AWS-ARC: Architecting on AWS

Overview

The ***AWS-ARC: Architecting on AWS*** training course is intended for solutions architects, solution-design engineers, and developers seeking an understanding of AWS architecting. In this AWS Architect training course, you will learn to identify services and features to build resilient, secure and highly available IT solutions on the AWS Cloud.

Architectural solutions differ depending on industry, types of applications, and business size. AWS Authorized Instructors emphasize best practices using the AWS Well-Architected Framework, and guide you through the process of designing optimal IT solutions, based on real-life scenarios. The modules focus on account security, networking, compute, storage, databases, monitoring, automation, containers, serverless architecture, edge services, and backup and recovery.

At the end of the course, you will practice building a solution and apply what you have learned with confidence.

Duration

3 Days

Who Should Attend

This course is intended for:

- Solution architects
- Solution-design engineers
- Developers seeking an understanding of AWS architecting
- Individuals seeking the AWS Solutions Architect-Associate certification

Prerequisites

We recommend that attendees of this course have:

- 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

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Course Objectives

In this course, you will learn to:

- Identify AWS architecting basic practices
- Summarize the fundamentals of account security
- Identify strategies to build a secure virtual network that includes private and public subnets
- Practice building a multi-tier architecture in AWS
- Identify strategies to select the appropriate compute resources based on business use cases
- Compare and contrast AWS storage products and services based on business scenarios
- Compare and contrast AWS database services based on business needs
- Identify the role of monitoring, load balancing, and auto scaling responses based on business needs
- Identify and discuss AWS automation tools that will help you build, maintain, and evolve your infrastructure
- Discuss hybrid networking, network peering, and gateway and routing solutions to extend and secure your infrastructure
- Explore AWS container services for the rapid implementation of an infrastructure-agnostic, portable application environment
- Identify the business and security benefits of AWS serverless services based on business examples
- Discuss the ways in which AWS edge services address latency and security
- Explore AWS backup, recovery solutions, and best practices to ensure resiliency and business continuity

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Course Topics

Module 1	**Architecting Fundamentals Review** • AWS Services and Infrastructure • Infrastructure Models • AWS API Tools • Securing your infrastructure • The Well-Architected Framework • Hands-on lab: Explore Using the AWS API Tools to Deploy an EC2 Instance
Module 2	**Account Security** • Security Principals • Identity and Resource-Based Policies • Account Federation • Introduction to Managing Multiple Accounts
Module 3	**Networking, Part 1** • IP Addressing • Amazon Virtual Private Cloud (VPC), Patterns and Quotas • Routing • Internet Access • Network Access Control Lists (NACLs) • Security Groups
Module 4	**Compute** • Amazon Elastic Cloud Compute (EC2) • EC2 Instances and Instance Selection • High Performance Computing on AWS • Lambda and EC2, When to Use Which • Hands-On Lab: Build Your Amazon VPC Infrastructure
Module 5	**Storage** • Amazon S3, Security, Versioning and Storage Classes • Shared File Systems • Data Migration Tools

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Module 6	**Database Services** • AWS Database Solutions • Amazon Relational Database Services (RDS) • DynamoDB, Features and Use Cases • Redshift, Features, Use Cases and Comparison with RDS • Caching and Migrating Data • Hands-on Lab: Create a Database Layer in Your Amazon VPC Infrastructure
Module 7	**Monitoring and Scaling** • Monitoring: CloudWatch, CloudTrail, and VPC Flow Logs • Invoking Events • Elastic Load Balancing • Auto Scaling Options and Monitoring Cost • Hands-on Lab: Configure High Availability in Your Amazon VPC
Module 8	**Automation** • CloudFormation • AWS Systems Manager
Module 9	**Containers** • Microservices • Monitoring Microservices with X-Ray • Containers
Module 10	**Networking, Part 2** • VPC Peering & Endpoints • Transit Gateway • Hybrid Networking • Route 53

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Module 11	**Serverless Architecture** • Amazon API Gateway • Amazon SQS, Amazon SNS • Amazon Kinesis Data Streams & Kinesis Firehose • Step Functions • Hands-on Lab: Build a Serverless Architecture
Module 12	**Edge Services** • Edge Fundamentals • Amazon CloudFront • AWS Global Accelerator • AWS Web Application Firewall (WAF), DDoS and Firewall Manager • AWS Outposts • Hands-On Lab: Configure an Amazon CloudFront Distribution with an Amazon S3 Origin
Module 13	**Backup and Recovery** • Planning for Disaster Recovery • AWS Backup • Recovery Strategies