Architecting on AWS (AWS Certified Solutions Architect - Associate (SAA-C03))

Course Level:
Intermediate

Course Duration:
3 Days

Course Overview:

This Architecting on AWS Accelerator training course from CloudThat combines Architecting on AWS and Advanced Architecting on AWS to offer a comprehensive, immersive learning in cloud architecture. It covers all aspects of how to architect for the cloud over 5 days. By attending this Architecting on AWS accelerator course, candidates learn how to design cloud architectures, starting small and working to large-scale enterprise level designs—and everything in between.

Starting with the Well Architected Framework, you will be immersed in AWS services like compute, storage, database, networking, security, monitoring, automation, optimization, benefits of de-coupling applications and serverless, building for resilience, and understanding costs. Using hands-on labs, you will apply knowledge from lectures to gain skills. This course includes presentations, group exercises, and hands-on labs.

Prerequisites

We recommend that attendees of this course have:

- Attended AWS Technical Essentials classroom training or have equivalent experience

- Working knowledge of distributed systems

- Familiarity with general networking concepts

- Working knowledge of multi-tier architectures

- Familiarity with cloud computing concepts

Objectives

- Make architectural decisions based on AWS architectural principles and best practices

- Use AWS services to make your infrastructure scalable, reliable, and highly available

- Use AWS Managed Services to enable greater flexibility and resiliency in an infrastructure

- Make an AWS-based infrastructure more efficient to increase performance and reduce costs

- Use the Well-Architected Framework to improve architectures with AWS solutions

- Explain the SysOps and DevOps interdependencies necessary to deploy a microservices application in AWS

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Course Outline

Day 1

Module 1: Introduction

- The real story of AWS
- Well-Architected Framework
- Six advantages of the cloud
- Global infrastructure

Module 2: The Simplest Architectures

- Amazon Simple Storage Service (Amazon S3)
- Amazon S3 Glacier
- Choosing AWS Regions for your architectures
- Lab: Hosting a Static Website

Module 3: Adding a Compute Layer

- Amazon Elastic Compute Cloud (Amazon EC2)
- Storage solutions for instances
- Purchasing options such as dedicated host vs instances

Module 4: Adding a Database Layer

- Relational vs non-relational
- Managed databases
- Amazon Relational Database Service (Amazon RDS)
- Amazon DynamoDB
- Amazon Neptune
- Lab: Deploying a Web Application on AWS

Module 5: Networking in AWS – Part 1

- Amazon Virtual Private Cloud (Amazon VPC)
- IDR and subnets
- Public vs private subnets
- NAT and internet gateway
- Security groups

Day 2

Module 6: Networking in AWS – Part 2

- Virtual Private Gateway
- VPN
- Direct Connect
- VPC peering
- Transit Gateway
- VPC Endpoints
- Elastic Load Balancer
- Route 53
- Lab: Creating a VPC

Module 7: AWS Identity and Access Management (IAM)

- Account users and AWS IAM
- Federating users
- Amazon Cognito

Module 8: Organizations

- Organizations
- Multiple account management
- Tagging strategies

Module 9: Elasticity, High Availability, and Monitoring

- Elasticity vs inelasticity
- Monitoring with CloudWatch, CloudTrail, and VPC Flow Logs
- Auto scaling
- Scaling databases
- Lab: Creating a highly available environment

Module 10: Automation

- Why automate?
- AWS CloudFormation
- AWS Quick Starts
- AWS Systems Manager
- AWS OpsWorks
- AWS Elastic Beanstalk

Day 3

Module 11: Deployment Methods

- Why use a deployment method?
- Blue green and canary deployment
- Tools to implement your deployment methods
- CI/CD
- Lab: Automating infrastructure deployment

Module 12: Caching

- When and why you should cache your data
- Caching on AWS with Amazon CloudFront
- Amazon ElastiCache (Redis/Memcached)
- Amazon DynamoDB Accelerator (DAX)

Module 13: Security of Your Data

- Shared responsibility model
- Data classification
- Encryption
- Automatic data security

Module 14: Building Decoupled Architecture

- Tight coupling vs loose coupling
- Amazon Simple Queue Service (SQS)
- Amazon Simple Notification Service (SNS)

Module 15: Optimizations and Review

- Review questions
- Best practices
- Activity: Design and architecture - two trues and one lie

Day 4

Module 16: Microservices

- What is a microservice?
- Containers
- ECS
- Fargate
- EKS

Module 17: Serverless

- Why use serverless?
- Lambda
- API Gateway
- AWS Step Functions
- Lab: Implementing a serverless architecture with AWS Managed Services

Module 18: Building for Resilience

- Using managed services greatly increases resiliency
- Serverless for resiliency
- Issues with microservices to be aware of
- DDoS
- Lab: Amazon CloudFront content delivery and automating WAF rules

Module 19: Networking in AWS Part 3

- Elastic Network Adapter
- Maximum transmission units
- Global Accelerator
- Site to site VPN
- Transit Gateway

Module 20: Understanding Costs

- Simple monthly calculator
- Right sizing your instances
- Price sensitive architecture examples

Day 5

Module 21: Migration Strategies

- Cloud migration strategies
- Planning
- Migrating
- Optimizing
- Lab: Application deployment using AWS Fargate

Module 22: RTO/RPO and Backup Recovery Setup

- Disaster planning
- Recovery options

Module 23: Final Review

- Architecting advice
- Service use case questions
- Example test questions

Who should attend this course?

- Solutions Architects who are new to designing and building cloud architectures
- Data Center Architects who are migrating from on-premises environment to cloud architectures
- Other IT/cloud roles who want to understand how to design and build cloud architectures

About CloudThat

CloudThat is the first company in India to offer Cloud Training & Consulting services for mid-market & enterprise clients from across the globe. Since our inception in 2012, we have trained over 500K IT professionals from fortune 500 companies on technologies such as Microsoft Azure, Amazon Web Services, VMware, Artificial Intelligence, Machine Learning, Google Cloud, IoT, Dynamics 365, Power Platform, Power BI, HPE AI, DevOps, Big Data, Kubernetes, Terraform and more.

With expertise in all the major Cloud platforms, CloudThat is a proud Microsoft Gold Partner, AWS Authorized Training Partner, VMware Authorized Training Reseller, Google Cloud Platform Partner and HPE Learning Partner. Through sheer dedication and commitment towards customer excellence, we have been the winner of the Microsoft Asia Superstar Campaign for India – 2021 as well as recognized as the winner of Microsoft Learning Partner of the Year 2021 Finalist award. Recently, we have been recognized as the Microsoft 2022 Partner of the Year Finalist - Learning Award.

Our Success Track

11+ Years of Experience	**100+** Corporates served	**28+** countries catered
650K+ Professionals trained	**300+** Projects delivered	**500+** Cloud certifications

To know more about our certification training, email at **sales@cloudthat.com** or call us at **+918880002200.**