



## CLOUD COMPUTING

- Overview of Cloud Computing
- A Short History of Cloud
- How Cloud Computing Works
- Companies in the Cloud
- Why Cloud Computing Matters?
- Who Benefits from Cloud Computing?
- SaaS (Software as a Service)
- PaaS (Platform as a Service)
- IaaS (Infrastructure as a Service)

### **Kick-Start Practical Session – The Basics:**

- Linux : Command Line Interface (CLI) - Basic Commands - Network Configuration - Advanced Tools
- Virtualization - The key for Cloud Computing  
Objectives of Virtualization - Benefits of Virtualization - Emulation – Desktop Virtualization - Virtual Box
- Virtualization for Enterprise
- VMware - Xen – KVM
- VMware ESXi:

### **Introducing VMware vSphere 4:**

1. Exploring VMware vSphere 4
2. Licensing VMware vSphere

VMware ESX vs ESXi - Deploying VMware ESXi - Installing the vSphere Client - Creating and Managing Virtual Machines -

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- Installing a Guest Operating System
- Managing and Modifying Virtual Machines
- Creating Templates and Deploying Virtual Machines
- Migrating and Importing Virtual Machines
- Managing Virtual Machines Using the Web Console

### **Private Clouds:**

- What is a Private Cloud
- Why Private Cloud
- When not to use Private Cloud
- How to setup a private cloud

#### **Private Clouds:**

1. Eucalyptus
2. Open Nebula
3. Open Stack

**Eucaluptus** – Build your Private Cloud! : Introduction to EC and its components

### **Ubuntu Enterprise Cloud (UEC)**

Components of a Eucalyptus (UEC) based Cloud:

1. Node Controller (NC)
2. Cluster Controller (CC)
3. Walrus Storage Controller (WS3)
4. Storage Controller (SC)
5. Cloud Controller (CLC)

Installation & Configuration - Web Interface Image Management:

1. Eucalyptus Machine Image(EMI)
2. Instance Management
3. Hybridfox - Mozilla Firefox extension
4. Command Line Tools (Euca2ools)
5. Life cycle of an instance

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### **Storage Management:**

1. Storage Controller
  2. Interacting with Storage Controller
  3. WS3 Storage Controller
  4. Snapshots
- Network Management - Security - Eucalyptus Log files
  - Amazon Elastic Compute Cloud (EC2)
  - An Overview of Amazon Web Services - Introduction to EC2 and its components
  - Amazon S3
  - Amazon EC2
  - S3 for File Uploads

### Elastic Load Balancing Security:

1. Data Security
2. Network Security
3. Host Security

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