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05.1g: Storage, IAM

2. GCP Cloud Storage #1 (USGS)

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

The editor 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)?

Yes, the editor role is sufficient for the VM to perform its functions of creating buckets and reading/writing objects in them.

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

The permission given by the default access scope to Cloud Storage is the Default permission. This allows 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 (i.e. creating buckets and reading/writing objects in them)?

No, the default permissions would not be sufficient for the VM to perform its functions because the VM needs to create buckets and read/write objects into them, yet the default only allows read access to Cloud Storage.

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

The settings that are possible for setting the VM's access to the Storage API are Read Only, Write Only, Read Write, and Full.

4. USGS data and setup

What time did the latest earthquake happen?

The latest earthquake happened on May 4th, 2023, at 1:10 UTC time zone.

What was the magnitude (mag)?

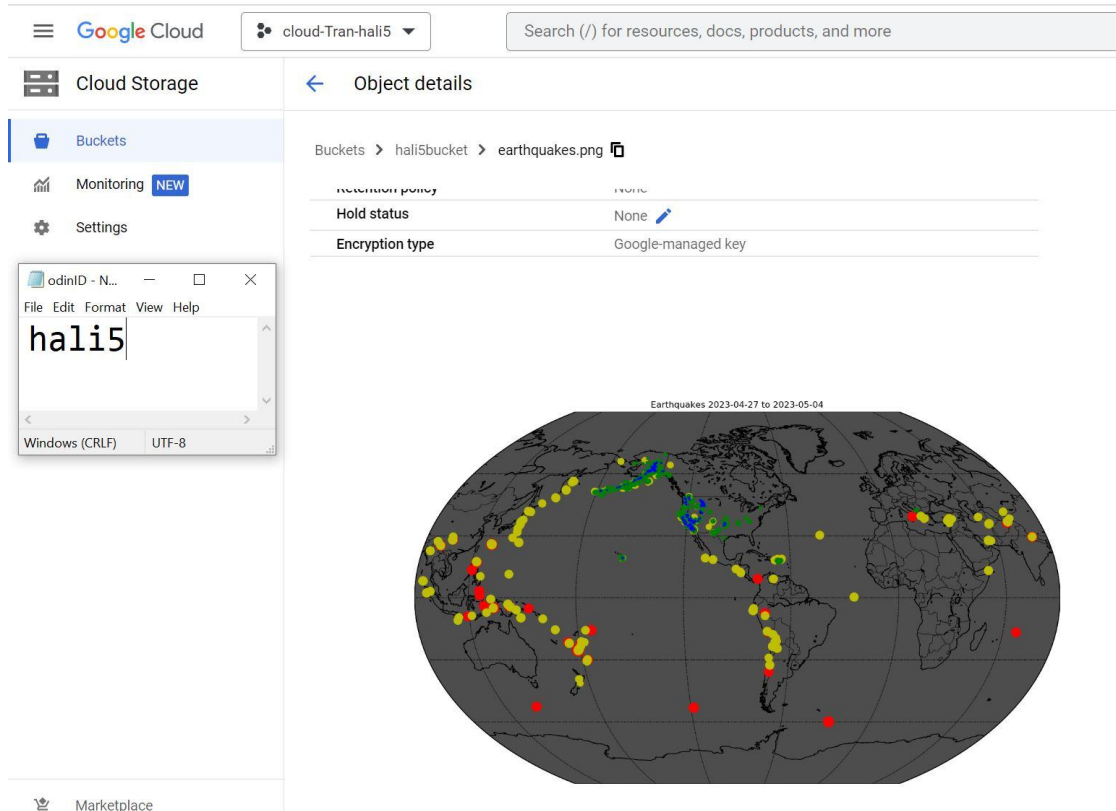
The magnitude was 1.5

Where was the place it happened?

The place was the city of Valdez in Alaska.

Python plotting code

Take a screenshot of the image that has been created for your lab notebook.



Service account roles (Compute)

What is the exact error message that is returned?

The exact error message that is returned is:

ERROR: (gcloud.compute.instances.list) Some requests did not succeed:

- Required 'compute.instances.list' permission for 'projects/cloud-tran-hali5'

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?

