Zero to Hero: Terraform CI/CD Pipeline (DEMO GCP)

1. Create a service account and a json credentials file for it

   a. Go to IAM & Admin service and create a service account.

   > user name: `automation`
   >
   > description: `Service account used for data ingestion automation`

   b. Go to the next page and set user permissions assign the following permision policies to your new user:

   > `Cloud Functions Invoker`
   >
   > `Storage Object Admin`

2. Clone the tech-resources repository on your cloud shell

   ```
   git clone https://github.com/wizelineacademy/data-engineering-
   bootcamp-tech-resources.git cd data-engineering-bootcamp-tech-
   resources/week-01/build_your_own_infrastructure/gcp/
   ```

3. Build the provisioner image `gcr.io/$PROJECT_ID/gcloud-terraform` and push it to Container Registy, open your cloud shell and run

   ```
   chmod +x build_image.sh ./build_image.sh # Wait for the image buld
   to complete gcloud auth configure-docker docker push
   gcr.io/<YOUR_PROJECT_ID>/gcloud-terraform:latest
   ```

4. Setup secrets for authentication credentials using Secret Manager (berglas secret)

```
export PROJECT_ID=$(gcloud config get-value project) gsutil mb
gs://${PROJECT_ID}_terraform_backend gsutil mb gs://${PROJECT_ID}_key
export BUCKET_ID="${PROJECT_ID}_keys" # Only required on initial setu
an error shows up Enable KMS API berglas bootstrap --project $PROJECT
bucket $BUCKET_ID # Create a secret berglas create ${BUCKET_ID}/gcp-
credentials @credentials/account.json \ --key
projects/${PROJECT_ID}/locations/global/keyRings/berglas/cryptoKeys/b
key # Access a secret berglas access ${BUCKET_ID}/gcp-credentials # G
access to CloudBuild service account, make sure to add Cloud KMS Admi
LogsWriter role to terraform service account export SA_EMAIL=terrafor
academy-w01.iam.gserviceaccount.com berglas grant ${BUCKET_ID}/gcp-
credentials --member serviceAccount:${SA_EMAIL}
```

5. Create Cloud Build trigger

6. Update permisions on CloudBuild service account

7. Test your CI/CD pipeline

```
If you see errors try enabling IAM API
https://console.developers.google.com/apis/api/iam.googleapis.com/ove
```

Challenges-to-Go

Check [terraform-docs](#) and implement documentation for all the modules on the root README.md

1. Can you set this step on the CI/CD pipeline we just created?