

Lab Notebook – Week 5

Table of Contents:

05.01g: Storage, IAM

Permissions via service accounts

What role is attached to the Compute Engine default service account?

Would it be sufficient for the VM to perform its functions (i.e. creating buckets and reading/writing objects in them)?

Permissions via access scopes

What permissions are given by the default access scope to Cloud Storage?

Would they be sufficient for the VM to perform its functions (i.e. creating buckets and reading/writing objects in them)?

What settings are possible for setting the VM's access to the Storage API?

USGS data and setup

What `time` did the latest earthquake happen?

What was the magnitude (`mag`)?

Where was the `place` it happened?

Python Plotting Code

Service account roles (Compute)

What is the exact error message returned?

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?

Take a screenshot of the successful command's output

Service role accounts (Storage)

What is the exact error message returned?

What role needs to be added to the service account's permissions for the VM to have access to add an object to a storage bucket?

Take a screenshot of the output for your notebook

View object

IAM and least privileges #4

05.02a: DynamoDB Guestbook

Version 1: Ubuntu VM Python

Version 2: Ubuntu VM Docker

Aws_gb Image on Docker Hub

Version 3: AWS Cloud9 IDE

Version 4: AWS EC2

View the database

05.02g: Cloud Datastore Guestbook

[Version 1: Ubuntu VM Python](#)

[Version 2: Ubuntu VM Docker](#)

[Container Image on Docker Hub](#)

[Version 3: GCP Cloudshell](#)

[Version 4: GCP Compute Engine](#)

[View the Database](#)

05.01g: Storage, IAM

Permissions via service accounts

What role is attached to the Compute Engine default service account?

The role is Editor.

Would it be sufficient for the VM to perform its functions (i.e. creating buckets and reading/writing objects in them)?

Yes (IAM estimates it has 7592 more permissions than required).

Permissions via access scopes

What permissions are given by the default access scope to Cloud Storage?

The default access scope is “Read Only”.

Would they be sufficient for the VM to perform its functions (i.e. creating buckets and reading/writing objects in them)?

No, the VM also needs to be able to write objects.

What settings are possible for setting the VM’s access to the Storage API?

None, Read Only, Write Only, Read Write, and Full.

USGS data and setup

What `time` did the latest earthquake happen?

2023-10-26T18:38:11.130Z

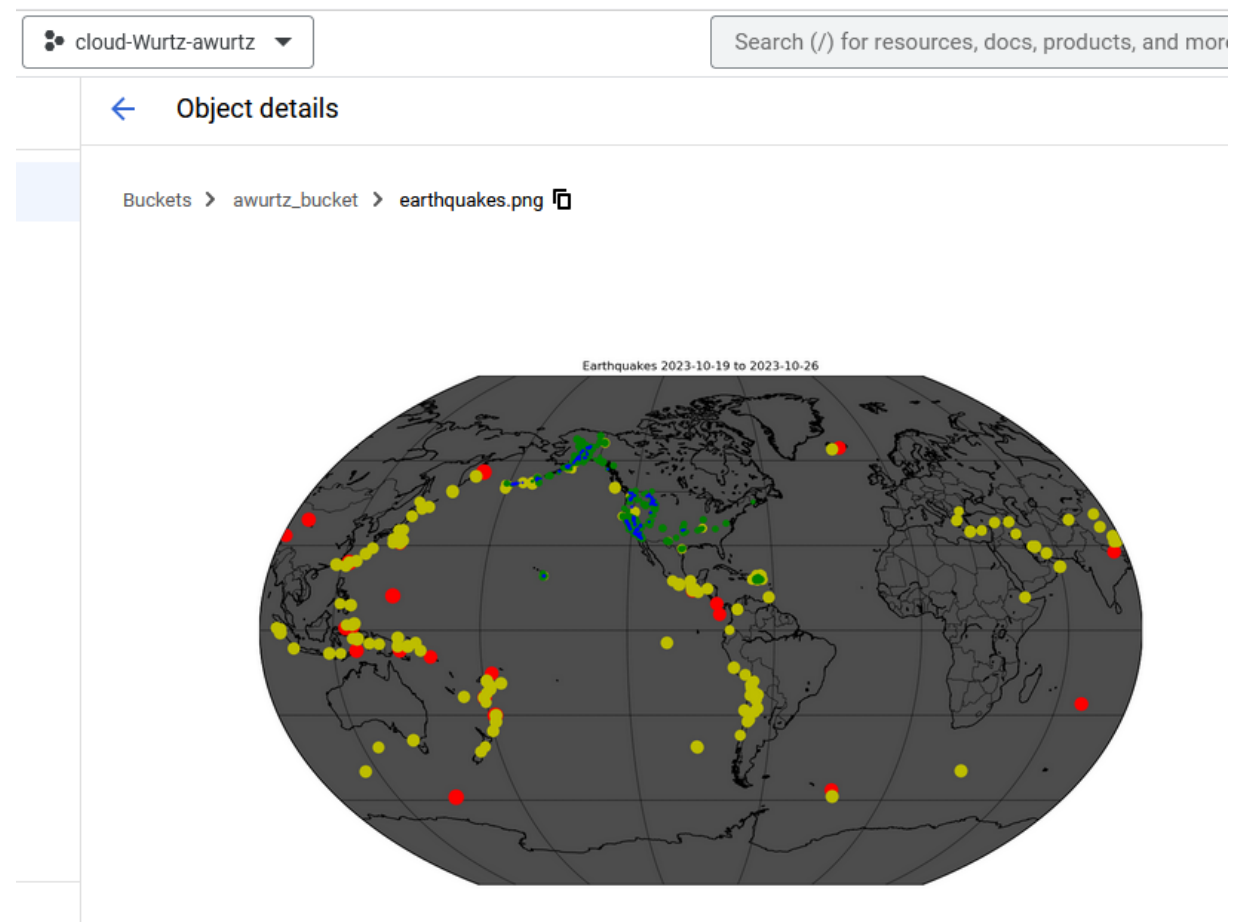
What was the magnitude (`mag`)?