The Compute Viewer role needs to be added to the service account's permission for the VM to list the project's Compute Engine instances.

Take a screenshot of the output for your notebook.

```
hali5@gcs-lab-vm:~$ gcloud compute instances list
NAME          ZONE          MACHINE_TYPE  PREEMPTIBLE  INTERNAL_IP  EXTERNAL_IP  STATUS
gcs-lab-vm    us-west1-b    e2-medium     10.138.0.28  35.230.21.161  RUNNING
usgs          us-west1-b    e2-medium     10.138.0.25  34.82.235.234  RUNNING
```

Service account roles (Storage)

What is the exact error message that is returned?

The exact error message that is returned is:

AccessDeniedException: 403 gcs-lab@cloud-tran-hali5.iam.gserviceaccount.com does not have storage.objects.create access to the Google Cloud Storage object. Permission 'storage.objects.create' denied on resource (or it may not exist).

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?

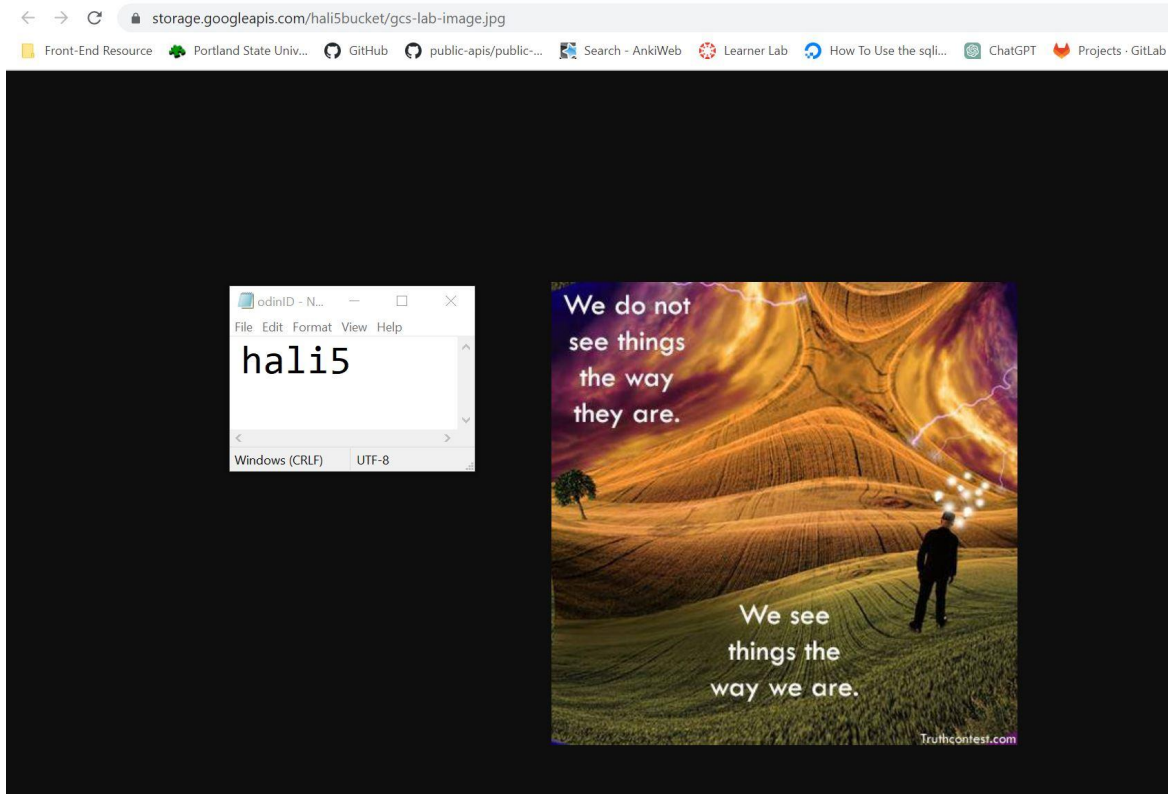
The Storage Object Creator role needs to be added to the service account's permission for the VM to add objects to a storage bucket.

