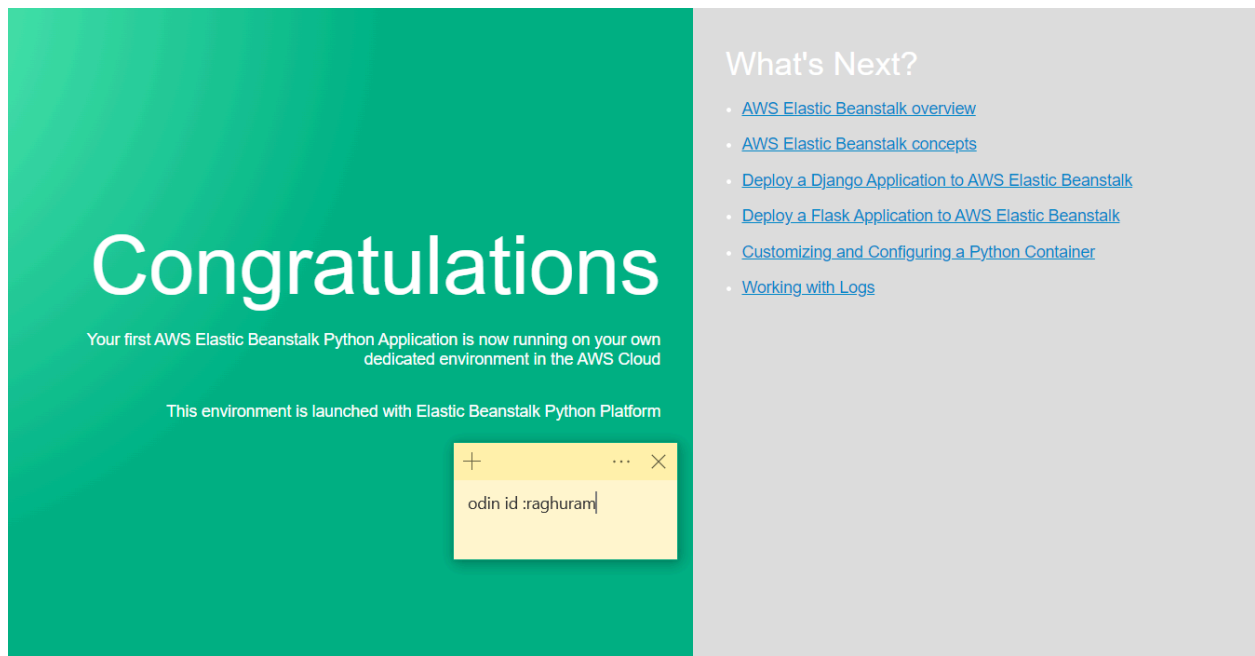


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## 06.1a: EB Guestbook

### 3. Running the application

- Take a screenshot showing it has been brought up successfully



### 4. Handling failures seamlessly

- Take a screenshot of the replacement VM being started.

**Instances (3)**
[Info](#)

Connect

Instance state ▾

Actions ▾

Launch instances ▾

Find Instance by attribute or tag (case-sensitive)

All states ▾

< 1 >

<input type="checkbox"/>	Name <a href="#">✎</a> ▾	Instance ID	Instance state ▾	Instance type ▾	Status check	Alarm status	Availability Zone ▾	Public IPv4
<input type="checkbox"/>	Eb-hello-env	<a href="#">i-0e39f4a81b8fd4b14</a>	<span>Running</span> <a href="#">🔍</a> <a href="#">🔍</a>	t2.small	<span>2/2 checks passed</span> <a href="#">View alarms</a> <a href="#">+</a>		us-east-1a	ec2-3-237-
<input type="checkbox"/>	Eb-hello-env	<a href="#">i-00a6c97c8185accd</a>	<span>Running</span> <a href="#">🔍</a> <a href="#">🔍</a>	t2.small	<span>2/2 checks passed</span> <a href="#">View alarms</a> <a href="#">+</a>		us-east-1b	ec2-3-83-5
<input type="checkbox"/>	Eb-hello-env	<a href="#">i-0042c05661a656388</a>	<span>Terminated</span> <a href="#">🔍</a> <a href="#">🔍</a>	t2.small	-	<a href="#">View alarms</a> <a href="#">+</a>	us-east-1e	-

Select an instance

+

...

×

odin id :raghura

## 7. Deploying the Guestbook

- Take a screenshot of the Guestbook including the URL with the entry in it.

Raghuram <raghuram@pdx>  
signed on 2024-05-06 20:23:11.254499  
Hello Cloud9!

