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## Helm training

OFFICIAL CNCF COURSE MANAGING KUBERNETES APPLICATIONS WITH HELM INCLUDED (LFS244)

2 days (14 hours)

### Presentation

[Helm](#) is an application manager for [Kubernetes](#). Helm charts allow you to define, deploy, install and update Kubernetes architectures, from the simplest to the most complex.

This simplifies the Kubernetes learning curve, integrates easily with CI/CD pipelines and lets you focus on writing code, not deploying applications.

As its main challenges, Helm reduces duplication and manages complexity. Once the chart is built, it's always ready for production and can be used over and over again. The fact that you can use the same chart in any environment reduces the complexity of creating it.

Popular with developers, Helm is a productivity booster. Instead of going through the process of installing software locally to test a new feature, you can simply run a single command to create and prepare the database ready for testing.

What's more, the framework lets you adjust your graphic to ensure it's ready to be applied at all times.

Following our training course, you'll be able to **create a Helm chart** and use it to deploy applications on Kubernetes.

This training will be presented with the latest version of Helm, [Helm v3.9.0](#).

### Training content

- 2 days training
- Over 25 hours of video training (the Managing Kubernetes Applications with Helm course: LFS244)

## Objectives

- Understanding Helm charts, models, revisions and repositories
- Create and host your own Helm maps
- Build and standardize your application deployments in Kubernetes.

## Target audience

- Developers or deployment managers responsible for templating and deployment

## Prerequisites

- Knowledge of Kubernetes (through training and/or practical experience)

## Helm training program

### Introduction

- CNCF
- Deploying in Kubernetes - Using Yaml
- What is Helm?
- The open-source ecosystem and Helm

### Getting started

- Concepts and definitions (Chart, release, template, etc.)
- Installation
- Understand and manage Helm repositories (search, add, update)
- Basic commands (helm init, install, list, upgrade, history, pull, etc.)
- Deploying an application (values, set)
- Release life cycle (update, rollback)

### Create your Charts

- Creating a chart from scratch

- Understanding Chart structure - tree structure (Chart.yaml, templates, NOTES, etc.)
- Templates
- Validating and deploying a release
- Upgrade release
- Best practices (naming, annotations, labels, etc.)

## Templating in detail

- Introduction
- Loops
- Conditions (if, ternary, etc.)
- General functions
- With, range scope
- The helpers file and NOTES.txt
- Recover file contents with .Files

## Advanced features

- Best deployment practices
- Github, Harbor repos
- Dependencies
- Using hooks
- Plugins
- The Helmfile

## CI/CD and Helm

- Deployment strategies : Argo CD and Flux CD
- Managing dependencies between Charts
- Managing secrets and sensitive information

## Further information

- Introducing Kustomize
- The major differences with Helm
- Making Helm with Kustomize

## Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

## Positioning on entry to training

Positioning on entry to training complies with Qualiopi quality criteria. As soon as

Upon final registration, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the forthcoming training course, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

## Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

## Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

## Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

## Sanction

A certificate will be issued to each trainee who completes the course.