AWS (AMAZON WEB SERVICES)

Introduction to Cloud Computing
- What is Cloud Computing?
- Why Cloud?
- Types of Cloud Deployment Models
- Types of Cloud Services
- IaaS Vs. SaaS Vs. PaaS
- Future of Cloud Technologies
- Advantages and Disadvantages of Cloud
- Cloud Providers

Introduction to Amazon Web Services (AWS)
- What is AWS?
- How to Subscribe for AWS account
- What is the AWS Free Usage Tier
- AWS Certification
- Introduction to the AWS management Console
- List of services given by AWS

VM Creation in AWS
- Creating Windows VM
- Connecting to Windows VM using RDP
- Creating Linux VM
- Pem file & Ppk File
- Putty & Putty Gen
- MobaXterm
- Connecting to Linux VM using Putty

- Linux Introduction
- Linux Commands

Elastic Compute Cloud (EC2)
- What is Amazon EC2?
- Features of Amazon EC2
- Managing the EC2 infrastructure
- EC2 Dashboard
- Pricing for Amazon EC2
- EC2 instance Types
- EC2 Families

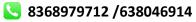## AWS Regions and Availability Zones
- Describing Regions
- Availability Zones, and Endpoints

Amazon Machine Image (AMI)
- Managing AWIs
- Working With Window, Linux AMIs
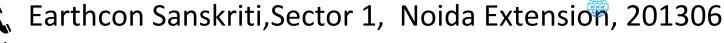- Shared and Paid AMI
- Making an AMI Public

EC2 Instances
- Instance Type
- Instance life cycle
- Differences between reboot, stop, and terminate
- Building an EC2 windows and linux instances
- To install instance in public and private subnet

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- Security via Key Pairs
- EC2 Class and VPC Security Groups
- Managing Elastic IP's
- Pricing model in EC2 instances
- EC2 with Amazon command line interface

Amazon Elastic Block Store (EBS)

- Features of Amazon EBS
- Amazon EBS volumes
- Managing EBS volumes
- Increasing the volume size
- Volume Mounting
- Amazon EBS snapshots
- Life Cycle Manager

Load Balancing (ELB)

- Creating a load balancer
- Internal and external load balancer
- Load balancing protocols
- Security groups for the load balancer
- Health check for the load balancer
- Cross-Zone load balancing
- Target groups
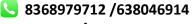- Microservices Load Balancing

Auto Scaling

- What is auto scaling
- Auto scaling componets
- Creation of launch configuration
- Configuration of auto scaling policies
- Advantages of using auto scaling with ELB

Network & Security

- Security Groups
- Inbound Rules
- Outbound Rules
- Elastic IPs
- Placement Groups
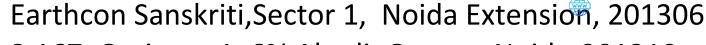- Key Pairs
- Network Interfaces

Amazon Virtual Private Cloud (VPC)

- What is Amazon VPC
- VPC Essentials
- Default and Non Default VPC
- VPC Networking and ACL
- Security Groups
- DNS and DHCP Options Sets
- VPC Peering and Endpoints
- Subnet Routing
- VPC Internet Gateway
- Elastic IP addresses and network interface
- VPC integration with many other AWS services
- Creating a NAT instance in a VPC
- Configuring a Web application in VPC
- Pricing for Amazon VPC

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Amazon Route 53

- Route 53 as your DNS service
- Using Traffic Flow
- Route 53 Health Checks
- Configuring DNS Failover
- Latency Based Routing
- Weighted Routing Policies
- Hosting web portal using Route 53
- Bucket Policies

Security & Identity Services Identity Access Management (IAM)

- IAM features
- Getting Started With IAM
- Creation of user, groups, role
- Managing & Writing policies
- Credential Report
- IAM Console and the Sign-in Page

Amazon S3

- What is object Storage
- Data as objects
- Lifecycles of S3
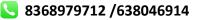- Managing Buckets
- Versioning
- Pre – Signed URL

- Bucket Policies
- Accessing S3 storage via tools
- Creation of a static website using S3 Storage

Relational Database Service (RDS)

- RDS Essentials
- Launching RDS instance
- Selecting the Engine
- Configuring the Database Engine
- Managing RDS Database
- Setting up automatic backups
- Authorizing access to the DB
- SQL Vs No SQL Database

Amazon Cloud Watch

- Amazon CloudWatch Architecture
- List of services monitored by CloudWatch
- Collect and track metrics
- Monitoring memory and disk Metrics
- Monitoring logs, Graphs
- Set Alarms

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Cloud Formation

- Building AWS infrastructure as a code

- Design a template

- Create a Stack

- Create a Template from your Existing Resources

- Introduction to JSON

Amazon Simple Email Service (SES)

- Simple email service overview

- Configuring Amazon email service

- Amazon SES and Deliverability

- Amazon SES Email – Sending Process

- Email format and Limits of SES

Amazon Simple Queue Service (SQS)

- Simple Queue service overview

- SQS for background work task

- Creating a Queue

- Confirming the Queue exists

- Add a permission to the Queue

Elastic Bean Stalk

- What is Platform as a Service

- Bean Stack Advantages

- EC2 vs Bean Stack

- EC2 Pricing

- Deploy Web Application using Bean Stack

Amazon Simple Notification Service (SNS)

- Simple Notification Service overview

- SNS architecture

- Publishers and subscribes

- Creation of a topic

- Subscribing to topic via email

- Setting notification for EC2 instance change

AWS Lambdas
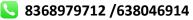
- What is Serverless Computing

- Advantage of Serverless Computing

- What is Lambda

- How to Create Lambda

- How to invoke Lambda

- Java App with Lambdas

Interview Guide

- Resume Preparation

- Frequently Asked Interview Questions

- Interview Tips & Tricks

- Certification Overview