1.27

Where was the `place` it happened?

"3 km N of Highland, CA"

Python Plotting Code



Service account roles (Compute)

What is the exact error message returned?

```
awurtz@gcs-lab-vm:~$ gcloud compute instances list
ERROR: (gcloud.compute.instances.list) Some requests did not succeed:
- Required 'compute.instances.list' permission for 'projects/cloud-wurtz-awurtz'
```

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?

I added the role "Compute Viewer", although I believe that several other roles also have these permissions.

Take a screenshot of the successful command's output

```
awurtz@gcs-lab-vm:~$ gcloud compute instances list
NAME          ZONE          MACHINE_TYPE  PREEMPTIBLE  INTERNAL_IP  EXTERNAL_IP  STATUS
course-vm2    us-west1-a    e2-medium     10.138.0.7   10.138.0.13  34.168.218.186  TERMINATED
gcs-lab-vm    us-west1-a    e2-medium     10.138.0.12  10.138.0.12  35.185.220.73   RUNNING
usgs          us-west1-a    e2-medium     10.138.0.2   10.138.0.2   10.138.0.2       TERMINATED
course-vm     us-west1-b    e2-medium     10.138.0.2   10.138.0.2   10.138.0.2       TERMINATED
awurtz@gcs-lab-vm:~$
```

Service role accounts (Storage)

What is the exact error message returned?

```
awurtz@gcs-lab-vm:~$ gsutil cp moonquakes.png gs://awurtz_bucket/
Copying file://moonquakes.png [Content-Type=image/png]...
AccessDeniedException: 403 gcs-lab@cloud-wurtz-awurtz.iam.gserviceaccount.com does not have
storage.objects.create access to the Google Cloud Storage object. Permission 'storage.object
s.create' denied on resource (or it may not exist).
awurtz@gcs-lab-vm:~$
```

