

Architecting on AWS – Accelerator

AWS Classroom Training

Course description

Architecting on AWS – Accelerator is designed for audiences who can learn and understand new information at a rapid pace. This course covers various aspects of how to architect for the cloud over 5 days. It covers topics from the *Architecting on AWS* and *Advanced Architecting on AWS* courses to offer a consolidated course in cloud architecture. 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 compute, storage, database, networking, security, monitoring, automation, containers, serverless architecture, edge services, and backup and recovery. They also focus on optimization, the benefits of loose coupling applications and serverless components, building for resilience, and understanding costs. Using hands-on labs, you will apply knowledge from lectures to gain skills.

- Course level: Advanced
- Duration: 5 days

Activities

This course includes presentations based on use cases, group discussions, demonstrations, knowledge checks, and hands-on labs.

Course objectives

In this course, you will learn to:

- Relate AWS architectural principles to make architectural decisions
- Apply AWS services to make your infrastructure scalable, reliable, secure, and highly available.
- Explore how to manage AWS services to provide greater flexibility and resiliency in an infrastructure.
- Determine how to make an infrastructure based on AWS more efficient to increase performance and reduce costs.
- Apply the Well-Architected Framework to improve architectures with AWS solutions.

Intended audience

This course is intended for:

- Solutions architects
- Solution-design engineers
- Developers
- People in other IT/cloud roles who want to understand how to design and build cloud architectures

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Prerequisites

We recommend that attendees of this course have:

- Not attended the *Architecting on AWS* course
- Familiarity with AWS cloud computing, which can be learned in *AWS Cloud Practitioner Essentials* or *AWS Technical Essentials*
- Familiarity with TCP/IP networking concepts such as VPNs, routing, subnets/gateways, segments, and user permissions
- Familiarity with and knowledge of multi-tier architectures and distributed systems

Course outline

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

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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

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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: Build an AWS multi-tier architecture

Day 4

Module 14: Single to Multiple Accounts

- Multi-account strategies
- AWS SSO
- AWS Control Tower

Module 15: Hybrid Connectivity

- AWS Client VPN
- AWS Site-to-Site VPN
- AWS Direct Connect
- Amazon Route 53 Resolver
- Hands-on Lab: Securing Amazon S3 VPC endpoint communications

Module 16: Securing Data

- Cryptography
- AWS KMS
- AWS CloudHSM
- AWS Secrets Manager

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Module 17: Connecting Networks

- AWS Transit Gateway
- AWS Resource Access Manager
- AWS PrivateLink
- Hands-On Lab: Configuring AWS transit gateways

Day 5

Module 18: High Availability and DDoS

- AWS WAF
- AWS Shield Advanced
- AWS Firewall Manager

Module 19: Migrating Workloads

- Migration process
- Migration tools
- Migrating databases
- Hands-on Lab: Migrating an on-premises NFS share using DataSync and Storage Gateway

Module 20: Optimizing Cost

- Cloud cost management
- Cost management tools
- Cost optimization