

Module 1 :

Introduction to Cloud Computing and AWS

Understanding Cloud Computing

Different Cloud Service and Deployment Models

Why AWS is a Leading Provider in the Cloud Industry

An Overview of AWS Cloud Services

Exploring AWS S3, EC2, VPC, EBS, ELB,

AMI Understanding AWS Architecture

Navigating the AWS Management Console and Virtualization with Xen Hypervisor

Auto-scaling in AWS Environment

Best Practices and Cost Management for AWS EC2.

Module 2 :

Elastic Compute and Storage Volumes

Getting Started with EC2

Understanding AWS Regions and Availability Zones

Exploring EC2 Instance Types

Differentiating between Public IP and Elastic IP

Launching an AWS EC2 Instance

Introduction to AMIs and Creating/Copying AMIs

Understanding EBS and Its Volume Types

Working with EBS Snapshots

Introduction to EFS (Elastic File System)

Reserved and Spot Instances, Instance Tenancy

Cost Management and Design Patterns for EC2

Module 3 :

Load Balancing, Auto-scaling, and DNS

Introduction to Elastic Load Balancer (ELB)

Exploring Different Types of ELB: Classic, Network, and Application

Understanding Load Balancer Architecture

Implementing Auto Scaling: Vertical and Horizontal Scaling

Auto Scaling Life-cycle and Components

Using Load Balancer with Auto Scaling

Routing Policies, Route 53 Terminology, and Pricing

Module 4 :

Virtual Private Cloud

Understanding Amazon VPC

Using VPC as a Networking Layer for EC2

IP Addressing and CIDR Notations

Components of VPC: Network Interfaces, Route Tables, Internet Gateway, NAT

Security Measures in VPC: Security Groups and NACL

Exploring Different Types of VPC VPC Peering Scenarios and Endpoints

Pricing and Design Patterns for VPC

Module 5 :

Storage - Simple Storage Service (S3)

Introduction to AWS Storage Services

Understanding S3 API and Consistency Models

Exploring Storage Hierarchy and S3 Buckets

Managing Objects in S3: Metadata, Storage Classes

Implementing Object Versioning and Life-cycle Management

Cross-Region Replication and Data Encryption

Connecting to S3 Using VPC Endpoint

Module 6 :

Databases and In-Memory Data Stores

Overview of Database Types and AWS Database Services

Introduction to Amazon RDS (Relational Database Service)

Multi-AZ Deployments and RDS Features

Understanding Read Replicas and Reserved DB Instances

Introduction to Amazon Aurora: Benefits and Pricing

Exploring DynamoDB: Components and Pricing

Module 7 :

Management and Application Services

Introduction to CloudFormation

Components and Templates of CloudFormation

Understanding Infrastructure-as-Code Concept

Exploring Simple Notification Service (SNS)

Introduction to Simple Email Service (SES) and Simple Queue Service (SQS)

Module 8 :

Access Management and Monitoring Services

Understanding Amazon Resource Names (ARN) and IAM Features

Multi-factor Authentication (MFA) and JSON in IAM

IAM Policies, Permissions, and Roles

Introduction to CloudWatch: Metrics, Alarms, Logs

Exploring CloudTrail for Tracking API Usage.

Module 9 :

Automation and Configuration Management

Overview of AWS Lambda and Its Benefits

Comparing Lambda with EC2 and Use Cases

Integrating S3 with Lambda Functions

Introduction to Elastic Beanstalk and Configuration Management

Understanding AWS OpsWorks: Benefits and Services

Module 10 :

AWS Migration

Cloud Migration Strategies

The 6 R's Migration Strategy

Virtual Machine Migration to AWS Cloud

Using Database Migration Service (DMS) for Database Migration