

## AWS دوره مهندسی شبکه

This course is a combination of two courses: AWS Certified Cloud Practitioner (CLF-C02) and AWS Certified Solutions Architect – Associate (SAA-C03).

### آنچه خواهید آموخت

#### Cloud Practitioner:

- Explain the value of the AWS Cloud.
- Understand and explain the AWS shared responsibility model.
- Understand security best practices.
- Understand AWS Cloud costs, economics, and billing practices.
- Describe and position the core AWS services, including compute, network, database, and storage services.
- Identify AWS services for common use cases.
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#### Solution Architect:

- Knowledge and skills in compute, networking, storage, and database AWS services as well as AWS deployment and management services
- Knowledge and skills in deploying, managing, and operating workloads on AWS as well as implementing security controls and compliance requirements
- Knowledge and skills in using the AWS Management Console and the AWS Command Line Interface (CLI) Understanding of the AWS Well-Architected Framework, AWS networking, security services, and the AWS global infrastructure
- Ability to identify which AWS services meet a given technical requirement and to define technical requirements for an AWS-based application

### سرفصل ها

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## **Cloud Practitioner Course**

### **Domain 1: Cloud Concepts**

Define the benefits of the AWS Cloud.

What is Cloud Computing?

What is a Client–Server Model?

Deployment Models for Cloud Computing

Benefits of Cloud Computing

Understanding the advantages of high availability, elasticity, and agility

Understand the benefits of and strategies for migration to the AWS Cloud.

Interacting with AWS

AWS Global Infrastructure

AWS Cloud Adoption Framework (AWS CAF)

Migration Strategies

AWS Snow Family

Innovation with AWS

The AWS Well–Architected Framework

### **Domain 2: Security and Compliance**

Create an AWS Account

Protect the AWS Root User

Understand the AWS shared responsibility model.

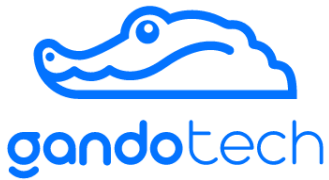
Security and the AWS Shared Responsibility Model

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Introduction to AWS Identity and Access Management

Role Based Access in AWS

Following IAM Best Practices

User Permission and Access

AWS Organizations

Compliance

Denial-of-Service Attacks

Additional Security Services

### **Domain 3: Cloud Technology and Services**

Identify AWS compute services.

Amazon Elastic Compute Cloud (Amazon EC2)

Amazon EC2 Instance Types

Amazon EC2 Pricing

Scaling Amazon EC2

Elastic Load Balancer

Directing Traffic with Elastic Load Balancing

Messaging and Queuing

Monolithic Applications and Microservices

Amazon Simple Notification Service (Amazon SNS)

Amazon Simple Queue Service (Amazon SQS)

Additional Compute Services

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Serverless Computing

Identify AWS database services.

Amazon Relational Database Service (Amazon RDS)

Amazon DynamoDB

Comparing Amazon RDS and Amazon DynamoDB

Amazon Redshift

AWS Database Migration Service (AWS DMS)

Additional Database Services

Identify AWS network services.

Regions

Selecting a Region

Availability Zones

Edge Locations

How to Provision AWS Resources

AWS Elastic Beanstalk and AWS CloudFormation

Connectivity to AWS

Subnets and Network Access Control Lists

Global Networking

Identify AWS storage services.

Instance Stores and Amazon Elastic Block Store (Amazon EBS)

Amazon Simple Storage Service (Amazon S3)

Comparing Amazon EBS and Amazon S3

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Amazon Elastic File System (Amazon EFS)

Identify AWS artificial intelligence and machine learning (AI/ML) services and analytics services.

AWS Data Lake Related Services

Amazon S3

AWS Glue Data Catalog

Amazon S3 and Glue Data Catalog

AWS Services Used for Data Movement

AWS Services for Data Processing

AWS Services for Analytics

AWS Services for Predictive Analytics and Machine Learning

EMR, Glue Jobs, Lambda, Kinesis Analytics, RedShift

Introduction to AWS LakeFormation

#### **Domain 4: Billing, Pricing, and Support**

Amazon CloudWatch

AWS CloudTrail

AWS Trusted Advisor

AWS Free Tier

AWS Pricing Concepts

Billing Dashboard

Consolidated Billing

AWS Budgets

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AWS Cost Explorer

AWS Marketplace

## **Cloud Architect Course**

### **Domain 1: Design High-Performing Architectures**

Design high-performing and elastic compute solutions.

Compute as a Service on AWS

Introduction to Amazon Elastic Compute Cloud

Amazon EC2 Instance Lifecycle

Launch and Corporate Directory Application on Amazon EC2

Container Services on AWS

Introduction to Serverless

Serverless with AWS Fargate

Introduction to AWS Lambda

Choose the Right Compute Service

Serverless and AWS Lambda

Determine high-performing and/or scalable network

Introduction to Amazon VPC

Amazon VPC Routing

Secure Your Network with Amazon VPC Security

Hybrid Connectivity with AWS

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Amazon VPC Routing and Security

Creating a VPC and relaunching the Corporate Directory Application on Amazon EC2

Determine high-performing and/or scalable storage solutions.

Storage Types on AWS

Amazon EC2 Instance Storage and Amazon Elastic Block Store

Object Storage with Amazon S3

Choose the Right Storage Service

Create an Amazon S3 Bucket

Determine high-performing database solutions.

Explore Databases on AWS

Amazon Relational Database Service

Purpose Built Databases on AWS

Introduction to Amazon DynamoDB

Choose the Right AWS Database Service

Monitoring & Optimization

Introduction to Amazon CloudWatch

Optimizing Solutions on AWS

Route Traffic with Amazon Elastic Load Balancing

Amazon EC2 Auto Scaling

## **Domain 2: Design Resilient Architectures**

Designing a serverless web backend on AWS

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Selecting a Serverless Compute Service

Compute on AWS

AWS Lambda Exploration

Choosing an AWS Database Service

DynamoDB Exploration

Building Event-Driven Architectures

Decoupling AWS Solutions

SNS Exploration

SQS Exploration

Designing a serverless data analytics solution on AWS

Data Analytics on AWS

AWS Data Services

Exploring Amazon S3

Amazon S3 Cross-Region Replication and Object Lifecycle

Choosing a Service for Data Ingestion

Exploring Amazon Kinesis

Differences Between Amazon Kinesis Services

Accessing the Ingested Data

Exploring Amazon Athena

Visualizing the Data

Amazon QuickSight Features

Designing a hybrid solution for container based workloads on AWS

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Hybrid Networking and Connectivity Services

Running Containers on AWS and NAT Gateways

Amazon Relational Database Service

Amazon RDS Exploration

Storage Gateway Exploration

AWS Storage Services

Hybrid Solutions on AWS

AWS Systems Manager Exploration

AWS Services for Hybrid Deployments

### **Domain 3: Design Secure Architectures**

Why Multi-Account Strategies?

IAM Roles – The AWS Authentication Core Mechanism

IAM Roles, Trust Relationships, and Permissions

Organizing Your Accounts Together Using OUs (Organizational Units)

Moving from One Account to Another

AWS IAM Identity Center

Reflecting on AWS Best Practices

Choosing Services for Logging

Automating Account Provisioning and Maintenance

Multi-Account Best Practices

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