Take a screenshot of the output for your notebook.

```
hali5@gcs-lab-vm:~$ gsutil cp moonquakes.png gs://hali5bucket
Copying file:///moonquakes.png [Content-Type=image/png]...
/ [1 files][315.9 KiB/315.9 KiB]
Operation completed over 1 objects/315.9 KiB.
```

View object

Take a screenshot the shows the entire URL and the image that has been retrieved



IAM and least privileges #4

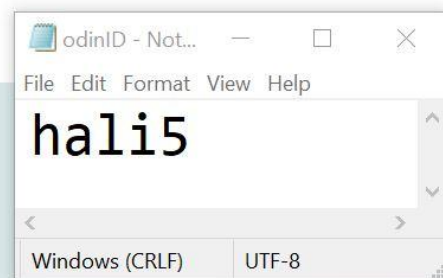
Take a screenshot of every congratulatory message along with the corresponding level name in the check function. Alternatively, you can take a screenshot of the scoreboard that includes your project name in it.

Check Privileges pr PrimitiveRole-Project

nonce: 554241193634

Message:

- Congratulations! You got the least privilege role.

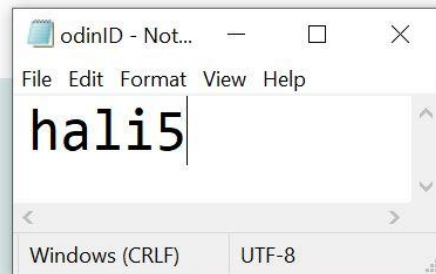


Check Privileges pd1 PredefinedRole-Storage

nonce: 252070559706

Message:

- Congratulations! You got the least privilege role.

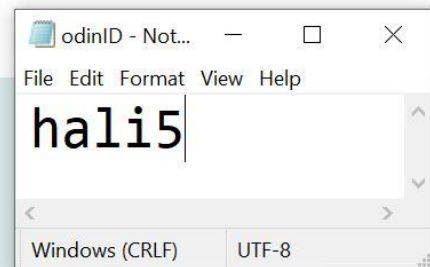


Check Privileges pd2 PredefinedRole-Compute

nonce: 460741836000

Message:

- Congratulations! You got the least privilege role.

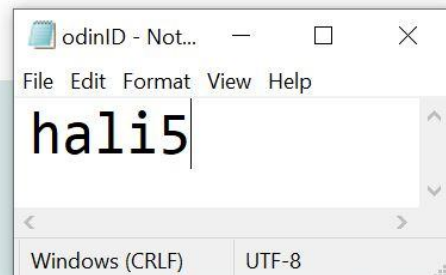


Check Privileges pd3 PredefinedRole-Logging

nonce: 999041433989

Message:

- Congratulations! You got the least privilege role.

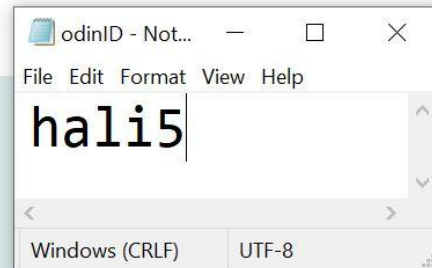


Check Privileges pd4 PredefinedRole-Datastore

nonce: 882714565050

Message:

- Congratulations! You got the least privilege role.

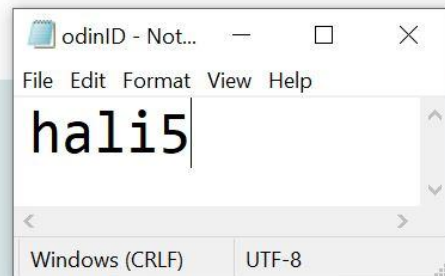


Check Privileges pd5 PredefinedRole-Vision

nonce: 831892722185

Message:

- Congratulations! You got the least privilege role.

