Course Outline

Kubernetes Storage Administration with Ceph and Rook CEPH-151

Course Summary

Description

CEPH is an open-source distributed and fault tolerant storage system widely used in cloud environments. It can fulfill the storage needs of a Kubernetes environment. Rook is an open-source storage manager that allows the integration of Ceph into Kubernetes and helps with the management of the storage cluster.

Participants of this training will learn about the main concept and architecture of Ceph, its installation and daily operation as well as using it in Kubernetes environments.

Topics

- Introduction
- Managing the Ceph cluster
- Working with Ceph
- Managing Ceph with Rook

Audience

This course is designed for system administrators, developers, and DevOps who want to understand and use Ceph in Kubernetes environments.

Prerequisites

Linux container (e.g., Docker) and Kubernetes administration skills are required for this course.

Duration

Two Days

Course Outline

I. Introduction
- A. Storage Introduction
- B. Ceph introduction
- C. Ceph node types
- D. Ceph architecture
- E. Cluster maps
- F. Object placement
- G. Ceph installation
- H. Lab 1

II. Managing the Ceph cluster
- A. Monitoring theCeph cluster
- B. Managing pools
- C. Configuring Ceph
- D. Add cache tiering
- E. Cache tiering
- F. Adding and removing OSDs
- G. Best practices
- H. Lab 2

III. Working with Ceph
- A. Ceph Block Device
- B. Working with the Ceph Block Device
- C. Working with RBD snapshots
- D. Ceph object gateway
- E. Ceph File System
- F. Lab 3

IV. Managing Ceph with Rook
- A. Rook Architecture
- B. Installation
- C. Using Ceph in Kubernetes
- D. Dynamic storage provisioning using Ceph and Rook
- E. Operating Ceph with Rook
- F. Lab 4