

## Cloud Computing – Amazon (AWS) and Openstack

### Course details

Duration: 30 hours

Location: Pune

Course Outline:

- Consuming Public Cloud Services – using Amazon Cloud
  - Components of Typical IT Infrastructure
  - Challenges in a traditional IT Infrastructure
  - Virtualization - Types, Priced and open source products in the market
  - Types of Cloud – IAAS, PAAS, SAAS
  - Overview of Public Cloud vendors
  - Overview of Private cloud products
  - Introduction to Amazon AWS cloud – Pricing, Regions, Availability Zones, Types of instances
  - Overview of different services of AWS
  - Consuming EC2 Instance Service from AWS
    - ( Creating Linux and Windows Instances from the available AMIs connecting and remote control from the laptop)
  - Consuming EBS block storage service from AWS – Adding volumes to Instances
    - Taking snapshots, creating volumes from snapshots, attaching volumes to running instances
  - Using Elastic IP service –Assigning Public IP addresses and connecting from the internet
  - Installing additional softwares components on the instances
  - Automating installations and tasks at the booting time of a instance
  - Using the Load Balancers for load distribution
  - Installing command line tools
  - Using cloud watch service
  - Using Auto scaling -Depending on the cloud watch alerts to provision instances
  - Using Route 53 Service
  - Creating own AMIs
  - Virtual Private Cloud - Public and Private Network Scenarios

- Using AWS S3 service
  - Creating a MySQL database using RDS service
  - IAM –Identity Access Management
  - Taking backups using command line tools
- Deploying a Private cloud - using Openstack
- Introduction to Openstack
  - Openstack Architecture and Components
  - Installation of Openstack [Build your own private cloud]
  - Accessing services through GUI and command line
  - Keystone [Identity Service] – Creating projects/tenants, users and assigning roles
  - Glance [Image Service] – Uploading Images for Virtual Machine Deployments
  - NOVA [Compute Service] – Creating instances ( Webserver and Database instances)
  - Neutron [Network Service] - Creating Networks, Private and Public Subnets, Routers, Creating Load balancer and load balancing Webserver instances
  - Cinder [Block Storage Service] - Creating volumes and attaching to instances
  - Swift [Object Storage Service] - Creating private and public container and uploading and downloading objects
  - Heat [Orchestration Service] - Creating and deploying custom templates

