Serverless

In this lesson, we'll study serverless.

We'll cover the following ^

- Introduction
- REST with AWS Lambda and the API gateway
- Glue code

Introduction

PaaS deploy applications. **Serverless** goes even further and enables the deployment of **individual functions**.

Thereby, Serverless allows **even smaller deployments than with PaaS**. A REST service can be divided into a variety of functions, one per HTTP method and resource.

The advantages of Serverless are similar to those of PaaS:

- A high degree of abstraction and thus relatively **simple deployment**.
- Serverless functions are only activated when a request is made so that **no costs are incurred if no requests are processed**.
- They can also **scale very flexibly**.

Serverless technologies include:

- AWS Lambda (https://aws.amazon.com/lambda/)
- Google Cloud Functions (https://cloud.google.com/functions/)

- Azure Functions (https://azure.microsoft.com/services/functions/)

- Apache OpenWhisk (https://developer.ibm.com/code/open/apache-openwhisk/). OpenWhisk allows you to install a Serverless environment in your own data center.

As with a PaaS, Serverless includes **support for operation**. Metrics and log management are provided by the cloud provider.

REST with AWS Lambda and the API gateway

With AWS Lambda, REST services can be implemented. The API gateway in the AWS cloud can call Lambda functions.

A separate function can be implemented for each HTTP operation. Instead of a single PaaS application, there are many Lambda functions.

A technology like Amazon SAM (http://docs.aws.amazon.com/lambda/latest/dg/deploying-lambda-apps.html) can make the large number of Lambda functions quite easy to use.

Even if there are a lot of functions to deploy, it is barely any more effort for the developers than if they implement the REST methods in a class. Often Lambda functions can significantly reduce the cost of running a solution.

Glue code

In another area, Lambda functions are helpful; in response to an event in the Amazon Cloud, a Lambda function can be called.

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S3 (https://aws.amazon.com/s3/) (Simple Storage Service) offers storage for large files in the Amazon Cloud. When a new file is uploaded, a Lambda function can convert it to another format.

However, these are not real microservices, but rather glue code to complement functionalities in Amazon services.

Q U I Z

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1   What is a lambda function?

○   **A)** A function that uses Greek letters in its name.

○   **B)** AWS serverless function as a service product.

○   **C)** A nameless function.

Submit Answer

⟨   Question 1 of 4
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We'll conclude this chapter in the next lesson.

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