
CTR-705 AWS Solution Architect

Overview

Course Duration: 5 Days

About This Course

The AWS Solution Architect course is designed to help participants understand how to design, deploy, and maintain robust, secure, and scalable applications on AWS. It covers core AWS services, architecture patterns, and best practices.

Audience Profile

This course is aimed at solution architects, developers, and IT professionals who design and manage applications in the AWS Cloud.

At Course Completion

- Design and deploy scalable, highly available, and fault-tolerant systems on AWS.
- Leverage AWS services to make infrastructure scalable, reliable, and secure.
- Understand best practices for cloud architecture and the AWS Well-Architected Framework.
- Prepare for the AWS Certified Solutions Architect – Associate exam.

Course Outline

Module 1: Introduction to AWS Solution Architecture

- Overview of AWS Architecture and Global Infrastructure
- Key AWS Services and Their Roles in Architecture
- AWS Well-Architected Framework
- Setting Up an AWS Account and Environment
- Introduction to AWS Management Console and CLI

Module 2: AWS Compute Services

- Deep Dive into Amazon EC2: Instances, AMIs, and Security Groups
- Elastic Load Balancing (ELB) and Auto Scaling
- AWS Lambda for Serverless Architectures
- Containerization with Amazon ECS and EKS
- Hands-On Lab: Deploying and Managing EC2 Instances

Module 3: AWS Storage Solutions

- Amazon S3: Buckets, Object Storage, and Security
- Amazon EBS: Block Storage and Snapshots
- Amazon Glacier for Archival Storage
- Storage Gateway and Hybrid Storage Solutions
- Hands-On Lab: Implementing Storage Solutions on AWS

Module 4: AWS Networking and Content Delivery

- VPC Fundamentals: Subnets, Route Tables, and Gateways
- Securing VPC with Network ACLs and Security Groups
- AWS Direct Connect and VPNs
- Content Delivery with Amazon CloudFront
- Hands-On Lab: Designing and Configuring a VPC

Module 5: AWS Databases and Analytics

- Amazon RDS: Relational Database Services
- Amazon DynamoDB: NoSQL Database Solutions
- Data Warehousing with Amazon Redshift
- Analytics with Amazon EMR, Athena, and QuickSight
- Hands-On Lab: Setting Up and Managing Databases on AWS

Module 6: AWS Security, Identity, and Compliance

- Securing AWS Environments: IAM, KMS, and Shield
- Implementing Identity Federation and SSO
- AWS Organizations for Account Management
- Compliance and Governance on AWS

- Hands-On Lab: Configuring Security and Identity Management

Module 7: High Availability, Fault Tolerance, and Disaster Recovery

- Designing for High Availability and Fault Tolerance
- Disaster Recovery Strategies on AWS
- Multi-Region and Multi-AZ Architectures
- Backups and Snapshots for Disaster Recovery
- Hands-On Lab: Implementing a Highly Available Architecture

Module 8: Application Integration and Messaging

- Amazon SQS, SNS, and MQ for Messaging and Queuing
- Event-Driven Architectures with Amazon EventBridge
- Microservices Architecture and AWS Step Functions
- Hands-On Lab: Building an Event-Driven Architecture

Module 9: Automation, Monitoring, and Optimization

- Infrastructure as Code with AWS CloudFormation and Terraform
- Monitoring and Logging with CloudWatch and CloudTrail
- Cost Management and Optimization Techniques
- AWS Trusted Advisor and Cost Explorer
- Hands-On Lab: Automating Infrastructure Deployment

Module 10: Real-World Architectures and Final Review

- Real-World AWS Architecture Use Cases and Best Practices
- Case Studies: Scalable, Secure, and Cost-Effective Solutions
- Final Project: Designing and Presenting an AWS Solution Architecture
- Review of Key Concepts for AWS Certified Solutions Architect Exam
- Course Summary and Next Steps in AWS Certification

work environment: AWS Management Console, AWS CLI, AWS CloudFormation, Amazon EC2, Amazon S3, AWS Lambda, Amazon RDS, Amazon VPC

Prerequisites

- Basic knowledge of AWS services.
- Experience with distributed systems and general IT infrastructure concepts.