KOENIG
step forward

KOENIG SOLUTIONS · COURSE OUTLINE

Master Course of Helm the Package Manager

Learn to create, manage and deploy Helm charts on Kubernetes, from templating and repositories to upgrades and testing.

3 Days	6	46
8 HOURS A DAY	MODULES	TOPICS

COURSE OVERVIEW

Learn the fundamentals and basic concepts of OpenShift that you will need to build a production ready OpenShift cluster and get started with deploying and managing Application.

WHO THIS COURSE IS FOR

- **Kubernetes Administrators**
- **DevOps Engineers**
- **Application Developers**
- **System Administrators**
- **Site Reliability Engineers**

PREREQUISITES

- Basic System Administration
- Basics of Kubernetes

TOOLS AND REQUIREMENTS

Lab Requirement

- Koenig DC

LEARNING OBJECTIVES

- Explain the purpose of Helm as a package manager for Kubernetes
- Compare Helm V2 and Helm V3 components and installation
- Identify core Kubernetes components such as Pods, ReplicaSets and Services
- Build Helm chart templates using built-in objects and functions
- Apply control flow with if-else, range and variables in templates
- Configure chart repositories using Chartmuseum and GitHub hosting
- Implement chart upgrades, rollbacks, dependencies and hooks
- Assess chart quality using Helm Lint, tests and provenance checks

COURSE SYLLABUS

6 Modules, 46 Topics

01

Introduction

TOPICS

- Introduction
- Helm Introduction
- Package manager need & purpose
- Introduction to the Helm Component
- Difference between Helm V2 & V3
- Installation of Helm V3
- Introduction to Repository & Chart
- Create new Helm Chart
- Helm with Kubernetes

02

Kubernetes Basic

TOPICS

- Introduction to Container Orchestration
- Introduction to Kubernetes Components
- YAML Introduction
- Kubernetes Cluster Installation
- Pod Creation with Labels and Selector
- ReplicaSet Introduction
- Deployment Introduction
- Service Introduction
- Volume Introduction
- Namespace Introduction

03

Chart - Templates

TOPICS

- Create Chart template
- Built-in objects
- Read values for templates
- Set values to templates
- Template functions
- Template pipeline & default values
- Control flow with if-else condition
- Defining scope with Range & Variables
- Include content from same file with Notes
- Sub chart & Global Sub Chart

04

Repository Management

TOPICS

- Repository Workflow with Hosting options
- Chartmuseum installation with adding repository
- Maintain Chart Version with Multiple Chart
- Chart push plugin
- Maintain github Repository
- Add Chart to github repository

05

Chart Management

TOPICS

Upgrade Helm Installed Chart · Rollback of Helm Installed Chart · Helm Dependency · Chart Hook · Pre & Post Install Hook · Kubernetes job as Hook · Hook execution as Weight

06

Testing and Verification

TOPICS

Helm Lint · Helm Hook Test · Helm Get and Status · Provenance and Integrity

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

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