



# **AWS Solution Architect Associate Certification Syllabus**

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### **Lesson 1: AWS Overview**

The lesson will provide users with a history and background of AWS along with an overview of all products and services that are offered.

- Description of AWS
- History and Evolution of AWS
- Overview of AWS Products and Services

### **Lesson 2: Designing highly available, cost-efficient, fault-tolerant, scalable systems**

The lesson will help users understand why designing cloud infrastructure is different than for traditional on-premise data centers and will cover AWS concepts, recommendations and best practices about how to build cloud systems.

- How to Design Cloud Services
- Planning and Designing
- Monitoring and Logging
- Hybrid IT architectures
- Practice Assignment: Designing Hybrid Storage

### **Lesson 3: Identity and Access Management (IAM)**

The lesson will provide users with information about how to control and secure user access to your AWS resources using the AWS Access and Identity Management service.

- IAM Overview
  - IAM Policies
  - IAM Users
  - IAM Groups
  - IAM Roles
  - IAM best practices
  - Practice Assignment: Configuring IAM Access
  - Demos Included
1. Creating an IAM Policy
  2. Creating an IAM User
  3. Creating an IAM Group

#### 4. Creating an IAM Role

### **Lesson 4: Amazon Virtual Private Cloud (VPC)**

The lesson will provide users with details of Amazon Virtual Private Cloud, which allows the creation of custom cloud based networks. Users will become familiar all concepts of VPC, for example subnets, Internet Gateways, etc.

- Amazon VPC Overview
- Amazon VPC
- IP Addresses
- Subnets
- Internet Gateway
- Route Tables
- NAT Devices
- Security Groups
- Network ACL's
- VPC Best Practices
- Practice Assignment: Designing a Custom VPC
- Demos Included:
  1. Creating a custom VPC
  2. Creating an Elastic IP Address
  3. Creating Subnets
  4. Creating Internet Gateways
  5. Creating Route Tables
  6. Creating a NAT Gateway
  7. Creating a Security Group
  8. Network ACL Overview

### **Lesson 5: Elastic Cloud Compute- EC2**

The lesson will help users understand what the EC2 service is and its many uses. Users will learn the EC2 launch process and will understand how storage, snapshots, Elastic Load Balancing and Auto Scaling all operate together. The lesson will also provide an overview of the other compute services that AWS offers.

- Cloud Computing with AWS
- Amazon EC2 Overview
- Amazon Machine Images(AMI)
- EC2 Instance Types
- Amazon Elastic Block Store (EBS)
- EC2 Pricing
- Elastic Load Balancing (ELB)
- Auto Scaling
- AWS Services
- Amazon Elastic Container Service
- EC2 Best Practices and Costs
- Practice Assignment: Configure ELB not started
- Demos Included:
  1. Launch and connect to an EC2 Linux instance
  2. Launch and connect to an EC2 Windows instance
  3. Create an AMI
  4. EC2 Instance Types
  5. Attaching EBS Volumes
  6. EBS and Raid 0
  7. EBS Snapshots
  8. EC2 Spot Pricing
  9. Elastic Load Balancing
  10. Auto Scaling
  11. AWS CLI

### **Lesson 6: Amazon Simple Storage Service (S3)**

The lesson will help users understand the many uses, types and concepts of Amazon S3 storage and how it can be integrated with CloudFront and Import/Export services.

- Amazon S3 Overview
- S3 Buckets

- Version Control
- Amazon S3 Lifecycle Management
- CloudFront and CDNs
- Security and Encryption
- Import/Export & Snowball
- Amazon S3 Best Practices
- Amazon S3 Costs
- Practice Assignment: Create an Amazon S3 bucket
- Demos Included:
  1. Create and access an Amazon S3 Bucket
  2. Amazon S3 Version Control
  3. Amazon S3 Lifecycle Management
  4. Amazon CloudFront
  5. Security and Encryption

### **Lesson 7: Route53**

The lesson will provide users with an overview of the Amazon DNS service; Route 53. Users will be introduced to the concepts and uses of Route 53 and will learn how it can be used to host your own domain names.

- Amazon Route 53 Overview
- Amazon Route 53 and DNS
- Route 53 Routing Policies
- Route 53 best practices
- Route 53 costs and prices
- Practice Assignment: Amazon Route 53 Hosted Zone
- Demo Included:
  1. Route 53 Hosted Zones Demo

### **Lesson 8: Databases**

The lesson will help users understand all the different types of database that are available in today's IT environment and will demonstrate the services that AWS provides to simplify database administration, management and migration.

- Databases Overview
- Amazon Relational Database Service (RDS)
- AMI Databases
- Amazon DynamoDB
- Amazon Redshift
- Amazon ElastiCache
- Amazon Aurora
- AWS Database Migration Services (DMS)
- Databases best practices
- Databases costs
- Practice Assignment: Amazon RDS
- Demos Included:

1. Amazon RDS
2. Launching databases from an AMI
3. Amazon DynamoDB

### **Lesson 9: Application Services**

The lesson will inform and demonstrate to users how Amazons suite of Application Services can be used to integrate your AWS resources and will tie together concepts learnt in previous lessons about designing cloud services.

- Simple Queue Service-SQS
- Simple Workflow Service-SWF
- Simple Notification Service-SNS
- Elastic Transcoder
- Application Services best practices
- Application Services costs
- Practice Assignment: Amazon SNS
- Demo Included

1. Amazon SNS

## **Lesson 10: Security Practices for Optimum Cloud Deployment**

The lesson will show users the measures that AWS takes to secure its cloud resources and what your responsibilities are in the AWS Shared Responsibility Model. The lesson will also demonstrate the AWS services available to help you secure your environment.

- AWS shared responsibility model
- AWS platform compliance
- AWS security attributes
- AWS CloudTrail
- AWS CloudWatch
- Trusted Advisor
- Incorporating common conventional security products
- AWS CloudFormation and Design patterns
- Practice Assignment: AWS CloudWatch
- Demos Included:
  1. Amazon CloudWatch
  2. Trusted Advisor
  3. AWS CloudFormation

## **Lesson 11: Disaster Recovery**

The lesson will demonstrate to users the importance of Disaster Recovery and will highlight some of the products and services that AWS offers to assist you in creating Disaster Recovery compliant environments.

- Overview of Disaster Recovery
- Using AWS products for Disaster Recovery
- Practice Assignment: Disaster Recovery

## **Lesson 12: Troubleshooting**

The lesson shows users where to look for assistance when they need AWS information and support.

- AWS Support
- Typical AWS Problems

### **Lesson 13: AWS Solutions Architect Exam**

The lesson informs users about how to register for the exam and its requirements. Users will also learn some study and exam tips.

- Overview of AWS Solutions Architect Exam
- Study tips
- Review Topics