



Deploying Ubuntu Enterprise Cloud

Training Course Overview

(Ubuntu 10.04 LTS)

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Course Overview

About the course and objectives

This 16 hour course provides System Administrators with the skills and knowledge to deploy a basic cloud installation in an enterprise setting. The Ubuntu Enterprise Cloud (UEC) course is suitable for junior level System Administrators with prior Ubuntu and Linux experience. Instructor demonstration and hands-on activities lead students through the basics of hardware, software and networking requirements, installation of management tools and their configuration and use.

After completing this course participants will be able to:

- Explain the difference between cloud computing and virtualization
- State the advantages and constraints of an Ubuntu Enterprise Cloud
- Describe the architecture of a UEC including:
 - Front end (Cloud controller and Cluster controller)
 - Node controllers
- Install, set-up and configure a private UEC (Eucalyptus on Ubuntu)
- Set-up user accounts
- Start and terminate instances
- Create Eucalyptus Computer Images (EMI) including using and configuring the following additional services:
 - Persistent storage (Simple Storage Service (S3) and Elastic Block Storage Service (EBS))
 - Networking (Elastic IP)
- Explain the following networking modes:
 - SYSTEM
 - STATIC
 - MANAGED
 - MANAGED-NOVLAN
 - Troubleshoot set-up issues and common problems in Eucalyptus
- Find commercial and community support resources such as Canonical, mailing list, wikis, etc.

Who should attend

Junior level System Administrators working in organisations which are about to or have already deployed Ubuntu Enterprise Servers in the office and are about to deploy cloud services. Programmers, and other IT professionals who wish to add Ubuntu cloud deployment to their portfolio will also benefit.

Pre-requisites

The Ubuntu Enterprise Cloud course is ideally suited to Ubuntu Certified Professionals who already have basic Linux system administration experience, including:

- SSH.
- Bash scripting.
- Basic service configuration of Apache, MySQL, DNS, Samba, Postfix, etc.
- Working knowledge of TCP/IP networking and configuration.
- Working knowledge of vi or emacs.

Students receive:

- Individual student packs consisting of:
 - Student Course Guide
 - Ubuntu 10.04 LTS desktop and server CDs
 - Ubuntu note pad and pen
 - Ubuntu gift (it's a surprise!)
- Free access to Landscape systems management and monitoring service.
- Certificate of completion, following minimum 80 per cent attendance and active participation, as determined by the instructor.

Online Training

A Canonical-trained Ubuntu Certified Instructor will guide students throughout the Ubuntu Enterprise Cloud course.

Students develop essential skills without spending time and money travelling to a training centre. Canonical's online course provides students with 16 hours of planned, instructor-led training over the Internet. Students log in to Canonical online lab environments at specific class times so they can see, hear and interact with their instructor and fellow students and complete lab exercises in real time.

All participants need is a high-speed Internet connection, a sound card, a microphone and a basic level of English language comprehension. Canonical's integrated VoIP facility, virtual machine technology and Ubuntu Certified Instructor will take care of the rest. Students should check the [complete technical requirements](#) and their Internet connectivity before signing up to this course.

Course Schedule

Lesson 1: Course Overview (1 hour)

Lesson 2: Introduction & Support Resources (1 hour)

- What is Cloud Computing?
- Examples
- Common acronyms & terminology
- <https://help.ubuntu.com/>
- Canonical Support
- Canonical Partner Programme
- Community resources

Lesson 3: Cloud Computing Overview (1 hour)

- Cloud Computing versus virtualization
- UEC architecture
- Front-end and Node Controllers
- UEC components
- Euca2ools
- cloud-utils
- UEC Advantages and Constraints

Lesson 4: Setting Up a Private Cloud Using UEC Tools (3 hours)

- Pre-installation flight check
- CD-based installation
- Package-based installation
- Common file locations
- Web-interface
- User management
- Adding, deleting and modifying users
- Granting Administrative Privileges

Lesson 5: Managing Images (1 hour)

- Euca2ools
- Image Store
- cloud-utils
- Creating an EMI
- Running instances

Lesson 6: Persistent Storage (1 hour)

- Managing EBS Volumes
- Snapshots

Lesson 7: Networking Modes (1.5 hours)

- SYSTEM, STATIC and MANAGED modes
- MANAGED_NOVLAN mode
- Elastic IPs

Lesson 8: Troubleshooting Set-up Issues and Common Problems with Configuration Management (2 hours)

- Node controller troubleshooting
- Walrus troubleshooting
- Block storage troubleshooting

Lesson 9: Using Landscape (1 hour)

- Landscape to monitor and control instances
- Landscape to monitor and control UEC

Lesson 10: Case Study Scenarios (optional, 3 hours)

- Re-bundling an image
- Print to PDF
- One cloud per classroom

Lesson 11: Ubuntu Training & Certifications (0.5 hours)

END