



COA:

The Importance to your Career and how to Achieve It

OpenStack Summit Vancouver - May 2018



Presenters

Gianpietro Lavado



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Overview

- **Why Should I Take the COA?**
- Preparing For the Exam
- Am I Ready?
- What to Expect?
- Tips and Tricks
- Conclusions



Why Should I Take the COA? (1)

Employers are looking for skilled employees!

- Hands-on certifications provide a 'known' skill set
- COA has a 60% pass rate



¿Por qué debo tomar el COA? (1)

Las empresas buscan contratar gente con experiencia!

- La certificación con *hands-on* comprueba un conjunto de habilidades fundamentales
- Un 60% de los postulantes pasa el COA



Why Should I Take the COA? (2)

Exam is available **ANYWHERE!**

- No limitation based on location
- Top 10 Countries for Certified OpenStack Administrators

USA	China	India	Great Britain	Spain
Canada	Germany	Saudi Arabia	Indonesia	Brazil



¿Por qué debo tomar el COA? (2)

El examen está disponible en **TODO EL MUNDO!**

- No existen limitaciones por ubicación
- Los Top 10 países con *Certified OpenStack Administrators*

USA	China	India	Great Britain	Spain
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Preparing for the exam (1)

Make sure you:

- Know the fundamentals of OpenStack!
 - Read the docs, and/or...
 - Take some training
- **Prepare a personal lab:** to get a lot of practice with both CLI and Dashboard



Preparando el examen (1)

Asegúrate de:

- Conocer los temas fundamentales de OpenStack!
 - Lee la documentación, y/o...
 - Insíbete a un entrenamiento
- **Prepara un laboratorio personal:** para obtener mucha práctica con *CLI* y *Dashboard*

Preparing for the exam (2)

Knowing the fundamentals by reading the documentation

- Main documents are already there, installation guides cover the basics!

Example:

<https://docs.openstack.org/install-guide/get-started-with-openstack.html#the-openstack-services>

The OpenStack services

The following table describes the OpenStack services that make up the OpenStack architecture:

OpenStack services

Service	Project name	Description
Dashboard	Horizon	Provides a web-based self-service portal to interact with underlying OpenStack services, such as launching an instance, assigning IP addresses and configuring access controls.
Compute service	Nova	Manages the lifecycle of compute instances in an OpenStack environment. Responsibilities include spawning, scheduling and decommissioning of virtual machines on demand.
Networking service	Neutron	Enables Network-Connectivity-as-a-Service for other OpenStack services, such as OpenStack Compute. Provides an API for users to define networks and the attachments into them. Has a pluggable architecture that supports many popular networking vendors and technologies.
Object Storage service	Swift	Stores and retrieves arbitrary unstructured data objects via a RESTful, HTTP based API. It is highly fault tolerant with its data replication and scale-out architecture. Its implementation is not like a file server with mountable directories. In this case, it writes objects and files to multiple drives, ensuring the data is replicated across a server cluster.
Block Storage service	Cinder	Provides persistent block storage to running instances. Its pluggable driver architecture facilitates the creation and management of block storage devices.
Identity service	Keystone	Provides an authentication and authorization service for other OpenStack services. Provides a catalog of endpoints for all OpenStack services.
Image service	Glance	Stores and retrieves virtual machine disk images. OpenStack Compute makes use of this during instance provisioning.
Telemetry service	Ceilometer	Monitors and meters the OpenStack cloud for billing, benchmarking, scalability, and statistical purposes.

Preparando el examen (2)

Conociendo los temas fundamentales leyendo la documentación

- Los documentos están en línea, las guías de instalación cubren lo fundamental!

