

Introduction to cloud computing

- History of cloud
- Different vendors of Cloud computing
- Importance of cloud computing
- Advantages and disadvantages of cloud computing

Cloud deployment methods

- Private cloud
- Public cloud
- Hybrid cloud

Cloud Service / Delivery models

- Software as a service (SaaS)
- Platform as a Service (PaaS)
- Infrastructure as a Service (IaaS)

Introduction to AWS

- AWS Architecture
- AWS Demographics – Availability zones, regions, Edge locations
- AWS Management Console
- AWS Account setup
- AWS free subscription – Limits and Usage

Amazon Elastic Compute Cloud (EC2)

- Different types of instance
- Pricing model in EC2 instances
- Regions and Availability Zones
- Amazon Machine Images (AMI) – sharing AMIs
- EC2 Windows instance & Linux Instance
- Security Groups
- Key Pairs
- Volumes
- Elastic IPs
- Launching an instance
- Logging into the instance

Unix Basics

- Process management
- User management

- Vi editor
- Date archival commands – tar,zip....
- Grep,cut,awk,sed,find
- File manipulation commands
- Cron job commands
- Admin commands – top,df,free,netstat,nslookup,ping,ifconfig,lsof,
- Yum,rpm,apt-get

Websaver basics

- Apache installation
- Important configuration files in apache
- Explaining different HTTP status codes
- Httpd.conf overview – directoryindex,document root,server root.
- Important directories(logs,modules,libraries)
- Single Website hosting
- Multi website hosting with virtual hosts

LAMP - Wordpress

- LAMP install
- Wordpress install
- Wordpress (multi) Website hosting with LAMP

RDS

- Creating your Database
- Setting up automatic backups
- Authorizing access to the DB via DB Security Groups
- Parameter Groups
- Snapshots
- Database migration from onpremise to cloud
- Database migration from Mysql to Aurora/maria DB
- Snapshot actions
- DR with multi availability zones.

Elastic load balancer

- Load balancer basics
- Classic and application load balancer
- Health check setup for load balancer
- Attaching instances to load balancers

Auto scaling

- Launch groups
- Scaling groups
- Scaling policies
- Autoscaling example
- Attaching autoscaling to load balancer

Elastic Block Storage

- Creating and deleting volumes
- Attaching and detaching volumes
- Creating Snapshots and Increasing root volume with snapshot
- Increasing volume sizes
- VM basics

Storage(S3):

- Creating and deleting buckets/objects
- Properties
- Permissions
- Storage policy
- Static website hosting
- Versioning
- Life cycle
- Glacier

Identity and Access Management (IAM)

- Users
- Groups
- Roles
- Policies
- Multi Factor Authentication
- Credentials reports
- Customized policy creation

Virtual Private Cloud(VPC)

- Creating VPC
- Subnets
- Route tables
- ACL's
- Internet Gateway
- Nat Gateway
- Launching instance in Public and private subnets

- VPC peering
- Open VPN setup

Route 53

- Hosted Zones
- Record sets
- Domain Registrations
- Configuring hostzones with external domains like freenok

Cloud formation

- Creating Templates
- Creating Change sets
- Creating Stacks
- Important attributes in cloud formation templates

Cloud watch

- Monitoring with Cloud watch
- Getting statistics for a specific EC2 instance
- Getting aggregated statistics
- Metrics for other AWS Services and related namespaces
- Setting up notifications

Simple Notification Services (SNS)

- Creation of a topic
- Subscribing to topic via Email
- Setting notification for EC2 instance changes

Simple Queue Service (SQS)

- Creation of a queue
- Sending messages to the queue
- Setting SNS to SQS
- Retrieving messages from SQS

Simple Email Services (SES)

- Setting up email domain
- Limits of SES
- Test Email setup

Elastic bean stalk

- Creating Stack
- Creating applications
- Pay around the stacks
- Versioning
- Logs and configuration

AWS CLI

- Launching AWS configuration
- Sample examples with AWS instance roles
- Profile vs role

Web Application Firewall(WAF)

- Sample example for providing security with WAF

Ansible

- Establishing trust with ssh keys
- Ansible installation
- Running remote commands using ansible
- Sample play book
- Yaml syntax

GIT

- Public and private repo creations
- Pull and push
- Creating local repo

Jenkins

- Install
- Configuration with GIT
- User administration
- Sample poll jobs

Monitoring Tools

- Nagios
- Cloud watch

