

# Advanced Architecting on AWS

Price  
\$2,025.00

Duration  
3 Days

Delivery Methods  
VILT, Private Group



In this course, each module presents a scenario with an architectural challenge to be solved. You will examine available AWS services and features as solutions to the problem. You will gain insights by participating in problem-based discussions and learning about the AWS services that you could apply to meet the challenges. Over 3 days, the course goes beyond the basics of a cloud infrastructure and covers topics to meet a variety of needs for AWS customers. Course modules focus on managing multiple AWS accounts, hybrid connectivity and devices, networking with a focus on AWS Transit Gateway connectivity, container services, automation tools for continuous integration/continuous delivery (CI/CD), security and distributed denial of service (DDoS) protection, data lakes and data stores, edge services, migration options, and managing costs. The course concludes by presenting you with scenarios and challenging you to identify the best solutions.

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## Who Should Attend

This course is intended for cloud architects, solutions architects, and anyone who designs solutions for cloud infrastructures.

## Course Objectives

- Apply the AWS Well-Architected Framework.
- Manage multiple AWS accounts for your organization.
- Connect on-premises data centers to the AWS Cloud.
- Understand billing implications of connecting multi-region VPCs.
- Move large data from on-premises data centers to the AWS Cloud.
- Design large datastores for the AWS Cloud.
- Understand different architectural designs for scaling a large website.
- Protect your infrastructure from DDoS attacks.
- Secure your data on AWS with encryption.
- Design protection of data at rest as well as data in flight.
- Enhance the performance of your solutions.
- Select the most appropriate AWS deployment mechanism.

## Agenda

### 1 - REVIEWING ARCHITECTING CONCEPTS

### 2 - SINGLE TO MULTIPLE ACCOUNTS

- AWS Organizations for multi-account access and permissions
- AWS SSO to simplify access and authentication across AWS accounts and third-party services
- AWS Control Tower
- Permissions, access, and authentication

### 3 - HYBRID CONNECTIVITY

- AWS Client VPN authentication and control
- AWS Site-to-Site VPN
- AWS Direct Connect for hybrid public and private connections
- Increasing bandwidth and reducing cost
- Basic, high, and maximum resiliency
- Amazon Route 53 Resolver DNS resolution

### 4 - SPECIALIZED INFRASTRUCTURE

- AWS Storage Gateway solutions
- On-demand VMware Cloud on AWS
- Extending cloud infrastructure services with AWS Outposts
- AWS Local Zones for latency-sensitive workloads
- Your 5G network with and without AWS Wavelength

### 8 - HIGH AVAILABILITY AND DDOS PROTECTION

- Common DDoS attacks layers
- AWS WAF
- AWS WAF web access control lists (ACLs), real-time metrics, logs, and security automation
- AWS Shield Advanced services and AWS DDoS Response Team (DRT) services
- AWS Network Firewall and AWS Firewall Manager to protect accounts at scale

### 9 - SECURING DATA

- What cryptography is, why you would use it, and how to use it
- AWS KMS
- AWS CloudHSM architecture
- FIPS 140-2 Level 2 and Level 3 encryption
- Secrets Manage

### 10 - LARGE-SCALE DATA STORES

- Amazon S3 data storage management including storage class, inventory, metrics, and policies
- Data lake vs. data warehouse: Differences, benefits, and examples
- AWS Lake Formation solutions, security, and control

### 11 - LARGE-SCALE APPLICATIONS

**5 - CONNECTING NETWORKS**

- Simplifying private subnet connections
- VPC isolation with a shared services VPC
- Transit Gateway Network Manager and VPC Reachability Analyzer
- AWS Resource Access Manager
- AWS PrivateLink and endpoint services

**5 - CONTAINERS**

- Container solutions compared to virtual machines
- Docker benefits, components, solutions architecture, and versioning
- Container hosting on AWS to reduce cost
- Managed container services: Amazon Elastic Container Service (Amazon ECS) and Amazon
- Elastic Kubernetes Service (Amazon EKS)
- AWS Fargate

**7 - CONTINUOUS INTEGRATION/CONTINUOUS DELIVERY (CI/CD)**

- CI/CD solutions and impact
- CI/CD automation with AWS CodePipeline
- Deployment models
- AWS CloudFormation StackSets to improve deployment management

- What edge services are and why you would use them
- Improve performance and mitigate risk with Amazon CloudFront
- Lambda@Edge
- AWS Global Accelerator: IP addresses, intelligent traffic distribution, and health checks

**12 - OPTIMIZING COST**

- On-premises and cloud acquisition/deprecation cycles
- Cloud cost management tools including reporting, control, and tagging
- Examples and analysis of the five pillars of cost optimization

**13 - MIGRATING WORKLOADS**

- Business drivers and the process for migration
- Successful customer practices
- The 7 Rs to migrate and modernize
- Migration tools and services from AWS
- Migrating databases and large data stores
- AWS Schema Conversion Tool (AWS SCT)

**14 - CAPSTONE PROJECT**

- Use the Online Course Supplement (OCS) to review use cases, investigate data, and answer
- architecting design questions about Transit Gateway, hybrid connectivity, migration, and cost
- optimization