



Cloud Security and Governance

Part of UC Berkeley's Professional Series in Cloud Computing

Venue

Next U @ NTUC
Trade Union House
73 Bras Basah Road

Course Fees

\$5,000 per module

Discounts are available
for the following:

- **Group Registration for 3 or more students**
- **NTUC Members**
- **Partner Association Members**
(SITF, SCS & ITMA)
- **Registration for full program**
(i.e. all 4 modules)

Funding of up to
50% available!*

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Seats are limited!
For registration or enquiries,
please call **6837 8388** or
email us at
pme@nextu.com.sg

*Terms & Conditions apply.
Please call 6837 8388 for details.

Course Introduction

As organizations implement cloud computing technology, security issues are a vital concern. Addressing the unique security challenges at the implementation and ongoing maintenance stages are keys to protecting your cloud investment. This course provides introduction to security issues related to Virtualization and Clouds built using Virtualization.

Key take-away includes:

- Analyzing cloud-based security concerns
- Modifying security processes when moving to the cloud
- Identifying cloud security roles & responsibilities
- Dealing with loss of access in the cloud
- Protecting access to company data
- Planning for disaster recovery of cloud systems

Who will Benefit

- Corporate Strategists
- IT Directors
- CIOs
- IT Managers
- Solution Consultants
- Network Administrators
- IT Architects
- Hardware system architects
- Storage system designers
- Cloud Programmers, technical support
(must have advanced C experience)
- Cloud Administrators
(must have advanced bash scripting experience)
- Virtual Machine Programmers
(must have advanced C experience)
- Virtual Machine Administrators
(must have advanced bash scripting experience)

Course Objectives

Upon successful completion, students are able to:

- Understand the various security technologies and mechanisms involved in Virtualization and Cloud Computing
- Evaluate the security for various types of clouds
- Protect Infrastructure-as-a-Service (IaaS): networks and machines and the facility
- Maintain network, power, physical security when employing Platform as a Service (PaaS)
- Establish data integrity and privacy when using Software-as-a-Service (SaaS)
- Achieve organizational security requirements with effective cloud governance
- Exploit the cloud for efficient disaster recovery and business continuity
- Familiarize with industry good practices of Cloud Security Governance / Service Level Agreement (SLA) management

Pre-requisites

In addition to having a general idea of how computers work, students must possess the following skill pre-requisites:-

- a) Know how to program in at least one imperative computer language (C and/or bash shell scripting)
- b) Be somewhat comfortable with UNIX/Linux
- c) Be willing/able to install software as root user or administrator of Operating System(s)
- d) Have downloaded any virtual computing environment (open source or otherwise such as Oracle VirtualBox and/or VMware server) and explored it before coming to the first class
- e) Have good understanding of technical (computer science) English

Instructional Methodology

Classroom instruction will contain:

- Lectures
- Group Discussions
- Class Participation
- Quiz

Course Outline

1. Introduction and class overview
2. Components of Cloud Security
 - Overview of types of security

3. Security Requirements

- Confidentiality, integrity, availability, and non-repudiation of electronic agreements

4. Iaas

- Physical Security
- Ambient Security
- Redundancy of Connectivity (ISPs)
- UPS (Uninterrupted Power Supply)

5. Security Standards Overview

6. PaaS

- Addressing vulnerabilities of the OS
- Cost of security components
- Physical platform vs. Virtual platform
- Live-migration security issues

7. IPSec Hands on Exercise

8. SaaS

- Application vulnerabilities
- Overview of recovery methods

9. seLinux- overview, policies, & available tools

10. Hands on Exercise using a webserver and ftp server of seLinux protection

11. Service Level Agreement (SLA)

- Cost and optimization of SLA

