

1. GCP

- No screenshots or observations

2. GCP Cloud Storage #1 (USGS)

- What roles are attached to the Compute Engine default service account?
 - editor
- Would they be sufficient for the VM to perform its functions?
 - yes
- What permissions are given by the default access scope to Cloud Storage?
 - Default: read-only access to Storage and Service Management, write access to Stackdriver Logging and Monitoring, read/write access to Service Control
- Would they be sufficient for the VM to perform its functions?
 - yes

3. Cloud Storage access scope

<input type="checkbox"/>	Name ^	Zone	Recommendation	In use by	Internal IP	External IP	Network	Connect
<input type="checkbox"/>	<input checked="" type="checkbox"/> lab05-1g	us-west1-b			10.138.0.15 (nic0)	34.83.149.178	default	SSH ▾ ⋮

```
codd@lab05-1g: ~ - Google Chrome
ssh.cloud.google.com/projects/cs356-w21-branden-codd/zones/us-west1-b/instances/lab05-1g?useAdminProxy=true&authuser=1&hl...
Connected, host fingerprint: ssh-rsa 0 AF:2C:84:E1:A0:45:96:45:96:78:B7:F0:72:AC
:44:22:33:E6:5B:97:06:3E:B0:F2:0C:06:34:39:93:28:15:9D
Welcome to Ubuntu 18.04.5 LTS (GNU/Linux 5.4.0-1036-gcp x86_64)

* Documentation:  https://help.ubuntu.com
* Management:    https://landscape.canonical.com
* Support:       https://ubuntu.com/advantage

System information as of Wed Feb 10 23:21:42 UTC 2021

System load:  0.47           Processes:      99
Usage of /:   15.3% of 9.52GB Users logged in:  0
Memory usage: 37%           IP address for ens4: 10.138.0.15
Swap usage:   0%

0 packages can be updated.
0 of these updates are security updates.

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

codd@lab05-1g:~$
```

4. USGS data and setup

- What time did the latest earthquake happen?
 - `2021-02-10T23:20:13`
- What was the magnitude (mag)?
 - `2.6`
- Where was the place it happened?
 - `20 km NE of Skwentna, Alaska`

5. Python plotting code

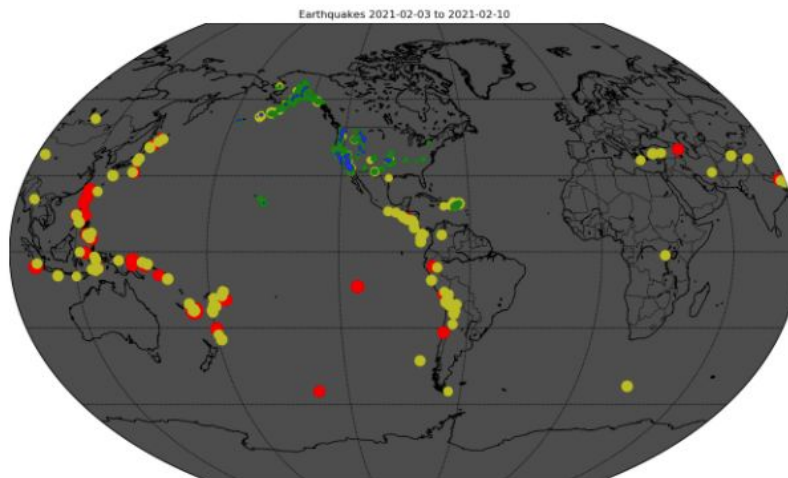
- No screenshots or observations

6. Create and distribute earthquake image

- Take a screenshot that includes your project identifier and include it in your notebook.

Buckets > lab5_1g > earthquakes.png

Public access	Not public
Type	image/png
Size	311.2 KB
Created	Feb 10, 2021, 3:33:15 PM
Last modified	Feb 10, 2021, 3:33:15 PM
Hold status	None
Retention policy	None
Encryption type	Google-managed key
Custom time	—
Public URL	Not applicable
Authenticated URL	https://storage.cloud.google.com/lab5_1g/earthquakes.png?authuser=1
URI	gs://lab5_1g/earthquakes.png



7. GCP Cloud Storage #2 (IAM roles)

- No screenshots or observations

8. Create service account

- No screenshots or observations

9. Service account roles (Compute)

- What is the exact error message that is returned?
 - **ERROR:** (gcloud.compute.instances.list) Some requests did not succeed:
 - - Required 'compute.zones.list' permission for 'projects/cs356-w21-branden-codd'
- What role needs to be added to the service account's permissions for the VM to have access to list the project's Compute Engine instances?
 - Compute admin needed to be added

```

codd@b@gsc:~$ gcloud compute instances list
NAME          ZONE          MACHINE_TYPE  PREEMPTIBLE  INTERNAL_IP  EXTERNAL_IP  STATUS
gsc           us-west1-b    f1-micro      False         10.138.0.16   34.105.52.33  RUNNING
lab05-1g      us-west1-b    f1-micro      False         10.138.0.15   34.83.149.178  RUNNING
codd@b@gsc:~$

```

10. Service account roles (Storage)

- What is the exact error message that is returned?
 - AccessDeniedException: 403
gcs-lab@cs356-w21-branden-codd.iam.gserviceaccount.com does not have storage.objects.create access to lab5_1g/moonquakes.png.
- What role needs to be added to the service account's permissions for the VM to have access to add an object to the storage bucket?
 - Storage object admin

```

codd@b@gsc:~$ gsutil cp moonquakes.png gs://lab5_1g/
Copying file://moonquakes.png [Content-Type=image/png]...
/ [1 files][311.2 KiB/311.2 KiB]
Operation completed over 1 objects/311.2 KiB.
codd@b@gsc:~$

```

11. GCP Cloud Storage #3 (Python)

- No screenshots or observations

12. Python storage code

- No screenshots or observations

13. View object

