

Advanced Developing on AWS

Overview

This AWS-DEV: Developing on AWS course teaches experienced developers how to programmatically interact with AWS services to build web solutions. It guides you through a high-level architectural discussion on resource selection and dives deep into using the AWS Software Development Kits (AWS SDKs) and Command Line Interface (AWS CLI) to build and deploy your cloud applications.

You will build a sample application during this course, learning how to set up permissions to the development environment, adding business logic to process data using AWS core services, configure user authentications, deploy to AWS cloud, and debug to resolve application issues.

This AWS Developer training includes code examples to help you implement the design patterns and solutions discussed in the course. The labs reinforce key course content and help you to implement solutions using the AWS SDK for Python, .NET, and Java, the AWS CLI, and the AWS Management Console.

Course Objectives

- Build a simple end-to-end cloud application using AWS Software Development Kits (AWS SDKs), Command Line Interface (AWS CLI), and IDEs.
- Configure AWS Identity and Access Management (IAM) permissions to support a development environment.
- Use multiple programming patterns in your applications to access AWS services.
- Use AWS SDKs to perform CRUD (create, read, update, delete) operations on Amazon Simple Storage Service (Amazon S3) and Amazon DynamoDB resources.
- Build AWS Lambda functions with other service integrations for your web applications.
- Understand the benefits of microservices architectures and serverless applications to design.
- Develop API Gateway components and integrate with other AWS services.
- Explain how Amazon Cognito controls user access to AWS resources.
- Build a web application using Cognito to provide and control user access.
- Use DevOps methodology to reduce the risks associated with traditional application releases and identify AWS services that help in implementing DevOps practices.
- Use AWS Serverless Application Model (AWS SAM) to deploy an application.
- Observe your application build using Amazon X-Ray.

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Duration

3 Days

Who Should Attend

Intermediate-level software developers

Prerequisites

We recommend that attendees of this course have the following prerequisites:

- In-depth knowledge of at least one high-level programming language
- Working knowledge of core AWS services and public cloud implementation
- Completion of AWS-TE: AWS Technical Essentials is highly recommended

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Course Topics

Module 1	Introduction to AWS • Introduction to the AWS Cloud • Cloud scenarios • Infrastructure overview • Introduction to AWS foundation services
Module 2	Introduction to Developing on AWS • Getting started with developing on AWS • Introduction to developer tools • Introduction to management tools
Module 3	Introduction to AWS Identity and Access Management • Shared responsibility model • Introduction to IAM • Use authentication and authorization
Module 4	Introduction to the Lab Environment • introduction to the lab environment • Lab 1: Getting started and working with IAM
Module 5	Developing Storage Solutions with Amazon Simple Storage Service • Overview of AWS storage options • Amazon S3 key concepts • Best practices • Troubleshooting • Scenario: Building a complete application • Lab 2: Developing storage solutions with Amazon S3
Module 6	Developing Flexible NoSQL Solutions with Amazon DynamoDB • Introduction to AWS database options • Introduction to Amazon DynamoDB • Developing with DynamoDB • Best practices • Troubleshooting • Scenario: Building an end-to-end app • Lab 3: Developing flexible NoSQL solutions with Amazon DynamoDB

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Module 7	Developing Event-Driven Solutions with AWS Lambda • What is serverless computing? • Introduction to AWS Lambda • Key concepts • How Lambda works • Use cases • Best practices • Scenario: Build an end-to-end app
Module 8	Developing Solutions with Amazon API Gateway • Introduction to Amazon API Gateway • Developing with API Gateway • Best practices • Introduction to AWS Serverless Application Model • Scenario: Building an end-to-end app • Lab 4: Developing event-driven solutions with AWS Lambda
Module 9	Developing Solutions with AWS Step Functions • Understanding the need for Step Functions • Introduction to AWS Step Functions • Use cases
Module 10	Developing Solutions with Amazon Simple Queue Service and Amazon Simple Notification Service • Why use a queueing service? • Developing with Amazon Simple Queue Service • Developing with Amazon Simple Notification Service • Developing with Amazon MQ • Lab 5: Developing messaging solutions with Amazon SQS and Amazon SN
Module 11	Caching Information with Amazon ElastiCache • Caching overview • Caching with Amazon ElastiCache • Caching strategies
Module 12	Developing Secure Applications • Securing your applications • Authenticating your applications to AWS • Authenticating your customers • Scenario: Building an end-to-end app

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Module 13	Deploying Applications • Introduction to DevOps • Introduction to deployment and testing strategies • Deploying applications with AWS Elastic Beanstalk • Scenario: Building an end-to-end app • Lab 6: Building an end-to-end app
Module 14	Course Wrap-up • Course overview • AWS training courses • Certifications • Course feedback