, real-world security challenges will I be equipped to solve after completing this course?

You will be prepared to address critical real-world security challenges such as preventing container escapes, mitigating supply chain attacks through image scanning and admission controllers, enforcing least privilege for workloads, securing sensitive data using advanced secrets management, and establishing effective runtime security monitoring using tools like Falco to detect anomalous behavior within your Kubernetes environment. This practical skill set is directly applicable to securing production-grade Kubernetes deployments.

ABOUT COMPUTER PRIDE



East Africa's Premier IT Training Center

With over 15 years of excellence, Computer Pride delivers globally recognized certification programs from leading technology vendors. Located on Kenyatta Avenue in Nairobi's CBD, our state-of-the-art facilities and expert instructors have empowered thousands of professionals across East Africa.

15+

Years of Excellence

10,000+

Professionals Trained

50+

Vendor Certifications

READY TO ENROL?

Take the next step in your technology career.

Location

1st Flr, ICEA Building
Kenyatta Ave, Nairobi

Email

info@computer-pride.co.ke

Phone

+254 705 900 900

www.computer-pride.co.ke