

Cloud Computing Course Content

Overview: Cloud computing is a type of Internet-based computing that provides shared computer processing resources and data to computers and other devices on demand. It is the practice of using a network of remote servers hosted on the Internet to store, manage, and process data, rather than a local server or a personal computer.

Day 1

Session 1: Introduction to Cloud Computing

- What is the cloud?
- History of Cloud Computing
- How Cloud Computing Works
- Advantages & Disadvantages
- Applications for Businesses
- Cloud Service Providers
- Cloud Computing Architecture
- Cloud Computing Terminology
- Communication-as-a-Service (CaaS)
- Infrastructure-as-a-Service (IaaS)
- Monitoring-as-a-Service (MaaS)
- Software-as-a-Service (SaaS)
- Platform-as-a-Service (PaaS)

Session 2: Virtualization

- Virtualization Basics
- Objectives
- Benefits of Virtualization
- Emulation
- Virtualization for Enterprise
- VMware
- Xen
- KVM

- Building Cloud Networks
 1. Designing and Implementing a Data Center-Based Cloud
 2. Industry and International Standards
 3. Communication Requirements for Cloud Implementation
- Public/Private Internet
- Routing to the Datacenter
- Switching within the Data Center
- Bandwidth
- Security

Day 2

Session 1: Private Clouds & Amazon Web Services

- What is it?
- Advantages & Disadvantages
- Installing a Private Cloud
- Eucalyptus
- Open Nebula
- Open Stack
 1. AWS Overview
 2. Amazon S3
 3. VPC
 4. Cloud Front
 5. Elastic Map Reduce
 6. Cloud watch
 7. Cloud Formation
- Amazon Web Services
- Microsoft Azure
 1. Amazon S3
 2. Amazon RDS
 3. Amazon SQS
 4. Amazon IAM
 5. Amazon Route
 6. Amazon DynamoDB
 7. Amazon Storage Gateway

Session 2:

- Cloud Architectures Foundations of Cloud Computing
- Research in Cloud Computing
- Building Enterprise Cloud Computing Environment using a Network of Computers
- Application Case Studies in Engineering, Image Processing, and Media Rendering
- Platform for building Clouds and their Innovative Application
- Cloud Computing Platforms
- Guidelines for setting up of CLOUDS LAB

Session 3:

- Query Session
- Competition
- Certificate Distribution