

AWS Developer-Associate (DVA-C01)

Practical Prep

AWS DVA-C01 Developer Associate. Practical labs and core development services.

IT Certifications Instructor: Brian Taylor • 5 sections • 45 lessons • 16.25h total

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About this course

This course prepares you for the AWS Developer Associate (DVA-C01) exam with a practical focus. We cover core development services and how to use them in real projects.

You will work through hands-on labs, code examples, and practice questions. The course includes video lessons and downloadable resources.

Course curriculum

Foundations and AWS Setup

- **Setting Up Your AWS Developer Account (12m)**
A step-by-step guide to configuring your AWS free tier account, setting up billing alerts, and creating your first IAM user with developer permissions.
- **the AWS CLI and SDKs (18m)**
Learn how to install and configure the AWS Command Line Interface for efficient management and understand the role of SDKs in your applications.
- **Understanding AWS Global Infrastructure (8m)**
A quick overview of Regions, Availability Zones, and Edge Locations, and why this matters for application performance and resilience.
- **Core IAM Concepts for Developers (15m)**
We'll dive into policies, roles, and permissions, showing you how to apply the principle of least privilege in a development environment.
- **Introduction to Infrastructure as Code (IaC) (25m)**
Get your first taste of managing infrastructure programmatically using AWS CloudFormation, with a downloadable template to get started.
- **Navigating the AWS Management Console (10m)**
A practical walkthrough of the console, highlighting key services you'll use frequently and tips for finding what you need quickly.
- **Budgets and Cost Monitoring for Devs (11m)**
A real-world look at how to set up budgets and cost alerts so you never get a surprise bill after a long lab session.

Core Compute and Storage Services

- **How EC2 Works: A Developer's View (22m)**
Beyond the basics, we'll cover instance types, security groups, and user data scripts to automate instance setup.
- **Deploying Your First Lambda Function (32m)**
A hands-on lab where you'll write, deploy, and test a simple serverless function using Python and the AWS Management Console.
- **S3: Buckets, Objects, and Permissions (28m)**
Learn the fundamentals of object storage, including how to set bucket policies, manage access control lists (ACLs), and enable versioning.
- **S3 Lifecycle Policies and Storage Classes (14m)**
A problem-solving session on optimizing storage costs by automatically moving objects between Standard, Intelligent-Tiering, and Glacier.
- **Building a Static Website on S3 (20m)**
A real case study analysis of hosting a static website, configuring it for public access, and using CloudFront for global delivery.

- **Elastic Beanstalk for Easy Deployments (26m)**
See how to deploy a web application without managing the underlying infrastructure, including environment configuration and updates.
- **ECS and ECR: Container Management Basics (30m)**
A step-by-step guide to building a Docker image, pushing it to ECR, and running it as a service on ECS.
- **When to Use EC2 vs. Lambda vs. Containers (16m)**
A strategic comparison to help you choose the right compute service for different application needs, a common exam scenario.
- **Introduction to API Gateway (19m)**
Learn how to create a REST API that triggers your Lambda functions, covering methods, stages, and deployment.

Databases and Data Modeling

- **DynamoDB: Tables, Items, and Keys (24m)**
A deep dive into the core components of DynamoDB, focusing on primary keys and how to design them for your access patterns.
- **Advanced DynamoDB: Indexes and Queries (31m)**
We'll show you how to use Global and Local Secondary Indexes to perform efficient queries that aren't possible with the primary key alone.
- **RDS: Setting Up a Managed Database (27m)**
A practical walkthrough of launching a MySQL database on RDS, connecting to it, and managing backups and patches.
- **Connecting Your App to RDS Securely (15m)**
A problem-solving session on using security groups and IAM authentication to securely connect your application to an RDS instance.
- **ElastiCache for Application Performance (13m)**
Learn how to implement a caching layer using Redis or Memcached to speed up database responses and reduce load.
- **Redshift and Data Warehousing for Devs (12m)**
A brief overview of Redshift's role in analytics and how developers might interact with it for data reporting applications.
- **Choosing the Right Database Service (18m)**
A real case study analysis comparing RDS, DynamoDB, Redshift, and Aurora to solve different business requirements.

