

Certified Kubernetes Application Developer (CKAD) Training

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This course is designed for developers who want to learn how to build, deploy, and manage containerized applications using Kubernetes. It emphasizes Kubernetes primitives and development-focused tasks to help participants master the skills required to design and run applications on Kubernetes clusters. The course serves as comprehensive preparation for the CKAD certification.

LEVEL	DURATION	EXPERIENCE	AVERAGE SALARY	LABS
Beginner	5 Days	1 year: Linux	\$120,000	Yes

Course Overview

- Understand Kubernetes architecture and its components
- Design and deploy stateless and stateful applications in Kubernetes
- Configure applications using ConfigMaps and Secrets
- Monitor, troubleshoot, and manage applications using Kubernetes tools
- Prepare thoroughly for the Certified Kubernetes Application Developer (CKAD) exam

Course Outline

- **Module 1: Kubernetes Fundamentals**
 - Kubernetes architecture and components
 - Kubernetes objects: Pods, ReplicaSets, Deployments
 - Using kubectl for interaction and management
- **Module 2: Working with Pods and Containers**
 - Multi-container Pods
 - Init containers and sidecar patterns
 - Resource limits and scheduling basics
- **Module 3: Configuration Management**
 - ConfigMaps: managing environment-specific settings
 - Secrets: securing sensitive data
 - Mounting configuration into containers
- **Module 4: Application Lifecycle Management**
 - Rolling updates and rollbacks
 - Liveness and readiness probes
 - Graceful shutdown and cleanup

- **Module 5: Networking and Services**
 - Kubernetes Services: ClusterIP, NodePort, LoadBalancer
 - DNS and service discovery
 - Ingress controllers and rules
- **Module 6: Storage and Volumes**
 - Volume types and Persistent Volumes (PV/PVC)
 - Storage classes and dynamic provisioning
 - Managing stateful applications
- **Module 7: Jobs and Scheduled Tasks**
 - Running batch processes with Jobs
 - Automating periodic tasks using CronJobs
- **Module 8: Security and RBAC Basics**
 - Service accounts and RBAC roles
 - Security context for pods and containers
 - Network policies overview
- **Module 9: Observability and Troubleshooting**
 - Logs and container output
 - Monitoring application performance
 - Debugging Pods and common error patterns
- **Module 10: CKAD Exam Preparation**
 - Exam environment and tips
 - Hands-on practice scenarios
 - Time-saving kubectl techniques and aliases

Intended Audience

- Developers who want to build, deploy, and manage applications on Kubernetes
- Engineers preparing for the Certified Kubernetes Application Developer (CKAD) exam
- Software developers transitioning into cloud-native development workflows
- DevOps practitioners seeking to automate application deployment and lifecycle management
- Technical professionals responsible for containerized application delivery
- Anyone familiar with Linux, containers, and YAML who wants hands-on Kubernetes experience

Prerequisites

- Proficiency with the Linux command line
- Understanding of containers and Docker
- Basic YAML syntax knowledge

- Experience with at least one programming language (e.g., Python, Go, Java)

Follow-On Courses

- Certified Kubernetes Administrator (CKA)
- Certified Kubernetes Security Specialist (CKS)

Ready to enroll? Call 800.674.3550 or email Info@AppliedTechAc.com — private team cohorts, GSA MAS purchasing, military credentialing funding, VA GI Bill and VR&E and student financing available.