



AWS – Solution Architect (AWS SA) Course Details:

I. Introduction to AWS

- a. AWS Architecture
- b. AWS Management Console
- c. Setting up of the AWS Account

II. VPC (Virtual Private Cloud)

- a. Understanding & Configuring VPC
- b. Configuring Subnet & extracting N/W's out of VPC
- c. Configuring Route Table
- d. Understanding & Configuring Internet Gateway for VPC
- e. Egress only Internet Gateway
- f. NAT Gateway/NAT Instance Configuration
- g. DHCP option set
- h. Elastic IP
- i. Network access list
- j. VPC Peering
- k. Endpoint
- l. Egress Only Internet Gateways

Hands On Lab Practise:

1. Creating VPC
2. Create an 2nd Route Table for 2nd Subnet
3. Creating NAT GW with EC2 instances in public and private subnets
4. Login to EC2 Private VM02 from Public VM01
5. Creating Network with instance only in the IPV6 env.
6. Creating a setup to communicate with 2 different VPC over a Region.

III. EC2 Cloud Compute services

1. Launching the Instance AMI
2. Configuring Security Groups
3. Understanding Security Key pair
4. Configuring N/W Interfaces
5. Understanding and Configuring dedicated Host
6. Understanding Different Instance types

Hands On Lab Practise:

1. Create EC2 instance and login via tools like Xshell and Putty
2. Practice for recommending customers for On-Demand or Reserved Instance

IV. VPN Connections

- a. Customer Gateway
- b. VPG Gateways & VPN Connections

Hands On Lab Practise:

1. Create an VPN setup from one Region of AWS to Another Region VPC over the internet

V. Storage & Content Delivery

- a. S3 Bucket Configuration & Implementation
- b. Static Web Hosting via S3 Bucket
- c. S3 bucket policy
- d. EBS



- e. Cloud front Configuration
- f. Understanding & Implementing Glacier Versioning S3
- g. Understanding Functionality Snow ball Migrations

Hands On Lab Practise:

1. Create an S3 bucket with versioning and upload the file twice
2. Make an S3 bucket as Static web Hosting location
3. Configure an S3 replication to another AWS Account
4. Configure S3 to push the objects to Glacier and then Expire it.

VI. Route 53

- a. Traffic Management
- b. DNS Management
- c. Traffic Policy & Endpoint
- d. Domain Name Registration

Hands On Lab Practise:

1. Create an Domain (if Possible)
2. Create an Traffic policy with “Geolocation” – Latency — Failover

VII. Management Tools

- a. Understanding Integrated Features of Cloud watch
- b. Configuring Alarms & Cloud watch-based actions

Hands On Lab Practise:

1. Create an Cloud Watch Dashboard
2. Create alarms for CPU and Disk utilization
3. Create Event
4. Collect logs and analyse it

VIII. Security Identify & Compliances

- a. Identify & Access Management
- b. Policy creation
- c. Roles creation
- d. CLI access

Hands On Lab Practise:

1. Create an IAM user access for console and CLI access
2. Create IAM policy for 4 to 5 Scenarios
3. Create Roles for accessing S3 from EC2.
4. Create json files to create EC2, VPC and other aws services via CLI access

IX. Auto Scaling & ELB

- a. Configuring Auto Scaling & Creating Cloud watch for Optimization
- b. Creating Load Balancing with application & Classic Load Balancers

Hands On Lab Practise:

1. Create Loadbalancer with 2 EC2 instance behind it for hosting an website.
2. Create Autoscaling Group for hosting an application
3. A Lab with LoadBalancer with Autoscaling for a scalable website Hosting.

X. Databases

- a. RDS
- b. Dynamo DB

Hands On Lab Practise:

1. A LAB on MYSQL DB
2. A LAB on Dynamo DB configured with an website form



XI. Serverless Functions

- a. Lambda
- b. Redshift
- c. EMR
- d. ElastiCache

XII. Elastic Beanstalk

- a. Concepts,
- b. Configuration
- c. Implement Env with sample code
- d. Use Case

Hands On Lab Practise:

- 1. Implement Env with sample code and upgrade the same
- 2. Implement 2 Env, one for Dev , another for Prod and swap the links

XIII. Cloud Formation

- 1. Management Tools
 - a. Basic Concepts of CloudFormation
 - b. Practice Assignment: Cloud Formation
- 2. Deployment and Provisioning
 - a. CloudFormation: Terminology
 - b. CloudFormation: Structure of the template
 - c. CloudFormation: Working with Stacks
 - d. CloudFormation: Ref functions
 - e. CloudFormation: Parameters
 - f. CloudFormation: Init and User Data
 - g. CloudFormation: Creating Base templates
 - h. CloudFormation: Troubleshooting templates

XIV. Infrastructure as Code with Terraform

Learning Objectives:

In this module, you will learn to install and configure Terraform. Additionally, understand the architecture in Terraform.

Topics:

- i. Introduction to Terraform
- j. Terraform Architecture
- k. Terraform Concepts
- l. Providers , Resources, Data, Provisioner, Variable, Output, Interpolation
- m. Terraform CLI
- n. Terraform Modules
- o. Resource Graph
- p. Terraform Registry

Hands On/Demo:

- a. Terraform Installation
- b. On Windows and LINUX
- c. Configure Server using Terraform Env
- d. Terraform Modules LABs

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