**Module 1: Cloud Introduction**

What is Cloud Computing and why we required?

Comparison with Other clouds?

Basic understating of Linux along with other OS.

What is AWS?

AWS Global Infrastructure

AWS subscriptions, Management group’s explanation

AWS regions, Availability zones.

Briefing about all AWS services

The AWS portal, the AWS CLI, Logging in to AWS portal.

**Module 2: Cost Management**

General AWS Pricing

AWS Cost Management

Cost Explorer

Billing Management

**Module 3: Compute Section**

1. What is an AMI?
2. EC2 Features- User Data, Meta Data, Pricing Models, Placement Groups
3. Demo: Launching Linux, Windows EC2 instance
4. EC2 Instance types and families
5. Amazon Machine Images (AMI)
6. ENI – Elastic network interface
7. User data
8. EC2 Lifecycle – Shutdown and termination
9. Public and Elastic IPs
10. Auto scaling groups"

**Lab 1: Creating EC2, Updating and Resizing, Accessing metadata**

1. **EBS Volume Creation**
2. **EBS Types**
3. **EBS Use cases**

**Lab 2: Creating EBS Volume, attaching and resizing the volume.**

**Lab 3: Creating Ec2 instance and install apache on the server.**

**Module 4: Security - AWS Identity and Access Management**

1. IAM

Root Account, IAM Roles(Cross account, service to service, federation) and policies

Organizations

Control Tower

Service Catalog  
Best Practices

**Module 5: Building Decoupled Architectures**

1. SNS

**Lab 4: Demo of SNS**

**Module 6: Storages**

1. Types of Storages in AWS  
   S3 Introduction

S3 Features-Versioning, CRR, Storage Classes

Glacier

Choosing Regions

Static Web Hosting

**Lab 5: S3 Object Upload, Versioning, Encryption and Bucket Policy, Replication**

**Module 7: Database**

SQL and NO SQL db comparison

RDS

DynamoDB

Aurora

**Lab 6: Real time database failover nodes demo**

**Module 8: Cloud Networking**

Networking Basics

CIDR

Nat gateway

VPC Patterns

Public & Private Subnets

Gateways & Route Tables

NACLs and SGs

**Lab 7: Create a VPC with Public and Private Subnets and place a RDS instance in it.**

**Module 9: Advanced Networking**

VPC Peering & Endpoints

Route 3

Load Balancer

Reverse Proxy Servers

**Module 10: Elasticity, High Availability and Monitoring**

CloudTrail

CloudWatch

CloudWatch Logs, Events, Metrics

Auto Scaling Policies

**Lab 6 : Cloud watch Integration with Ec2 instance and also with 3rd party tool Grafana.**

**Module 11: Automation**

1. CloudFormation
2. Elastic Beanstalk

**Lab 7: Creating an infrastructure using CloudFormation**

**Module 12: Serverless Architectures**

1. Lambda

API Gateway

**Lab 8:** Image processing by triggering Lambda Functions from **S3.**

**Module 13: Caching**

1. CloudFront

ElastiCache

Memcached vs Redis

**Module 14 : Security on AWS**

AWS WAF

AWS Shield

**Module 15: Devops on AWS & Microservices**

Explanation of Monolithic and Devops culture.  
Introduction to Devops

SDLC Life Cycle  
Version Control with CodeCommit  
CodeBuild  
CodeDeploy Deployment Strategies  
CodePipeline  
VM & Containers  
ECS & EKS

**Lab 9: Setting up Github account and basic tasks.**

**Lab 10: Setting up a CI/CD Pipeline on AWS**

**Module 16: AWS Cloud Practitioner Exam Preparation.**