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## 5.1g Storage, IAM

### 2. GCP Cloud Storage #1 (USGS)

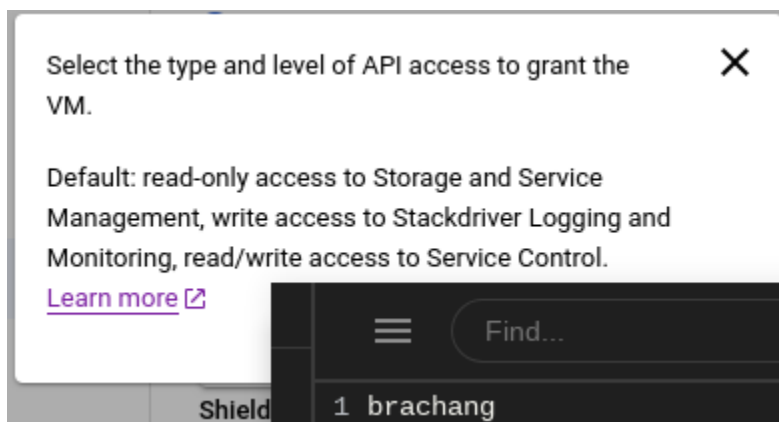
**What role is attached to the Compute Engine default service account?**

The editor role

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

Yes it should be sufficient.

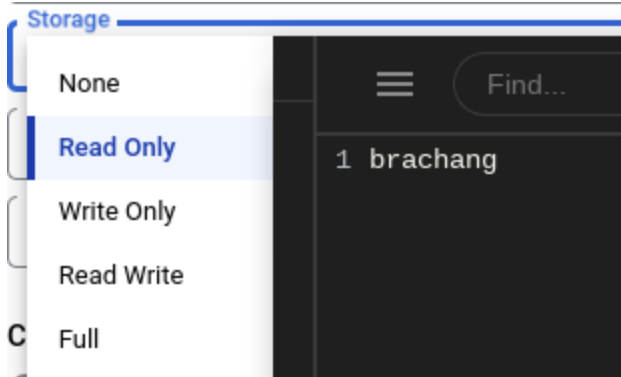
**What permissions are given by the default access scope to Cloud Storage?**



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

There's only read-only access to storage and service management so it's probably not sufficient enough for functions like creating buckets and reading/writing objects into them

