

AWS Certified Solutions Architect – Professional

Content

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