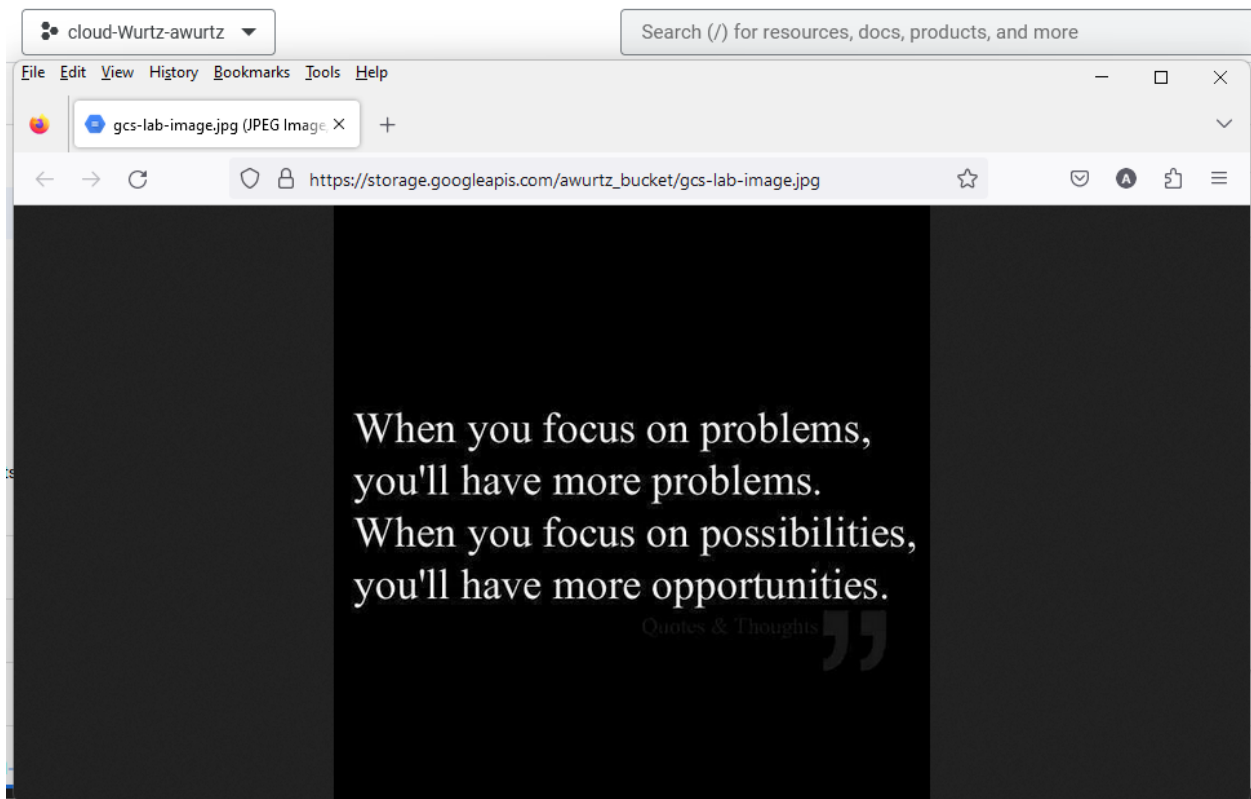
What role needs to be added to the service account's permissions for the VM to have access to add an object to a storage bucket?

I added the role "Storage Object User"

Take a screenshot of the output for your notebook

```
awurtz@gcs-lab-vm:~$ gsutil cp moonquakes.png gs://awurtz_bucket/  
Copying file://moonquakes.png [Content-Type=image/png]...  
/ [1 files][316.0 KiB/316.0 KiB]  
Operation completed over 1 objects/316.0 KiB.  
awurtz@gcs-lab-vm:~$
```

