



Cloud Essentials for Business Leaders

Overview

The Course Benefits

Agenda

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Developing Serverless Solutions on AWS

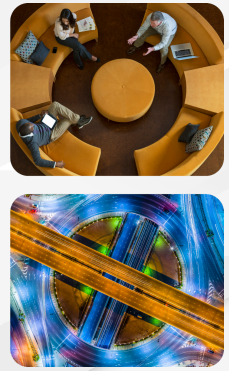
Overview

This course gives developers exposure to, and practice with, best practices for building serverless applications using AWS Lambda and other services in the AWS serverless platform. Students use AWS frameworks to deploy serverless applications in hands-on labs that progress from simpler to more complex topics. Students use AWS documentation throughout the course to develop authentic methods for learning and problem solving beyond the classroom.

The Course Benefits

This course teaches you how to:

- Apply event-driven best practices to a serverless application design using appropriate AWS services.
- Identify the challenges and tradeoffs of transitioning to serverless development and make recommendations that suit their development organizations and environments.
- Build serverless applications using patterns that connect AWS managed services together, and account for service characteristics including service limits, available integrations, execution model, error handling, and event source payload.
- Compare and contrast available options for writing infrastructure as code including AWS CloudFormation, AWS Amplify, AWS Serverless Application Model (SAM), and AWS CDK.
- Apply best practices to writing Lambda functions inclusive of: error handling, logging, environment re-use, using layers, statelessness, idempotency, and configuring concurrency and memory.

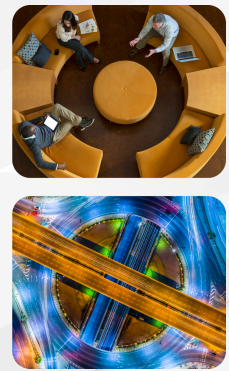


- Apply best practices for building observability and monitoring into your serverless application.
- Apply security best practices to serverless applications.
- Identify key scaling considerations in a serverless application, and match each consideration to the methods, tools, or best practices to manage it.
- Use the Serverless Application Model (SAM), and AWS developer tools to configure a CI/CD workflow and automate deployment of a serverless application.
- Create and actively maintain a list of serverless resources that will assist in their ongoing serverless development and engagement with the serverless community.

Agenda

Day 1

Module	Topic
Module 1	Thinking serverless
Module 2	API-driven development and synchronous event source
Module 3	Introduction to Authentication, Authorization, and Access Control
Module 4	Serverless Deployment Frameworks
Lab 1	Deploying a Simple Serverless Application, Debrief/buffer
Module 5	Using Amazon EventBridge and Amazon SNS to decouple components
Module 6	Event-Driven Development Using Queues and Streams



Lab 2	Lab 2: Message Fanout with Amazon EventBridge
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Day 2

Module	Topic
Module 7	Writing good Lambda functions
Module 8	Step Functions for orchestration
Lab 3	Workflow Orchestration Using AWS Step Functions
Module 9	Observability and Monitoring
Lab 4	Lab 4: Observability and Monitoring

Day 3

Module	Topic
Module 10	Serverless application security
Lab 5	Securing Serverless Applications
Module 11	Handling scale in serverless applications
Module 12	Automating the deployment pipeline
Lab 6	Serverless CI/CD on AWS