Publication date : 01/26/2024

Course : Amazon Web Services (AWS) - Development on AWS

Official course, Developing on AWS

Practical course - 3d - 21h00 - Ref. AWP
Price : 2570 € E.T.

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ActionCo

Formation éligible au financement Atlas

With this training course, you'll learn how to use the AWS SDK to develop secure, scalable cloud applications. We'll see how to interact with AWS using code, and discuss key concepts, best practices and troubleshooting tips.

Teaching objectives

At the end of the training, the participant will be able to:

- Configure AWS SDK and authentication credentials for Java, C#/.Net, Python and JavaScript
- Interact with AWS services and develop solutions using the AWS SDK
- Use Amazon S3 and Amazon DynamoDB as data stores
- Integrate applications and data with Amazon Kinesis, AWS Lambda, Amazon SQS, Amazon SNS and AWS Step Functions
- Use AWS Identity and Access Management (IAM) for service authentication
- Utiliser Web Identity Framework et Amazon Cognito pour l'authentification des utilisateurs
- Improve application stability with Amazon ElastiCache and Amazon CloudFront
- Deploying applications with AWS Elastic Beanstalk and AWS CloudFormation
- Using containers in the application development process
- Implement a continuous integration and deployment (CI/CD) pipeline to deploy applications on AWS

Intended audience

Software developers, software design architects, etc.

PARTICIPANTS

Software developers, software design architects, etc.

PREREQUISITES

Completion of the AWS Technical Fundamentals course. Working knowledge of basic AWS services. Programming experience in one of the following languages: Python, .Net, Java.

TRAINER QUALIFICATIONS

The experts who lead the training courses are specialists in the subjects covered. They are approved by the publisher and certified for the course. They have also been validated by our teaching teams in terms of both professional knowledge and teaching skills for each course they teach. They have at least three to ten years of experience in their field and hold or have held positions of responsibility in companies.

ASSESSMENT TERMS

Assessment of targeted skills prior to training.
Assessment by the participant, at the end of the training course, of the skills acquired during the training course.
Validation by the trainer of the participant's learning outcomes, specifying the tools used: multiple-choice questions, role-playing exercises, etc.
At the end of each training course, ITTCERT provides participants with a course evaluation questionnaire, which is then analysed by our teaching teams. Participants also complete an official evaluation of the publisher.
An attendance sheet for each half-day of attendance is provided at the end of the training course, along with a certificate of completion if the participant has attended the entire session.

Prerequisites

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Practical details

Teaching methods

Training in French. Official course material in English and digital format. Good understanding of written English.

Course schedule

1 Creating a web application on AWS

- Discuss the architecture of the application you're going to build.
- Explore the AWS services you need to create your web application.
- Discover how to store, manage and host your web application.

2 Getting started with development on AWS

- Describe how to access AWS services programmatically.
- List certain programming models and their efficiency gains in AWS SDKs and AWS CLIs
- Explain the value of AWS Cloud9.

3 Getting started with authorizations

- Understand AWS Identity and IAM components to support a development environment.
- Demonstrate how to test AWS IAM authorizations.
- Configure your IDE and SDK to support a development environment.
- Demonstrate access to AWS services using SDKs and AWS Cloud9.

Hands-on work

Configure the development environment (connect to a development environment, check that the IDE and AWS CLI are installed and configured to use the application profile, check that permissions have been granted to execute AWS CLI commands, etc.).

4 First steps with storage

- Describe the basic concepts of Amazon S3.
- List the options for securing data using Amazon S3.
- Define SDK dependencies for your code.
- Explain how to connect to the Amazon S3 service.
- Describe request and response objects.

TEACHING AIDS AND TECHNICAL RESOURCES

The teaching resources used are the publisher's official materials and practical exercises.

TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training course.

ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you have specific accessibility requirements? Contact Ms FOSSE, disability advisor, at the following address: psh-accueil@orsys.fr so that we can assess your request and its feasibility.

