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