Ejemplo:

<https://docs.openstack.org/install-guide/get-started-with-openstack.html#the-openstack-services>

The OpenStack services

The following table describes the OpenStack services that make up the OpenStack architecture:

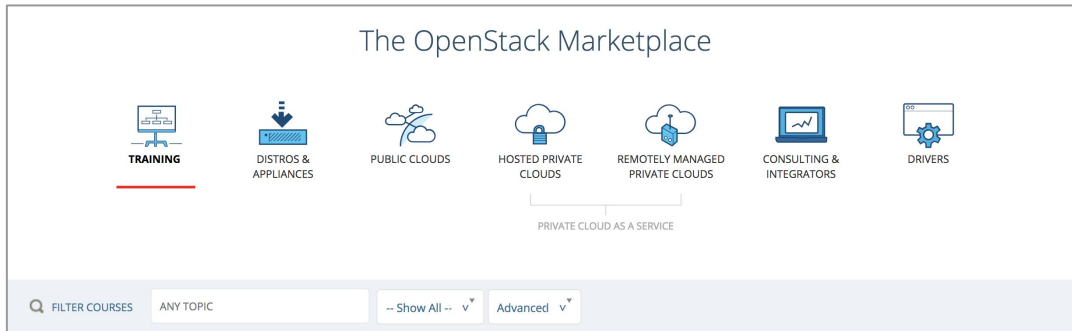
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Preparing for the exam (3)

Knowing the fundamentals by taking specialized training

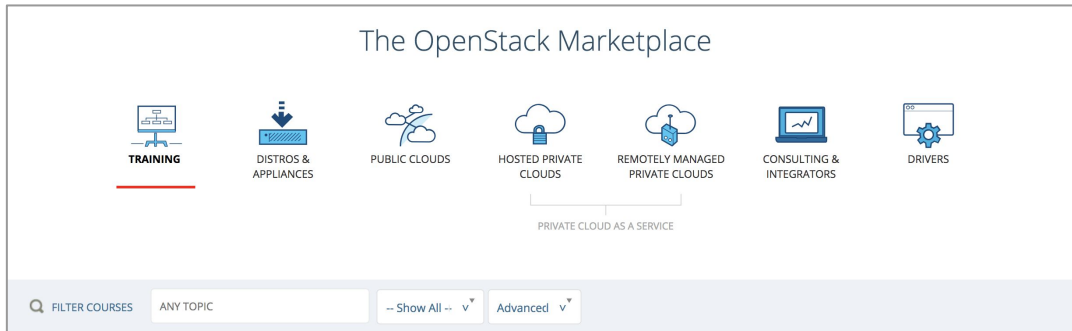
- Visit the OpenStack Marketplace → training



Preparando el examen (3)

Conociendo los temas fundamentales mediante entrenamiento

- Visita el *OpenStack Marketplace* → *training*





Preparing for the exam (4)

Prepare a personal lab: main alternatives

- Manual installation: <https://docs.openstack.org/install-guide/>
 - Gets you to understand the internals ! (recommended)
 - At least 2 VMs:
 - 1 Controller/Network node (4GB+ RAM / ~10GB+ disk)
 - 1 Compute/Storage node (2GB+ / ~10GB+ disk)



Preparando el examen (4)

Preparando un laboratorio personal: alternativas principales

- Instalación manual: <https://docs.openstack.org/install-guide/>
 - Te permite comprender lo que sucede dentro de OpenStack! (recomendado)
 - Al menos 2 VMs:
 - 1 Controller/Network node (4GB+ RAM / ~10GB+ disk)
 - 1 Compute/Storage node (2GB+ / ~10GB+ disk)



Preparing for the exam (5)

Prepare a personal lab: main alternatives

- DevStack: <https://docs.openstack.org/devstack/latest/>
 - Quickest, but ephemeral and tightly coupled
 - All-in-one (8GB+ RAM / ~10GB+ disk)
 - Can install any component → highly used by component developers



Preparando el examen (5)

Preparando un laboratorio personal: alternativas principales

- DevStack: <https://docs.openstack.org/devstack/latest/>
 - El camino más rápido, pero efímero y componentes estrechamente integrados
 - Todo en uno (8GB+ RAM / ~10GB+ disk)
 - Puede instalar cualquier componente → muy utilizado para entornos de desarrollo de componentes OpenStack



Preparing for the exam (6)

Prepare a personal lab: main alternatives

- Training Labs: https://docs.openstack.org/training_labs/
 - Automated installation scripts for basic components
 - Customizable through configuration files
 - Can add more components manually (for example: Swift)



Preparando el examen (6)

Preparando un laboratorio personal: alternativas principales

- *Training Labs:* https://docs.openstack.org/training_labs/
 - Instalación automatizada de los componentes principales
 - Personalizable a través de archivos de configuración
 - Es posible añadir más componentes manualmente (ejemplo: Swift)



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How Do I Know I'm Ready?