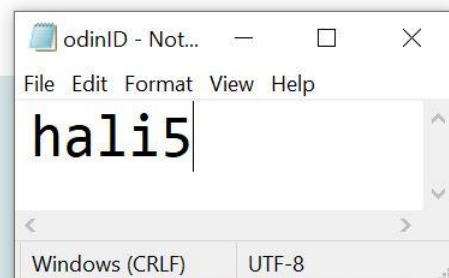


Check Privileges ct1 CustomRole-Project

nonce: 848627254383

Message:

- Congratulations! You get the least privileges.

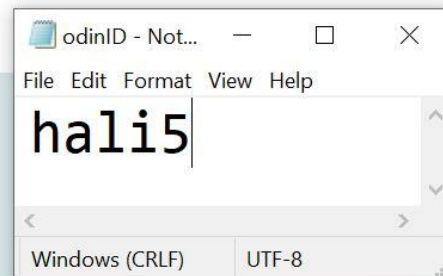


Check Privileges ct2 CustomRole-Storage

nonce: 211878897744

Message:

- Congratulations! You get the least privileges.

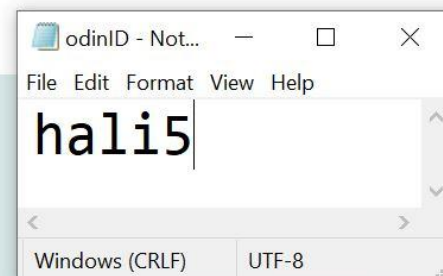


Check Privileges ct3 CustomRole-Compute

nonce: 588523703543

Message:

- Congratulations! You get the least privileges.

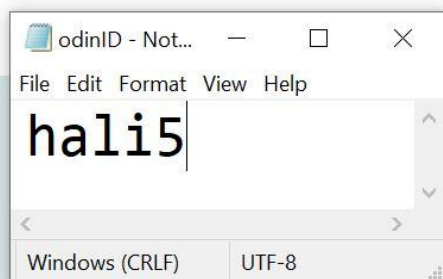


Check Privileges ct4 CustomRole-Logging

nonce: 954074084032

Message:

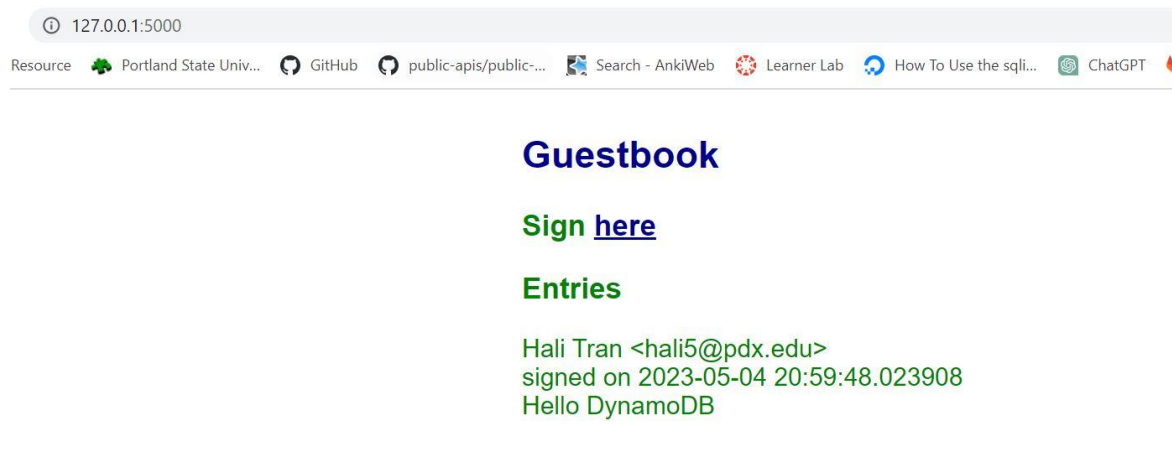
- Congratulations! You get the least privileges.



