Lab5a
Migrating a local Statefile to a Google Cloud Storage Bucket

Contents

Lab Objectives

1. In this lab you will:
    a. Deploy resources using the provided code, creating a statefile on your local device.
    b. Reconfigure the code to migrate the statefile to a central GCS bucket.
    c. Verify the state migration

Teaching Points

This lab will use terraform to deploy a network stack into Google Cloud. This will create a local backend (Statefile) on the client device used for the deployment. This Statefile will then be migrated to a centrally controlled secure backend, a Google Cloud Storage (GCS) Bucket, as is more typical in a production environment.

Before you begin

1. Ensure you have completed Lab0 before attempting this lab.

2. In the IDE terminal pane, enter the following command…

```
cd ~/googlelabs_/lab05
```

3. This shifts your current working directory to lab05. Ensure all commands are executed in this directory

4. Close any open files and use the Explorer pane to navigate to and open the lab05 folder.

Solution

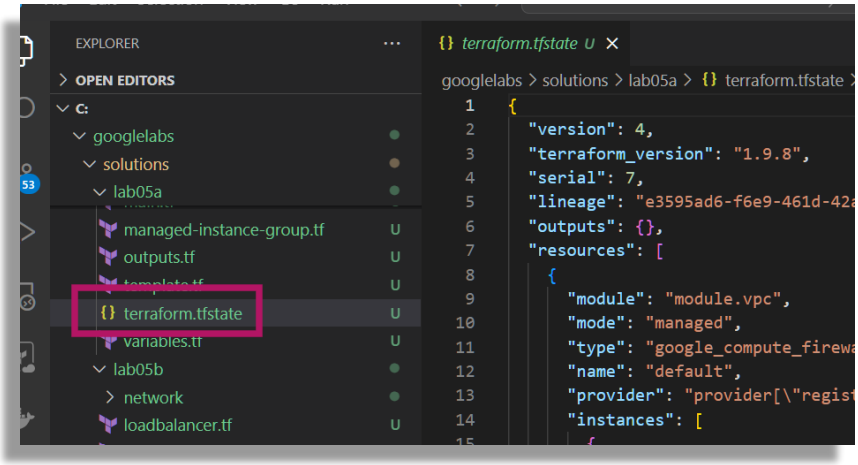
The solution to this lab can be found in googlelabs_/solutions/lab05a. Try to use this only as a last resort if you are struggling to complete the step-by-step processes.

Task1. Deploy resources using pre-provisioned code

1. Update line 2 in **variables.tf** with your **lab project id**
2. Run **terraform init** and then **terraform plan** commands
3. Verify there are no errors and then run **terraform apply** followed by **yes**
4. Once the deployment completes, run **terraform state list** to view the deployed resources.

```
module.vpc.google_compute_firewall.default
module.vpc.google_compute_global_address.lab_lb_ip
module.vpc.google_compute_network.lab_vpc
module.vpc.google_compute_router.lab_router
module.vpc.google_compute_router_nat.nat
module.vpc.google_compute_subnetwork.lab_subnet
```

5. Select and review the newly created terraform.tfstate file in the lab05 folder…



6. Unless otherwise specified, the state file for your deployments will reside in the local root directory. In all but trivial deployments the state file will be stored in a remote, shared location.

Task2. Create a GCS Buckets for Remote State

In this task you will create a GCS bucket for use as a terraform remote backend.

1. Ensure your gcloud config project attribute are set correctly to your lab project. Replace <your lab project id> with your lab project id…

   gcloud config set project *<your lab project id>*

2. Enter the following command, replacing <your-name> with your name..

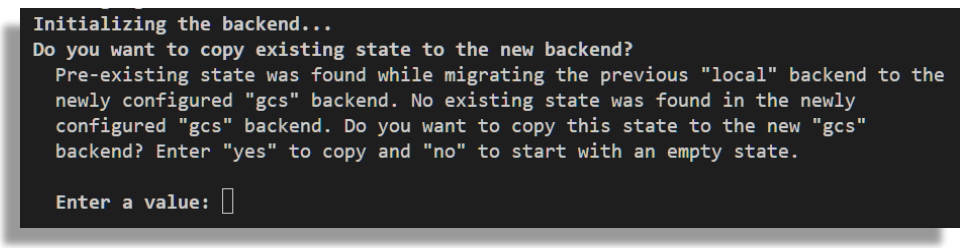
   gcloud storage buckets create gs://tf-remote-state-*<your-name>* --location=us-east1

3. Add digits to your name and try again should you receive a message regarding bucket name uniqueness requirements. Note the name of the bucket as you will need this later.

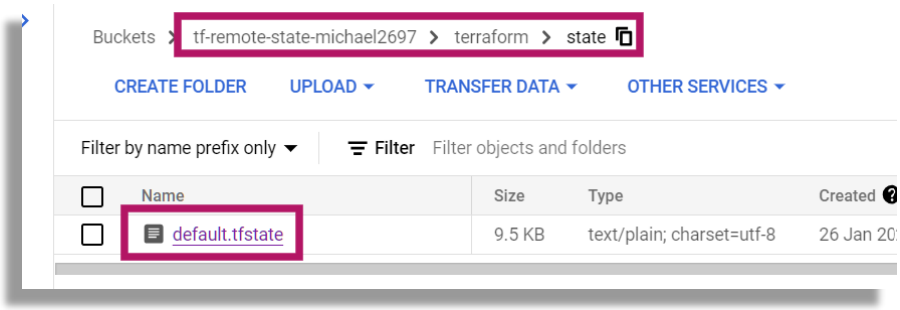
4. Switch to the console and verify that the bucket now exists

Task3. Update the Terraform Configuration

1. In main.tf, uncomment lines 18 to 23
2. Update line 20 to reflect your bucket name
3. Run **terraform init** re-initialize Terraform
4. During the re-initialization, Terraform will detect the local state-file and prompt to confirm its migration to GCS. Type **yes** when prompted.



5. Confirm that the state has been migrated by checking the bucket for the tfstate file. Make a note of its size. In Lab5b you will deploy additional resources, and this will be reflected by a growth in the state file size. Also notice that your local state file is now empty.



6. Do not delete any resources as they will be used in the next lab

***** Congratulations, you have completed this lab *****