Training on Cloud Computing

Objectives

At the end of Cloud Computing Workshop, the participants will:

- Learn what is cloud computing
- Be able to assess the architectures, components, operation and tools of cloud computing
- Understand various cloud platforms across the stack including SaaS, PaaS, IaaS and private clouds
- Understand various forms of clouds – Public, private clouds and Hybrid Clouds

1. Introduction to Cloud Computing

- A short history
- Client Server Computing Concepts
- Challenges with Distributed Computing
- Introduction to Cloud Computing

2. Why Cloud Computing?

Benefits of Cloud Computing

3. Characteristics of Cloud Computing

- API based access
- Cost
- Device independence
- Virtualization
- Multitenancy

4. Types of Cloud Computing

- Software as a Service (SaaS)
- Platform as a Service (PaaS)
- CLOUD COMPUTING – BASIC AND ADVANCED
- Infrastructure as a Service (IaaS)
- Other XaaS's

5. Cloud Deployment Models

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- Public Cloud
- Private Cloud
- Hybrid Cloud
- When to choose what?

6. Virtualization

- Introduction to Virtualization
- Role of Virtualization in Cloud Computing
- Types of Virtualization
- Examples of Virtualization
- Benefits of Virtualization
- Virtualization terminologies
- Emulator
- Hypervisor
- Backup and Snapshotting
- Failover
- Examples of Virtualization
- VMware
- Virtualbox
- Qemu/KVM

7. Virtualization Hands-on

- Installing Virtual Machine Manager
- Configuration of the host machine
- Network configuration
- Creating Virtual Machines
- Allocating Resources
- Installing guest machines
- Running guest machines

8. Cloud Computing - Analyzing the Space

- Major cloud providers
- Important cloud related software

9. Web Application Engineering in the Cloud

- DNS
- Load Balancer

- Web Servers
- Application Servers
- Scaling web and application servers
- Data stores/Cloud Storage
- Relational Databases
- NoSQL databases
- Scaling datastores
- Storing and analyzing unstructured data in the cloud
- Data Analysis and the Hadoop Ecosystem
- Eliminating SPOFs

10. SAAS Case Study - Google Apps for the Enterprise

- Google Apps Setup
- Google Mail
- Google Drive
- Google Apps Marketplace

11. Amazon Web Services (AWS)

- Introduction to the AWS products
- Amazon Elastic Compute Cloud (EC2)
- Amazon Simple Storage Service (S3)
- Elastic Block Storage (EBS)
- Elastic Load Balancing (ELB)
- Amazon Relational Database Service (RDS)
- Amazon DynamoDB
- Auto Scaling
- Amazon ElastiCache

12. Case Studies - Amazon Web Services

- Building a simple web application in the cloud
- Building a community based photo/video sharing site
- Building an ad-serving site in the cloud

Note: Good internet connection is required for all participants to perform practical as this workshop is totally practical in nature