Training: The Linux Foundation
LFS244 Managing Kubernetes Applications with Helm

TRAINING GOALS:

Helm is an emerging open source technology that enables packaging and running applications on Kubernetes in a simple and efficient way. Helm is considered a package manager for Kubernetes, similar to “apt” or “yum” on various Linux distributions, or “brew” on macOS. Using Helm, you can package, share, and install applications built and designed to run on Kubernetes.

Helm reduces the overall complexity of managing applications on Kubernetes. Helm introduces a lightweight packaging format known as charts, which describe an application and provide for repeatable deployments. Helm charts contain templates and configuration settings for generating all of the necessary Kubernetes resource manifests (YAML) to represent your application. Chart templates are dynamic, meaning one chart can be used to deploy your application with different configuration settings across multiple target environments. Once a chart is built, it can then be versioned, packaged, and distributed via private or public Helm chart repositories for others to download and use. Helm also provides a collection of useful command-line actions for managing the chart installation process, performing release upgrades and rollbacks, and uninstallations. The combination of Helm and Kubernetes provides a powerful approach to delivering modern, container-based applications.

LFS244 is a full-featured deep dive into the Helm client, Helm charts, and how Helm is used in real-world scenarios to manage the full lifecycle of applications on Kubernetes. This course covers a wide array of topics, including the history of the Helm project and its architecture, how to properly install the Helm client, the various components of a Helm chart and how to create one, the command-line actions used for managing an application’s lifecycle, and much more. Recommended for system administrators, DevOps engineers, SREs, and other software professionals, this course is for any person who wishes to enhance their operational experience running containerized workloads on the Kubernetes platform.

Course objectives

- The high-level architecture and concepts of Helm, the package manager for Kubernetes
- Install the latest version of the Helm client
- Build and maintain reusable Helm charts
- Deploy and manage containerized applications with Helm
- Package and distribute Helm charts using chart repositories
- And much more!

Compendium Education Center Ltd.
ul. Tatarska 5, 30-103 Kraków, tel.: (12) 298 47 77
ul. Postępu 18B, 02-676 Warszawa, tel.: (22) 417 41 70

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CONSPECT:

- Course Introduction
- Helm Basics
- Helm Setup and Initial Usage
- Helm Charts
- Application Lifecycle
- Chart Repositories and Other Topics

REQUIREMENTS:

- Experience with Linux/UNIX systems
- Familiarity with command line tools
- Understanding of YAML document formatting
- Basic experience with container technologies, specifically Docker and Kubernetes
- Access to a Linux server or Linux desktop/laptop
- VirtualBox on your machine or access to the cloud environment (in this course, GCP will be used as an infrastructure platform, but no GCP-specific tools)

Difficulty level

CERTIFICATE:

The participants will obtain certificates signed by The Linux Foundation.

TRAINER:

Certified The Linux Foundation Trainer.

ADDITIONAL INFORMATION:

Delivery Method - Online Self-Paced

Includes

- 25-30 hours of Course Material

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- Hands-on Labs & Assignments
- Video Content
- 12 Months of Access to Online Course
- Digital Badge
- Discussion Forums

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