

KOENIG SOLUTIONS • COURSE OUTLINE

AWS Certified Solutions Architect – Professional (Advanced Architecting on AWS)

Learn to design advanced, secure, and cost-optimised AWS architectures spanning multi-account, hybrid, container, and migration scenarios.

1 Day

24 HOURS

12

MODULES

55

TOPICS

7

HANDS-ON ACTIVITIES

COURSE OVERVIEW

The AWS Certified Solutions Architect – Professional course, focusing on Advanced Architecting on AWS, is designed for individuals who seek to deepen their understanding and expertise in designing Scalable, reliable, and highly available systems on AWS. This course helps learners apply advanced techniques and best practices to architect and optimize AWS cloud deployments. Through a comprehensive curriculum, participants review Core architecting concepts, manage multiple AWS accounts, connect on-premises data centres to the AWS cloud, and secure data with encryption. They also explore Advanced networking, Specialized infrastructure, containerization with ECS and EKS, Continuous Integration/Continuous Delivery (CI/CD) pipelines, DDoS protection strategies, and Large-scale data store management. Additionally, the course covers Workload migration, Cost optimization, and architecting for edge locations. By completing this course and obtaining the aws professional certification, learners will be well-equipped to design complex AWS solutions, making them valuable assets in their professional roles. The course's hands-on approach, including labs and exercises, ensures practical knowledge application, reinforcing the theoretical principles of advanced architecting on aws.

Who Should Attend

The AWS Certified Solutions Architect – Professional course is designed for experienced practitioners seeking to deepen their cloud architecture skills.

Solutions Architects

Cloud Architects

Technical Architects

IT Professionals with experience in AWS

DevOps Engineers

Systems Engineers

Cloud Strategists

IT Project Managers

Network Architects

Security Analysts or Engineers

Data Architects

IT Managers with cloud infrastructure focus

Enterprise Architects

Application Architects

Software Engineers with focus on cloud applications and infrastructure

Professionals aiming for AWS Certified Solutions Architect - Professional certification

LEARNING OBJECTIVES

- Configure multi-account access with AWS Organizations and Control Tower
- Design hybrid connectivity using Direct Connect and VPN options
- Connect networks with Transit Gateway and PrivateLink
- Deploy containerised applications with Amazon ECS and EKS
- Implement CI/CD pipelines using AWS CodePipeline and CloudFormation
- Apply DDoS protection with AWS Shield and WAF
- Secure data using AWS KMS, CloudHSM, and Secrets Manager
- Plan workload migration using the 7 Rs and AWS SCT

COURSE SYLLABUS

12 Modules, 55 Topics

DAY 1

Reviewing Architecting Concepts

Group Exercise

Activity

02

Single to Multiple Accounts

TOPICS

- 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

03

Hybrid Connectivity

TOPICS

- 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

04

Specialized Infrastructure

TOPICS

- 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

05

Activity

Connecting Networks

TOPICS

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

06

Activity

Containers

TOPICS

- 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

07

Continuous Integration/Continuous Delivery (CI/CD)

TOPICS

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

08

High Availability and DDoS Protection

TOPICS

- 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

09

Securing Data

TOPICS

- 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 Manager

10

Activity

Large-Scale Data Stores

TOPICS

- 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

DAY 3

11

Activity

Large-Scale Applications

TOPICS

- 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

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Optimizing Cost

TOPICS

- 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

Migrating Workloads

TOPICS

- 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)

Capstone Project

[Capstone Activity](#)

HANDS-ON ACTIVITIES

Practise What You Learn

#	MODULE	ACTIVITY
01	Reviewing Architecting Concepts	Group Exercise: Review Architecting on AWS core best practices Lab 1: Securing Amazon S3 VPC Endpoint Communications
05	Connecting Networks	Lab 2: Configuring Transit Gateways
06	Containers	Lab 3: Deploying an Application with Amazon ECS on Fargate
10	Large-Scale Data Stores	Lab 4: Setting Up a Data Lake with Lake Formation
11	Large-Scale Applications	Lab 5: Migrating an On-Premises NFS Share Using AWS DataSync and Storage Gateway
14	Capstone Project	Capstone Activity: 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

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

Learn the Way That Suits You

Classroom Training

Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

Flexi (Self-Paced)

1-on-1 Training

Ready to Get Started?

Talk to a learning advisor about schedules, group training and customised delivery.

Visit koenig-solutions.com

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