05.2a: DynamoDB Guestbook

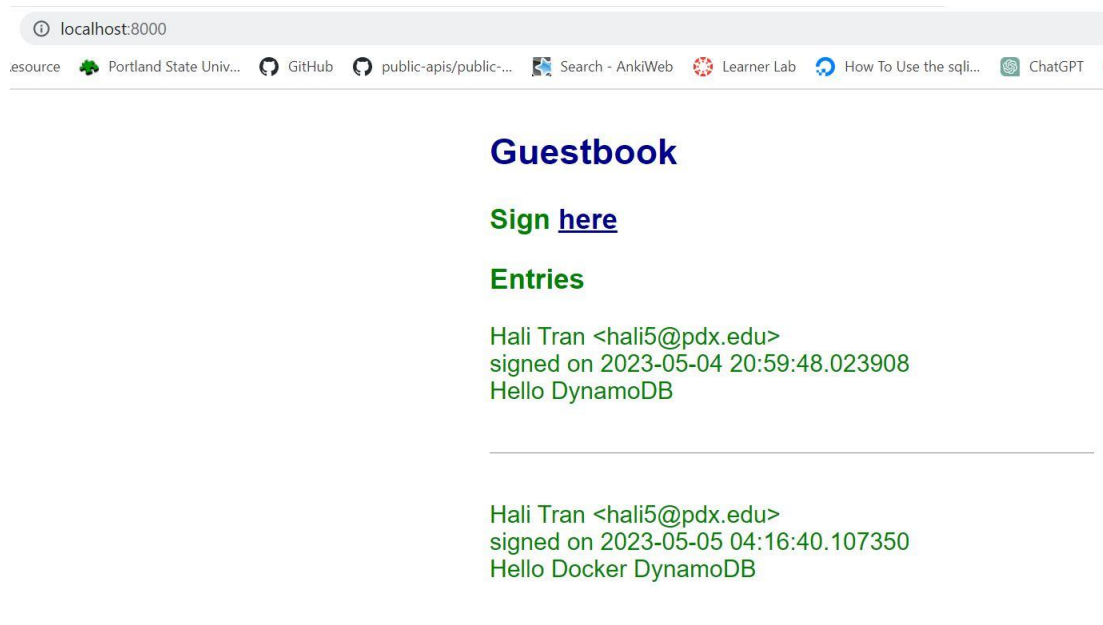
Run the application

Take a screenshot of the output for your lab notebook



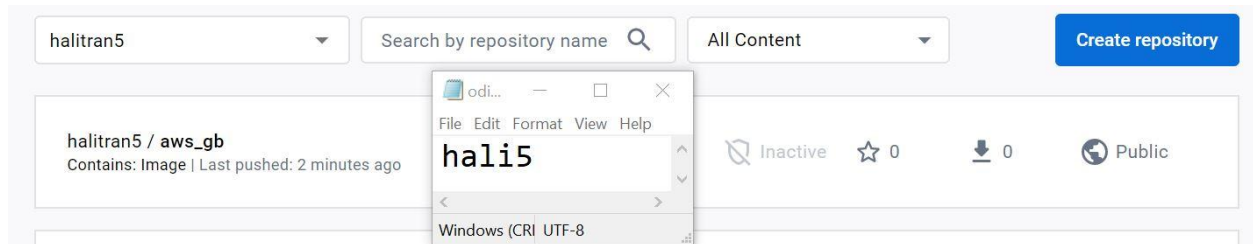
Run the application

Take a screenshot of the output for your lab notebook



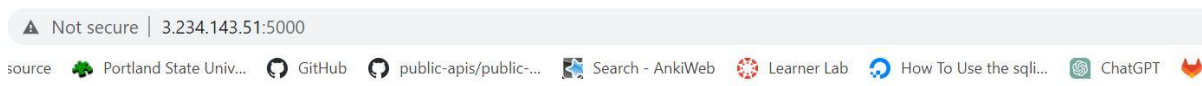
Push the container image

Take a screenshot of the container image on DockerHub



Run the application

Take a screenshot as before that shows your entry and the IP address in the URL bar



Guestbook

[Sign here](#)