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



## 4. USGS data and setup

**What time did the latest earthquake happen?**

On 2025-02-10T20:08:30.339Z

**What was the magnitude (mag)?**

Magnitude of 1.6

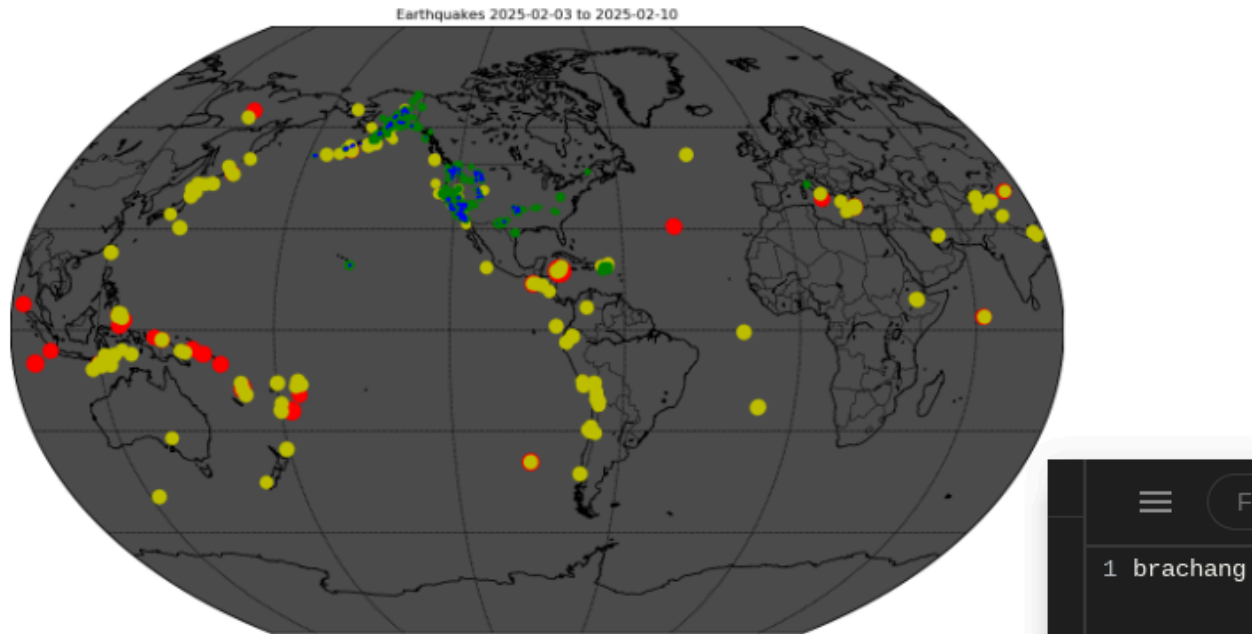
**Where was the place it happened?**

26 km WNW of Tyonek, Alaska

```
brachang@usgs:~/training-data-analyst/CPB100/lab2b$ head -2 earthquakes.csv
time,latitude,longitude,depth,mag,magType,nst,gap,dmin,rms,net,id,updated,place,type,horizontalError,depthE
rror,magError,magNst,status,locationSource,magSource
2025-02-10T20:08:30.339Z,61.1445,-151.5975,76.2,1.6,ml,,,,,0.56,ak,ak0251w4zoex,2025-02-10T20:10:25.124Z,"26
km WNW of Tyonek, Alaska",earthquake,,1,,,automatic,ak,ak
brachang@usgs:~/training-data-analyst/CPB100/lab2b$
```

## 5. Python plotting code

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



## 9. Service account roles (Compute)

What is the exact error message that is returned?

```
brachang@gcs-lab-vm:~$ gcloud compute instances list
WARNING: Some requests did not succeed.
- Required 'compute.instances.list' permission for 'projects/cloud-chang-brachang'

Listed 0 items.
brachang@gcs-lab-vm:~$
```

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 resources?

Role  IAM co

Read-only access to Compute Engine networking resources.

+ ADD ANOTHER ROLE

1 brachang

Take a screenshot of the output for your notebook.

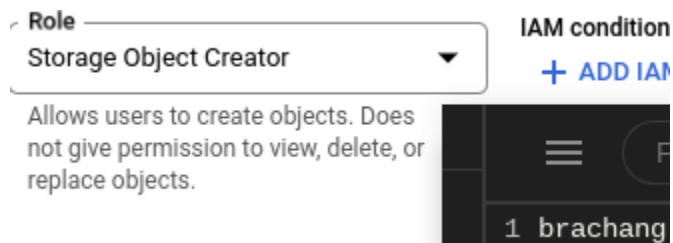
```
brachang@gcs-lab-vm:~$ gcloud compute instances list
NAME          ZONE          MACHINE_TYPE  PREEMPTIBLE  INTERNAL_IP  EXTERNAL_IP  STATUS
course-vm     us-west1-b   e2-medium    10.138.0.2   10.138.0.15  34.127.43.157  TERMINATED
gcs-lab-vm    us-west1-b   e2-medium    10.138.0.15  10.138.0.15  34.127.43.157  RUNNING
usgs          us-west1-b   e2-medium    10.138.0.14  10.138.0.14  34.145.32.116  RUNNING
brachang@gcs-lab-vm:~$
```

## 10. Service account roles (Storage)

What is the exact error message that is returned?

```
brachang@gcs-lab-vm:~$ gsutil cp moonquakes.png gs://earthquake-data
Copying file://moonquakes.png [Content-Type=image/png]...
AccessDeniedException: 403 gcs-lab@cloud-chang-brachang.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).
brachang@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?



Take a screenshot of the output for your notebook.

