Course Description

Course: KUB201v1.2
Kubernetes Administration

Training Level:

- ❑ Intermediate

Duration:

- ❑ 2 days

Course Overview

This two day course is designed for system administrators, DevOps, system engineers and others who need an introduction to Containers, Kubernetes.

The course begins with an introduction to containers and container orchestration. Students will then learn about and explore Kubernetes, including launching applications, configuring networking, storage and security, and using Helm to deploy applications. The course includes comprehensive presentation content to introduce new concepts and processes and extensive hands-on experience.

Key Objectives

Attendees will be taught the following concepts and skills:

- ❑ Containers and Orchestration Concepts
- ❑ An Introduction to Kubernetes
- ❑ The Basics of Kubernetes
- ❑ Kubernetes Cluster Administration
- ❑ Networking, Storage and Security for Kubernetes
- ❑ Helm and Helm Charts

Audience

This course is designed for system administrators and others who want to administer Kubernetes.

Prerequisites

Attendees should have familiarity with the Command Line, Linux System Administration skills and attention to details. SUSE Certified Administrator (SCA) in Enterprise Linux or SUSE Certified Linux Engineer (SCE) in Enterprise Linux certification or level of experience recommended.

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Course Outline

- ❑ Section 1: Course Introduction
  - O Understand the Course
- ❑ Section 2: Introduction to Containers and Container Orchestration
  - O Understand Container Concepts
  - O Understand a Microservice Architecture
  - O Understand Kubernetes
  - O Understand SUSE Rancher Kubernetes Offerings
- ❑ Section 3: Kubernetes Administration
  - O Understand Basic Kubernetes Commands
  - O Work with Namespaces
  - O Understand Kubernetes Manifests
  - O Understand Multi-pod Deployment
  - O Work with Deployments
  - O Configure Networking for Applications
  - O Use Environment Variables with Applications
  - O Use ConfigMaps
  - O Work with Secrets in Kubernetes
  - O Work with Labels and Selectors
  - O Configure Node Affinity in Kubernetes
  - O Scale Out Applications
- ❑ Section 4: Application Management in Kubernetes with Kustomize
  - O Understand Kustomize Concepts
  - O Use Kustomize to Deploy Applications
- ❑ Section 5: Application Management in Kubernetes with Helm
  - O Understand Basic Helm Concepts
  - O Manage Applications with Helm
- ❑ Section 6: Ingress Networking with an Ingress Controller in Kubernetes
  - O Understand Ingres Networking for Applications
  - O Work with an Ingress Controller
- ❑ Section 7: Storage in Kubernetes
  - O Understand Kubernetes Storage Concepts
  - O Work with Persistent Storage in Storage Classes
- ❑ Section 8: Resource Usage Control in Kubernetes
  - O Understand Resource Usage Control in Kubernetes
  - O Work with LimitRanges
  - O Work with Resource Quotas
- ❑ Section 9: Role Based Access Controls In Kubernetes
  - O Understand Role Based Access Controls
  - O Authenticate to a Kubernetes Cluster
  - O Configure RBAC in Kubernetes

SUSE Training

Information about SUSE Training can be found at:

https://training.suse.com

Contact suse-training@suse.com with any questions.