

# AWS Certified Solutions Architect – Associate (SAA-C03)

This AWS Certified Solutions Architect – Associate (SAA-C03) training teaches skills needed to design AWS-based cloud solutions. This course prepares you for the SAA exam, which is needed to earn your AWS Certified Solutions Architect - Associate certification.

[CBT Nuggets course material](#) →

## WEEK 1

### Understand AWS Accounts, Regions, and Tooling 154 min.

Introducing AWS Accounts	1
Create an AWS Account and Organization	15
Regions, AZs, and More	15
Know Your Docs	8
Know Your Tools	9
Know Your (service) Limits	5

### Understand IAM

Overview	1
Introducing IAM	1
Authentication	14
Authorization	10
The Guts of a Policy	11
Access Keys	10
Resource Policies	4
ARNs	6

### Understand and Launch EC2 Instances

Overview	1
Introducing EC2	1
Understand EC2 Layouts	10
Create a VPC	10
Launch an EC2 Instance	13
Connect to an EC2 Instance via SSH	3
Launch a Windows EC2 Instance	4

## WEEK 2

151 min.

Connect to a Windows EC2 Instance via RDP	3
Develop Remotely with VS Code Extensions	6
Terminate Instances	1

### Monitor and Manage EC2 Instances

Overview	1
Introducing Managing and Monitoring EC2	1
Launch with an Extra EBS Data Volume	11
Add an EBS Data Volume to an Existing EC2 Instance	8
EBS Snapshot Planning	7
UserData Startup Actions	7
EC2 Monitoring Basics	12
EC2 AutoRecovery	3

### Understand VPCs and Network Management

Overview	1
Introducing VPC Designs	1
Elastic Network Interfaces	10
SGs and NACLs	10
Packet Walk	7
NAT Gateways	8
Implement Management Networks	11
Test Management Connectivity	10

### Plan and Implement EC2 Scaling

Overview	1
Introducing EC2 Scaling	1
Vertical Scaling	5

Load Balancing Options	7
Deploy Application Load Balancers	16

## WEEK 3

157 min.

Manually Scale Out	4
AutoScale Components	4
Launch Templates	5
AutoScaling Groups	10
Scaling Policies	5

### Configure VPC Tunnel Connectivity

Overview	1
Introducing External VPC Connectivity and Tunnels	1
Understand Transit Gateways	9
Deploy Transit Gateways	9
Attach Transit Gateways	12
VPC Peering	10
Transit Gateway IPsec Site-to-Site VPN Design	7
Implement VPN Attachments	11

### Understand and Design Web Scale Architectures

Overview	1
Introducing Web Scale Design Patterns	2
Understand Web Scale Design Patterns	17
Microservices	12
Loose Coupling	8
Deploy Beanstalk	9
Work with Route 53	8

Offload to S3 10

## WEEK 4

154 min.

Blue-Green Deployments with Beanstalk 7

### Understand Asynchronous, Loosely Coupled Architecture

Overview 1

Introducing Queueing Architectures 1

Understand SQS Resource Architecture 15

SQS Timers 8

Deploy and Test SQS 9

Understand SNS Resource Architecture 7

Deploy SNS 4

Create a Subscription 3

### Implement B2C Authentication with Amazon Cognito

Overview 1

Introducing AWS Cognito 2

Cognito Pools 13

Create a User Pool 13

Pool and App Config 12

Explore the Hosted UI 4

Test with Postman 8

Identity Pools 7

Lambda Triggers 3

### Understand Enterprise Authentication Options in AWS

Overview 1

Introducing Federated Authentication 1

Federation Basics 10

SSO Options 7

Prep for Assume Role 7

Assume a Role 7

## WEEK 5

155 min.

Understand AWS Directory Services 13

### Understand Security Principles and Resources in AWS

Overview 1

Introducing Security Principles and AWS Resources 1

Principle of Least Privilege 8

Shared Responsibility Model 9

AWS Secrets Manager 9

AWS Shield 4

AWS Web Application Firewall (WAF) 5

AWS GuardDuty 7

AWS Macie 5

### Encrypt Data in AWS

Overview 1

Introducing Data Encryption in AWS 2

Request a Certificate from AWS Certificate Manager 17

Install the Certificate on Elastic Load Balancer 4

Working with KMS 13

Key Rotation Concepts 7

Use KMS Keys	5
Understand CloudHSM	5

### Mitigate DDoS Attacks with AWS Shield

Overview	1
Introducing DDoS Mitigation	1
Understand DDoS Attacks	11
Understand Network Attacks	8
Understand Application Attacks	6
AWS Shield Standard	4
AWS Shield Advanced	5

## WEEK 6

163 min.

Reduce Your Attack Surface	5
Scale to Absorb Attacks	5

### Understand and Deploy AWS REST API Gateway

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Introducing API Gateway	1
API Fundamentals	14
API Gateway Options	9
Deploy API Gateway	5
Process Inbound Requests	7
Handle Params and Query Strings	11
Validate Payloads with Data Models	4
Integrate with Lambda	8

### Understand AWS Lambda

Overview	1
Introducing AWS Lambda	2
The Point of Lambda	17
Deploy Lambda from the Console	10
Explore Sample Code	4
Ship Sample Code from the CLI	7
Package Dependencies with Your App	5
Ship, Test, and Monitor the App	4

### Understand Caching Strategies

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Introducing Caching Strategies	1
CloudFront Fundamentals	12
Deploy a CloudFront Distribution	11
Understand In-Memory Caching	15

## WEEK 7

158 min.

