

Training: The Linux Foundation LFS458 Kubernetes Administration



TRAINING TERMS

2026-04-20 | 4 days | Warszawa / Virtual Classroom
2026-05-05 | 4 days | Kraków / Virtual Classroom
2026-06-09 | 4 days | Warszawa / Virtual Classroom

TRAINING GOALS:

In this four-day course you'll learn how to install and configure a production-grade Kubernetes cluster, from network configuration to upgrades to making deployments available via services. Also handle the ongoing tasks necessary for Kubernetes administration.

During this course you will learn:

- Installation of a multi-node Kubernetes cluster using kubeadm, and how to grow a cluster.
- Choosing and implementing cluster networking.
- Various methods of application lifecycle management, including scaling, updates and roll-backs.
- Configuring security both for the cluster as well as containers.
- Managing storage available to containers.
- Learn monitoring, logging and troubleshooting of containers and the cluster.
- Configure scheduling and affinity of container deployments.
- Use Helm and Charts to automate application deployment.
- Understand Federation for fault-tolerance and higher availability.

This course does not focus on one vendor's tools. Most courses are vendor-locked. We use kubeadm to deploy the cluster and focus on tools that would work on anyone's Kubernetes cluster.

CONSPECT:

- Introduction
 - Linux Foundation
 - Linux Foundation Training
 - Linux Foundation Certifications
 - Laboratory Exercises, Solutions and Resources
 - Distribution Details

- Labs
- Basics of Kubernetes
 - Define Kubernetes
 - Cluster Structure
 - Adoption
 - Project Governance and CNCF
 - Labs
- Installation and Configuration
 - Getting Started With Kubernetes
 - Minikube
 - kubectl
 - More Installation Tools
 - Labs
- Kubernetes Architecture
 - Kubernetes Architecture
 - Networking
 - Other Cluster Systems
 - Labs
- APIs and Access
 - API Access
 - Annotations
 - Working with A Simple Pod
 - kubectl and API
 - Swagger and OpenAPI
 - Labs
- API Objects
 - API Objects
 - The v1 Group
 - API Resources
 - RBAC APIs
 - Labs
- Managing State With Deployments
 - Deployment Overview
 - Managing Deployment States
 - Deployments and Replica Sets
 - DaemonSets

- Labels
- Labs
- Services
 - Overview
 - Accessing Services
 - DNS
 - Labs
- Volumes and Data
 - Volumes Overview
 - Volumes
 - Persistent Volumes
 - Passing Data To Pods
 - ConfigMaps
 - Labs
- Ingress
 - Overview
 - Ingress Controller
 - Ingress Rules
 - Labs
- Scheduling
 - Overview
 - Scheduler Settings
 - Policies
 - Affinity Rules
 - Taints and Tolerations
 - Labs
- Logging and Troubleshooting
 - Overview
 - Troubleshooting Flow
 - Basic Start Sequence
 - Monitoring
 - Logging
 - Troubleshooting Resources
 - Labs
- Custom Resource Definition
 - Overview

- Custom Resource Definitions
- Aggregated APIs
- Labs
- Kubernetes Federation
 - Overview
 - Federated Resources
 - Labs
- Helm
 - Overview
 - Helm
 - Using Helm
 - Labs
- Security
 - Overview
 - Accessing the API
 - Authentication and Authorization
 - Admission Controller
 - Pod Policies
 - Network Policies
 - Labs

REQUIREMENTS:

Students should have an understanding of Linux administration skills, comfortable using the command line. Must be able to edit files using a command-line text editor.

Difficulty level



CERTIFICATE:

The participants will obtain certificates signed by The Linux Foundation.

This course offers exposure to the many skills necessary to administer Kubernetes in a production environment and is excellent preparation for the Certified Kubernetes Administrator (CKA) exam.

TRAINER:

Certified The Linux Foundation Trainer.