How familiar are you with....

- The CLI
- The Horizon Dashboard
- The Exam Objectives



¿Cómo saber si estoy listo?

Qué tanto sabes sobre...

- La línea de comandos (CLI)
- El *dashboard* (Horizon)
- Los objetivos del examen



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So What Can I Expect?

Version

- Newton is the current version
- Pike is coming in the near future



¿Qué esperar del examen?

Version

- Newton es la versión actual
- Pike se empezará a evaluar pronto



COA

2017-06-20

Exam timer: 149 minutes remaining

User: AnneBertucio

BEFORE YOU BEGIN (Q1 follows below):

1. You are allowed to open the OpenStack Docs page in a new browser tab or window: <https://docs.openstack.org/>
2. Login to the Horizon Dashboard as user `admin` with password `admin` (unless otherwise specified, you should use these credentials globally during this exam for the `admin` project).

Q1: For the `admin` project:

Question: 1/32



Question 1~

Navigate All Questions

Terminal

Dashboard

Gate One - Applications**Terminal:
LOGIN**



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Question 1~

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Gate One - Applications**Terminal:
LOGIN**



Search Google or type URL

(2) Twitter

Facebook

Seattle Reddit Commu

LinkedIn

emma : Home

Business Manager

Jezebel - Jezebel: Cel


OpenStack Summit M

Web Delivery - Candidate

OpenStack Docs: Ocata

Anne

Securehttps://docs.openstack.org

openstack.

SEARCH

SOFTWARE

USERS

COMMUNITY

MARKETPLACE

EVENTS

LEARN

DOCS

JOIN

LOG IN

Welcome to OpenStack Documentation

What is OpenStack? OpenStack is a cloud operating system that controls large pools of compute, storage, and networking resources throughout a datacenter, all managed through a dashboard that gives administrators control while empowering their users to provision resources through a web interface.


What Are The Next Steps?

View The Docs

Get OpenStack

Get Training

Google custom search



Elissa Murphy
OpenStack Operator

Documentation for Ocata (February 2017)

This is the latest release. Use the menu to select a prior release if needed.

More Releases & Languages


Waiting for www.googleapis.com...

Web Delivery - Candidate

OpenStack Docs: Ocata

Anne

Securehttps://docs.openstack.org

SEARCHSOFTWARE▼USERS▼COMMUNITY▼MARKETPLACEEVENTS▼LEARN▼DOCSJOIN▼LOG IN

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Question 1~

Navigate All Questions

☐ Terminal ☒ Dashboard

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1. Root privileges can be obtained by running 'sudo -l'.
2. Rebooting of your server IS permitted at anytime.
3. Do not stop or tamper with the gateone process as this will END YOUR EXAM SESSION.
4. Do not block incoming ports 8080/tcp, 4505/tcp and 4506/tcp. This includes firewall rules that are found within the distribution's default firewall configuration files as well as interactive firewall commands.
5. Use Ctrl+Alt+W instead of Ctrl+W.
 - Ctrl+W is a keyboard shortcut that will close the current tab in Google Chrome.
6. Ctrl+C & and Ctrl+V are not supported in your exam terminal, nor is copy and pasting large amounts of text. To copy and paste limited amounts of text (1-2 lines) please use:
 - For Linux: select text for copy and middle button for paste (or both left and right simultaneously if you have no middle button).
 - For Mac: ⌘+C to copy and ⌘+V to paste.
 - For Windows: Ctrl+Insert to copy and Shift+Insert to paste.
7. Installation of services and applications included in this exam may require modification of system security policies to successfully complete.
8. Only a single terminal console is available during the exam. Terminal multiplexers such as GNU Screen and tmux can be used to create virtual consoles.