```
brachang@gcs-lab-vm:~$ gsutil cp moonquakes.png gs://earthquake-data
Copying file://moonquakes.png [Content-Type=image/png]...
/ [1 files][315.4 KiB/315.4 KiB]
Operation completed over 1 objects/315.4 KiB.
brachang@gcs-lab-vm:~$
```

## 13. View object

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

storage.googleapis.com/earthquake-data/gcs-lab-image.jpg

Google Drive icons: Google, Gmail, OneDrive, Dropbox, etc.

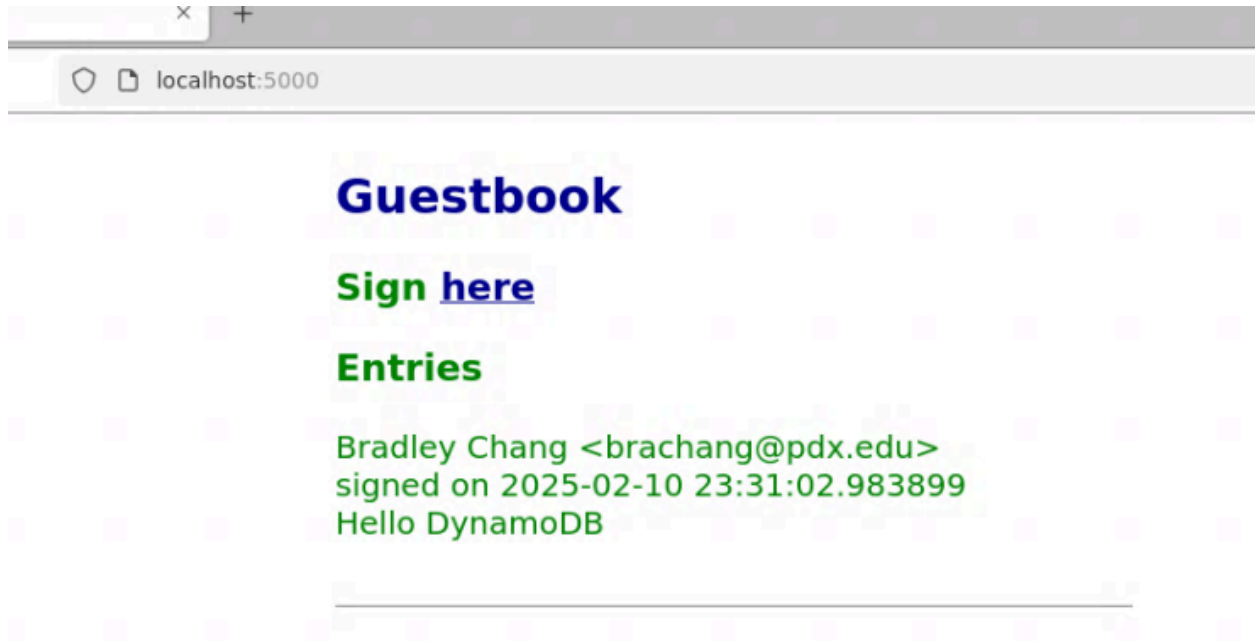
**"Pain is inevitable.  
Suffering is optional." -Buddha**



## 5.2a DynamoDB Guestbook

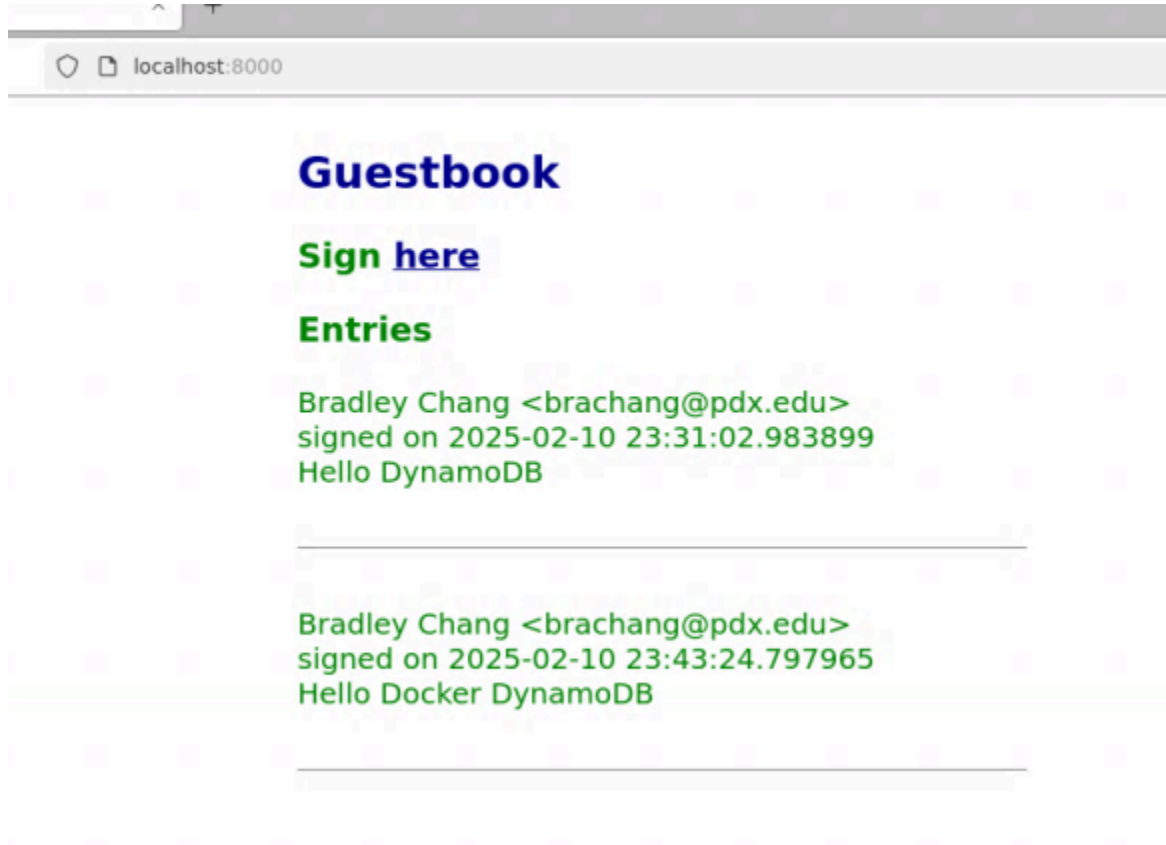
### 5. Run the application

Take a screenshot of the output for your lab notebook.



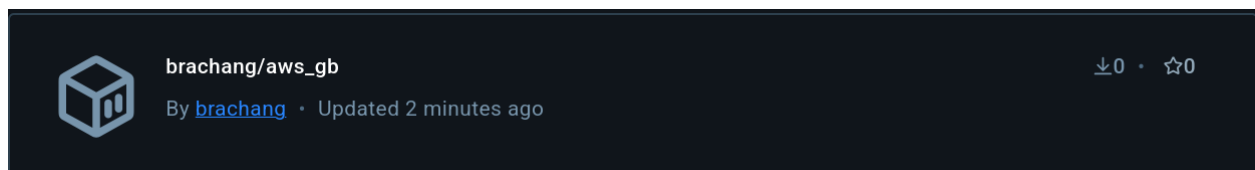
## 7. Run the application

Take a screenshot of the output for your lab notebook.



## 8. Push the container image

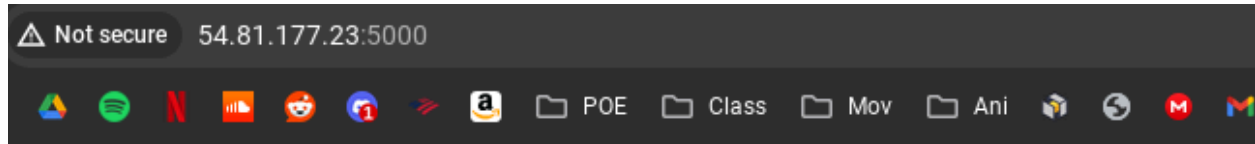
Take a screenshot of the container image on DockerHub.





## 11. Run the application

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



## Guestbook

[Sign here](#)

### Entries

Bradley Chang <brachang@pdx.edu>  
signed on 2025-02-10 23:31:02.983899  
