

Architecting on AWS

AWS Classroom Training

Course outline

Day 1

Module 0: Introductions & Course Map review

- Welcome and course outcomes

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

Day 2

Module 5: Storage

- Amazon S3, Security, Versioning and Storage Classes
- Shared File Systems
- Data Migration Tools

Module 6: Database Services

- AWS Database Solutions
- Amazon Relational Database Services (RDS)

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- 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

Day 3

Module 10: Networking Part 2

- VPC Peering & Endpoints
- Transit Gateway
- Hybrid Networking
- Route 53

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

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Module 13: Backup and Recovery

- Planning for Disaster Recovery
- AWS Backup
- Recovery Strategies

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.

Use the Online Course Supplement (OCS) to review use cases, investigate data, and answer architecting design questions.