OpenStack (CC109)
16 Hours

Outline

OpenStack - lets users deploy virtual machines and other instances that handle different tasks for managing a cloud environment on the fly. It makes horizontal scaling easy, which means that tasks that benefit from running concurrently can easily serve more or fewer users on the fly by just spinning up more instances. OpenStack is a set of software tools for building and managing cloud computing platforms for public and private clouds. Backed by some of the biggest companies in software development and hosting, as well as thousands of individual community members, many think that OpenStack is the future of cloud computing.

The cloud is all about providing computing for end users in a remote environment, where the actual software runs as a service on reliable and scalable servers rather than on each end-user's computer. Cloud computing can refer to a lot of different things, but typically the industry talks about running different items "as a service"—software, platforms, and infrastructure. OpenStack falls into the latter category and is considered Infrastructure as a Service (IaaS). Providing infrastructure means that OpenStack makes it easy for users to quickly add new instance, upon which other cloud components can run. Typically, the infrastructure then runs a "platform" upon which a developer can create software applications that are delivered to the end users.

Target Audience

This Course targets Cloud engineers, System designers, Software and IT architects, CIOs, CTOs or any technology leader looking to utilize cloud computing in their organization, Software engineers, IT administrators

Prerequisites

- Access to a physical or virtual machine to install the required software
- Basic knowledge about networking, system setup, OS commands etc.
- Basic knowledge about virtual machines
- Basic knowledge about cloud computing
- Desire to learn something new and continuous improvement

Objectives

In this course we will learn about OpenStack and its various components and services. We will get an in-depth look at how we can use OpenStack to deploy and manage our own private cloud infrastructure.

Knowledge and experience on cloud computing and OpenStack are highly sought after by startups and large enterprises alike. The demand for these skills have been steadily increasing over the last few years.

In this course we will:

- Learn about cloud computing
- Learn about OpenStack
- Deploy our own OpenStack IaaS cluster
- Learn about various sub-components of OpenStack
- Launch virtual instances on OpenStack
- Learn about sub-components and usage of various OpenStack services
- Learn about how to architect high availability OpenStack clusters
- Learn about managing and troubleshooting OpenStack
- Learn about log management for OpenStack cluster

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- Orchestration service (Heat)
- Telemetry service (Ceilometer)
- Highly available OpenStack architecture
- Ceph: storage for OpenStack
- Log management for OpenStack
- Summary