Hello DynamoDB

---

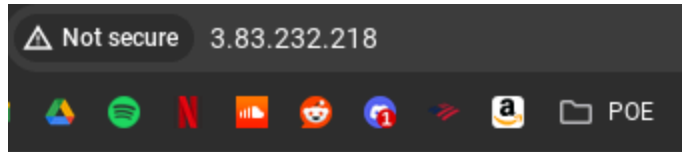
Bradley Chang <brachang@pdx.edu>  
signed on 2025-02-10 23:43:24.797965  
Hello Docker DynamoDB

---

Bradley Chang <brachang@pdx.edu>  
signed on 2025-02-11 00:21:01.362325  
Hello Cloud9!

## 15. Visit the application

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



### Guestbook

[Sign here](#)

#### Entries

Bradley Chang <brachang@pdx.edu>  
signed on 2025-02-10 23:31:02.983899  
Hello DynamoDB

---

Bradley Chang <brachang@pdx.edu>  
signed on 2025-02-10 23:43:24.797965  
Hello Docker DynamoDB

---

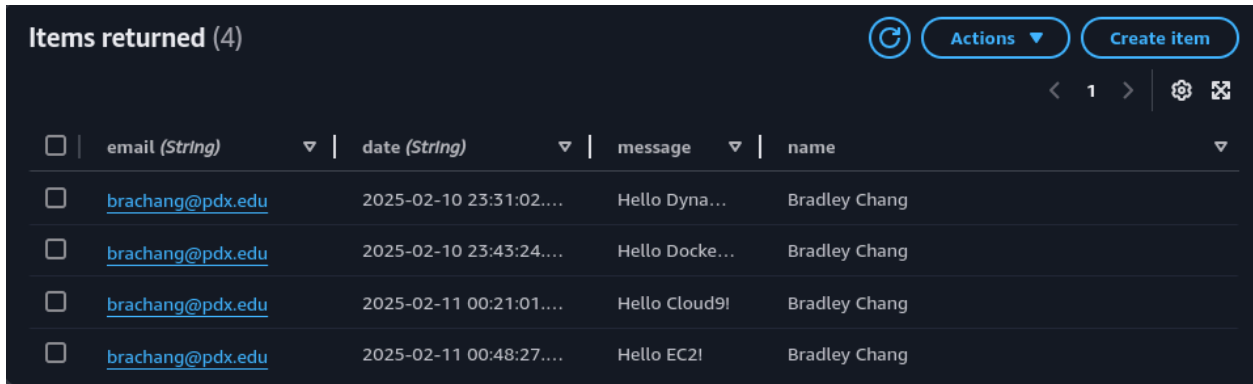
Bradley Chang <brachang@pdx.edu>  
signed on 2025-02-11 00:21:01.362325  
Hello Cloud9!

---

Bradley Chang <brachang@pdx.edu>  
signed on 2025-02-11 00:48:27.094863  
Hello EC2!

## 16. View the database

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



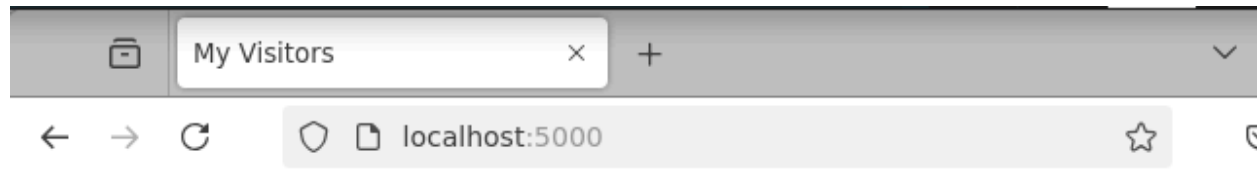
The screenshot shows the AWS DynamoDB console interface. At the top, it says "Items returned (4)". To the right are buttons for "Actions" and "Create item". Below this is a table with four