Configure the Network for Redis	8
Deploy ElastiCache	11
Connect to Redis	6

### Containerize an Application

Overview	1
Introducing Containers	1
The Point of Containers	16
The Basics of Docker	12
Scaffold a React App	9
Dockerfile	8

Build and Test the Container	10
Push to Docker Hub	8

### Host Containers in AWS Using ECR, ECS, and Fargate

Overview	1
Introducing ECR and ECS	1
Understand ECR and ECS	9
Recap Our App	5
Deploy ECR	6
Login and Push	9
Define the ECS Task and Service	12
Test and Monitor	5

### Understand Container Orchestration Options in AWS

Overview	1
Introducing Orchestration with EKS	2
The Point of Kubernetes	14

## WEEK 8

151 min.

Deployments, Services, and Pods	7
Create a Full EKS Cluster	15
Run a Deployment	10

### Understand Data Storage Options in AWS

Overview	1
Introducing AWS Storage Options	2
EBS	9
EFS	13

S3	9
RDS	10
DynamoDB	8
Timestream	7

### Understand and Deploy RDS

Overview	1
Introducing RDS	1
A Brief History of RDBMS	13
When to Use an RDBMS	11
RDS Features	17
Deploy RDS	13

### Understand and Deploy S3

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151 min.

Introducing S3	1
When to Use S3	16
Create a Bucket	11
Bucket Policies	10
Bucket Versioning	10
Lifecycle Policies	11
Cross-Region Replication	13

### Understand and Deploy DynamoDB

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Introducing DynamoDB	1

When to Use DynamoDB	15
Partition and Sort Keys	13
Deploy a Table	5
Create an Item	4
Backup DynamoDB	3
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### Create an ETL Pipeline with AWS Glue

Overview	1
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Glue and ETL Basics	8
Prep Your Data	7
Create a Database and Crawler	14

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154 min.

Query the Catalog with AWS Athena	5
Create an ETL Job	10
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### Implement Hybrid Storage Solutions with Storage Gateway

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Storage Gateway Foundations	8
Deploy the Storage Gateway ESXI Appliance	10
Configure Storage Gateway	6
Create and Mount the NFS Fileshare	8
Create and Deploy a Volume Gateway	7
Create and Mount the iSCSI Volume	9

### Leverage AWS Data Transfer and Processing Services

Overview	1
Introducing AWS Data Engineering Options	1
Understand AWS DataSync	8
Quick NFS Server Setup	6
Deploy the Agent Appliance	5
Configure the Agent Appliance	3
Run the Migration Task	9
Understand AWS EMR	8
Deploy an EMR Cluster	13

### Use Kinesis Firehose for Streaming Data Ingestion

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Introducing Kinesis Firehose	1
Deploy an EC2 Instance	11
Create a Delivery Stream	8
Configure IAM	9

## WEEK 11

151 min.

Install and Configure the Agent	10
Explore the Log Script and Test it	6

### Explore Amazon Analytics Tools

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Introducing AWS Analytics Tools	1
Understand Analytics Pipelines	9
Ingest Data with AWS Lake Formation	20
Create an RDS Connection	7
Create and Run the Blueprint	7

Query Data with Athena	9
Understand AWS Quicksight	9
Connect Quicksight to Your Data	5
Visualize Data with Quicksight	5

### Recognize AWS Managed Machine Learning Services

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Introducing AWS Machine Learning Tools	2
Understand Machine Learning on AWS	13
Deploy a SageMaker Notebook Instance	7
Run a Jupyter Notebook	8
Explore SageMaker Studio and AutoML	14
Amazon Polly and Amazon Transcribe	7
Amazon Comprehend	5
Amazon Translate	3

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### Design Application Resources for Disaster Recovery in AWS 153 min.

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RTO and RPO	12
Backup and Restore Strategy	10
Infrastructure as Code Templates	8
Pilot Light	7
Elastic Disaster Recovery	4
Warm Standby	2
Active-Active	4

### Utilize AWS Batch for Batch Compute Operations

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Introducing AWS Batch	1
When to Use Batch	14
Prep and Push a Container to ECR	6
Set Up a Compute Environment	9
Set Up a Job Definition	8
Set Up a Job Queue	6
Create and Run a Job	7

### Analyze Billing with AWS Cost and Usage Reports

Overview	1
Introducing Cost Management and Billing	2
Create the Report	11
Deploy the CloudFormation Template	13
Query the Database with Athena and Explore the Data Dictionary	8
Connect QuickSight to the Athena Database	5
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153 min.

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### Plan for Account, Application, and Systems Logging in AWS

Overview	1
Plan for Logging in AWS	2
The 6 Concepts of Log Design	18
Monitor the Who	7
Monitor Operational Changes	9

Monitor Resource Access	10
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### **Monitor AWS Resources with CloudWatch**

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Monitor Resources with Cloudwatch	1
Cloudwatch Basics	12
Dashboards	10
Metric Components	11
Integrated Metrics	7
Custom Metrics	10

### **Plan for Account Monitoring in AWS**

Overview	1
Introducing Account Monitoring Designs	1
Where Monitoring Happens	13
What to Monitor	11
Monitor AWS Health Status	13

## **WEEK 14**

**22 min.**

Monitor Root Account Activity	8
Configure CloudWatch Metrics and Alarms	13