

DVA-C02: AWS Developer – Associate

Write, deploy and debug cloud-native applications on AWS — and prepare for the DVA-C02 Developer exam with code-first labs.

DURATION

3 days · 24 hours

LEVEL

Intermediate

CURRICULUM

9 modules · 8 labs

DELIVERYLive online, Onsite,
Corporate

Course overview

Developers who work on AWS need more than a working knowledge of services: they need to know how to call them safely from code, how to package and release changes, and how to find the problem when a function times out at two in the morning. This three-day course is written for that developer and is taught almost entirely through code.

Day one covers development with core AWS services. You will use the SDK and CLI against Amazon S3 and DynamoDB, design partition keys and access patterns, and build event-driven functions with AWS Lambda, API Gateway, SQS, SNS and EventBridge. Day two concentrates on security and deployment: authentication with Amazon Cognito, IAM roles for applications, secrets and encryption, then packaging with AWS SAM and CDK and releasing through CodePipeline with safe deployment strategies.

Day three is about keeping applications healthy. You will instrument code with CloudWatch metrics, structured logs and X-Ray traces, work through realistic failure scenarios such as throttling, cold starts and permission errors, and tune performance with caching and concurrency settings. The trainer reviews code with you throughout, so you see both the idiomatic approach and common mistakes.

Labs are provided in Python, with notes for Node.js and Java developers. The final session reviews exam technique and works through practice questions. The course is aligned to the DVA-C02 exam guide and prepares you for the exam; confirm the latest exam guide on the AWS Certification site before booking.

Highlights

- 24 hours of live, code-first training
- Labs using the AWS SDK, CLI, SAM and CDK
- Serverless, containers and CI/CD in one course
- Mapped to the four DVA-C02 exam domains
- Debugging and optimisation drills with CloudWatch and X-Ray

What's included

- Code-first labs in Python with Node.js notes
- Serverless application built end to end
- Infrastructure as code with AWS SAM and CDK
- CI/CD pipeline with blue/green and canary releases
- Troubleshooting drills with CloudWatch and X-Ray
- Practice questions with explained answers
- Course completion certificate from Ace Skills Consulting

Who this course is for

Who should attend

- Software developers building applications on AWS
- Backend and API engineers moving to serverless
- DevOps engineers who write application code
- Full-stack developers preparing for an AWS role

Prerequisites

- Programming experience in at least one language (Python preferred)
- Basic knowledge of REST APIs, JSON and Git
- Cloud Practitioner-level understanding of AWS recommended

Detailed curriculum — 3 days, 24 hours, 9 modules, 8 hands-on labs

Day 1 Developing with AWS Services

8 hours

1.1 SDK, CLI and data stores

- Credentials, profiles and the default provider chain
- DynamoDB keys, indexes and access patterns
- Working with S3 from code
- Pagination, retries and exponential backoff

LAB Read and write DynamoDB items with the Python SDK · 45 min

1.2 AWS Lambda

- Handlers, events and context
- Concurrency, timeouts and memory tuning
- Environment variables and layers
- Destinations and dead-letter queues

LAB Build and test a Lambda function triggered by S3 uploads · 45 min

1.3 APIs and event-driven design

- API Gateway REST and HTTP APIs
- EventBridge rules and event buses
- SQS, SNS and fan-out
- Step Functions for workflows

LAB Create a serverless API with API Gateway, Lambda and DynamoDB · 60 min

Day 2 Security & Deployment

8 hours

2.1 Application security

- Cognito user pools and identity pools
- Secrets Manager and Parameter Store
- IAM roles for Lambda and containers
- Client-side and server-side encryption with KMS

LAB Protect an API with a Cognito authoriser · 45 min

2.2 Packaging and infrastructure as code

- AWS SAM templates and local testing
- Container images in Amazon ECR
- AWS CDK constructs and stacks
- Elastic Beanstalk deployment options

LAB Deploy the application with AWS SAM · 45 min

2.3 CI/CD on AWS

- CodeCommit alternatives and source integration
- CodePipeline stages and approvals
- Lambda versions and aliases
- CodeBuild buildspec files
- CodeDeploy blue/green, canary and linear rollouts

LAB Build a pipeline with a canary Lambda deployment · 60 min

Day 3 Troubleshooting, Optimisation & Exam Readiness

8 hours

3.1 Observability

- CloudWatch metrics, custom metrics and alarms
- AWS X-Ray tracing
- Structured logging and Logs Insights
- Embedded metric format

LAB Instrument the application and trace a slow request · 45 min

3.2 Troubleshooting and optimisation

- Diagnosing permission and throttling errors
- Caching with ElastiCache and API Gateway
- Cold starts and provisioned concurrency
- DynamoDB capacity modes and DAX

LAB Fix a set of deliberately broken functions · 50 min

3.3 Exam readiness

- DVA-C02 domain recap
- Question analysis techniques
- Timed practice set with review

Skills and tools

Skills you will build

AWS SDK

AWS Lambda

API Gateway

DynamoDB

Amazon SQS & SNS

EventBridge

Amazon Cognito

AWS SAM

AWS CDK

CodePipeline

CodeDeploy

CloudWatch

AWS X-Ray

Tools used in class

AWS CLI

AWS SDK for Python (Boto3)

AWS SAM CLI

AWS CDK

Visual Studio Code

Git

Postman

Docker

Certification exam

This course is aligned to the exam below and prepares you for it. The exam itself is booked and taken with the vendor.

Exam	AWS Certified Developer – Associate
Exam code	DVA-C02
Questions	65
Duration	130 minutes
Passing score	720 / 1000 (scaled)
Format	Multiple choice, Multiple response
Delivery	Online proctored, Test centre
Validity	3 years
Official page	https://aws.amazon.com/certification/certified-developer-associate/

Exam skill areas covered

Development with AWS Services
Troubleshooting and Optimization

Exam details are pending verification. Confirm the current exam code, format and fee on the official vendor page before booking.

Frequently asked questions

Which programming language is used?

Labs are written in Python, with notes for Node.js and Java. The exam itself is language-neutral, so any language background works.

Do I need to know Docker?

Basic familiarity helps but is not required. Container topics are introduced from the start where they appear in the course.

Is this different from Solutions Architect – Associate?

Yes. The architect course focuses on infrastructure design, while this course focuses on writing, deploying and debugging application code.

Can I keep the lab code?

Yes. All lab code and templates are shared in a repository you can keep and reuse.

Do you offer team training for development squads?

Yes. We can run a private batch and adapt the labs to your team's language and deployment tooling.

Book a batch or talk to an advisor

Course page: aceskillsconsulting.com/course/dva-c02-aws-developer-associate · Email: info@aceskillsconsulting.com

Chennai office

Guindy, Chennai, Tamil Nadu

Delhi office

B-95, Old Post Office Street, Shakarpur
New Delhi 110092
Office: 98180 12523

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