Raghuram <raghuram@pdx.edu>  
signed on 2024-05-06 19:20:10.789282  
Hello DynamoDB

Raghuram <raghuram@pdx.edu>  
signed on 2024-05-06 19:34:01.798381  
Hello Docker DynamoDB

Raghuram <raghuram@pdx.edu>  
signed on 2024-05-07 02:19:51.558369  
Hello EC2!

Raghuram <raghuram@pdx.edu>  
signed on 2024-05-12 02:28:37.423526  
Hello Elastic Beanstalk!

- Take a screenshot of them.

The screenshot shows the AWS Management Console 'Instances' page. The table lists three instances:

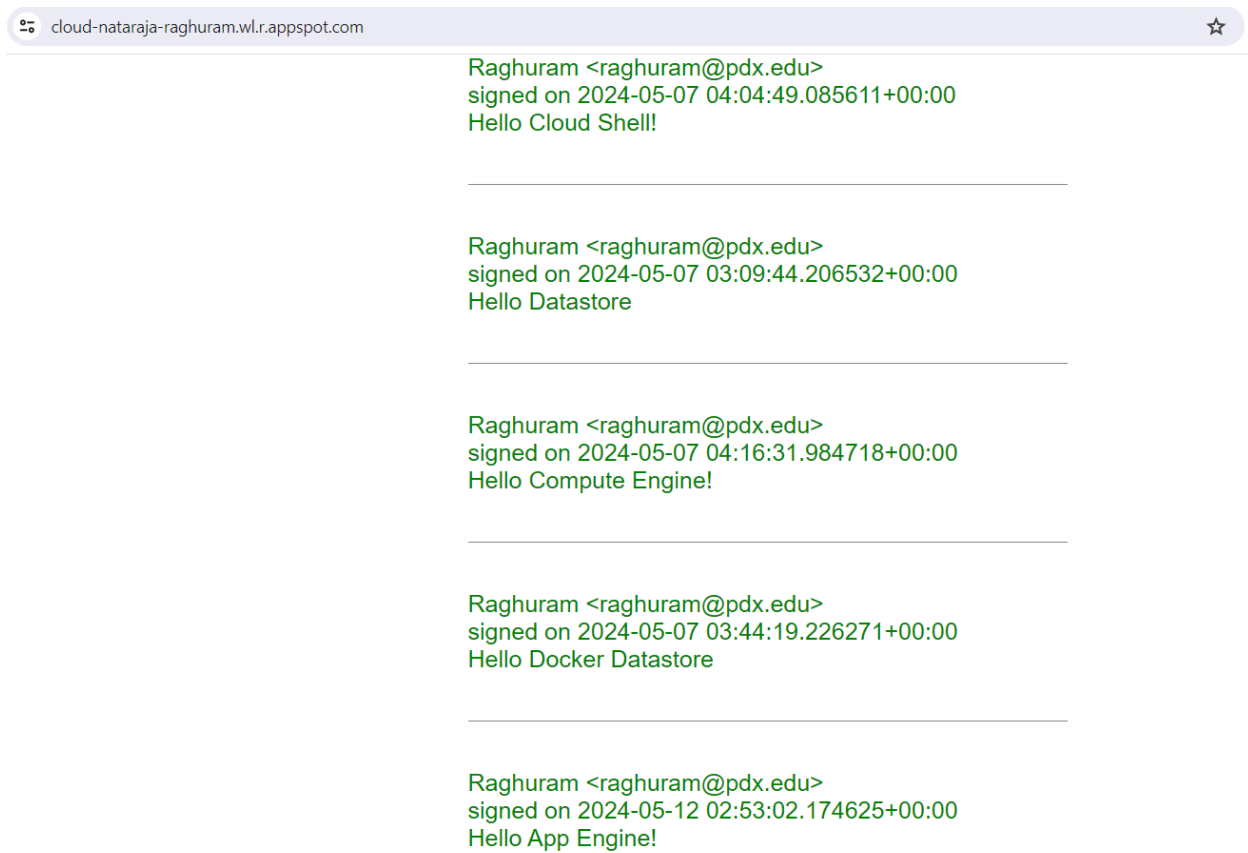
Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
guestbook-env	i-06df03ef867a62bc9	Running	t3.micro	2/2 checks passed	View alarms +	us-east-1c	ec2-52-23-169-2
guestbook-env	i-031bd30f9e5b0505f	Running	t3.micro	2/2 checks passed	View alarms +	us-east-1a	ec2-3-92-42-129
guestbook-env	i-0be9ea294357d29dc	Running	t3.micro	2/2 checks passed	View alarms +	us-east-1b	ec2-52-87-190-2

A yellow tooltip is visible over the 'Select an instance' button, showing the text 'odin id :raghuram'.

