



## Cloud Concepts

- Introduction to cloud computing
- Global Infrastructure
- Cloud Models-IaaS PaaS, AaaS
- Cloud Providers-AWS, AZURE, GCP, DELL, IBM.
- How cloud is different from the vendor services like (Controls S, Adani DC, Rackspace)
- Essential Characteristics of Cloud Computing
- Service Models in Cloud computing
- Deployment models in Cloud Computing
- Types of clouds available in the market and their Use cases
- Introduction to AWS
- AWS Account creation & free tier limitations overview

## Basic Infrastructure Understanding

- What are the different components required to build any infrastructure?
- Understand the inflow and outflow of architectures.
- The key components necessary to build the infra.

## Computing Services

- Introduction to AMAZON EC2
- Launching EC2 Instance Wizard with Windows and Linux OS
- EC2 Instance Types & Use cases
- What are the different families in EC2 and their use cases with an example (When to use in case of real time)
- Generating custom Public Key and Private keys for EC2 instances
- Security groups and its importance
- What is Volume and why it's required, and the respective snapshots.
- Amazon Data Lifecycle Manager (DLM)
- AMAZON Machine Images (AMI)
- Creating customized Amazon Machine Images
- User Data and Metadata
- EC2 troubleshooting.
- Elastic Load Balancers and its importance
- ALB, NLB, CLB and respective use cases.
- Integrating ELB with EC2 instances.

## Troubleshooting of ELB with an EC2 instance with different test cases.

- Creating Billing Alarm and EC2 instance alarms.
- Auto Scaling Groups
- Cloud Watch
- Elastic File System / FSx
- Elastic Beanstalk
- Placement Groups

## Identity & Access Management (IAM)

- Root Account vs IAM user
- User and Service Management
- Key Management Services
- Multi-Factor Authentication for Users and Root



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- Managing IAM Password Policies
- Creating the Groups and the respective use cases
- Creating Customer Managed Policies and In-line policies
- IAM role and working on Cross-Account role with refined trust policies.
- Policy generator
- Auditing User Activity

## Storage & Content Delivery

- What is Simple Storage Service (S3)
- Storage Classes
- Versioning
- Cross-region replication/Same Region replication
- Lifecycle Management
- Transfer Acceleration
- Security & Encryption
- KMS (Key Management Service)
- Static Web hosting with S3 bucket
- Events configuration on S3 buckets
- Enabling cross account access for S3.
- Pre-Signed URLs
- Storage Gateway

## Linux Introduction

- Basics of Linux for AWS
- Linux Installation and Basic commands overview
- Web Server and Services Configurations

## AWS Systems Manager

- Run Command
- Session Manager
- Patch manager
- Tag Editor and Resource Groups
- AWS Secrets Manager

## Route 53

- What DNS and its functionality
- DNS Record overview
- Purchasing and Creating hosted Zone in Route 53.
- Routing Policies
- Hosting sample Website and configuring Policies.
- o Simple RP
- o Weighted RP
- o Failover RP
- o Geo Location RP
- o Failover RP
- Integrating Route 53 with LB (R53+LB+EC2+Simple application)- building complete infra in Default network.



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## AMAZON VPC(VirtualPrivateCloud)

- VPC(Virtual private cloud)
- Private & Public subnets
- Calculating CIDR Blocks Internet Gateways
- Creating custom VPCs and custom Subnets
- Network ACL's
- Route Tables, IGW and NAT
- VPC Peering
- Network analysis using VPC Flow logs
- VPC Endpoints
- AWS Transit gateway
- VPN Configuration with AWS (OpenVPN/Site-to-site VPN)
- Placement Groups

## Databases on AWS

- Introduction to AMAZON RDS
- RDS Instances (MySQL, MSSQL & Aurora)
- Setting up Multi-AZ
- Optimizing RDS Performance
- Integrating a Database with EC2 to access the storage.

## Security Options:

- AWS Config
- Key Management Services
- AWS Inspector
- AWS Trusted Advisor & Cloud Trail
- AWS Global Accelerator
- Content Delivery Networks/CloudFront
- AWS Shield and WAF (Web Application Firewall)

## Application Services

- Introduction to AWS Lambda
- Serverless Computing cases and use cases
- Creating and Deploying Lambda functions
- AMAZON API Gateway Overview
- Creating RESTFUL APIs with API Gateway
- Simple Queue Service
- Simple Notification Service
- AWS Simple Monthly Calculator

## Migration Services

- SMS-Server Migration Service (Migrating server from on-premises to cloud)
- DMS-Database Migration Service

## Monitoring on AWS:

- AWS Budgets
- AWS Cost Explorer
- Creating Custom Metrics with Cloud Watch



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## **AWS Multi Account Management**

- AWS Organizations
- Amazon Single Sign-On

## **How to secure the infra after implementations**

- Protect the infra from DDOS attacks.  
Blocking the malicious/Unwanted traffic

## **Certification**

Upon successfully finishing the course, you will be awarded course completion certificate. The certificate supports that you have completed the course and acquired the necessary expertise and knowledge covered in the curriculum. It serves as a valuable credential to showcase your achievement and enhance your professional profile.



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