



# OpenStack Bootcamp II OS200

This three day course is for administrators, deployment engineers, or other IT team members responsible for the installation/deployment of OpenStack. The course provides participants with a detailed understanding of the steps necessary to deploy an OpenStack environment from scratch. Through the process of manually deploying OpenStack rather than depending on deployment tools and scripts, students learn where to identify issues and how to overcome the hurdles for when things go wrong. This course requires students to be very familiar with the command-line and have already taken [OpenStack Bootcamp \(OS100\)](#) or [OpenStack Bootcamp with Exam \(OS110\)](#) courses. The course is broken up into two sections: **lectures** and **labs**.

The **lectures** provide OpenStack Architecture Recap, Production OpenStack - Use cases, best practices, configuration, CEPH Storage, and the Fuel Demo.

The **labs** provide hands-on experience through the manual deployment of OpenStack from scratch to then troubleshooting common issues on the same environment.

With an extensive curriculum that covers installing and verifying a wide array of OpenStack projects, including Keystone, Glance, and Neutron, the OS200 course is a logical next step for Mirantis students who have completed the [OpenStack Bootcamp I \(OS100\)](#).

## Course Details

- Duration: 3 Days
- Hours: 9:00 a.m. - 5:00 p.m.

## Target Audience

- Systems Administrators
- Deployment Engineers
- Technical IT Professionals

## Prerequisites

- Completion of OS100
- Strong experience using Linux command line
- Experience editing conf files with vi

## Lab Requirements

- Laptop with Wifi Card
- Firefox or Chrome
- SSH and SCP Software

## Objectives

OpenStack Bootcamp II (OS200) covers the critical skills needed to troubleshoot and install an OpenStack environment. Upon completion of the three-day OS200 OpenStack course, students will have gained an extensive understanding of:

- Manually Installing and Configuring OpenStack
- Troubleshooting OpenStack Environments
- OpenStack Best Practices
- Identifying Production Deployment Typology
- Using the Command Line Interface and Dashboard

MODULE 1

THEORY

### OPENSTACK ARCHITECTURE RECAP (Day 1)

- Overview of project history and releases
- Core projects overview
- “Typical” OpenStack component architecture
- Components’ specifics and details
- Available plug-ins and drivers for components
- Logical and physical networks in OpenStack

MODULE 2

WORKSHOPS

### OPENSTACK MANUAL INSTALLATION (Day 1)

- Configure the operating system (Ubuntu 14.04 LTS) and networking
- Installing and configuring database (MySQL) and messaging (RabbitMQ) servers
- Installing and configuring the OpenStack Identity (keystone)
- Installing and configuring the OpenStack Image Service (glance)

MODULE 3

THEORY

### OPENSTACK NETWORKING AND CEPH STORAGE (Day 2)

- Advanced Networking overview
- Ceph architecture overview
- Ceph access methods and usage with OpenStack

MODULE 4

WORKSHOPS

### OPENSTACK MANUAL INSTALLATION (CONTINUE) (Day 2)

- Installing the OpenStack Networking (neutron) services
- Configuring the Networking (neutron) to use the ML2 plug-in with the Open vSwitch driver
- Installing and configuring the OpenStack Compute (nova)
- Configuring the OpenStack Compute (nova) with KVM hypervisor
- Installing and configuring the OpenStack dashboard (horizon)
- Installing and configuring the OpenStack Block Storage (cinder)
- Configuring the OpenStack Block Storage (cinder) to use two back ends (LVM)
- Installing and configuring the OpenStack Orchestration (heat)

MODULE 5

THEORY

### OPENSTACK PRODUCTION DEPLOYMENT (Day 3)

- OpenStack high availability considerations and approaches
- Deployment topologies and reference architectures
- Planning an OpenStack deployment
- Automated deployment of OpenStack: tools and approaches

MODULE 6

WORKSHOPS

### OPENSTACK TROUBLESHOOTING (Day 3)

- Troubleshooting the OpenStack failures
- The OpenStack services recovery