Carnegie Mellon University

# GCP Cluster Creation And Cloud Credit Redemption

FALL 2026

MOHAMED FARAG

FARAG@CMU.EDU

# Agenda

- **GCP Cluster Creation**
- **GCP Coupon Redemption and Cloud Access**

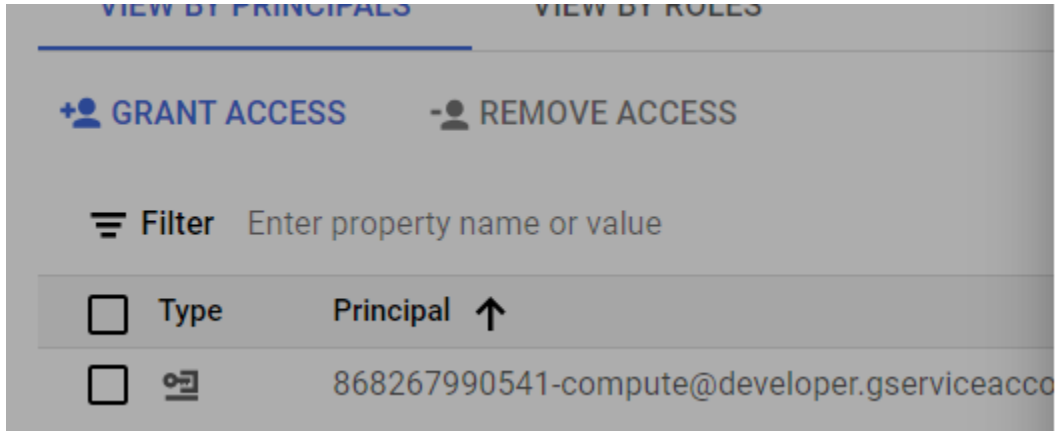
# GCP Cluster Creation

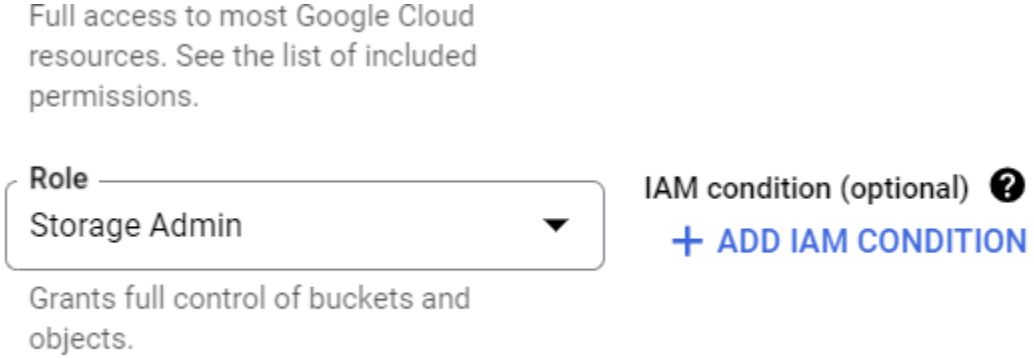
# Enablers for Your GCP Cluster Creation

Enable the following APIs:

- Cloud Dataproc API
- Compute Engine API
- Cloud Resource Manager API

In IAM Admin, add “Owner” and “Storage Admin” roles.



# During Cluster Creation

1. In the cloud shell, create a “Managed Apache Spark” cluster using this command (and update the project parameter with your project ID):

```
gcloud dataproc clusters create cluster-6a30 --project=YOUR_PROJECT --region=us-east1 --single-node --public-ip-address --master-machine-type=e2-standard-4 --master-boot-disk-type=pd-standard --master-boot-disk-size=100GB --image-version=3.0-debian13 --engine=default --optional-components=DOCKER,JUPYTER --enable-component-gateway --scopes=https://www.googleapis.com/auth/cloud-platform
```

# Billing Note

- Stop your virtual machine (or cluster) after each use.
- Don’t forget to disable billing after each use.
  - Don’t keep your VM (or cluster) running overnight.
  - Wait for your VM or cluster to completely stop before disabling the billing.

# Get Cloud Credits via GCP Coupons

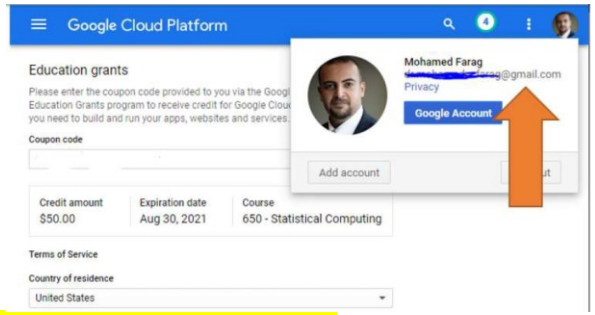
1. General Note
2. Redeem your GCP Coupon
3. Validate Successful Redemption of the Coupon
4. Disable Account Billing
5. Operational Note
6. Run out of Credits?!

