Advanced Architecting on AWS

Category: Cloud Platforms | **Vendor:** Amazon Web Services

Duration: 24.00 hours (3 days) **19.5 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

Course Information

Delivery Format: Instructor Led - Online

Course Overview

Building on concepts introduced in Architecting on AWS, Advanced Architecting on AWS is intended for individuals who are experienced with designing scalable and elastic applications on the AWS platform. Building on concepts introduced in Architecting on AWS, this course covers how to build complex solutions which incorporate data services, governance, and security on AWS. This course introduces specialized AWS services, including AWS Direct Connect and AWS Storage Gateway to support Hybrid architecture. It also covers designing best practices for building scalable, elastic, secure, and highly available applications on AWS.

About This Course

Building on concepts introduced in Architecting on AWS, Advanced Architecting on AWS is intended for individuals who are experienced with designing scalable and elastic applications on the AWS platform. Building on concepts introduced in Architecting on AWS, this course covers how to build complex solutions which incorporate data services, governance, and security on AWS. This course introduces specialized AWS services, including AWS Direct Connect and AWS Storage Gateway to support Hybrid architecture. It also covers designing best practices for building scalable, elastic, secure, and highly available applications on AWS.

Who Should Attend

This course is intended for Solution Architects

Prerequisites & Entry Requirements

General Prerequisites:

We recommend that attendees of this course have:

- Knowledge and experience with core AWS services from the compute, storage, networking, and AWS Identity and Access Management (IAM) categories

- At least one of the following:
- Attended the Architecting on AWS (AWSA) classroom training OR
- Achieved the AWS Certified Solutions Architect - Associate certification OR
- Have at least 1 year of experience operating AWS workloads

Learning Outcomes

Upon successful completion of this course, participants will be able to:

At the end of this course, you will be able to:

Apply the AWS Well-Architected Framework

Manage multiple AWS accounts for your organization

Connect an on-premises datacenter to AWS cloud

Move large data from an on-premises datacenter to AWS

Design large datastores for AWS cloud

Understand different architectural designs for scalability

Protect your infrastructure from DDoS attack

Secure your data on AWS with encryption

Enhance the performance of your solutions

Select the most appropriate AWS deployment mechanism

Detailed Course Outline

Module 1: AWS Account Management

- Multiple accounts
- Multi-account patterns
- License management
- Manage security and costs with multiple accounts
- AWS Organizations
- AWS Directory Service
- Hands-on lab: Multi-VPC connectivity using a VPN

Module 2: Advanced Network Architectures

- Improve VPC network connections
- Enhance performance for HPC workloads
- VPN connections over AWS
- AWS Direct Connect
- AWS Transit Gateway
- Amazon Route 53
- Exercise: Design a hybrid architecture

Module 3: Deployment Management on AWS

- Application lifecycle management
- Application deployment using containers
- AWS Elastic Beanstalk
- AWS OpsWorks
- AWS CloudFormation

Module 4: Data

- Optimize Amazon S3 storage
- Amazon ElastiCache
- AWS Snowball
- AWS Storage Gateway
- AWS DataSync
- Backup and archival considerations
- Database migration
- Designing for big data with Amazon DynamoDB
- Hands-on lab: Build a failover solution with Amazon Route 53 and Amazon RDS

Module 5: Designing for large scale applications

- AWS Auto Scaling
- Migrating over-provisioned resources
- Blue-green deployments on AWS
- Hands-on lab: Blue-green deployment with AWS

Module 6: Building resilient architectures

- DDoS attack overview
- AWS Shield
- AWS WAF
- Amazon GuardDuty
- High availability using Microsoft SQL Server and Microsoft SharePoint on AWS
- High availability using MongoDB on Amazon EC2
- AWS Global Accelerator
- Hands-on lab: CloudFront content delivery and automating AWS WAF rules

Module 7: Encryption and data security

- Encryption primer
- DIY key management in AWS
- AWS Marketplace for encryption products
- AWS Key Management Service (AWS KMS)
- Cloud Hardware Security Module (HSM)
- Comparison of key management options
- Hands-on lab: AWS KMS with envelope encryption

, Day 1

Module 1: Reviewing Architecting Concepts

- Group Exercise: Review Architecting on AWS core best practices

- Lab 1: Securing Amazon S3 VPC Endpoint Communications

Module 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

Module 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

Module 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

Module 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

- Lab 2: Configuring Transit Gateways

Day 2

Module 6: 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

- Lab 3: Deploying an Application with Amazon ECS on Fargate

Module 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

Module 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

Module 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 Manager

Module 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

- Lab 4: Setting Up a Data Lake with Lake Formation

Day 3

Module 11: Large-Scale Applications

- 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
- Lab 5: Migrating an On-Premises NFS Share Using AWS DataSync and Storage Gateway

