## **About the course**

The AWS Certified Developer – Associate course is designed for individuals interested in learning how to create applications using AWS. Tailored for intermediate-level students, the course starts with a comprehensive introduction to cloud computing basics. It then progresses into an extensive curriculum covering the development, deployment, and management of applications, with a focus on serverless architectures, within the AWS environment.

Skill Level Intermediate

Duration 50Hr

Quizzes 10

Practice Exams 2

Labs 15

### CHAPTER 1 **Introduction**

* Introduction
* What Can I Skip?
* The DVA-C02 Exam Blueprint
* Course Updates and Changelogs

### CHAPTER 2 **Beginner's Guide to IAM**

* IAM 101
* IAM Demo
* **HANDS-ON LAB**: Introduction to AWS Identity and Access Management (IAM)
* Testing IAM Policy Permissions
* IAM 101 Summary
* **QUIZ**: AWS Certified Developer - Associate - Beginners Guide to IAM Quiz

### CHAPTER 3 **Beginner's Guide to EC2**

* Introducing EC2
* EC2 Pricing Options
* Exploring EC2 Instance Types
* Launching an EC2 Instance - Demo
* Using EC2 Instance Connect - Demo
* Understanding EBS Volumes
* Creating an EBS Volume - Demo
* Exploring Elastic Load Balancer
* Route 53 Demo
* CLI Demo Lab
* CLI Pagination
* Working With The AWS CloudShell - Demo
* EC2 with S3 Role Demo
* RDS 101
* RDS Demo
* RDS Multi-AZ and Read Replicas
* RDS Backups and Snapshots
* Increasing Scalability Using RDS Proxy
* Elasticache 101
* Introducing MemoryDB For Redis
* Demo: Systems Manager Parameter Store
* Demo: Securely Storing Secrets With AWS Secrets Manager
* Discovering EC2 Image Builder
* Creating an AMI Using EC2 Image Builder - Demo
* Using AMIs in a Different Region
* EC2 Summary
* **QUIZ**: AWS Certified Developer - Associate - Beginner's Guide to EC2 Quiz

### CHAPTER 4 **S3**

* Reviewing S3 Storage Classes
* Securing S3 Buckets
* S3 Bucket Policies Demo
* **HANDS-ON LAB**: Create a Static Website Using Amazon S3
* S3 Encryption
* Configuring Encryption on an S3 Bucket - Demo
* CORS Configuration - Demo
* Overview of CloudFront
* Configuring Amazon CloudFront Demo
* Configuring CloudFront With Origin Access Identity
* Understanding CloudFront AllowedMethods
* Introducing Athena
* Demo: Working with Athena
* S3 Summary
* **QUIZ**: AWS Certified Developer - Associate - S3 Quiz

### CHAPTER 5 **Introduction to Serverless Computing**

* Serverless 101
* Introducing Lambda
* **HANDS-ON LAB**: Creating a Lambda Function Using the AWS Console
* API Gateway
* Building a Serverless Website - Demo
* Version Control With Lambda - Demo
* Lambda Concurrent Executions Limit
* Lambda and VPC Access
* Example Serverless Architectures
* Step Functions - Demo
* **HANDS-ON LAB**: Building a Serverless Application Using Step Functions, API Gateway, Lambda, and S3 in AWS
* **HANDS-ON LAB**: Building and Troubleshooting a Serverless Web Application
* Comparing Step Functions Workflows
* Understanding Ephemeral and Persistent Data Storage Patterns
* Lambda Environment Variables and Parameters
* Configuring a Lambda Function Using Environment Variables and Parameters - Demo
* Handling Lambda Event Lifecycle and Errors
* Lambda Deployment Packaging Options
* Using Lambda Destinations and Dead-Letter Queues - Demo
* Advanced API Gateway
* Using API Gateway Mock Endpoints for Integration Testing and Resolving Integration Dependencies
* Using API Gateway Stages for Testing Deployed Code
* Creating Dynamic Lambda Deployments Using API Gateway Staging Variables
* API Response and Request Transformations
* API Gateway Caching and Throttling
* Understanding X-Ray
* X-Ray Configuration
* X-Ray Demo
* Serverless Summary
* **QUIZ**: AWS Certified Developer - Associate - Introduction to Serverless Computing Quiz

