# Architecting on AWS Training

Duration: **3 Day**

BILGINÇ IT Academy
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## Overview

The **{*training}** course provides participants with the knowledge and hands-on experience required to design secure, scalable, highly available, and cost-effective cloud architectures on AWS. Based on AWS architectural principles and the **AWS Well-Architected Framework**, the course explores best practices for building modern cloud solutions that align with business and technical requirements.

Participants will learn how to design solutions using AWS compute, storage, networking, database, and security services while addressing key considerations such as high availability, disaster recovery, performance optimisation, security, and cost management. The course also covers architectural decision-making and the trade-offs involved in designing cloud-native environments.

Through practical labs and real-world scenarios, learners will develop the skills needed to build enterprise-grade AWS architectures and establish a strong foundation for the **AWS Certified Solutions Architect – Associate** certification.

## Prerequisites

Participants are recommended to have:

- Familiarity with **AWS Cloud Concepts**
- Completion of **AWS Cloud Practitioner Essentials** (recommended)
- Basic understanding of distributed systems
- Knowledge of multi-tier application architectures
- Familiarity with networking, storage, and database concepts

## Who Should Attend

This course is intended for:

- **Solutions Architects**
- **Cloud Architects**
- **System Administrators**
- **Cloud Engineers**
- **Developers**
- **DevOps Professionals**
- Technical professionals designing AWS environments
- Candidates preparing for the **AWS Certified Solutions Architect – Associate** exam

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## What You Will Learn

By the end of this {*training}, you will have gained knowledge and skills in the following areas:

- Understand AWS services and architectural principles.
- Design resilient and highly available cloud architectures.
- Evaluate architectural trade-offs and design decisions.
- Optimise AWS services according to organisational requirements.
- Manage and control data flow within AWS environments.
- Design secure, scalable, and cost-effective cloud solutions.

## Outline

### Introduction to AWS

- AWS Cloud Concepts
- AWS Global Infrastructure
- **AWS Well-Architected Framework**
- Architectural Best Practices

### Designing Your Environment

- High Availability Design
- Identifying Single Points of Failure
- Disaster Recovery Strategies
- Infrastructure Automation

### AWS Networking

- **Amazon VPC**
- Public and Private Subnets
- **AWS VPN**
- **AWS Direct Connect**
- **VPC Peering**

### Core AWS Services

#### Compute

- **Amazon EC2**
- **Auto Scaling**
- **Elastic Load Balancing (ELB)**

#### Storage

- **Amazon S3**
- **Amazon Glacier**
- **Amazon EBS**
- **Amazon EFS**

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**Databases**

- **Amazon RDS**
- **Amazon DynamoDB**
- **Amazon ElastiCache**
- **Amazon Redshift**

## Identity and Access Management

- **AWS IAM**
- User and Role Management
- **Multi-Factor Authentication (MFA)**

## Securing Your Architecture

- AWS Shared Responsibility Model
- Network Security
- Encryption at Rest and In Transit
- Data Protection Strategies

## Cost Optimisation

- **AWS Pricing Calculator**
- **Reserved Instances**
- **Spot Instances**
- **Savings Plans**
- **AWS Cost Explorer**

## Storage and Database Design

- Storage Selection Strategies
- Data Consistency
- Backup and Recovery
- Database Durability

## Monitoring and Logging

- **Amazon CloudWatch**
- **AWS CloudTrail**
- Alerts and Notifications

## Constraints and Trade-Offs

- Performance Bottlenecks
- Security vs Cost Considerations
- Architectural Decision Making

## Scaling and Performance Optimisation

- Auto Scaling Strategies
- Performance Tuning
- Elastic Architecture Design

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## Exam Preparation

- Review of Core Concepts
- AWS Certified Solutions Architect – Associate Preparation
- Q&A Session