# 1. General Notes

- When redeeming **GCP** coupon code, you must **use a Gmail account. Please DO NOT use your Andrew email.**
- Your Gmail account **should not have used Free Trial Credits** before.
    - If you are unsure whether your Gmail account used Free Trial credits, create a new Gmail account and use it.

# 2. Redeem Your GCP Coupon

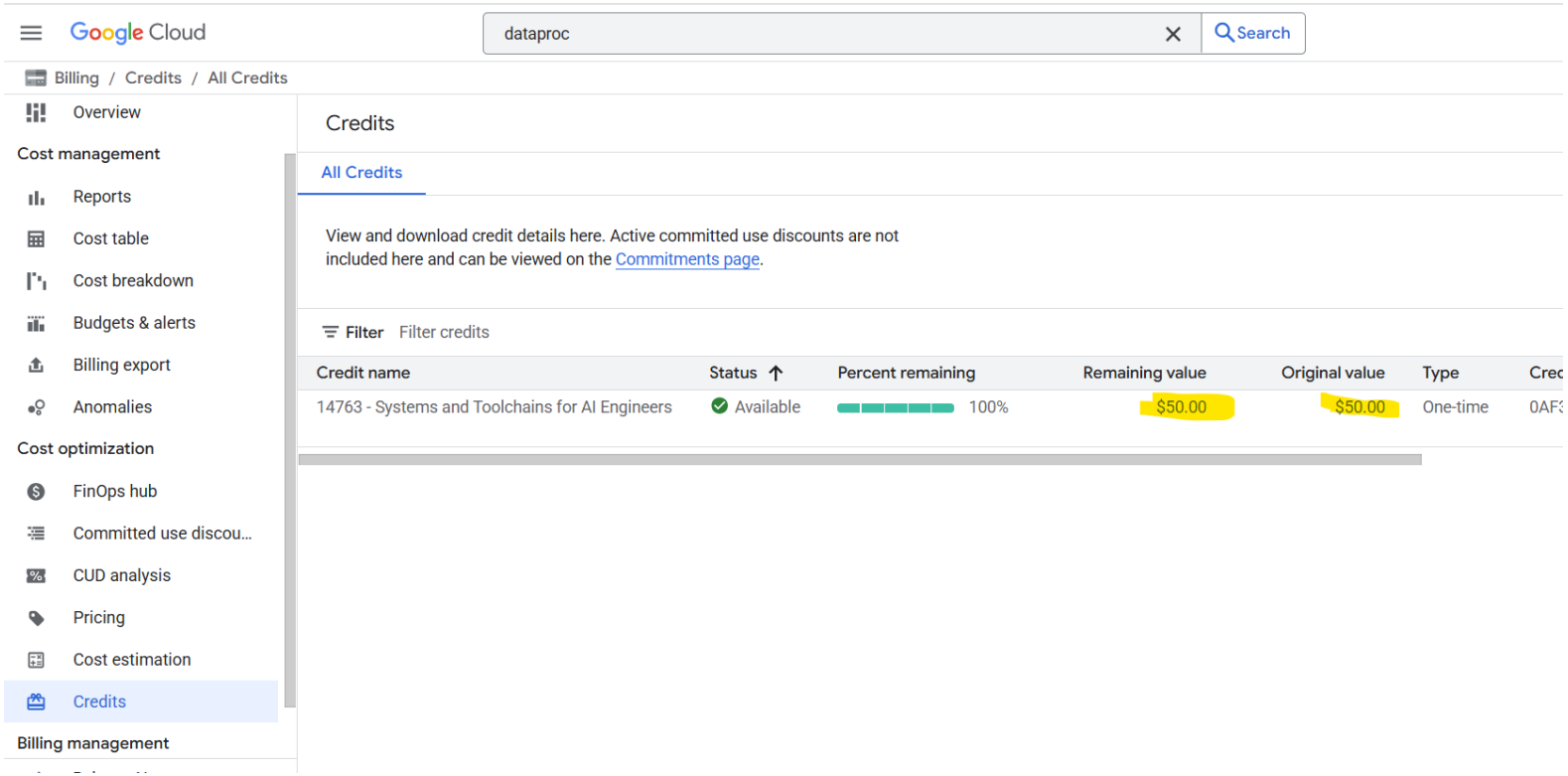
- Click on the GCP Coupon Redemption Link on Canvas
- Fill in Your First Name, Last Name and Andrew Email ID
- You will receive an email on your @andrew.cmu.edu email to verify your email. Click on the Link inside the email to verify it.
- You will receive another email on your @andrew.cmu.edu with the coupon.
- Copy the Coupon code and navigate to: https://console.cloud.google.com/education




- Switch to Your Gmail email (from top-right corner) prior to pasting your code. Then paste your coupon, and redeem it.