06.1g: App Engine Guestbook

3. Deploying the Guestbook

- Take a screenshot of the output that includes the URL in the address bar for your lab notebook.



#### 4. Handling failures seamlessly

- Take a screenshot of them.

id

cloud-nataraja-raghuram

app engine

X

Search

12

?

⋮

R

Instances

REFRESH

DELETE

LEARN

UTC-7 7:00 PM 7:05 PM 7:10 PM 7:15 PM 7:20 PM 7:25 PM 7:30 PM 7:35 PM 7:40 PM 7:45 PM 7:50 PM 7:55 PM

Instances

?

☐

ID ↑

☐

00f46b9285c19d35b6524020e22b6...

0

0 ms

4

0

91.4 MB

☐

00f46b9285c733d90604799c79e7e...

0

0 ms

5

0

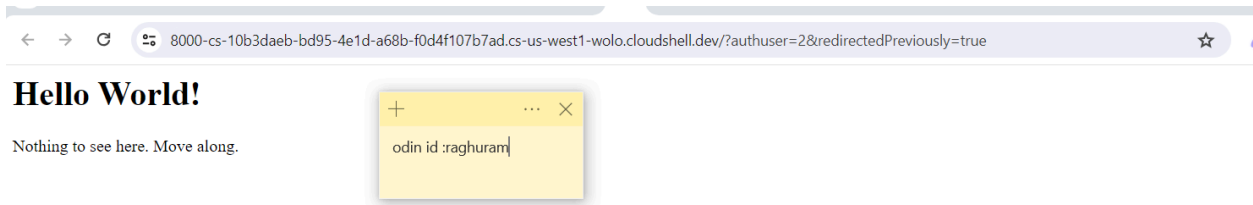
91.8 MB

(cloud-nataraja-raghuram) X +

Open Editor

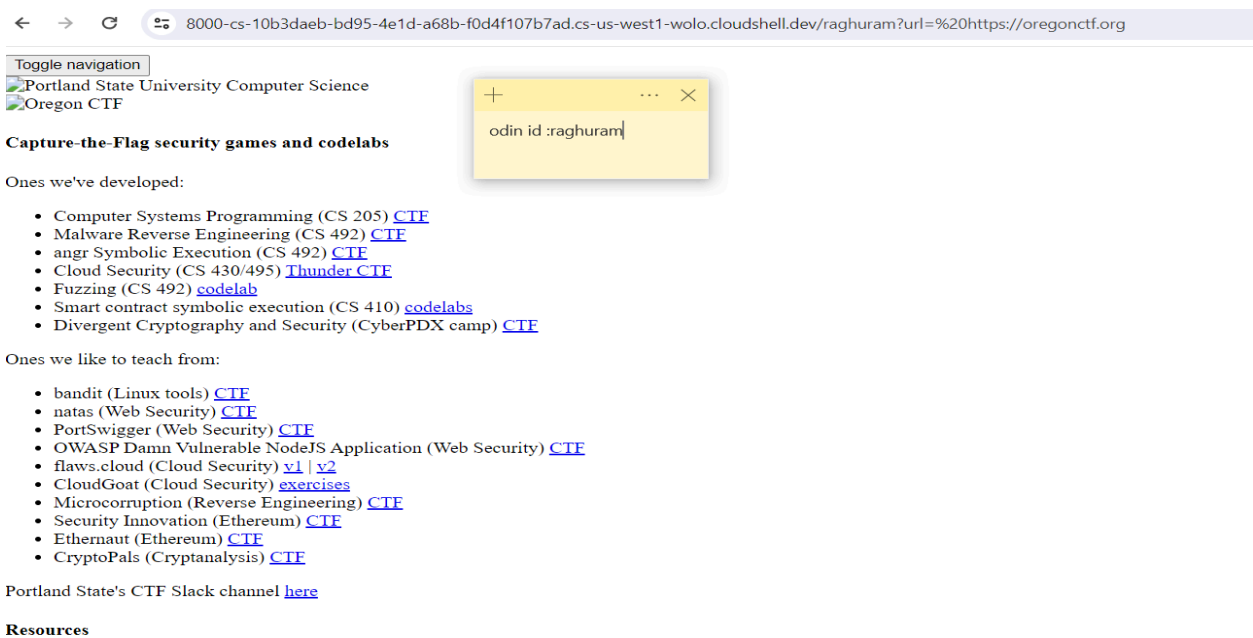
⌨ ⚙ 📺 📄 ⋮ \_ ↕ 🗑 X

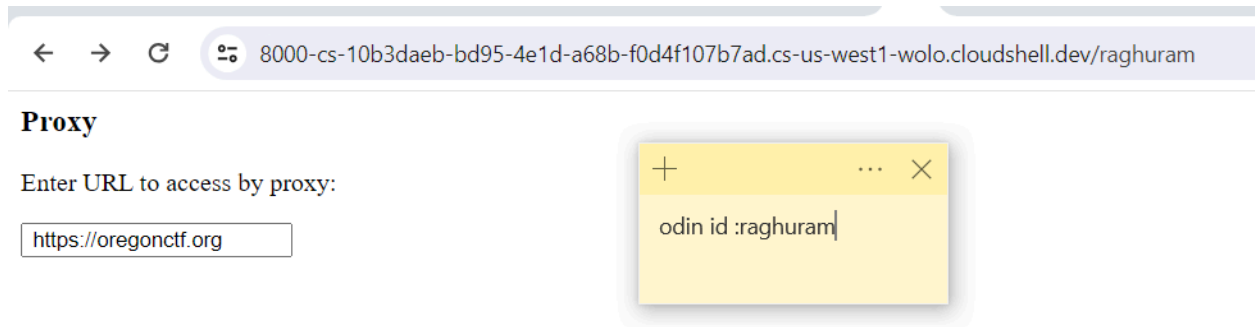
06.2g: Cloud Run, Secret Manager (Web proxy)