columns: "email (String)", "date (String)", "message", and "name". Each row represents a guestbook entry. The first three rows have a checkbox in the first column, followed by the email address "brachang@pdx.edu", the date, the message, and the name "Bradley Chang". The fourth row also has a checkbox and the same email and name, but the date is different. The messages are "Hello Dyna...", "Hello Docke...", "Hello Cloud9!", and "Hello EC2!".

<input type="checkbox"/>	email (String)	date (String)	message	name
<input type="checkbox"/>	<a href="mailto:brachang@pdx.edu">brachang@pdx.edu</a>	2025-02-10 23:31:02....	Hello Dyna...	Bradley Chang
<input type="checkbox"/>	<a href="mailto:brachang@pdx.edu">brachang@pdx.edu</a>	2025-02-10 23:43:24....	Hello Docke...	Bradley Chang
<input type="checkbox"/>	<a href="mailto:brachang@pdx.edu">brachang@pdx.edu</a>	2025-02-11 00:21:01....	Hello Cloud9!	Bradley Chang
<input type="checkbox"/>	<a href="mailto:brachang@pdx.edu">brachang@pdx.edu</a>	2025-02-11 00:48:27....	Hello EC2!	Bradley Chang

## 5.2g Cloud Datastore Guestbook

### 7. Run the application

Take a screenshot of the output for your lab notebook.



