

# Advanced Developing on AWS with JAM – Intensive Training («AWSD2J»)

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.

**Duration:** 4 days

**Price:** 3'600.–

**Course documents:** Digital original AWS course books

## Content

### Day 1

#### Module 1: The cloud journey

- Common off-cloud architecture
- Introduction to Cloud Air
- Monolithic architecture
- Migration to the cloud
- Guardrails
- The six Rs 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
- Demo: Walk through creating base infrastructure with AWS CloudFormation in the AWS console
- Hands-on lab: Deploy your monolith application using AWS Elastic Beanstalk

#### Module 2: Gaining Agility

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

### Day 2

#### Module 3: 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

#### Module 4: Polyglot Persistence & Distributed Complexity

- Polyglot persistence
- DynamoDB best practices

- Distributed complexity
- Step functions

### Day 3

#### Module 5: 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

#### Module 6: 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: Automating deployments with Cloud Formation

### Day 4: AWS Jam Day

- Solve real-world challenges together as a team in a safe AWS environment, guided by your instructor
- Compete against other teams to win the challenge with your colleagues and put your AWS skills into action
- All challenges are based on the scope of the course and will support your learning curve in a very effective way

## Key Learnings

- Analyzing a monolithic application architecture to determine logical or programmatic break points where the application can be broken up across different AWS services
- Applying Twelve-Factor Application manifesto concepts and steps while migrating from a monolithic architecture
- Recommending the appropriate AWS services to develop a microservices based cloud native application
- Using the AWS API, CLI, and SDKs to monitor and manage AWS services
- Migrating a monolithic application to a microservices application using the 6 Rs of migration
- Explaining the SysOps and DevOps interdependencies necessary to deploy a microservices application in AWS

**AWS JAM Day will be featured on the final 4th day of this course**, as a gamified event where you will be split into teams to compete in a series of best practice challenges based on concepts covered in the course. In addition to the hands-on labs of the ILT courses, an additional day of curated and instructor-facilitated challenges allows learners to use AWS Jam to address real-world scenarios, representing common operational and troubleshooting tasks relevant for your job role. You will be able to apply your knowledge in a safe and real AWS environment and score points if you solve the challenge correctly. The aim of an AWS Jam is to develop, improve, and validate your skills in the AWS cloud and get ready to use your practical skills when you are back on your daily job.

This course comes in 4 instructor-led full day sessions with the instructor supervising the participants live. Each course consists of theory parts with live demos and practical lab exercises. The course can be attended either on-site at a physical Digicomp location or virtually via Zoom. Please also refer to each course's description for specific details regarding the prerequisites and the covered topics.

The last day of the course is an *AWS JAM*: Transform your theoretical skills into practical doing by solving real-world problems in a sandbox environment.

## Target audience

This course is intended for the following job roles:

- Developer
- DevOps

**Why should you attend this specific course?** What are my benefits from taking this course? The **Voice of the Instructor answers these questions**. We have asked our instructor team to write a short text about WHY this course is very relevant for the respective job roles and what you can expect from attending the course. You can find this section in the course description under the «*Additional Information*» section.

## Requirements

We recommend that attendees of this course have attended the following course (or equivalent knowledge):

- [Developing Serverless Solutions on AWS – Intensive Training \(«AWSS08»\)](#)
- [AWS Cloud Financial Management for Builders – Intensive Training \(«AWSA08»\)](#)

## Additional information

This course is currently only supported by the Chrome and Firefox browsers. Please make sure that your device has one of these browsers installed or that you can install them on it.

### Voice of the Instructor

We would like to invite you to the Advanced Development on AWS course, where we will discuss microservices architecture, various software design patterns, and AWS services that you can use to implement the former two. Although this course is specifically designed for developers who would like to build their solutions on the AWS Cloud, we also welcome DevOps engineers and Solutions Architects who aim for a better understanding of modern application design patterns and AWS services that can help you achieve that.

The course has been designed to take you from monolithic architecture all the way to the distributed application world of microservices. We will address many challenges, discuss best practices, and learn about AWS services designed to help you along the way.

Please note that although this is a course for developers, the emphasis is not on coding. While the code is the ultimate product of any building attempt, we will try to look deeper and understand what it takes to create effective code and solutions on AWS through the prism of the AWS SDK. Our goal will be to understand WHY we are using particular AWS services/tools/patterns and HOW you can use them to implement your own solutions.

To get the most out of this course, we suggest that you have attended the Associate Development on AWS course before or that you already have some hands-on experience with building applications on

AWS.



This course is a gem whose shine might not be so obvious at first. Its radiance will captivate you once you understand the intricate complexity of the interaction of AWS services involved, enabling you to simplify otherwise challenging tasks.

We are very much looking forward to meeting you and spending three days discussing all the topics of the course.

## Any questions?

We are happy to advise you on +41 44 447 21 21 or [info@digicomp.ch](mailto:info@digicomp.ch). You can find detailed information about dates on [www.digicomp.ch/courses-it-provider/amazon-web-services-aws/aws-developer/course-advanced-developing-on-aws-with-jam-intensive-training](http://www.digicomp.ch/courses-it-provider/amazon-web-services-aws/aws-developer/course-advanced-developing-on-aws-with-jam-intensive-training)