

Lab06

Managing Google Cloud Storage using Terraform

Contents

Scenario	1
Before you begin.....	1
Business Requirements	2
Bucket Setup	2
Secure Access Controls	2
Static File Upload	2
Storage Management	2
Rules	2
Success Criteria	2
Solution.....	3
Reference Guides.....	3

Scenario

You are working for a startup that runs a lightweight media-sharing platform. The platform team needs a secure, scalable way to:

- Store static media files (e.g. images, text)
- Prevent public access to objects over unsecured connections
- Automatically transition unused content to cold storage over time

You have been asked to use Terraform to provision the required infrastructure on Google Cloud Platform (GCP).

Before you begin

1. Ensure you have completed Lab0 before attempting this lab.
2. In the IDE terminal pane, enter the following commands...

```
cd ~/googlelabs_/lab06
```

3. This shifts your current working directory to lab06. Ensure all commands are executed in this directory
4. Close any open files and use the Explorer pane to navigate to and open the googlelabs_/lab06 folder.

Business Requirements

Bucket Setup

Create a Google Cloud Storage (GCS) bucket in us-central1 with a globally unique name

Enable **versioning** on the bucket

Secure Access Controls

Implement a **bucket policy** to **deny access to any user using HTTP** (unencrypted transport)

Static File Upload

Upload all files from a local directory called **static_files**

Ensure each object has the correct **MIME type** assigned, based on file extension

Storage Management

Apply a lifecycle policy to: - Transition objects to Nearline or Coldline storage after 30 days. - Delete them after 90 days.

Rules

Use Terraform only — no manual actions in the GCP Console unless debugging.

You may use the GCP Console to verify deployments, but not to modify resources.

The bucket name must include your initials or student ID to ensure global uniqueness (e.g. googlelabs-mcg-static-5678).

The lab environment is pre-authenticated — no need to handle GCP credentials in your code.

Success Criteria

GCS bucket appears in the GCP Console with versioning enabled.

Public access is blocked.

All files in static_files/ are uploaded with correct content type metadata.

Lifecycle rules are visible and correctly configured.

Solution

A proposed solution to this challenge can be found in the solutions folder. Only use this as a last resort.

Reference Guides

[GCS Bucket Basics](#)

[Access Control](#)

[Upload Multiple Files with MIME Type](#)

[Loading and Using JSON in Terraform](#)