Module 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

Module 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)

Module 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, Deployment Management on AWS, Data, AWS Account Management, Advanced

Network Architectures, Encryption and data security, Building resilient architectures, Designing for large scale applications

Skills You Will Learn:

In this course, you will learn to:

- Review the AWS Well-Architected Framework to ensure understanding of best cloud design practices by responding to poll questions while following a graphic presentation
- Demonstrate the ability to secure Amazon Simple Storage Service (Amazon S3) virtual private cloud (VPC) endpoint connections in a lab environment
- Identify how to implement centralized permissions management and reduce risk using AWS Organizations organizational units (OUs) and service control policies (SCPs) with AWS Single Sign-On
- Compare the permissions management capabilities of OUs, SCPs, and AWS SSO with and without AWS Control Tower to determine best practices based on use cases
- Discuss AWS hybrid network designs to address traffic increases and streamline remote work while ensuring FIPS 140-2 Level 2, or Level 3 security compliance
- Explore the solutions and products available to design a hybrid infrastructure, including access to 5G networks, to optimize service and reduce latency while maintaining high security for critical on premises applications
- Explore ways to simplify the connection configurations between applications and high-performance workloads across global networks
- Demonstrate the ability to configure a transit gateway in a lab environment
- Identify and discuss container solutions and define container management options
- Build and test a container in a lab environment
- Examine how the AWS developer tools optimize the CI/CD pipeline with updates based on near-real-time data
- Identify the anomaly detection and protection services that AWS offers to defend against DDoS attacks
- Identify ways to secure data in transit, at rest, and in use with AWS Key Management Service (AWS KMS) and AWS Secrets Manager
- Determine the best data management solution based on frequency of access, and data query and analysis needs
- Set up a data lake and examine the advantages of this type of storage configuration to crawl and query data in a lab environment
- Identify solutions to optimize edge services to eliminate latency, reduce inefficiencies, and mitigate risks
- Identify the components used to automate the scaling of global applications using geolocation and traffic control
- Deploy and activate an AWS Storage Gateway file gateway and AWS DataSync in a lab environment
- Review AWS cost management tools to optimize costs while ensuring speed and performance
- Review migration tools, services, and processes that AWS provides to implement effective cloud operation models based on use cases and business needs
- Provide evidence of your ability to apply the technical knowledge and experience gained in the course to improve business practices by completing a Capstone Project

Upcoming Schedule

Available training dates for Advanced Architecting on AWS:

Start Date	End Date	Location	Delivery	Price
30 Nov 2026	02 Dec 2026	Online	Virtual	€2,025.00

Additional Course Details

Nexus Humans Advanced Architecting on AWS training program is a workshop that presents an invigorating mix of sessions, lessons, and masterclasses meticulously crafted to propel your learning expedition forward.

This immersive bootcamp-style experience boasts interactive lectures, hands-on labs, and collaborative hackathons, all strategically designed to fortify fundamental concepts.

Guided by seasoned coaches, each session offers priceless insights and practical skills crucial for honing your expertise. Whether you're stepping into the realm of professional skills or a seasoned professional, this comprehensive course ensures you're equipped with the knowledge and prowess necessary for success.

While we feel this is the best course for the Advanced Architecting on AWS course and one of our Top 10 we encourage you to read the course outline to make sure it is the right content for you.

Additionally, private sessions, closed classes or dedicated events are available both live online and at our training centres in Dublin and London, as well as at your offices anywhere in the UK, Ireland or across EMEA.

Frequently Asked Questions

Q: What delivery options are available for Advanced Architecting on AWS?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

Q: How many CPD hours does this course provide?

The 3-day Advanced Architecting on AWS course provides up to 19.5 CPD hours of structured learning. CPD certificates can be provided upon request.

Q: What is the duration of the Advanced Architecting on AWS training?

The training takes place over 3 day(s), with each day lasting approximately 24.00 hours including breaks for lunch and refreshments.

Q: Do you provide corporate training for Advanced Architecting on AWS?

Yes, we provide corporate training, dedicated training, and closed classes for Advanced Architecting on AWS. Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

Q: What related terms do people search for?

Popular related searches include: Advanced Architecting on AWS, AWS System Architecture, AWSAA, Amazon Web Services, vILT

Q: Why choose Nexus Human for Advanced Architecting on AWS?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your Advanced Architecting on AWS training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

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