OpenStack Administration Bootcamp (Caracal)

Duration: 5 Days Course Code: CN250

Overview:

Accelerate your adoption of OpenStack with this rapid introduction to its components and their operation and administration, bundle course (OS100 + OS220)

The OpenStack Administration Bootcamp course is a 5 day class designed to introduce you to OpenStack and its components (day 1) and then provide you with a complete experience with administering and operating the most common OpenStack components to implement Infrastructure as a Service (IaaS) in a private cloud; from image management to instance creation to network plugins and more (days 2-4).

At the end of OS250, you have the skills required to pass the COA exam.

All Mirantis OpenStack courses are vendor agnostic. Tasks are performed in an OpenStack environment without any vendor add-ons that might change the way OpenStack works. Reference implementations are utilized, such as Logical Volume Manager (LVM) for Block Storage, Open vSwitch (OVS) for L2 networking, or KVM/QEMU for the hypervisor.

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Target Audience:

This course is targeted at students with the following:
Skills:
- Basic understanding of cloud and virtualization technologies
- Basic hypervisor skills are beneficial, such as KVM or VMware, but not required
- Basic Linux skills
- Basic understanding of OpenStack

Motivations: Learn the critical skills needed to operate and administer an OpenStack environment
Roles: System/network administrators, Technical IT Professionals, Deployment engineers, Cloud administrators, & Cloud operations

Objectives:

- After this course participants should be able to:
- Understand **OpenStack architecture, components, and cloud service models**, including core and extended platform services.
- Configure and manage essential **OpenStack services** for identity, compute, networking, storage, and image management.
- Deploy and secure virtual machine workloads using **Nova**, **Neutron**, **Glance**, **Keystone**, and **Cinder**.
- Automate infrastructure deployment and application configuration using **Heat** orchestration templates.
- Implement load balancing, monitoring, and autoscaling using **Octavia**, **Ceilometer**, and **Aodh** services.

Prerequisites:

- Solid Linux command line skills
- OS100 or equivalent experience is beneficial, including:
- Familiarity with the OpenStack Dashboard UI & command line client
- Although not required, an understanding of hypervisors, virtualization, networking, and storage concepts is beneficial

Testing and Certification

- *N/A*

Follow-on-Courses:

- *None recommended*
- CN310 - Advanced Docker Enterprise Troubleshooting

Content:

This course begins with:

An introduction to OpenStack, including its architecture, history, the OpenStack Foundation, plus an overview of the most commonly used components with discussion of additional components for containers, bare metal, workflows, monitoring, cloud costing, and more.

As the course continues, the most commonly used OpenStack components are discussed in detail:

Keystone (Identity service): Authenticating with Keystone, managing tokens, RBAC policies, ; the purpose of the Service Catalog

Glance (Image service): Creating ; managing images, options to build an image, the purpose of cloud-init

Neutron (Network service): Understand what networks OpenStack uses, such as, the management network. Neutron architecture, including plugins, namespaces, layer 2 protocols, layer 3 routing, Neutron security groups, and more.

Nova (Compute service): Using Nova to deploy virtual machine (VM) instances ; control where the instances are deployed. Deploying instances with SSH keys for better security. Understanding the supported hypervisors. Lastly, implementing resource quotas.

Cinder (Block Storage/Volume service): Understand the use of volumes, snapshots, and backups. You also create and use a boot volume.

Heat (Orchestration service): Discusses Heat templates, their syntax, and MANY practical day-to-day examples of Heat templates, including examples of installing and configuring software on your instances at boot.Heat (Orchestration service): Discusses Heat templates, their syntax, and MANY practical day-to-day examples of Heat templates, including examples of installing and configuring software on your instances at boot.

Octavia (LBaaS): Use the CLI to create ; manage a load balancer and load balancer resources

Ceilometer/Aodh(Telemetry services): Discuss the role ; architecture of each component. Review a sample application with load balancing and autoscaling

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Additional Information:

Lab RequirementsLaptop with WiFi connectivity Attendees should have the latest Chrome or Firefox installed, and a free account at strigo.io .

Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

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