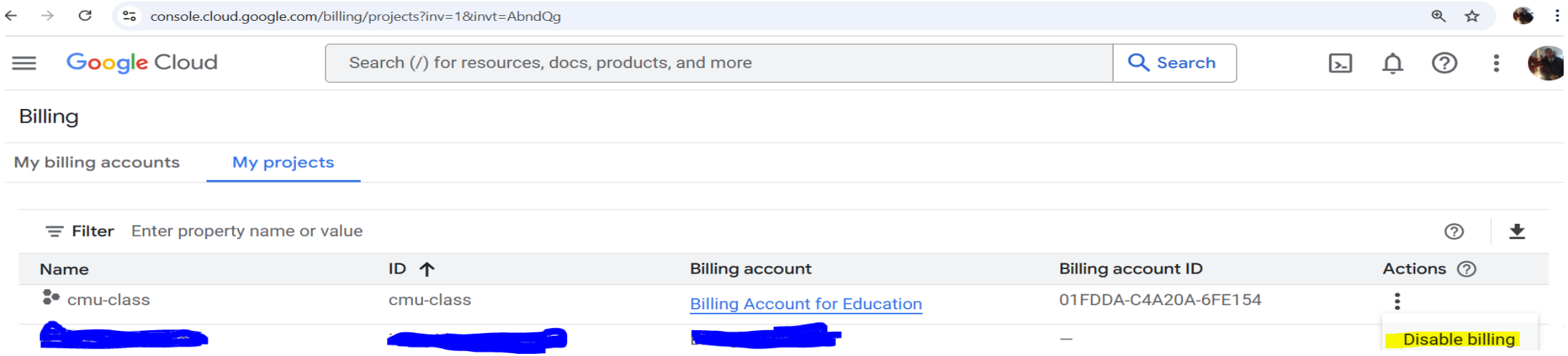
# 3. Validate Your Successful Credit Redemption

- Navigate to the “Billing” section.
- Click on the “Credits” section from the left navigate menu.



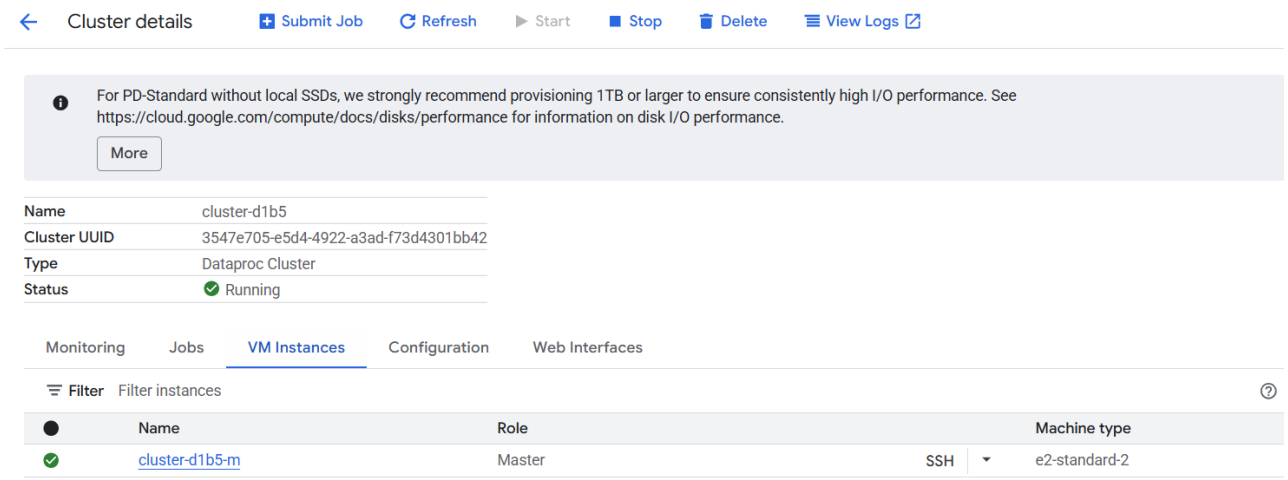
# 4. Disable Account Billing

- Disable your Gmail account billing by navigating to the billing section and choose to manage your billing account.
- Click on the three vertical dots next to your project name to disable the billing



# 5. Operational Note

- After you reenable the billing, wait for 5 minutes and check your cluster's VM instances to make sure all VMs are up and running.
- If your VMs are stopped, stop the cluster and start it again.



# 6. Run out of credits?!

- Monitor your cloud use by checking the “Credits” section.
- Email farag@cmu.edu if you are near the end of your credits.
- Allow for 24-48 hours delay to receive a new coupon.