Entries

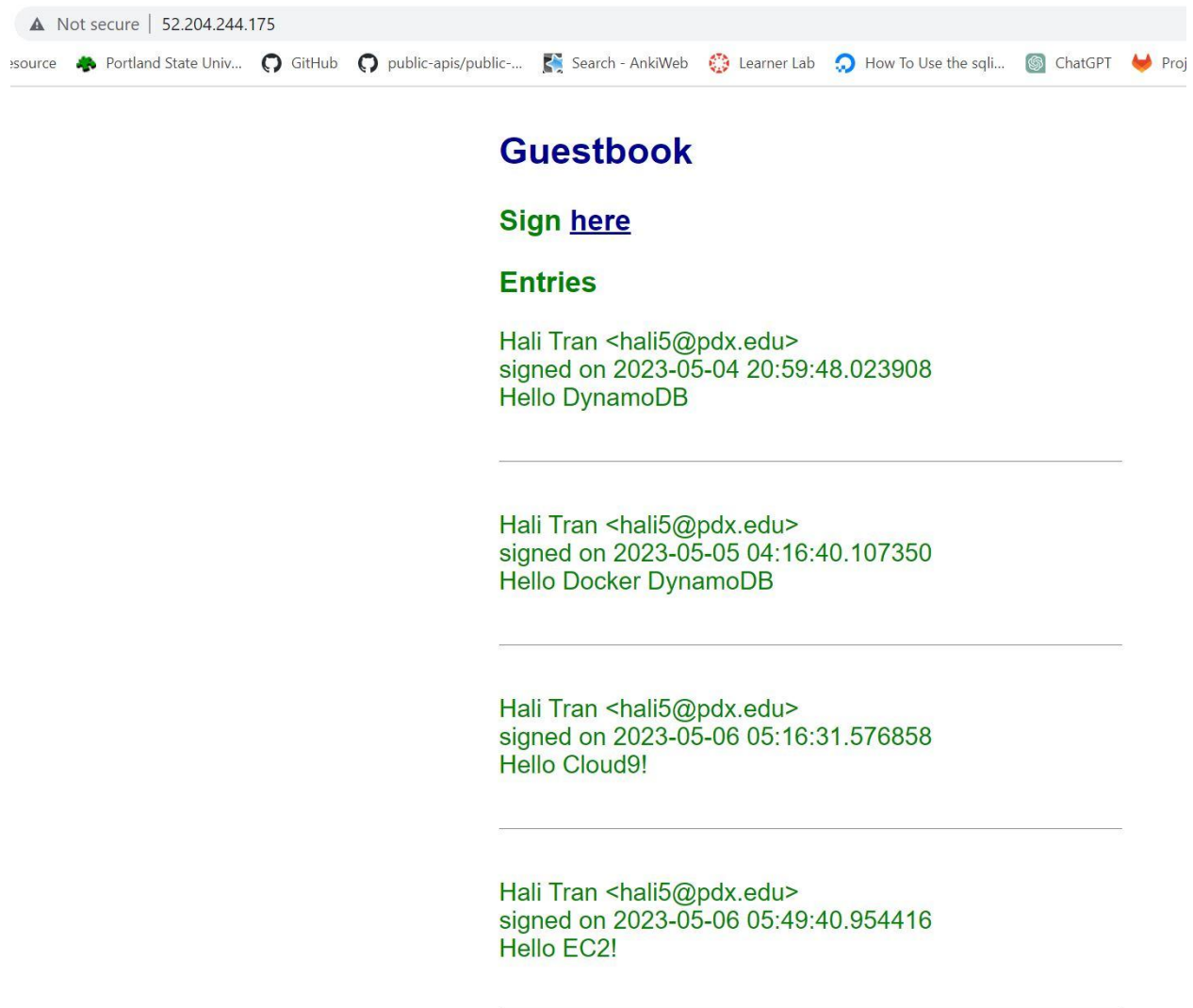
Hali Tran <hali5@pdx.edu>
signed on 2023-05-04 20:59:48.023908
Hello DynamoDB

Hali Tran <hali5@pdx.edu>
signed on 2023-05-05 04:16:40.107350
Hello Docker DynamoDB

Hali Tran <hali5@pdx.edu>
signed on 2023-05-06 05:16:31.576858
Hello Cloud9!

