LAB 1 - Introduction to Serverless Computing with AWS Lambda

In this lab, you will learn how to:

- Create an AWS Lambda function
- Configure an Amazon S3 bucket as a Lambda Event Source
- Trigger a Lambda function by uploading an object to Amazon S3
- Monitor AWS Lambda S3 functions through the Amazon CloudWatch Log

Note: The labs are a prerequisite to the assignments designed. Please read carefully and understand the underlying concepts and components.

What is Serverless Computing?

In simple terms, Serverless computing allows you to build and run applications and services without thinking about servers.

More formally, serverless computing is a method of providing backend services on an as-used basis. It allows users to write and deploy code without the hassle of worrying about the underlying infrastructure. A company is charged based on their computation and does not have to reserve and pay for a fixed amount of bandwidth or number of servers, as the service is auto-scaling. Despite the name serverless, physical servers are still used but developers do not need to be aware of them.

What is Serverless?
What is Serverless Computing? - Cloudflare

What is AWS Lambda?

AWS Lambda is a serverless compute service that runs your code in response to events and automatically manages the underlying compute resources for you.
These events may include changes in state or an update, such as a user placing an item in a shopping cart on an e-commerce website. AWS Lambda automatically runs code in response to multiple events, including but not limited to HTTP requests via Amazon API Gateway, modifications to objects in Amazon Simple Storage Service (Amazon S3) buckets, table updates in Amazon DynamoDB, and state transitions in AWS Step Functions.

Lambda runs your code on high availability compute infrastructure and performs all the administration of your compute resources. This includes server and operating system maintenance, capacity provisioning and automatic scaling, code and security patch deployment, and code monitoring and logging. All you need to do is supply the code.

AWS Lambda - Developer Guide

Introduction to Qwiklabs:

Qwiklabs is an online platform which provides end to end training in Cloud Services. This is a platform where you can learn in a live environment anywhere, anytime and on any device. Qwiklabs offers training through various Labs which are specially designed to get you trained in Google Cloud Platform (GCP) as well as Amazon Web Services (AWS). In this course, we will be working with labs that familiarize you with AWS.

Points to note:

1. Qwiklabs will create a temporary AWS account with all the required permissions and access to complete the lab. Do NOT use your personal AWS account**.** To prevent conflicts with any AWS account that you have already signed into on your browser, use Incognito/Private mode.
2. When using the Qwiklabs created AWS account, DO NOT change the default region/ VPC or any other settings that are automatically created by Qwiklabs.
3. The Qwiklabs lab session is timed. After the time limit is reached/ timer runs out, the AWS account will be removed and you'll have to restart the lab from scratch.
4. All code and configuration for the Qwiklabs lab has already been given. The lab experiments do not need you to code anything from scratch, or deviate from this. However, in some instances you may have to name the resources you avail differently, as instructed.
5. The assignments may need you to deviate from the Qwiklabs instructions and use your own code. Instructions will be given.
6. DO NOT try to access or avail any other resources and services that have not been described in the lab session or your account will be blocked.
7. Ensure that you have signed into Qwiklabs from your Google account.

Deliverables:

The following screenshots are to be submitted:

a. 1a.png: Showing two S3 buckets created - one having the original image and another 'target' bucket to hold the resized image. The names of the buckets should be: `<Your SRN>` and `<Your SRN-resized>` respectively. Eg: `pes1201900001` and `pes1201900001-resized`.
b. 1b.png: Showing the Test run successfully (Include Details).
c. 1c.png: Showing the thumbnail created in the resized image bucket.

Note: In this lab, you will make use of Amazon Simple Storage Service (S3). You will learn more about this in Unit 3. All you need to know now is that it is an object storage service that offers industry-leading scalability, data availability, security, and performance.

Click on the following link to go to the Qwiklabs lab: Introduction to AWS Lambda.
Read and follow the instructions carefully to complete the lab.