



# Advanced Developing on AWS Jam

## COURSE OVERVIEW

The Advanced Developing on AWS course uses the real-world scenario of taking a legacy, on-premises monolithic application and refactoring it into a serverless microservices architecture. This four-day advanced course covers advanced development topics such as architecting for a cloud-native environment; deconstructing on-premises, legacy applications and repackaging them into cloud-based, cloud-native architectures; and applying the tenets of the Twelve-Factor Application methodology.

The final day is an AWS Jam, a gamified event, with teams competing to score points by completing a series of challenges according to established best practices based on concepts covered in the course. You get to experience a wide range of AWS services in a series of real-world scenarios that represent common operational and troubleshooting tasks. The end result is developing, enhancing, and validating your skillsets in the AWS Cloud through real-world problem-solving, exploring new services, and features, and understanding how they interoperate.

## WHO WILL BENEFIT FROM THIS COURSE?

This course is intended for experienced software developers who are already familiar with AWS services.

## PREREQUISITES

We recommend that attendees of this course have:

- In-depth knowledge of at least one high-level programming language
- Working knowledge of core AWS services and public cloud implementation
- Completion of the Developing on AWS classroom training, and then a minimum of 6 months of application of those concepts in a real-world environment

## COURSE OBJECTIVES

In this course, you will:

- Analyze a monolithic application architecture to determine logical or programmatic break points where the application can be broken up across different AWS services
- Apply Twelve-Factor Application manifesto concepts and steps while migrating from a monolithic architecture
- Recommend the appropriate AWS services to develop a microservices-based cloud-native application
- Use the AWS API, CLI, and SDKs to monitor and manage AWS services
- Migrate a monolithic application to a microservices application using the 6 Rs of migration
- Explain the SysOps and DevOps interdependencies necessary to deploy a microservices application in AWS
- Work in a team environment to solve real AWS use-case challenges in an AWS Jam



## COURSE OUTLINE

### The cloud journey

- Common off-cloud architecture
- Introduction to Cloud Air
- Monolithic architecture
- Migration to the cloud
- Guardrails
- The six R's of migration
- The Twelve-Factor Application Methodology
- Architectural styles and patterns
- Overview of AWS Services
- Interfacing with AWS Services
- Authentication
- Infrastructure as code and Elastic Beanstalk
- Demonstration: Walk through creating base infrastructure with AWS CloudFormation in the AWS console
- Hands-on lab 1: Deploy your monolith application using AWS Elastic Beanstalk

### Gaining Agility

- DevOps
- CI/CD
- Application configuration
- Secrets management
- CI/CD Services in AWS
- Demonstration: Demo AWS Secrets Manager

### Monolith to MicroServices

- Microservices
- Serverless
- A look at Cloud Air
- Microservices using Lambda and API Gateway
- SAM
- Strangling the Monolith
- Hands-on lab: Using AWS Lambda to develop microservices

### Polyglot Persistence & Distributed Complexity

- Polyglot persistence
- DynamoDB best practices
- Distributed complexity
- Step functions

### Resilience and Scale

- Decentralized data stores
- Amazon SQS
- Amazon SNS
- Amazon Kinesis Streams



- AWS IoT Message Broker
- Serverless event bus
- Event sourcing and CQRS
- Designing for resilience in the cloud
- Hands-on lab: Exploring the AWS messaging options

#### Security and Observability

- Serverless Compute with AWS Lambda
- Authentication with Amazon Cognito
- Debugging and traceability
- Hands-on lab: Developing microservices on AWS
- Hands-on lab 8: Automating deployments with Cloud Formation

#### AWS Jam

- Participate in team-based challenges in a real AWS environment
- Compete with your colleagues in a gamified, hands-on learning experience
- Apply your learning from the course on various AWS services

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## WHY TRAIN WITH SUNSET LEARNING INSTITUTE?

Sunset Learning Institute (SLI) has been an innovative leader in developing and delivering authorized technical training since 1996. Our goal is to help our customers optimize their technology Investments by providing convenient, high quality technical training that our customers can rely on. We empower students to master their desired technologies for their unique environments.

What sets SLI apart is not only our immense selection of trainings options, but our convenient and consistent delivery system. No matter how complex your environment is or where you are located, SLI is sure to have a training solution that you can count on!

### Premiere World Class Instruction Team

- All SLI instructors have a four-year technical degree, instructor level certifications and field consulting work experience
- Sunset Learning has won numerous Instructor Excellence and Instructor Quality Distinction awards since 2012

### Enhanced Learning Experience

- The goal of our instructors during class is ensure students understand the material, guide them through our labs and encourage questions and interactive discussions.

### Convenient and Reliable Training Experience

- You have the option to attend classes live with the instructor, at any of our established training facilities, or from the convenience of your home or office
- All Sunset Learning Institute classes are guaranteed to run – you can count on us to deliver the training you need when you need it!

### Outstanding Customer Service

- You will work with a dedicated account manager to suggest the optimal learning path for you and/or your team
- An enthusiastic student services team is available to answer any questions and ensure a quality training experience

### Interested in Private Group Training?

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