# Guestbook

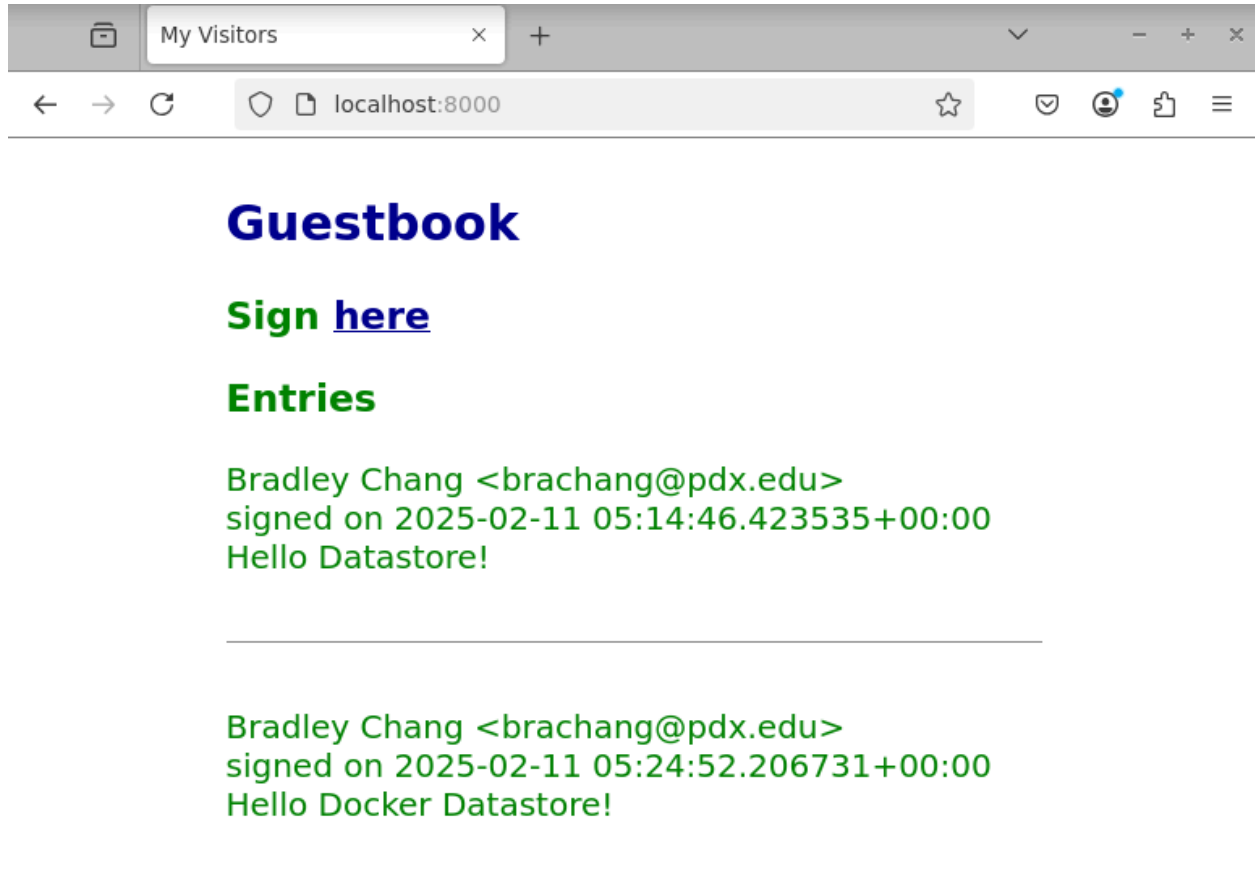
**Sign** [here](#)

## Entries

Bradley Chang <brachang@pdx.edu>  
signed on 2025-02-11 05:14:46.423535+00:00  
Hello Datastore!

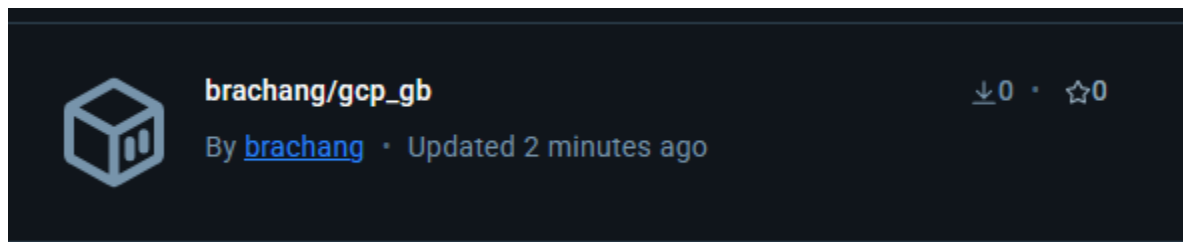
## 9. Run the application

Take a screenshot of the output for your lab notebook.



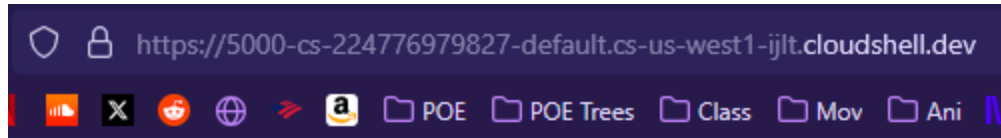
## 10. Push the container image

Take a screenshot of the container image on DockerHub.



## 12. Run the application

Take a screenshot as before that shows your entry and the URL bar.



## Guestbook

**Sign [here](#)**

### Entries

Bradley Chang <brachang@pdx.edu>  
signed on 2025-02-11 05:14:46.423535+00:00  
Hello Datastore!

---

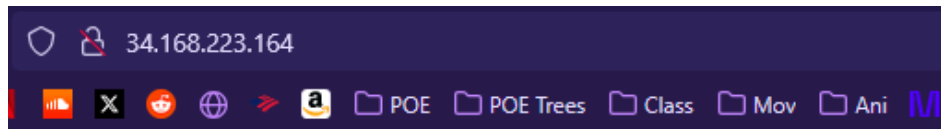
Bradley Chang <brachang@pdx.edu>  
signed on 2025-02-11 05:41:12.016337+00:00  
Hello Cloud Shell!

---

Bradley Chang <brachang@pdx.edu>  
signed on 2025-02-11 05:24:52.206731+00:00  
Hello Docker Datastore!

## 15. Visit the application

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



# Guestbook

Sign [here](#)

## Entries

Bradley Chang <brachang@pdx.edu>  