View object

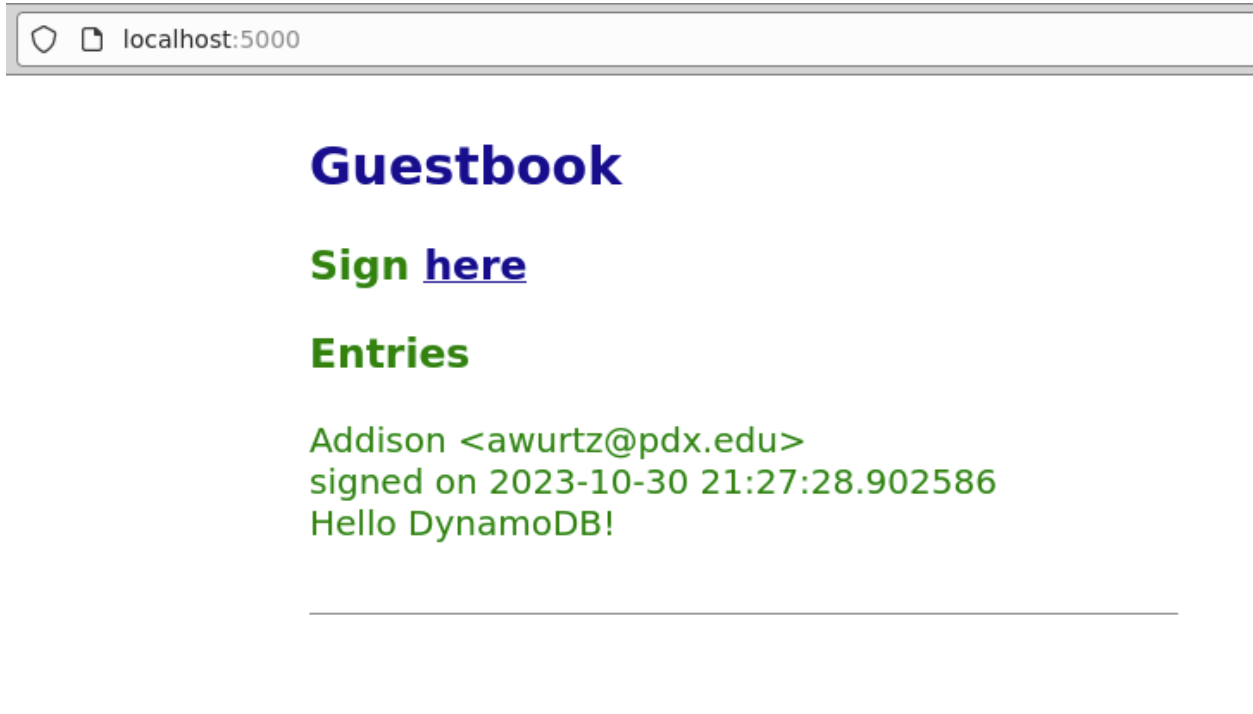


IAM and least privileges #4

This section is marked optional.

05.02a: DynamoDB Guestbook

Version 1: Ubuntu VM Python



Version 2: Ubuntu VM Docker



Guestbook

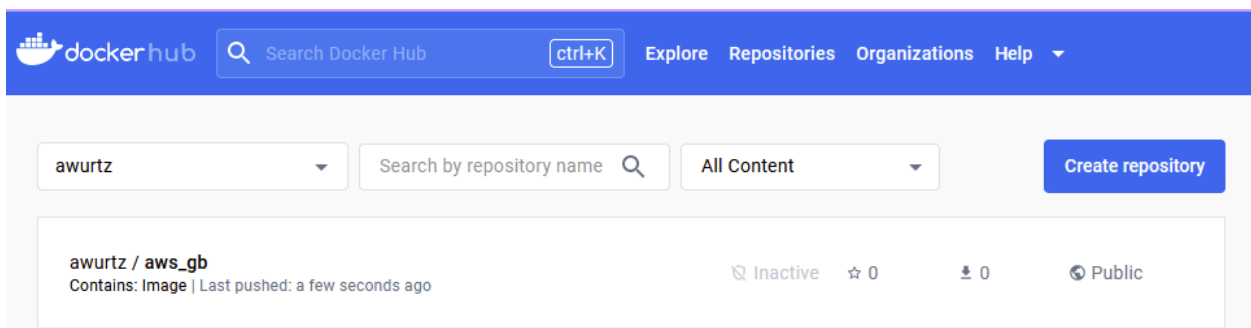
Sign [here](#)

Entries

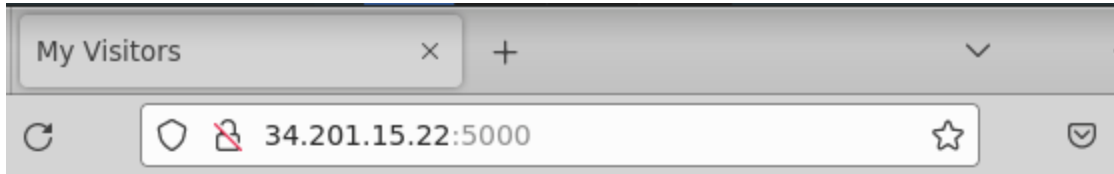
Addison <awurtz@pdx.edu>
signed on 2023-10-30 21:27:28.902586
Hello DynamoDB!

Addison <awurtz@pdx.edu>
signed on 2023-10-30 22:33:53.702446
Hello Docker DynamoDB!

Aws_gb Image on Docker Hub



Version 3: AWS Cloud9 IDE



Guestbook

Sign [here](#)

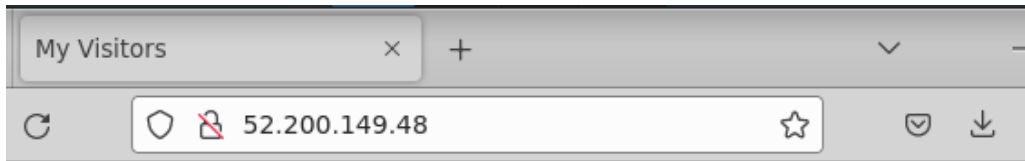
Entries

Addison <awurtz@pdx.edu>
signed on 2023-10-30 21:27:28.902586
Hello DynamoDB!

Addison <awurtz@pdx.edu>
signed on 2023-10-30 22:33:53.702446
Hello Docker DynamoDB!

Addison <awurtz@pdx.edu>
signed on 2023-10-30 22:48:38.250748
Hello Cloud9!

Version 4: AWS EC2



Guestbook

Sign [here](#)

Entries

Addison <awurtz@pdx.edu>
signed on 2023-10-30 21:27:28.902586
Hello DynamoDB!