[student@node-1 ~]\$

COA

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Question 1<

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```
[student@node-1 ~]$ pwd
/home/student
[student@node-1 ~]$ ls
answers openrc resources templates
[student@node-1 ~]$
```



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Q1: For the `admin` project:

Question: 1/32



Question 1~

Navigate All Questions

Terminal

Dashboard

[student@node-1 openrc]\$



Online

Camera

Desktop

View Webcam & Desktop

Live Chat

Exam Controls

Exam Information

COA

2017-06-20

User: AnneBertucio

In the `admin` project:

Question: 2/32



Question 2~

Navigate All Questions

Terminal

Dashboard

`[student@node-1 openrc]$`

COA

2017-06-20

Exam timer: 144 minutes remaining

User: AnneBertucio

Question: 3/32



Question 3-

Navigate All Questions

Terminal Dashboard

```
[student@node-1 openrc]$
```

COA

2017-06-20

Exam timer: 144 minutes remaining

User: AnneBertucio

- Question 1
- Question 2
- Question 3**
- Question 4
- Question 5
- Question 6
- Question 7
- Question 8
- Question 9
- Question 10
- Question 11

Question: 3/32



Question 3

Navigate All Questions

Terminal

Dashboard

```
[student@node-1 openrc]$
```



Online

Camera

Desktop

View Webcam & Desktop

Live Chat

Exam Controls

Exam Information

COA

2017-06-20

Exam timer: 144 minutes remaining

User: AnneBertucio

Question: 10/32



Question 10~

Navigate All Questions

Terminal

Dashboard

[student@node-1 openrc]\$



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- **Tips and Tricks**
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Tips for during the exam (1)

Time management

- Answer the questions you're familiar with first, remember you can always go back.
- Prepare for not having to browse the documentation.
 - Learn how to quickly get to the documents you think you might need
 - Remember to use the documents that match the exam version



Consejos durante el examen (1)

Manejo del tiempo

- Contesta las preguntas que conoces primero, recuerda que puedes volver atrás.
- Prepárate para no tener que buscar la documentación.
 - Aprende cómo llegar rápidamente a los documentos que piensas que puedes necesitar
 - Recuerda utilizar los documentos de la versión del examen



Tips for during the exam (2)

Raise issues

- Make sure you have a decent Internet connection, test it in advance!
- Immediately report issues to proctor, for example:
 - Both CLI and Dashboard should be permanently accessible.
 - CLI response should be fast enough to type and modify commands.



Consejos durante el examen (2)

Informa cualquier problema

- Asegúrate de tener una conexión decente a Internet, pruébala con tiempo!
- Cualquier problema, repórtalo inmediatamente al *proctor*, por ejemplo:
 - Tanto CLI como *Dashboard* deben funcionar en todo momento.
 - La respuesta del CLI debe ser lo suficientemente rápida como para tipear y modificar comandos.



Tips for during the exam (3)

CLI vs Dashboard: which one is faster for me?

- For every topic, make sure you know which client method is quicker for you, for example:
 - Creating a network and subnet
 - Launching a VM
 - Modifying identity records (users, projects, etc.)
- Some tasks can only be executed via CLI, make sure you know which ones!



Consejos durante el examen (3)

CLI vs *Dashboard*: cuál es más rápido para mí?

- Para cada tema, asegúrate de saber qué mecanismo es más rápido para ti, por ejemplo:
 - Creando una red y subred
 - Lanzando una nueva VM
 - Modificando datos de identidad (usuarios, proyectos, etc.)
- Algunas tareas pueden ser ejecutadas únicamente vía CLI, asegúrate de saber cuáles!



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Conclusions

See if COA matches your career objectives

The exam validates proficiency in **operating** an OpenStack environment

Prepare to demonstrate you're an OpenStack pro

Learn the fundamentals and get your hands dirty in a personal lab

Go for it!

If you're comfortable with CLI and Dashboard and day-to-day tasks, you're ready!



Conclusiones

Comprueba si el COA es adecuado para tus objetivos de carrera

El examen valida experiencia en **operar** un entorno OpenStack

Prepárate para demostrar tu experiencia en OpenStack

Aprende los fundamentos y practica mucho en un entorno de laboratorio personal

Ve por el COA!

Si ya te sientes con la suficiente comodidad a nivel CLI y *Dashboard* con tareas de 'día a día', estás listo/a!



Thanks! Gracias!

COA: The Importance to your Career and how to Achieve It

Gianpietro Lavado



Amy Marrich



OpenStack Summit Vancouver - May 2018 -

<http://github.com/spotz/vancouver18/blob/master/coavancouver.pdf>