OpenStack Bootcamp Advanced con Examen Oficial OpenStack Certified OpenStack Administrator

Este curso cubre las habilidades críticas necesarias para operar un clúster de OpenStack. Al término de este curso, los estudiantes serán capaces de:

- *Describir la arquitectura de OpenStack Cloud Environment*

- *Definir las características claves de OpenStack*

- *Identificar los casos de uso adecuados para OpenStack*

- *Implementar y utilizar imagen, identidad y los servicios Dashboard*

- *Crear y gestionar imágenes e instancias*

- *Creación y gestión de roles, usuarios y cuotas*

- *Encontrar recursos de ayuda y soporte técnico adicionales OpenStack*

- *Use la CLI y el Dashboard*

- *Creación y gestión de roles, permisos y ACLs*

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The training class bundle both the course and Certified OpenStack Administrator (COA) exam. The total duration is three days. The first three days will be spent in OpenStack Bootcamp.

This course and exam bundle is for IT operations, Network Admins, Security or Storage architects responsable for design, and/or indirect support and operation of an OpenStack installation. The course provides participants with a detailed understanding of the steps necessary to opérate an OpenStack environment. The lectura covers architecture, best practices, provisioning workflow, component interaction, and is the best preparation for the real-world challenges faced by OpenStack experts. The course is broken up into three sections: **lectures, labs,** and **hands-on and preparation for certification.**

The **lectures** provide OpenStack Overview and Architecture, OpenStack Networking, Cloud Storage using Swift, Metering with Ceiliometer, Orchestration using Heat templates, and a look ahead to the OpenStack roadmap.

The **labs** provide hands-on experience on an all-in-one OpenStack Environment. Students will be given opportunities to use and administer OpenStack using horizon and command line. Over the course of 12+ lab modules, students will get to practice and engage with all core components of OpenStack. The labs conclude with a comprehensive review to solidify the hands-on skills that are required to opérate an OpenStack environment.

The **certification** exam tests a candidate's ability to create, configure, and manage private clouds using OpenStack. The openstack course will prepare students for the openstack exam.

Course Details

- Duration: 3 Days
- Hours: 8:00 a.m. – 3:00 p.m.
- Price: 1.845€ + I.V.A. (Voucher examen incluido)

Course Objetives

The OpenStack Bootcamp I course covers the critical skills needed to opérate an OpenStack cluster. Upon completing this course, students will be able to:
- Describe the architecture of an OpenStack Cloud Environment
- Define the key features of OpenStack
- Identify suitable use-cases for OpenStack
- Implement and use Image, Identity, and Dashboard services
- Create and manage images and instances
- Create and manage roles, users, and quotas
- Find additional OpenStack help and support resources
- Use the CLI and Dashboard
- Create and manage roles, permissions, and ACLs
- Troubleshooting

Target Audience

- Systems Administrators
- Technical IT Professionals

Prerequisites

- Basic Linux command line
- Virtualization concepts
- Networking concepts

Lab Requirements

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

Outline

- Course Introduction
- OpenStack Overview and Architecture
- OpenStack Networking Deep dive
- OpenStack Swift Architecture
- Ciliometer Overview and Architecture
- Heat Overview and Architecture
- Coprehensive Review
- Troubleshooting

JMG virtual consulting

Course Syllabus — Lecture, Demos and Group Exercises

MODULE 1 .

OPENSTACK OVERVIEW

Theory

- *Overview of project history and releases*
- *Core projects overview*
- *Nova architecture overview*
- *VM provisioning walkthrough*

Workshops

- *Understanding the classroom environment*
- *Create, manage, and access Virtual Machine*
- *Create and manage images*
- *Create and manage volumes*

MODULE 2 .

OPENSTACK NETWORKING

Theory

- *KVM networking with Linux bridges*
- *Single-host vs multi-host networking*
- *The role of Network Manager in nova-network*
- *Accessing VM using floating IP*
- *Traffic Flows*
- *Neutron Architecture and plug-ins*
- *OpenVSwitch concepts*
- *Neutron L3 and DHCP Agents*
- *Load Balancer as a Service*

Workshops

- *Configuring a software loud balancer*
- *OpenStack Networking and Admin operations*
- *Create and manage networks*
- *Security groups and Floating IPs*
- *Create Users, Projects, and Quotas*
- *Administering Tenants and User permissions*

MODULE 3 .

SWIFT

Theory

- *Project overview*
- *Usage and use cases*
- *The Ring, RingBuilder, partitioning*
- *Account, container, and object servers*
- *Replication*
- *Security/ACLs*
- *Deployment and Operations*

Workshops

- *Swift Operations*
- *CRUD on Containers and Objects*
- *Uploading in segments*
- *Adding metadata to Objects*
- *Swift maintenance with swift-recon*

MODULE 4 .

CEILOMETER

Theory

- *Ceilometer background and use cases*
- *Ceilometer architecture*
- *Ceilometer meters and pipelines*
- *Ceilometer Deployment*

Workshops

- *Metering and Monitoring with Ceilometer*
- *Ceilometer Meters*
- *Statistics and Pipelines*
- *Working with Ceilometer Alarms*

MODULE 5 .

HEAT

Theory

- *Heat background and use-cases*
- *Heat architecture*
- *Heat Orchestration Template (HOT) format*
- *Heat Autoscaling*

Workshops

- *Orchestration with Heat*
- *Understanding HOT*
- *Launching Stack*

MODULE 6 .

WORKSHOPS

Workshops

- *Re-enforcing practical skills with comprehensive exercises*
- *OpenStack To Go: Devstack Installation Instruction*

MODULE 7 .

TROUBLESHOOTING

Troubleshooting

- *The main principles of troubleshooting*
- *Checking OpenStack version*
- *Where to find and how analyze log files*
- *Backup the database used by an OpenStack instance*
- *Analyze Host/Guest OS and instance status*
- *Analyze Messaging Servers*
- *Analyze Network status*

MODULE 8 .

EXAM

Certified OpenStack Administrator

- *This module is a performance based hands-on lab measuring an individual's proficiency in simulating the real exam environment and questions.*