Addison <awurtz@pdx.edu>
signed on 2023-10-30 22:33:53.702446
Hello Docker DynamoDB!

Addison <awurtz@pdx.edu>
signed on 2023-10-30 22:48:38.250748
Hello Cloud9!

Addison <awurtz@pdx.edu>
signed on 2023-10-30 23:17:26.002299
Hello EC2!

View the database

<input type="checkbox"/>	email (String) ▾	date (String) ▾	message ▾	name
<input type="checkbox"/>	awurtz@pdx.edu	2023-10-30 21:27:28.902586	Hello DynamoDB!	Addison
<input type="checkbox"/>	awurtz@pdx.edu	2023-10-30 22:33:53.702446	Hello Docker DynamoDB!	Addison
<input type="checkbox"/>	awurtz@pdx.edu	2023-10-30 22:48:38.250748	Hello Cloud9!	Addison
<input type="checkbox"/>	awurtz@pdx.edu	2023-10-30 23:17:26.002299	Hello EC2!	Addison

05.02g: Cloud Datastore Guestbook

Version 1: Ubuntu VM Python



Guestbook

Sign [here](#)

Entries

Addison <awurtz@pdx.edu>
signed on 2023-10-31 01:53:25.926666+00:00
Hello Datastore!

Version 2: Ubuntu VM Docker



Guestbook

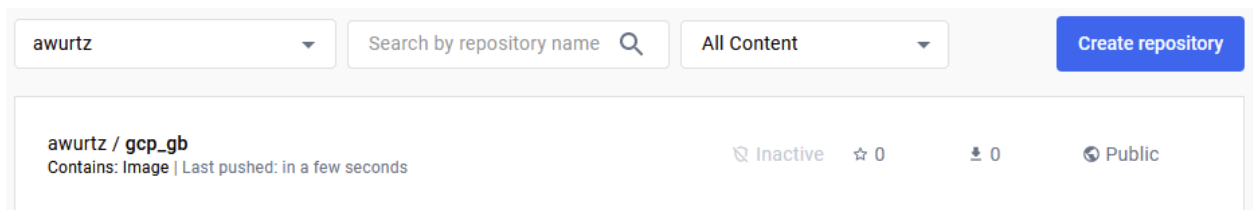
Sign [here](#)

Entries



Addison <awurtz@pdx.edu>
signed on 2023-10-31 01:53:25.926666+00:00
Hello Datastore!

Addison <awurtz@pdx.edu>
signed on 2023-10-31 02:55:51.414928+00:00
Hello Docker Datastore!

Container Image on Docker Hub



Version 3: GCP Cloudshell

 <https://5000-cs-701c21a0-5fdc-4303-be78-79d0d8d4e1e8.cs-us-west1-ijlt.cloudshell.dev> 

Guestbook

Sign [here](#)

Entries

Addison <awurtz@pdx.edu>
signed on 2023-10-31 03:04:45.915425+00:00
Hello Cloud Shell!

Addison <awurtz@pdx.edu>
signed on 2023-10-31 01:53:25.926666+00:00
Hello Datastore!

Addison <awurtz@pdx.edu>
signed on 2023-10-31 02:55:51.414928+00:00
Hello Docker Datastore!

Version 4: GCP Compute Engine

  34.82.182.42



Guestbook

Sign [here](#)

Entries

Addison <awurtz@pdx.edu>
signed on 2023-10-31 03:04:45.915425+00:00
Hello Cloud Shell!

Addison <awurtz@pdx.edu>
signed on 2023-10-31 03:14:08.835783+00:00
Hello Compute Engine!

Addison <awurtz@pdx.edu>
signed on 2023-10-31 01:53:25.926666+00:00
Hello Datastore!

Addison <awurtz@pdx.edu>
signed on 2023-10-31 02:55:51.414928+00:00
Hello Docker Datastore!

View the Database

Query results

<input type="checkbox"/>	Name/ID ↑	date	email	message	name
<input type="checkbox"/>	id=5071211717459968	October 30, 2023 at 8:04:45.915 PM UTC-7	awurtz@pdx.edu	Hello Cloud Shell!	Addison
<input type="checkbox"/>	id=5632499082330112	October 30, 2023 at 8:14:08.835 PM UTC-7	awurtz@pdx.edu	Hello Compute Engine!	Addison
<input type="checkbox"/>	id=5634161670881280	October 30, 2023 at 6:53:25.926 PM UTC-7	awurtz@pdx.edu	Hello Datastore!	Addison
<input type="checkbox"/>	id=5644004762845184	October 30, 2023 at 7:55:51.414 PM UTC-7	awurtz@pdx.edu	Hello Docker Datastore!	Addison