



Build Serverless Apps Using AWS, Lambda and DynamoDB

Course ISI-1531 Five Days Instructor-Led, Hands-On

Introduction

This five-day, instructor-led course will get started with AWS Lambda and the Serverless Application Model (SAM). Lambda is Amazon's engine for running event-driven functions, and SAM is an open-source toolkit that greatly simplifies configuring and deploying Lambda services. Together, they make it easy to create auto-scaling APIs and cloud services designed for serverless deployments.

Serverless computing is a way to run your code without having to provision or manage servers. Amazon Web Services provides serverless services that you can use to build and deploy cloud-native applications. Starting with the basics of AWS Lambda, this course takes you through combining Lambda with other services from AWS, such as Amazon API Gateway, Amazon DynamoDB, and Amazon Step Functions.

You'll learn how to write, run, and test Lambda functions using examples in Node.js, Java, Python, and C# before you move on to developing and deploying serverless APIs efficiently using the Serverless Framework.

At Course Completion

In this course, students will learn the following:

- Design applications that get the most out of serverless architecture
- Create auto-scaling web APIs
- Handle background tasks and messaging workflows
- Set up a deployment pipeline for effective team collaboration
- Test and troubleshoot code designed for AWS Lambda
- Inspect and monitor serverless applications
- Understand the core concepts of serverless computing in AWS
- Create your own AWS Lambda functions and build serverless APIs using Amazon API Gateway
- Explore best practices for developing serverless applications at scale using Serverless Framework
- Discover the DevOps patterns in a modern CI/CD pipeline with AWS CodePipeline
- Build serverless data processing jobs to extract, transform, and load data
- Enforce resource tagging policies with continuous compliance and AWS Config
- Create chatbots with natural language understanding to perform automated tasks

Contact ISInc for more information at 916.920.1700 or by visiting our website at <http://www.isinc.com>



Prerequisites

This course is for cloud architects and developers who want to build and deploy serverless applications using AWS Lambda. It will be useful for two groups of software developers and architects: people who have no previous experience working with serverless applications and are interested in learning about emerging cloud architectural patterns, and people who already work with Lambda using other deployment frameworks and want to learn about AWS SAM, the Serverless Application Model.

Course Materials

The student kit includes a comprehensive workbook.

Course Outline

Module 1: The Evolution of Compute

- Understanding enterprise data centers
- Exploring the units of compute
- Understanding software architecture
- Predicting what comes next

Module 2: Event Driven Applications

- Understanding modern applications
- Evolution of integration patterns
- Automation with serverless

Module 3: The Foundations of a Function in AWS

- Technical requirements
- Learning about AWS Lambda
- Setting up security
- Networking Lambda functions
- The programming model
- Writing your first Lambda functions

Module 4: Adding Amazon API Gateway

- Technical requirements
- Introducing Amazon API Gateway
- Securing an API
- Building, deploying and managing APIs
- Building a Lambda-backed API

Module 5: Leveraging AWS Services

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- Technical requirements
- Using Amazon S3 with Lambda
- Using Amazon DynamoDB with Lambda
- Using AWS step functions as an Orchestrator

Module 6: Going Deeper with Lambda

- Technical requirements
- Bringing your own runtime to Lambda
- Enabling code reuse through layers
- Operationalizing
- Development practices

Module 7: Serverless Framework

- Technical requirements
- Exploring the core concepts of the Serverless Framework
- Deploying your first service
- Testing and debugging

Module 8: CVCD with Serverless Framework

- Technical requirements
- Using serverless development pipelines
- Understanding deployment patterns
- Introducing AWS Services
- Building a pipeline

Module 9: Data Processing

- Technical requirements
- Getting across the processing types
- Building a batch data processing workload
- Data analytics and transformation

Module 10: AWS Automation

- Technical requirements
- Embedding security
- Running scheduled tasks

Module 11: Creating Chatbots

- Technical requirements
- Building a chatbot with Amazon Lex
- Building a Blackbot using Serverless Framework

Module 12: Hosting Single-Page Web Applications

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- Technical requirements
- Understanding serverless SPAs on AWS
- Building SPAs with serverless framework

Module 13: GraphQL APIs

- Technical requirements
- Building GraphQL APIs