LIVE ONLINE TRAINING

Amazon Web Services: Solutions Architect Associate Certification Training

AWS core architecture concepts, managed services, and design fundamentals

October 4, 5, 11, 12, 24 & 25, 2017

11:00am – 2:00pm EDT

JOIN THE LIVE COURSE

What you'll learn Instructor Schedule

Companies are increasingly adopting cloud technologies, and AWS has captured more than a third of the lucrative public cloud infrastructure market. Accordingly, AWS certified professionals are in

high demand. In this six-day, 18-hour course, expert Mark Wilkins teaches you everything you need to properly architect solutions in the AWS cloud and prepares you for the AWS Solutions Architecture - Associate certification exam.

You'll gain hands-on experience with AWS recommended architectural principles, AWS cloud best practices, and recommended design patterns as you learn how to properly architect and administrate the core AWS components: compute, storage, database, managed services, security, and compliance. You'll leave with a solid understanding of properly architecting solutions in the AWS cloud that will ready you to become a certified AWS solutions architect and empower you to design effective, scalable, and secure solutions for your own projects.

What you'll learn-and how you can apply it

By the end of this live, online course, you'll understand:

- AWS cloud infrastructure architecture concepts
- The available compute, storage, networking, and database solutions from AWS
- How to design cloud solutions utilizing AWS best practices
- AWS administration concepts
- How to perform security and compliance administration using built-in AWS managed services tools
- IAM and VPC deployment best practices
- The concept of automation and available tools
- AWS best practices for designing cloud solutions at AWS
- The AWS Well-Architected Framework

And you'll be able to:

- Deploy effective solutions using the core components of the AWS toolbox
- Design effective security controls using the IAM console
- Deploy managed database solutions
- Deploy administrative AWS resources and maintain them with built-in administrative tools
- Design solutions utilizing both managed and unmanaged AWS services
- Effectively prepare for the AWS Solutions Architecture - Associate certification exam

This training course is for you because...

- You're a system administrator moving to AWS.
- You're a cloud architect responsible for AWS design.
- You're an IT professional who needs to develop AWS technical knowledge and skills for daily operation and migration.
- You're working toward the AWS Solutions Architect - Associate certification.

Prerequisites

- A basic familiarity with general networking and cloud computing concepts
- An understanding of multitier architectural design

Required materials and setup:
- All course materials downloaded prior to the training

Recommended preparation:
- Introduction to Architecting Amazon Web Services
- Amazon Web Services: Virtual Private Cloud

About your instructor

Mark Wilkins is a former electronic design technologist with more than 20 years' experience designing, deploying, and supporting software and hardware technology in the corporate and small business world. Currently, Mark provides training and consulting services to corporate customers throughout North America. Previously, as course director for Global Knowledge, Mark developed and taught technical seminars and developed courseware for the 2008 Microsoft official curriculum stream. He also created technical sales videos for VMware's Realize Suite of products through Pulse Learning. Since 2010, Mark has focused on cloud services, including Amazon Web Services, Microsoft Azure, and IBM SoftLayer. His most recent courses include Supporting and Maintaining Windows 10 Enterprise and AWS Security Operations: Securing Core AWS Infrastructure Services, both for Pluralsight. A Microsoft Certified Trainer (MCT), Mark holds Amazon Web Services Solutions Architect - Associate, Sys-Ops - Associate, and Security certifications as well as certifications in MCTS (2008), MCSA (2012), Windows 8.1, Server Virtualization with Windows Server Hyper-V and System Center 2012 R2, and Azure Cloud Services. He is the author of Windows 2003 Registry for Dummies, Windows System Policies, Administering SMS 3.0, and Administering Active Directory.

Schedule

The timeframes are only estimates and may vary according to how the class is progressing

Day 1
Core architecture concepts (50 minutes)
- Lecture: Introduction to AWS architecture design concepts; managed versus unmanaged services; regions, availability zones, and edge locations; the management console
- Hands-on exercises: Use essential AWS managed services; select regions and

availability zones; use the management console
- Discussion: Security and the cloud
Break (10 minutes)
Virtual private clouds (VPCs) and access control lists (ACLs) (65 minutes)
- Lecture: VPC design; subnets (private and public); route tables; elastic IP addresses; security groups; network ACLs; NATs versus bastion hosts; peering VPCs
- Hands-on exercises: Review the default VPC; create a VPC; configure network ACLs; set up security groups and network ACLs
Break (10 minutes)
Elastic Compute Cloud (EC2) (35 minutes)

- Lecture: EC2 types (on-demand, spot, reserved, scheduled, and dedicated); Elastic Block Store versus ephemeral storage; configuration, storage options, and key pairs; automating instances with user data
- Hands-on exercise: Order and configure an EC2 instance

Wrap-up and Q&A (10 minutes)
Day 2
Core architecture concepts—Part II (50 minutes)

