



## TRAINING GOALS:

This course covers the deployment of Rancher Kubernetes Engine 2 (RKE2). You will start by learning the basics of installing RKE2, and then progress to installing a highly available RKE2 cluster. Next, you will delve into installing additional clusters with different configurations, including custom Kubernetes Addons as an auto-deployed service, advanced networking such as the Multus CNI plugin, and CIS hardening. Additionally, you will learn how to install a cluster in an air-gapped environment. After performing the different cluster installations, you will backup and restore an RKE2 cluster. Finally, you will learn how to upgrade both standard and air-gapped RKE2 clusters.

This course will help prepare for the SCDS in Rancher Kubernetes Engine 2 exam.

### Key Objectives

Attendees will be taught the following concepts and skills:

- Deployment of RKE2 clusters, both standard highly available clusters and those with custom K8s addons, advanced networking and with CIS hardening
- Deployment of RKE2 clusters in an air-gapped environment
- Backing up and restoring RKE2 clusters
- Upgrading RKE2 clusters

### Audience

This course is designed for system administrators and others that are interested in deploying RKE2 clusters.

## CONSPECT:

- Section 1: Course Overview
- Section 2: Overview of the RKE2 Deployment Process
  - Introduction to RKE2
  - Requirements for RKE2 Deployment

- RKE2 Architecture and Design Concepts
- Section 3: Install RKE2 Clusters
  - Overview of RKE2 Installation Methods
  - Overview of RKE2 Manual Installation
  - Overview of RKE2 Installation with the Installer Script
  - Overview of the RKE2 Configuration Options
  - Multi-node and Highly Available RKE2 Clusters
  - Install RKE2
- Section 4: Install RKE2 Clusters with Auto Deployed Services
  - Understand Kubernetes Addons
  - Understand Helm Integration in RKE2
  - Configure Deployment of Addons During the RKE2 Cluster Install
- Section 5: Install RKE2 Clusters with Advanced Networking
  - Understand Cluster Networking Options in RKE2
  - Configure Cluster Networking in RKE2
  - Configure RKE2 to Provide Multiple Network Interfaces to Pods
- Section 6: Install CIS Hardened RKE2 Clusters
  - Understand the CIS Benchmark and Cluster Hardening
  - Install RKE2 with Hardening for the CIS Benchmark
- Section 7: Install Air-gapped RKE2 Clusters
  - Understand Air-gapped RKE2 Cluster Installation Concepts
  - Install RKE2 in an Air-gapped Environment
- Section 8: Overview of etcd and RKE2 Backup and Recovery
  - Overview of etcd
  - Understand Basic etcd Concepts
  - Understand RKE2 Backup and Recovery Concepts
  - Back Up an RKE2 Cluster
  - Restore an RKE2 Cluster
- Section 9: Upgrade RKE2 Clusters
  - Overview of the RKE2 Cluster Upgrade Process
  - Upgrade RKE2 Clusters
  - Upgrade RKE2 Clusters in an Air-gapped Environment

## REQUIREMENTS:

Attendees should have experience with Kubernetes administration and experience with SUSE Linux

Enterprise deployment and administration.

### Difficulty level



### CERTIFICATE:

The participants will obtain certificates signed by SUSE.

### TRAINER:

Certified SUSE Trainer