## 8. Setup secret proxy

- Take a screenshot of the proxy and its results including the URL containing your OdinID





- What is the security advantage of passing in the secret proxy route as an environment variable?


using environment variables for passing sensitive information like secret proxy routes enhances the security posture of your application by reducing exposure, enabling dynamic configuration, and aligning with security best practices.

## 9. Cloud Build and Container Registry

- Take a screenshot of the image in the registry that shows the size of the container for your lab notebook.

secret-proxy

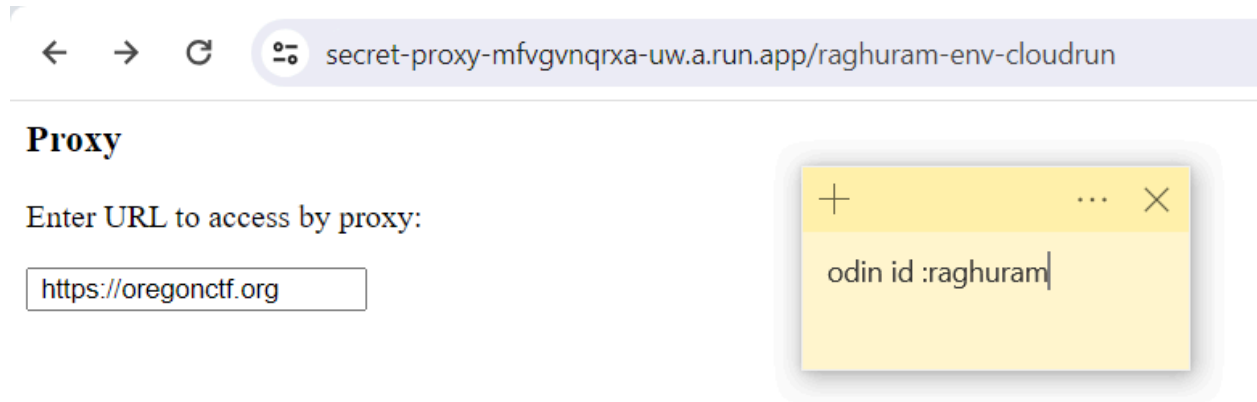
gcr.io > cloud-nataraja-raghurar > secret-proxy

Filter Enter property name or value						
<input type="checkbox"/>	Name	Tags	Virtual Size ?	Created	Uploaded ↓	
<input type="checkbox"/>	 <a href="#">09f39892b9f2</a>	latest	51.3 MB	20 hours ago	20 hours ago	⋮

