

Objectives

- Core infrastructure services discussion
- Ensure data integrity and data security on AWS technology
- Formulate solution plans and provide guidance on AWS
- Design and deploy scalable, highly available, and fault tolerant systems on AWS
- Decipher the inbound and outbound of data to and from AWS
- Select the appropriate AWS service based on data, compute, database, or security requirements
- Estimate AWS costs and identify cost control mechanisms
- Identify the lift and shift of an existing on-premises application to AWS
- AWS Architecture best practices

Modules of the course

- Module 01 : Cloud Computing Overview
- Module 02 : AWS Overview
- Module 03 : Identity and Access Management
- Module 04 : Amazon Simple Storage Service (S3)
- Module 05 : Linux Introduction
- Module 05 : Elastic Compute Cloud (ec2)
- Module 05 : Networking Basics
- Module 06 : Virtual Private Cloud (VPC)
- Module 07 : Amazon Relational Database
- Module 08 : Amazon Route 53
- Module 09 : Security Services
- Module 10 : Application Services
- Module 11 : Amazon CDK and Command Line Interface
- Module 12 : High Availability and Disaster recovery solutions
- Module 12 : Migration Solutions (Server and Database)
- Module 13 : Hybrid Environment solutions

Prerequisites

- Absolute Beginners. No prior AWS experience is necessary.
- Previous System Administration/ Development knowledge would be an added advantage.
- Cloud Computing enthusiasts

AWS Course Content

Introduction to Cloud Computing

- Introduction to cloud computing
- Essential Characteristics of Cloud Computing
- Service Models in Cloud computing
- Deployment models in Cloud Computing
- Introduction to AWS
- AWS Account creation & free tier limitations overview

Identity Access Management

- Root Account Vs IAM user
- Multi Factor Authentication for Users
- IAM Password Policies
- Creating Customer Managed Policies.
- Policy generator
- Auditing User Activity

Storage

- What is Simple Storage Service (S3)
- Storage Classes
- Versioning
- Cross-region replication / Same Region replication
- Life Cycle Management

- Security & Encryption
- KMS (Key Management Service)
- Static Webhosting with S3 bucket
- Events configuration on S3 buckets
- Enabling cross account access for S3
- S3 Data management and backup using 3rd Party applications.
- Pre-Signed URLs
- Storage Gateway
- Direct Connect and AWS Snowball

Linux Introduction (Free Course)

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

Compute

- EC2 Instance Launch Wizard with Windows and Linux OS
- EC2 Instance Types
- Generating custom Public Key and Private keys for EC2 instances
- Security groups
- Volumes and Snapshots

- Amazon Data lifecycle manager (DLM)
- Creating customised Amazon Machine Images
- User Data and Metadata
- Elastic Load Balancers
- Creating Billing Alarm and EC2 instance alarms.
- Auto Scaling Groups
- CloudWatch
- Amazon Eventbridge
- Elastic File System / FSx
- Elastic Beanstalk
- Placement Groups
- AWS CLI and IAM Roles

AWS Systems Manager

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

Route 53

- DNS Records overview
- Routing Policies
- Hosting sample Website and configuring Policies.
 - Simple RP
 - Weighted RP
 - Failover RP
 - Geo Location RP
 - Failover RP

VPC (Virtual Private Cloud)

- Networking Basics
 - Public IPs & Private IPs
 - CIDR Range
 - Subnet Calculations
- Creating custom VPCs and custom Subnets
- Network ACL's
- Route Tables & IGW
- VPC Peering
- Flowlog creation to S3 and Cloudwatch Logs Group
- VPC Endpoints

- AWS Transit gateway
- VPN Configuration with AWS (OpenVPN/Site-to-site VPN)

Databases

- Launching a RDS Instances (MySQL, MSSQL & Aurora)
- Multi-AZ & Read Replicas for RDS instances
- DynamoDB
- Redshift and ElastiCache overview
- Database Migration Service

Security Options:

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

Application Services

- Simple Email Service
- Simple Queue Service
- Simple Notification Service
- Directory Services and Adding EC2 instance to Domain
- AWS Simple Monthly calculator

Migration Services

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

DevOps Tools Overview

- What is DevOps in Cloud
- Code Pipeline
- Code Commit
- Code Deploy
- Lambda
- Cloudformation
- Amazon ECS with Fargate (Elastic Container Service)
- AWS Backup

Monitoring on AWS:

- AWS Budgets
- AWS Cost Explorer
- Creating Custom Metrics with CloudWatch

AWS Multi Account Management

- AWS Organizations
- Amazon Single Sign-On

Amazon White Papers review

Quiz and Scenario based questions discussion

Resume Key Points and AWS Certifications overview

Certification Exam Question while discussing topics