Visit the application

Take a screenshot as before that shows your entry and the IP address in the URL bar



View the database

Take a screenshot that shows all of the guestbook entries that you added to the DynamoDB table including their timestamps

Items returned (4)						Actions ▼	Create item
					< 1 >		
<input type="checkbox"/>	email ▼	date ▼	message ▼	name ▼			
<input type="checkbox"/>	hali5@pdx.edu	2023-05-04 20:59:48.023908	Hello DynamoDB	Hali Tran			
<input type="checkbox"/>	hali5@pdx.edu	2023-05-05 04:16:40.107350	Hello Docker DynamoDB	Hali Tran			
<input type="checkbox"/>	hali5@pdx.edu	2023-05-06 05:16:31.576858	Hello Cloud9!	Hali Tran			
<input type="checkbox"/>	hali5@pdx.edu	2023-05-06 05:49:40.954416	Hello EC2!	Hali Tran			

05.2g: Cloud Datastore Guestbook

Run the application

Take a screenshot of the output for your lab notebook

127.0.0.1:5000

source
Portland State Univ...
GitHub
public-apis/public-...
Search - AnkiWeb
Learner Lab
How To Use the sqli...
ChatGPT

Guestbook

[Sign here](#)

Entries

Hali Tran <hali5@pdx.edu>
signed on 2023-05-05 23:44:33.268085+00:00
Hello Datastore

Run the application

Take a screenshot of the output for your lab notebook

Guestbook

Sign [here](#)

Entries

Hali Tran <hali5@pdx.edu>
signed on 2023-05-05 23:44:33.268085+00:00
Hello Datastore

Hali Tran <hali5@pdx.edu>
signed on 2023-05-06 07:16:23.329472+00:00
Hello Docker Datastore!

Run the application

Take a screenshot of the output for your lab notebook

Guestbook

Sign [here](#)

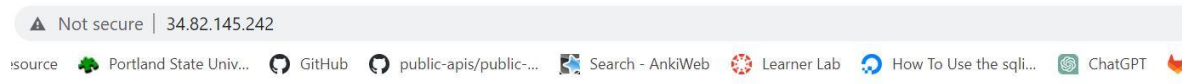
Entries

Hali Tran <hali5@pdx.edu>
signed on 2023-05-05 23:44:33.268085+00:00
Hello Datastore

Hali Tran <hali5@pdx.edu>
signed on 2023-05-06 07:29:15.411783+00:00
Hello Cloud Shell!

Hali Tran <hali5@pdx.edu>
signed on 2023-05-06 07:16:23.329472+00:00
Hello Docker Datastore!

Visit the application



Guestbook

[Sign here](#)

Entries

Hali Tran <hali5@pdx.edu>
signed on 2023-05-05 23:44:33.268085+00:00
Hello Datastore

Hali Tran <hali5@pdx.edu>
signed on 2023-05-06 07:29:15.411783+00:00
Hello Cloud Shell!

Hali Tran <hali5@pdx.edu>
signed on 2023-05-06 07:16:23.329472+00:00
Hello Docker Datastore!

Hali Tran <hali5@pdx.edu>
signed on 2023-05-06 07:45:33.255212+00:00
Hello Compute Engine!

View the database

Take a screenshot of all of the entries that have been added including their timestamps for your lab notebook

Query results

<input type="checkbox"/>	Name/ID ↑	date	email	message	name
<input type="checkbox"/>	id=5634161670881280	May 5, 2023 at 4:44:33.268 PM UTC-7	hali5@pdx.edu	Hello Datastore	Hali Tran
<input type="checkbox"/>	id=5636645067948032	May 6, 2023 at 12:29:15.411 AM UTC-7	hali5@pdx.edu	Hello Cloud Shell!	Hali Tran
<input type="checkbox"/>	id=5644004762845184	May 6, 2023 at 12:16:23.329 AM UTC-7	hali5@pdx.edu	Hello Docker Datastore!	Hali Tran
<input type="checkbox"/>	id=5704568633556992	May 6, 2023 at 12:45:33.255 AM UTC-7	hali5@pdx.edu	Hello Compute Engine!	Hali Tran