

# Aws Solution Architect Associate

## Module 1 - Introduction to the course

- Introduction
- Why Should I Learn and Get Certified with AWS
- Cafe Business Case Introduction
- Roles in Cloud Computing

## Module 2 - Introduction to Cloud Architecting

- Introducing Cloud Architecting
- The AWS Well Architected Framework
- Best Practices for Building Solutions on AWS
- AWS Global Infrastructure

## Module 3 - Compute Layer

- Ec2 (Introduction)
- Launch our First Ec2 Instance Part-1 *Practical-Lab*
- Launch our First Ec2 Instance Part-2 *Practical-Lab*
- Security Group – *Practical-Lab*
- EBS (Introduction)
- EBS Volume and Snapshots – *Practical-Lab*
- AMI Types (EBS bs Instance Store)
- ENI vs ENA vs EFA (*New*)
- Encrypted Root Device Volume and snapshot *Practical-Lab*
- Spot Instance and Spot Fleets (*New*)
- Ec2 hibernate (*New*)
- CloudWatch (Introduction)
- CloudWatch- *Practical-Lab*
- AWS Command Line (CLI)- *Practical-Lab*
- Identity and Access Management Roles - *Practical-Lab*
- Using bootstrap Scripts- *Practical-Lab*
- Instance Metadata – *Practical-Lab*
- EFS -Lab (*New*)
- Amazon FSX for windows and Amazon FSX for Lustre (*New*)
- Ec2 Placement Group
- HPC on AWS (*New*)

## Module 4 - Storage layer

- S3 (Introduction)
- Create an S3 Bucket - *Practical-Lab*
- S3 Pricing Tiers (*New*)
- S3 Security and Encryption
- S3 Versioning - *Practical-Lab*
- Lifecycle Management with S3 - *Practical-Lab*
- S3 Object Lock and Glacier Vault Lock (*New*)
- S3 Performance (*New*)

- S3 Select and Glacier Select (New)
- AWS Organizations and Consolidated Billing (New)
- Sharing S3 Buckets Across Accounts - Lab (New)
- Cross-Region Replication - *Practical-Lab*
- S3 Transfer Acceleration
- AWS DataSync (New)
- Snowball
- Snowball - *Practical-Lab*
- Storage Gateway
- Athena vs. Macie (New)
- Creating a Static Website Using Amazon S3

## Module 5 - Database Layer

- Databases (Introduction)
- Let's Create Our First RDS Instance - *Practical-Lab*
- RDS: Backups, Multi-AZ, and Read Replicas
- RDS: Backups, Multi-AZ, and Read Replicas - *Practical-Lab*
- DynamoDB
- Advanced DynamoDB *Practical-Lab* (New)
- Redshift
- Aurora (New)
- ElastiCache
- Database Migration Service (DMS) (New)
- Caching Strategies on AWS (New)
- EMR Overview (New)
- Databases Summary
- Deploying an Amazon RDS Multi-AZ and Read Replica in AWS

## Module 6 - Securing User and Application Access

- Identity and Access Management (Introduction)
- Identity and Access Management - *Practical-Lab*
- Create a Billing Alarm - *Practical-Lab*
- AWS Directory Service (New)
- IAM Policies - *Practical-Lab* (New)
- AWS Resource Access Manager (RAM) (New)
- AWS Single Sign-on (New)
- Advanced IAM Summary (New)

## Module 7 - Creating a Networking Environment

- VPC (Introduction)
- Create Your Own Custom VPC: Part 1 - *Practical-Lab*
- Create Your Own Custom VPC: Part 2 - *Practical-Lab*
- NAT Instances and NAT Gateways - *Practical-Lab*
- Network Access Control Lists vs. Security Groups - *Practical-Lab*
- Custom VPCs and ELBs - *Practical-Lab*

- VPC Flow Logs - *Practical-Lab*
- Bastions - *Practical-Lab*
- AWS Network Costs (New)
- Working with AWS VPC Flow Logs for Network *Practical-Lab*
- Creating a Basic VPC and Associated Components in AWS *Practical-Lab*

## **Module 8 - Connecting Networks**

- Setting Up Direct Connect (New)
- WC Endpoints (New)
- Direct Connect
- Point to site VPN Connection.
- Site to Site VPN Connection.
- AWS Private-Link (New)
- AWS Transit Gateway (New)
- AWS VPN Cloud-Hub (New)

## **Module 9 - Implementing Elasticity, high availability**

- Elastic Load Balancer (Introduction)
- Load Balancers and Health Checks - *Practical-Lab*
- Advanced Load Balancer Theory (New)
- Auto-scaling (New)
- Launch Configurations and Auto Scaling Groups - *Practical-Lab*
- HA Architecture
- Building a Fault-Tolerant WordPress Site: Getting Set Up - *Practical-Lab*
- Building a Fault-Tolerant WordPress Site: Setting Up EC2 - *Practical-Lab*
- Building a Fault-Tolerant WordPress Site: Adding Resilience and Auto Scaling
- Building a Fault-Tolerant WordPress Site: Cleaning Up - *Practical-Lab*
- Building a Fault-Tolerant WordPress Site: *Practical-Lab*
- Elastic Beanstalk
- High Availability with Bastion Hosts (New)
- On-Premises Strategies with AWS (New)

## **Module 10 - Caching Content and global Delivery**

- CloudFront (Introduction)
- Create a CloudFront Distribution - *Practical-Lab*
- CloudFront Signed URLs and Cookies (New)

- Global Accelerator **(New)**
- DNS (Introduction)
- Register a Domain Name - **Practical-Lab**
- Route 53 Routing Policies Available on AWS
- Route 53: Simple Routing Policy - **Practical-Lab**
- Route 53: Weighted Routing Policy - **Practical-Lab**
- Route 53: Latency-Based Policy - **Practical-Lab**
- Route 53: Failover Routing Policy - **Practical-Lab**
- Route 53: Geolocation Routing Policy - **Practical-Lab**
- Route 53: Geo-proximity Routing Policy (Traffic Flow Only)
- Route 53. Multi-value Answer Policy - **Practical-Lab**

## Module 11 - Building Decoupled Architecture

- SOS **(New)**
- Simple Workflow Service
- Simple Notification Service - **Practical-Lab**
- Elastic Transcoder
- Kinesis (Introduction) **(New)**
- Web Identity Federation and Cognito
- Event Processing Patterns **(New)**
- Applications Summary
- scaling EC2 Using SOS

## Module 12 - Security layer

- Reducing Security Threats **(New)**
- Key Management Service (KMS) **(New)**
- Cloud-HSM **(New)**
- Systems Manager Parameter Store **(New)**
- Secrets Manager **(New)**
- AWS Shield **(New)**
- Web Application Firewall (WAF) **(New)**

## Module 13 - Building Micro-services and serverless architecture

- Introducing Microservices
- Lambda - **Practical-Lab**
- API Gateway - **Practical-Lab**
- Build a Serverless Web Page with API Gateway and Lambda - **Practical-Lab**
- Let's Build a Thumbnail image Generator. - **Practical-Lab**
- Serverless Application Model (SAM) **(New)**
- Building Microservice Applications with AWS Container Services **(New)**
- Elastic Container Service (ECS) **Practical-Lab (New)**

## Module 14 - Planning for Disaster

- Planning for Disaster

- Part 1: Disaster Planning Strategies
- Part 2: Disaster Planning Strategies
- Part 3: Disaster Planning Strategies
- Part 1: Disaster Recovery Patterns
- Part 2: Disaster Recovery Patterns
- Lab - Hybrid Storage and Data Migration with AWS Storage Gateway File Gateway