- Lecture: Elastic IPs and network interfaces; EC2 instance metadata; placement groups, resource groups, and tagging; pricing options—on-demand, reserved capacity, and spot instances; AWS storage options; EBS volume types
- Hands-on exercises: Add network NICs and IPs; tag instances; add, attach, and delete volumes
- Discussion: Pricing options for EC2 servers

Break (10 minutes)
Snapshots, volumes, and buckets (55 minutes)

- Lecture: Snapshots; creating AMIs and images from snapshots; Amazon S3 and naming conventions; versioning; tiered storage management
- Hands-on exercises: Manage snapshots; create EBS volumes; create an S3 bucket and upload content; enable versioning; explore ACLs and bucket policies; create a bucket policy

Break (10 minutes)
Security and lifecycle (45 minutes)

- Lecture: Security and encryption; vaults and vault lock policy; lifecycle rules

- Hands-on exercises: Set up Glacier; use lifecycle options with S3 and Glacier operations
- Discussion: Managing storage

Wrap-up and Q&A (10 minutes)
Day 3
Root users (10 minutes)
Lecture: Managing the root user
Identity and access management (IAM) (50 minutes)

- Lecture: Creating IAM users and groups; IAM roles; IAM policies; policy simulator; password policy; credential report; cross-account access
- Hands-on exercises: Create users and groups; create policies

Break (10 minutes)
Amazon RDS and additional database services (50 minutes)

- Lecture: Amazon RDS; DB instances; snapshots; security groups, RDS scaling; Amazon Dynamo DB; Redshift and Aurora; ElastiCache; RDS scaling
- Hands-on exercises: Order a DB server; scale database services

Break (10 minutes)
EC2 managed services (50 minutes)
Lecture: EC2 managed services; load balancers—classic versus application; target groups; Auto Scaling; launch configurations
Hands-on exercises: Add a classic load balancer; set up Auto Scaling for a web tier; use managed instances
Day 4
AWS networking services and external connectivity (50 minutes)

- Lecture: Lambda; VPC managed services; AWS external connectivity options; customer gateways; virtual private gateways; VPN connections; Direct link
- Hands-on exercise: Set up external connectivity options

Break (10 minutes)
Managed services for monitoring, automation, and compliance (50 minutes)

- Lecture: CloudFront; CloudWatch; CloudTrail; CloudFormation; Elastic Beanstalk, Lambda; API Gateway; Config; Trusted Advisor
- Hands-on exercises: Set up CloudFront for S3 resources; monitor with CloudWatch; automate with CloudFront; troubleshoot with CloudTrail

Break (10 minutes)
Directory services, DevOps services, and mobile services (50 minutes)

- Lecture: Amazon Cloud Directory, Microsoft AD, Simple AD, and AD connector; Simple Queue Service (SQS); Simple Workflow Service (SWF); Simple Notification Service (SNS); Kinesis; Elastic Transcoder; API Gateway
- Discussion: Setting up application services for stateless operation

Wrap-up and Q&A (10 minutes)
Day 5
Regions and availability zones (20 minutes)

- Lecture: How to choose a region; availability zones; planning for failover
- Hands-on exercise: Choose a region based on compliance, location, and service needs
- Discussion: Choosing availability zones

Virtual private clouds (VPCs) (55 minutes)

- Lecture: How many VPCs do you need?; designing with patterns; designing with subnets—size and type; controlling VPC traffic—route tables, security groups, network angles, and internet gateways
- Hands-on exercises: Design a VPC; set up a VPC across two availability zones
- Discussion: Designing a project solution

Break (10 minutes)
Load balancing (25 minutes)

- Lecture: Elastic load balancing—classic and application load balancer; health checks, sticky sessions, connection draining, cross-zone load balancing
- Hands-on exercise: Design a web server tier with high availability
- Discussion: Designing a project solution

Break (10 minutes)
Auto Scaling and CloudWatch (50 minutes)

- Lecture: CloudWatch alarms and metrics; Route 53 routing options; utilizing health checks; failover and geolocation routing; adding Auto Scaling with CloudWatch
- Hands-on exercise: Use Auto Scaling with multiple availability zones
- Discussion: Designing a project solution

Wrap-up and Q&A (10 minutes)

Day 6

The AWS Well-Architected Framework (50 minutes)

- Lecture: Overview of the AWS Well-Architected Framework; general design principles; security design best practices; IAM; detective controls; infrastructure protection; data protection incident response
- Discussion: Improving your architecture—a security problem

Break (10 minutes)

Reliability and efficiency (50 minutes)

- Lecture: Reliability best design practices; change management; failure management; performance efficiency design best practices; how to select your compute, storage, database, and network; monitoring services
- Discussion: Improving your architecture—reliability and efficiency issues

Break (10 minutes)

Cost optimization (40 minutes)

- Lecture: Cost optimization design best practices; cost-effective resource selection; matching supply and demand; cost awareness; continual optimization
- Discussion: Improving your architecture—costing solutions

Wrap-up, Q&A, and next steps (20 minutes)