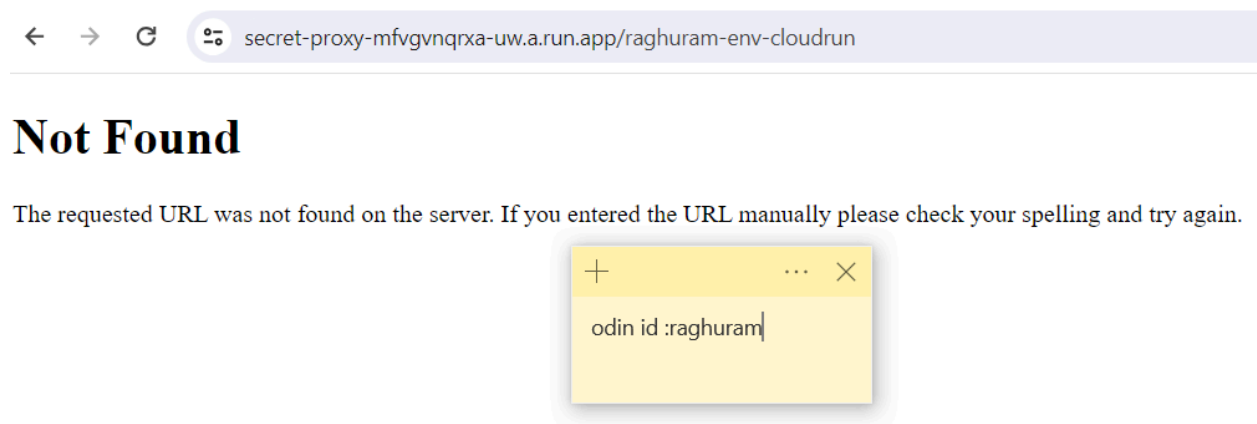


## 10. Deploy to Cloud Run

- Take a screenshot of it that includes the proxy URL for your lab notebook.

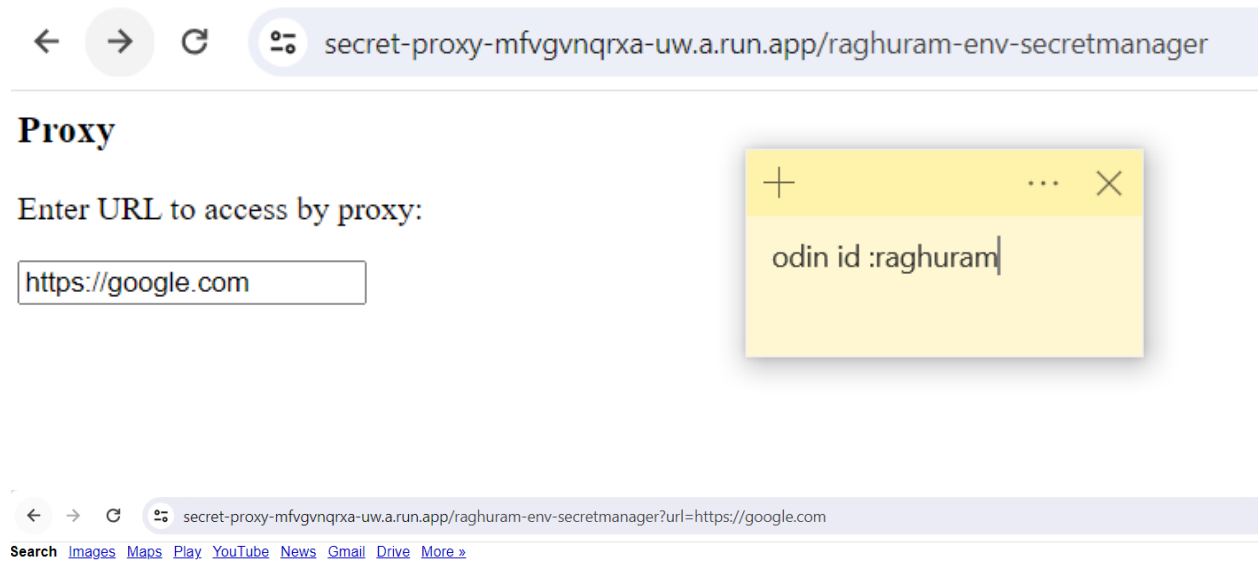


- Take a screenshot of the error page that includes the proxy URL for your lab notebook.



