

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
- Connecting to Linux VM using Putty
- Linux Introduction
- Linux Commands

Shell Scripting

- Overview of Shell Scripting
- Variables
- System Variables
- Command line arguments
- User Input
- Decision making
- Monitoring Script
- Loops, while Loops
- Remote Command Execution
- SSH Key Exchange

Elastic Compute Cloud (EC2)

- What is Amazon EC2?
- Features of Amazon EC2
- Managing the EC2 infrastructure
- EC2 Dashboard
- Pricing for Amazon EC2

AWS Regions and Availability Zones

- Describing Regions
- Availability Zones, and Endpoints
- Managing instances in an Availability Zone

Amazon Machine Images (AMI)

- Managing AMIs
- Working with Windows, 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
- 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
- Amazon EBS snapshots

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
- Connection Draining

Auto Scaling

- What is auto scaling?
- Auto scaling components

Advantages of auto scaling

- Creation of launch configuration
- Configuration of auto scaling policies
- Advantages of using auto scaling with ELB

Network & Security

- Security Groups
- Elastic IPs
- Placement Groups
- Key Pairs
- Network Interfaces

Networking Services

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 interfaces
- VPC integration with many other AWS services
- Creating a NAT instance in a VPC
- Configuring a Web application in VPC
- Pricing for Amazon VPC

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 Route53
- Bucket Policies

Security & Identity Services

Identity Access Management (IAM)

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

Storage & Content Delivery Services

Amazon S3

- What is object Storage?
- Data as objects
- Lifecycles of S3
- Managing Buckets
- Accessing S3 storage via tools
- Creation of a static website using S3 storage

Database Services

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

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

Cloud Formation

- Building AWS infrastructure as a code
- Design a template
- Create a Stack
- Create a Template from your Existing Resources
- Introduction to JSON

Application Services

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

Amazon Simple Notification Service (SNS)

- Simple Notification Service overview
- SNS architecture
- Publishers and subscribers
- Creation of a topic
- Subscribing to topic via Email
- Setting notification for EC2 instance changes.

Real-time Applications Deployments

- Deploying Java Spring Boot Application
- Deploying Python Application
- Deploying Angular Application
- Deploying React JS Application
- Deploying Node JS Application
- Deploying Docker Containers in AWS
- Deploying Fullstack (Spring Boot + Angular) Crud Operations Application

Interview Guide

- Resume Preparation
- Frequently Asked Interview Questions
- Interview Tips & Tricks
- Mock Interviews