5 Processing storage operations

- Perform key operations on compartments and objects.
- Explain how to handle multiple, large objects.
- Create and configure an Amazon S3 compartment to host a static website.
- Grant temporary access to objects.
- Demonstrate the execution of Amazon S3 operations using SDK.

Hands-on work

Develop solutions using Amazon S3 (interact with Amazon S3 programmatically using AWS SDKs and the AWS CLI, create a compartment using servers and check for service exception codes, create the queries needed to load an Amazon S3 object, etc.).

6 First steps with databases

- Describe the key components of DynamoDB.
- Explain how to connect to DynamoDB.
- Describe how to create a query object.
- Explain how to read an answer object.
- List the most common troubleshooting exceptions.

7 Processing your database operations

- Develop programs to interact with DynamoDB using AWS SDKs.
- Perform CRUD operations to access tables, indexes and data.
- Describe best practices for developers when accessing DynamoDB.
- Examine caching options for DynamoDB to improve performance.
- Perform DynamoDB operations using the SDK.

Hands-on work

Develop solutions using Amazon DynamoDB (interact with Amazon DynamoDB programmatically using low-level, document and high-level APIs in programs, retrieve elements from a table using key attributes, filters, expressions and paginations, etc.).

8 Level processing "Application Logic"

- Develop a Lambda function using SDK.
- Configure triggers and authorizations for Lambda functions.
- Test, deploy and monitor Lambda functions.

Hands-on work

Develop solutions using AWS Lambda functions (create AWS Lambda functions and interact programmatically using AWS SDKs and the AWS CLI, configure AWS Lambda functions to use environment variables and integrate with other services, etc.).

9 Managing APIs

- Describe the key components of API Gateway.
- Develop API Gateway resources to integrate with AWS services.
- Configure API request and response calls for your application endpoints.
- Test API resources and deploy the application's API endpoint.
- Demonstrate the creation of API Gateway resources to interact with your application APIs.

10 Create a modern application

- Describe the challenges of traditional architecture.
- Describe the architecture and benefits of microservices.
- Explain various approaches to designing microservices applications.
- Explain the steps involved in cutting monolithic applications.
- Demonstrate Lambda function orchestration using AWS Step Functions.

11 Grant access to users of your application

- Analyze changes in safety protocols.
- Explore the authentication process using Amazon Cognito.
- Manage user access and authorize serverless APIs.
- Follow best practices for implementing Amazon Cognito.
- Demonstrate Amazon Cognito integration and examine JWT tokens.

Hands-on work
Capstone - Finish building the application (create a user group and an application client for your web application, add new users and confirm their ability to connect using the Amazon Cognito command-line interface, etc.).

12 Deploying your application

- Identify the risks associated with traditional software development practices.
- Understand DevOps methodology.
- Configure an AWS SAM model to deploy a serverless application.
- Describe various application deployment strategies.
- Demonstrate the deployment of a serverless application using AWS SAM.

13 Observe your application

- Differentiate between monitoring and observability.
- Assess why observability is necessary in modern development and key components.
- Understand the role of CloudWatch in configuring observability.
- Demonstrate how to use CloudWatch Application Insights to monitor applications.
- Demonstrate how to use X-Ray to debug your applications.

Hands-on work
Observe the application using AWS X-Ray (instrument your application code to use AWS X-Ray features, enable your application deployment package to generate logs, understand the key components of an AWS SAM model and deploy your application, etc.).

Options

Certification : 200 € HT

Successful completion of the exam leads to AWS Certified Developer - Associate level certification.
Comment passer votre examen ?

The certification option comes in the form of a voucher or invitation that will allow you to take the exam at the end of the training course.

Dates and locations

REMOTE CLASS
2026 : 17 Mar., 21 Apr., 19 May, 16 June, 22 Sep., 20 Oct., 17 Nov., 8 Dec.

PARIS LA DÉFENSE
2026 : 17 Mar., 21 Apr., 19 May, 16 June, 22 Sep., 20 Oct., 17 Nov., 8 Dec.