signed on 2025-02-11 05:14:46.423535+00:00  
Hello Datastore!

---

Bradley Chang <brachang@pdx.edu>  
signed on 2025-02-11 05:41:12.016337+00:00  
Hello Cloud Shell!

---

Bradley Chang <brachang@pdx.edu>  
signed on 2025-02-11 05:24:52.206731+00:00  
Hello Docker Datastore!

---

Bradley Chang <brachang@pdx.edu>  
signed on 2025-02-11 06:01:22.416517+00:00  
Hello Compute Engine!

## 16. View the database

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

<input type="checkbox"/>	Name/ID ↑	date	email	message	name
<input type="checkbox"/>	<a href="#">id=5634161670881280</a>	February 10, 2025 at 9:14:46.423 PM UTC-8	brachang@pdx.edu	Hello Datastore!	Bradley Chang
<input type="checkbox"/>	<a href="#">id=5644004762845184</a>	February 10, 2025 at 9:41:12.016 PM UTC-8	brachang@pdx.edu	Hello Cloud Shell!	Bradley Chang
<input type="checkbox"/>	<a href="#">id=5700433016258560</a>	February 10, 2025 at 9:24:52.206 PM UTC-8	brachang@pdx.edu	Hello Docker Datastore!	Bradley Chang
<input type="checkbox"/>	<a href="#">id=5710353417633792</a>	February 10, 2025 at 10:01:22.416 PM UTC-8	brachang@pdx.edu	Hello Compute Engine!	Bradley Chang