



Kubernetes for App Developers (LFD459)

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Duración
21 Horas



Modalidad
Aula Virtual



**Learning by
doing**



**Curso
Oficial**

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Objetivos:

The topics covered are directly aligned with the knowledge domains tested by the CKAD program, and will substantially increase students' ability to become certified.

Requisitos:

To get the most out of this course, you should have:

Basic Linux command line and file editing skills and be familiar with using a programming language (such as Python, Node.js, Go). Knowledge of Cloud Native application concepts and architectures (such as is taught in our free Introduction to Kubernetes edX MOOC) is helpful for this course.

Please note, Kubernetes Administration (LFS458) is not a pre-requisite for this course. There is overlap in the course materials as each one is designed to stand alone and aligns with the related exams.

Material del curso:

- Documentación Oficial de This courseKubernetes for App Developers (LFD459)

Perfil del docente:

- Formador Certificado por The linux Foundation
- Más de 5 años de experiencia profesional
- Más de 4 años de experiencia docente
- Profesional activo en empresas del sector IT

Metodología:

- "Learning by doing" se centra en un contexto real y concreto, buscando un aprendizaje en equipo para la resolución de problemas en el sector empresarial.
- Aulas con grupos reducidos para que el profesional adquiriera la mejor atención por parte de nuestros instructores profesionales.
- El programa de estudios como partners oficiales es confeccionado por nuestro equipo de formación y revisado por las marcas de referencia en el sector.
- La impartición de las clases podrá ser realizada tanto en modalidad Presencial como Virtual.

Examen y Certificación:

Preparation for the exam: Certified Kubernetes Application Developer (CKAD)



Contenidos:

Modulo 1:Introduction

- Objectives
- Who You Are
- The Linux Foundation
- Linux Foundation Training
- Certification Programs and Digital Badging
- Preparing Your System
- Course Registration
- Labs

Modulo 2:Kubernetes Architecture

- What Is Kubernetes?
- Components of Kubernetes
- Challenges
- The Borg Heritage
- Kubernetes Architecture
- Terminology
- Master Node
- Minion (Worker) Nodes
- Pods
- Services
- Controllers / Operators
- Single IP per Pod
- Networking Setup
- CNI Network Configuration File
- Pod-to-Pod Communication
- Cloud Native Computing Foundation
- Resource Recommendations
- Labs

Modulo 3:Build

- Container Options
- Containerizing an Application
- Creating the Dockerfile
- Hosting a Local Repository
- Creating a Deployment
- Running Commands in a Container
- Multi-Container Pod
- readinessProbe
- livenessProbe



- Testing
- Labs

Modulo 4:Design

- Traditional Applications: Considerations
- Decoupled Resources
- Transience
- Flexible Framework
- Managing Resource Usage
- Using Label Selectors
- Multi-Container Pods
- Sidecar Container
- Adapter Container
- Ambassador
- Points to Ponder
- Jobs
- Labs

Modulo 5:Deployment Configuration

- Volumes Overview
- Introducing Volumes
- Volume Spec
- Volume Types
- Shared Volume Example
- Persistent Volumes and Claims
- Persistent Volume
- Persistent Volume Claim
- Dynamic Provisioning
- Secrets
- Using Secrets via Environment Variables
- Mounting Secrets as Volumes
- Portable Data with ConfigMaps
- Using ConfigMaps
- Deployment Configuration Status
- Scaling and Rolling Updates
- Deployment Rollbacks
- Labs

Modulo 6:Security

- Security Overview
- Accessing the API
- Authentication
- Authorization
- ABAC



- RBAC
- RBAC Process Overview
- Admission Controller
- Security Contexts
- Pod Security Policies
- Network Security Policies
- Network Security Policy Example
- Default Policy Example
- Labs

Modulo 7: Exposing Applications

- Service Types
- Services Diagram
- Service Update Pattern
- Accessing an Application with a Service
- Service without a Selector
- ClusterIP
- NodePort
- LoadBalancer
- ExternalName
- Ingress Resource
- Ingress Controller
- Service Mesh

Modulo 8: Troubleshooting

- Troubleshooting Overview
- Basic Troubleshooting Steps
- Ongoing (Constant) Change
- Basic Troubleshooting Flow: Pods
- Basic Troubleshooting Flow: Node and Security
- Basic Troubleshooting Flow: Agents
- Monitoring
- Logging Tools
- Monitoring Applications
- System and Agent Logs
- Conformance Testing
- More Resource
- Labs

Modulo 9: Closing and Evaluation Survey

- Evaluation Survey



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