### CHAPTER 6 **DynamoDB**

* Introduction to DynamoDB
* Creating a DynamoDB Table - Demo
* DynamoDB Access Control
* Indexes Deepdive
* **HANDS-ON LAB**: AWS DynamoDB in the Console - Creating Tables, Items, and Indexes
* Scan vs Query API Call - Demo
* Using DynamoDB API Calls
* DynamoDB Provisioned Throughput
* DynamoDB On-Demand Capacity
* DynamoDB Accelerator (DAX)
* DynamoDB TTL - Demo
* DynamoDB Streams
* Provisioned Throughput Exceeded and Exponential Backoff
* DynamoDB Summary
* **QUIZ**: AWS Certified Developer - Associate - DynamoDB Quiz

### CHAPTER 7 **KMS and Encryption on AWS**

* KMS
* Creating A CMK - Demo
* CMK Summary
* Understanding KMS API Calls - Demo
* Exploring Envelope Encryption
* Enabling and Disabling KMS Key Rotation - Demo
* Certificate Management in AWS
* KMS Summary
* **QUIZ**: AWS Certified Developer - Associate - KMS and Encryption on AWS Quiz

### CHAPTER 8 **Other AWS Services**

* SQS
* Understanding SQS Queue Types
* SQS Settings
* SQS Delay Queues & Large Messages
* **HANDS-ON LAB**: Triggering AWS Lambda from Amazon SQS
* Simple Notification Service
* SES vs SNS
* Kinesis
* Setting Up A Kinesis Data Stream - Demo
* Kinesis Shards and Consumers
* Introducing Elastic Beanstalk
* Updating Elastic Beanstalk
* Deploying An Application With Elastic Beanstalk - Demo
* Updating An Application In Elastic Beanstalk - Demo
* Advanced Elastic Beanstalk
* RDS & Elastic Beanstalk
* Migrating Applications to Elastic Beanstalk
* Other AWS Services Summary
* **QUIZ**: AWS Certified Developer - Associate - Other AWS Services Quiz

### CHAPTER 9 **Developer Theory**

* What is CI/CD?
* CodeCommit 101
* CodeCommit Demo
* **HANDS-ON LAB**: Configure and Work with CodeCommit from the CLI
* CodeDeploy 101
* The CodeDeploy AppSpec File
* CodeDeploy Lifecycle Event Hooks
* **HANDS-ON LAB**: Deploying an Application Using CodeDeploy
* CodePipeline 101
* CodePipeline Demo
* **HANDS-ON LAB**: Setting Up an AWS CodePipeline with a Manual Approval
* **HANDS-ON LAB**: Working with a DevOps CI/CD Pipeline in AWS
* Introducing CodeArtifact
* Demo - Creating a CodeArtifact Repository
* Elastic Container Service
* Introduction To CloudFormation
* Provisioning Resources Using CloudFormation Demo
* **HANDS-ON LAB**: Create a DynamoDB Table Using CloudFormation
* Exporting CloudFormation Stack Values
* The Serverless Application Model (SAM)
* CloudFormation and SAM Demo
* CloudFormation Nested Stacks
* **HANDS-ON LAB**: Working with CloudFormation Nested Stacks
* Introducing The Cloud Development Kit (CDK)
* CDK Demo
* Introducing Amplify
* Amplify Demo
* Developer Theory Summary
* **QUIZ**: AWS Certified Developer - Associate - Developer Theory Quiz

### CHAPTER 10 Advanced IAM

* Web Identity Federation
* Cognito User Pools Demo
* Cognito Identity Pools Demo
* Inline Policies vs Managed Policies vs Customer Managed Policies
* **HANDS-ON LAB**: Working With AWS Managed Policies, Customer Managed Policies, and Inline Policies
* STS AssumeRoleWithWebIdentity
* Configuring Cross Account Access - Demo
* Advanced IAM Summary
* **QUIZ**: AWS Certified Developer - Associate - Advanced IAM Quiz

### CHAPTER 11 **Monitoring**

* Introduction to CloudWatch
* CloudWatch Demo
* Creating CloudWatch Dashboards Demo
* Understanding CloudWatch Concepts
* CloudWatch vs CloudTrail
* **HANDS-ON LAB**: Using CloudWatch for Resource Monitoring
* Using CloudWatch Actions
* Exploring CloudWatch Logs Insights Demo
* Receiving Notifications with CloudWatch - Demo
* What is EventBridge?
* Using EventBridge - Demo
* Recognizing Common HTTP Error Codes
* Recognizing Common SDK Exceptions
* Monitoring Summary
* **QUIZ**: AWS Certified Developer - Associate - Monitoring Quiz

### CHAPTER 12 **Additional Resources to Help You Prepare for the Exam**

* Additional Resources

**PRACTICE EXAM**