



Architecting on AWS

Course Overview

This course focuses on the fundamentals of building IT infrastructure on the AWS platform. You will learn how to optimize the AWS Cloud by understanding AWS services and how they fit into cloud-based solutions. Best practices and design patterns are covered to help you architect optimal IT solutions on the AWS Cloud. Build and explore a variety of infrastructures through guided discussions and hands-on activity.

You will learn how to:

- Identify AWS architecting basic practices
- Identify services and features to build resilient, secure, and highly available IT solutions in the AWS Cloud
- Learn the process of designing optimal IT solutions using the AWS Well-Architected Framework, based on real-life scenarios
- Explore AWS services for account security, networking, compute, storage, databases, monitoring, automation, containers, serverless architecture, edge services, and backup and recovery

Target Audience

Solution architects

Solution-design engineers

Developers seeking an understanding of AWS architecting

Individuals seeking the AWS Solutions Architect-Associate certification

Course Objectives

- Make architectural decisions based on AWS architectural principles and best practices
- Leverage AWS services to make your infrastructure scalable, reliable, and highly available
- Leverage AWS Managed Services to enable greater flexibility and resiliency in an infrastructure
- Make an infrastructure based on AWS more efficient to increase performance and reduce costs
- Use the Well-Architected Framework to improve architectures with AWS solutions

Prerequisites

- Completed AWS Cloud Practitioner Essentials, or AWS Technical Essentials
- Working knowledge of distributed systems
- Familiarity with general networking concepts
- Familiarity with IP addressing
- Working knowledge of multi-tier architectures
- Familiarity with cloud computing concepts

Duration

3 Days

Certifications

AWS Solutions Architect-Associate

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Day 1

Module 1: Architecting Fundamentals

- AWS services
- AWS infrastructure
- AWS Well-Architected Framework
- Hands-on lab: Explore and interact with the AWS Management Console and AWS Command Line Interface

Module 2: Account Security

- Principals and identities
- Security policies
- Managing multiple accounts

Module 3: Networking 1

- IP addressing
- VPC fundamentals
- VPC traffic security

Module 4: Compute

- Compute services
- EC2 instances
- Storage for EC2 instances
- Amazon EC2 pricing options
- AWS Lambda
- Hands-On Lab: Build your Amazon VPC infrastructure

Day 2

Module 5: Storage

- Storage services
- Amazon S3
- Shared file systems
- Data migration tools

Module 6: Database Services

- Database services
- Amazon RDS
- Amazon DynamoDB
- Database caching
- Database migration tools
- Hands-on Lab: Create a database layer in your Amazon VPC infrastructure

Module 7: Monitoring and Scaling

- Monitoring
- Alarms and events
- Load balancing
- Auto scaling
- Hands-on Lab: Configure high availability in your Amazon VPC

Module 8: Automation

- AWS CloudFormation
- Infrastructure management

Module 9: Containers

- Microservices
- Containers
- Container services

Day 3

Module 10: Networking 2

- VPC endpoints
- VPC peering
- Hybrid networking
- AWS Transit Gateway
- Module 11: Serverless
- What is serverless?
- Amazon API Gateway
- Amazon SQS
- Amazon SNS
- Amazon Kinesis
- AWS Step Functions
- Hands-on Lab: Build a serverless architecture

Module 12: Edge Services

- Edge fundamentals
- Amazon Route 53
- Amazon CloudFront
- DDoS protection
- AWS Outposts
- Hands-On Lab: Configure an Amazon CloudFront distribution with an Amazon S3 origin

Module 13: Backup and Recovery

- Disaster planning
- AWS Backup
- Recovery strategies
- Hands-on Lab: Capstone lab - Build an AWS Multi-Tier architecture. Participants review the concepts and services learned in class and build a solution based on a scenario. The lab environment provides partial solutions to promote analysis and reflection. Participants deploy a highly available architecture. The instructor is available for consultation.