## 12. Deploy to Cloud Run with Secret Manager

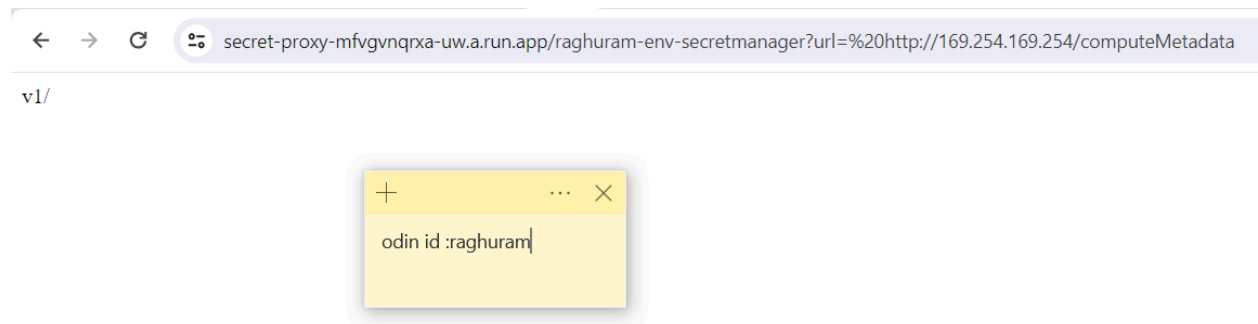
- Take a screenshot of it that includes the proxy URL for your lab notebook.



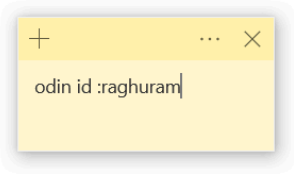
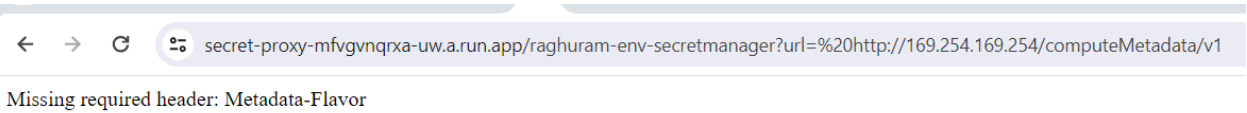
- Identify the vulnerability in your lab notebook that Google has prevented.

Web security vulnerability, SSRF - Server-side request forgery

<http://169.254.169.254/computeMetadata>



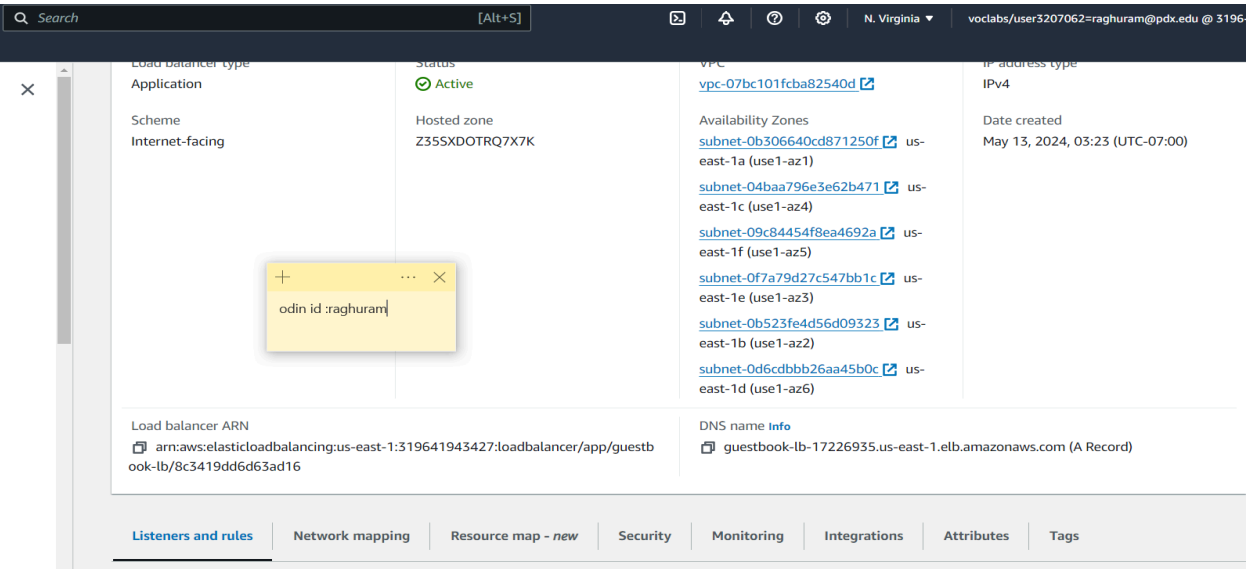
<http://169.254.169.254/computeMetadata/v1>