Security, Deployment, and CI/CD

- **Securing Your Applications with IAM Roles (20m)**
A deep dive into creating and attaching IAM roles to services like Lambda and EC2, avoiding hardcoded credentials.
- **AWS Secrets Manager vs. Parameter Store (17m)**
A practical guide on how to store and rotate database credentials and API keys securely.

- **CloudWatch: Logs, Metrics, and Alarms (29m)**
Learn how to instrument your code with logs, create custom metrics, and set up alarms to monitor application health.
- **X-Ray: Tracing and Debugging Microservices (23m)**
A step-by-step guide to enabling X-Ray on your applications to visualize service maps and pinpoint performance bottlenecks.
- **Building a CI/CD Pipeline with CodePipeline (35m)**
A comprehensive lab where you'll build a full pipeline from CodeCommit, through CodeBuild, to a deployment on Elastic Beanstalk.
- **CodeDeploy: Zero-Downtime Deployments (21m)**
Learn how to deploy updates to EC2 instances or Lambda functions with strategies like blue/green and canary deployments.
- **CloudFormation: Writing Your Own Templates (34m)**
A hands-on session on authoring a CloudFormation template from scratch to define a multi-tier application stack.
- **Securing API Gateway with Cognito (19m)**
A real-world approach to using Amazon Cognito for user sign-up, authentication, and protecting your backend APIs.
- **KMS and Encryption: Protecting Data at Rest and in Transit (26m)**
A problem-solving session on using Key Management Service (KMS) to encrypt S3 objects and database backups.
- **WAF: Protecting Your Web Applications (11m)**
An overview of Web Application Firewall (WAF) and how to configure rules to block common web exploits.

Advanced Application Integration & Implementation

- **SQS: Decoupling Your Application Components (22m)**
A step-by-step guide to setting up a Standard and FIFO queue, and writing code to send and receive messages.
- **SNS: Event Notifications and Fan-Out (16m)**
Learn how to use Simple Notification Service to trigger Lambda functions or send emails based on application events.
- **Kinesis: Streaming Data Ingestion (28m)**
A practical look at Kinesis Data Streams for capturing and processing real-time data like application logs or clickstreams.
- **EventBridge: Building Event-Driven Architectures (30m)**
We'll show you how to use EventBridge to connect different AWS services without writing custom integration code.
- **Step Functions: Orchestrating Lambda Functions (33m)**
A real case study analysis of a multi-step process (like an order fulfillment workflow) built with Step Functions.

- **Migrating a Monolith to Serverless: A Strategy** (25m)
A problem-solving session on breaking down a traditional application into serverless components, identifying candidates for Lambda.
- **Cognito: User Pools vs. Identity Pools** (18m)
A clear breakdown of the two types of Cognito pools and when to use each for authenticating your users.
- **AppSync: Building Real-Time GraphQL APIs** (27m)
A hands-on introduction to AWS AppSync, creating a GraphQL API that connects to DynamoDB and Lambda resolvers.
- **DynamoDB Streams and Lambda Triggers** (23m)
Learn how to capture item-level modifications in DynamoDB and use them to trigger downstream processes.
- **Optimizing Lambda Performance and Cost** (15m)
A deep dive into memory allocation, cold starts, and connection pooling to get the most out of your serverless functions.
- **Final Exam Strategy: Scenario-Based Questions** (20m)
A review of common exam question patterns, how to eliminate wrong answers, and a final checklist before you schedule your test.
- **Putting It All Together: A Mini-Project** (38m)
A capstone lesson where you'll architect and outline the code for a small, serverless web app using multiple services from the course.

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