

Cloud Computing Basics and Amazon Cloud Services (IAAS)

Total Duration

3 days

Course Contents:

Cloud Computing Basics

What is Cloud Computing and why it matters?

- **Traditional IT Infrastructure**
 - Details of Traditional IT Infrastructure
 - Issues with Traditional IT Infrastructure

- **Cloud Infrastructure and Cloud Advantage**
 - Companies that use Cloud Computing Success Stories
 - Companies that failed to scale

- **Cloud Companies**
 - Amazon Web Services
 - Google
 - Microsoft Azure
 - Rackspace, etc.

- **Cloud Segments**
 - Infrastructure as a Service (IaaS)
 - Platform as a Service (PaaS)
 - Software as a Service (SaaS)

- **Cloud Deployment Models**
 - Public Cloud
 - Private Cloud
 - Hybrid Cloud

- **Cloud Security**
 - What is Cloud Security
 - Types of attacks and vulnerabilities
 - Responsibilities of the Cloud Service Provider
 - Responsibilities of the Cloud user
 - Standards and Certification?

- **Fundamentals of Amazon Web Services (AWS) – 25 Hrs.**
 - Region
 - Availability Zones and Data centers
 - AWS Credentials

Review of All AWS Services

- **Amazon S3**
 - Fundamental APIs: PUT, GET, LIST, DELETE
 - Consistency model
 - Types of consistency model for distributed storage
 - S3's consistency model
 - Really understanding eventual consistency
 - S3 Namespace
 - Access Control List
 - Pre-signed URL
 - Multipart upload
 - Understanding Pricing for S3

Lab: S3 Hands on

- **Amazon EC2**
 - EC2 Architecture
 - EC2 Instance types
 - Hardware differences
 - On-Demand Instances
 - Reserved Instances
 - Spot Instances
 - Data Persistence Models
 - Amazon Elastic Block Storage (EBS)
 - Amazon Machine Image (AMI)
 - S3 AMI
 - EBS AMI
 - EC2 Security Model
 - Security Credentials
 - Sign on Credentials
 - Key pairs
 - X.509 certificate
 - Access keys
 - EC2 Security Groups
 - Instance addressing
 - Generating Custom AMIs
 - Working with EC2 Console
 - Monitoring Instances with Amazon Cloud Watch
 - Amazon Elastic IP

Lab: Hosting an Application on EC2

- **Database Solutions on AWS**
 - SQL (RDS) vs No-SQL (Amazon DynamoDB, Amazon Simple DB)

- **Amazon Relational Database Services (RDS)**
 - Core advantages of EBS
 - Starting an EBS database instance
 - Starting read-replica of database
 - High fault tolerant multi AZ deployment

- **Amazon Elastic Load Balancer (ELB)**
 - Fundamentals of a Load Balancer
 - Starting a load balancer instance
 - Sticky sessions
 - SSL termination on ELB

- **Amazon Cloud Watch**
 - Architecture of Cloud Watch
 - APIs and Use Cases
 - Canned metrics
 - Custom metrics

- **Auto-Scaling**
 - Understanding auto-scaling
 - Setting up auto-scaling rules
 - Hands on Lab on the above topics**