06.3a: ECS Guestbook

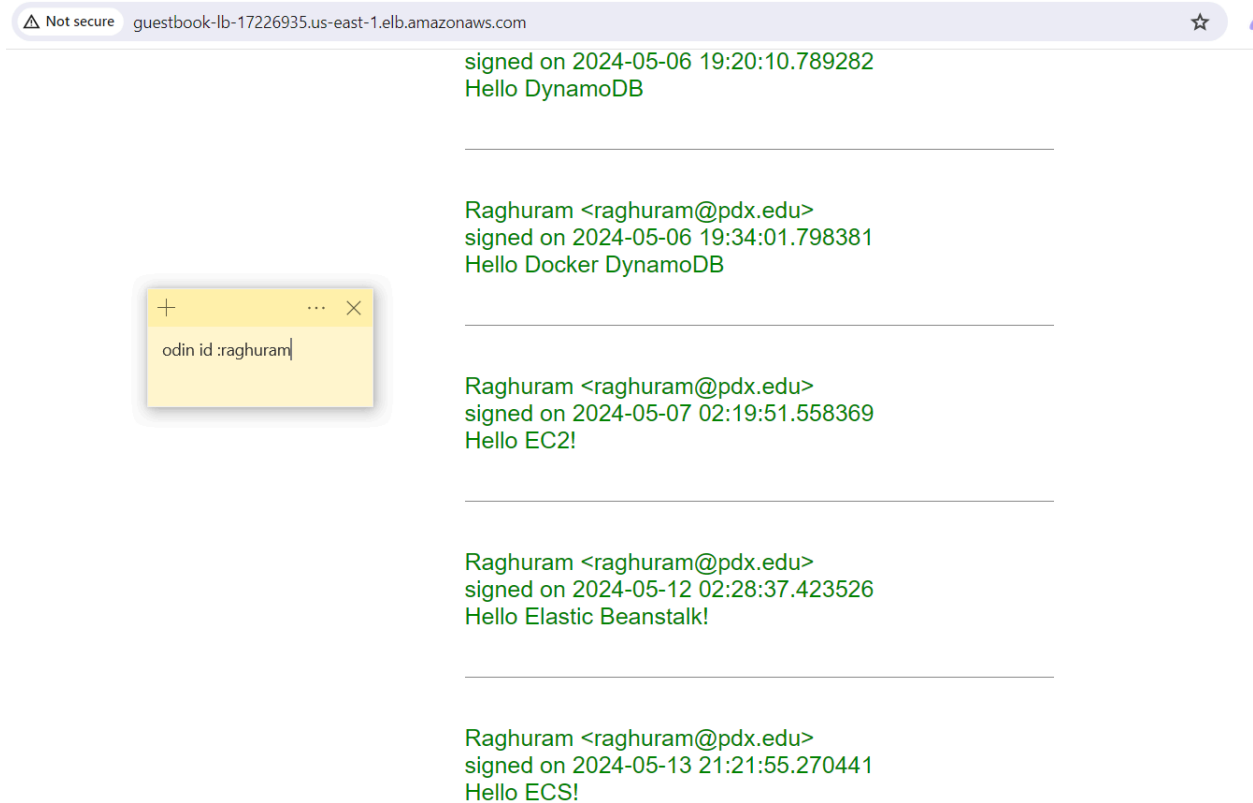
5. Examine the service

- Take a screenshot of the DNS name of the guestbook-lb load balancer for your lab notebook



## 6. Visit the site

- Take a screenshot of the Guestbook app running in a browser that includes the DNS name of the site.



06.3g: Cloud Run Guestbook

2. Prepare a container image

- Take a screenshot that includes the output of the command and the time it took to execute.

cloud-nataraja-raghuram
clo
Search
12
R

Build details
REBUILD
COPY URL
LEARN

Successful: 42cebfd-f89e-41de-a3c5-e5ced0b1fff5

Started on May 13, 2024, 2:33:18 PM

Source

gs://cloud-nataraja-raghuram\_cloudbuild/source/1715635977.53823-a6c9654effcb4a80aace601aa333a9fa.tgz

