Experiment 3 - Introduction to Amazon Simple Storage Service (S3)

In this lab, you will learn how to:
- Create a bucket in Amazon S3
- Manage access permissions on an object and a bucket
- Create a bucket policy
- Use bucket versioning

What is Object Storage?

Object storage, often referred to as object-based storage, is a data storage architecture for handling large amounts of unstructured data. This is data that does not conform to, or cannot be organized easily into, a traditional relational database with rows and columns. Today's Internet communications data is largely unstructured. This includes email, videos, photos, web pages, audio files, sensor data, and other types of media and web content (textual or non-textual).

Object storage designates each piece of data as an object, keeps it in a separate storehouse, and bundles it with metadata and a unique identifier for easy access and retrieval.

What is Object Storage?
Object Storage: An Introduction

What is AWS S3?

Amazon Simple Storage Service (Amazon S3) is an object storage service that stores data as objects within buckets. An *object* is a file and any metadata that describes the file. A *bucket* is a container for objects.

To store your data in Amazon S3, you first create a bucket and specify a bucket name and AWS Region. Then, you upload your data to that bucket as objects in Amazon S3. Each object has a key (or key name), which is the unique identifier for the object within the bucket.

You can use S3 Versioning to keep multiple versions of an object in the same bucket, which allows you to restore objects that are accidentally deleted or overwritten.

Buckets and the objects in them are private and can be accessed only if you explicitly grant access permissions. You can use bucket policies, AWS Identity and Access Management (IAM) policies, access control lists (ACLs), and S3 Access Points to manage access.

AWS S3 - Developer Guide

Introduction to Qwiklabs:

Qwiklabs is an online platform that 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. 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.
6. Ensure that you have signed into Qwiklabs from your Google account.

Deliverables:

The following screenshots are to be submitted:
   a. 1a.png: Showing S3 bucket created. The name of the buckets should be: `<Your SRN>` Eg: `pes1201900001`.
   b. 2a.png: Showing the file upload successfully (Include Details).
   c. 3a.png: Showing the new-report.png successfully displayed on the browser tab.
   d. 4a.png: Showing all commands executed on the Bastion host including the upload failed error.
   e. 5a.png: Showing all commands executed on the Bastion host including successful retrieval (GetObject) and upload (PutObject).
   f. 5b.png: Showing the sample-file.txt displayed on the browser tab
   g. 6a.png: Showing the new contents of the sample-file.txt on the browser tab.
   h. 6b.png: Showing the objects tab for the bucket created with the *Show versions* toggle on.

For evaluation:

The submission has 2 parts:

1. Word doc - add all screenshots, file name: your-srn.doc/docx
2. Zip file - The zip file contains only the screenshots, no word document. There should be no subfolders within the zip file. No other file extension other than .zip will be considered. file name: your-srn.zip

Click on the following link to go to the Qwiklabs lab: [Introduction to Amazon S3](#)

Read and follow the instructions carefully to complete the lab.