Steps	Duration	BUILD LOG	EXECUTION DETAILS	BUILD ARTIFACTS
<div> <div> Build Summary </div> <div> 1 Step </div> </div>	00:03:50	<div> <input type="checkbox"/> Wrap lines <input type="checkbox"/> Show newest entries first <div> T ↓ </div> </div> <div> EXPAND VIEW RAW </div>		
<div> <div> 0: gcr.io/cloud-builders/... </div> <div> build --network cloudbuil... </div> </div>	00:01:26	<pre> 148 Installing collected packages: pyasn1, urllib3, rsa, pyasn1-modules, protobuf, idna, charset-normalizer 149 Successfully installed Jinja2-3.1.4 MarkupSafe-2.1.5 Werkzeug-3.0.3 blinker-1.8.2 cachetools-5.3.3 cert 150 Removing intermediate container edd71d4ee73c 151   ---&gt; c5e5da8c43e4 152 Step 6/6 : CMD exec gunicorn --bind :\$PORT --workers 1 --threads 8 app:app 153   ---&gt; Running in 6794f0ebee91 154 Removing intermediate container 6794f0ebee91 155   ---&gt; 7190cd27ade6 156 Successfully built 7190cd27ade6 157 Successfully tagged gcr.io/cloud-nataraja-raghuram/gcp_gb:latest 158 PUSH 159 Pushing gcr.io/cloud-nataraja-raghuram/gcp_gb 160 The push refers to repository [gcr.io/cloud-nataraja-raghuram/gcp_gb] 161 12048b355420: Preparing 162 2d2461faa1fe: Preparing 163 e7a0aeef52ac: Preparing 164 ab93a891cf3e: Preparing 165 fad5e1487117: Preparing 166 80a79b268921: Preparing 167 c8803e50406f: Preparing 168 443b4fc8afb5: Preparing 169 9dcabc40b87: Preparing 170 80a79b268921: Waiting 171 c8803e50406f: Waiting </pre>		

+
...
X

odin id :raghuram

### 3. View container image

- Take a screenshot showing the container image and its virtual size

cloud-nataraja-raghuram

contai

Search

12

R

y

Images

DELETE

Upgrade to Artifact Registry

Container Registry is deprecated and scheduled for shutdown. After May 15, 2024, Artifact Registry will [host images for the gcr.io domain by default](#) in projects without previous Container Registry usage. After March 18, 2025, Container Registry will be shut down. To learn more about your options to upgrade to Artifact Registry, see [Prepare for Container Registry shutdown](#).

TRY ARTIFACT REGISTRY

LEARN MORE

gcp\_gb


gcr.io

cloud-nataraja-raghuram

gcp\_gb

Filter

Enter property name or value

	Name	Tags	Virtual Size	Created	Uploaded
	 <a href="#">ffce223fbd97</a>	latest	1.1 GB	11 minutes ago	9 minutes ago

cloud-nataraja-raghuram

contai

Search

12

R

Bucket details

GO TO PATH

REFRESH

LEARN

artifacts.cloud-nataraja-raghuram.appspot.com

Location

Storage class

Public access

Protection

us (multiple regions in United States)

Standard

Subject to object ACLs

Soft Delete

OBJECTS

CONFIGURATION

PERMISSIONS

PROTECTION

LIFECYCLE

OBSERVABILITY

INVENTORY REPORTING

Folder browser

artifacts.cloud-nataraja-raghuram.appspot.com

containers/

images/

Buckets > artifacts.cloud-nataraja-raghuram.appspot.com > containers > images

UPLOAD FILES

UPLOAD FOLDER

CREATE FOLDER

TRANSFER DATA

MANAGE HOLDS

EDIT RETENTION

DOWNLOAD

DELETE

Filter by name prefix only

Filter

Filter objects and folders

Show

Live objects only

<input type="checkbox"/>	Name		
<input type="checkbox"/>	sha256:1da595e49ea1bfc8e5880bd804b25a2bbdb701d6aa652b573c45bbc0e		
<input type="checkbox"/>	sha256:2eb1e5028cd4c998b0f51a6c8a96bcd4edf37c03fa3c055b3a4c070b9e		
<input type="checkbox"/>	sha256:356be6c599861a0da72218bade65bd5a27e1bddab5ba7a4d3a4a720c		
<input type="checkbox"/>	sha256:47bbc7583d176b544013760bfb612da04fd418d2a4e5a21fbb36abb3c		
<input type="checkbox"/>	sha256:646e886fa3cfd015533cf777eb62fc903426f0b57806d1cbaa843f8f07a		
<input type="checkbox"/>	sha256:7159459f8e2f0149e1f384fa6cb8c3f203a9382b33b7e5daf7c2ce41253		
<input type="checkbox"/>	sha256:7190cd27ade61d97e3aba9a8a4927dce1a1253050f8b38ddf6713fad2		
<input type="checkbox"/>	sha256:b48a2434056e2e203699f0ef2a81802d33765339b723cda07be523739		

+

...

×

odin id :raghuram

## 5. View the Guestbook

- Take a screenshot that includes the URL Cloud Run has created for your site.

## Guestbook

[Sign here](#)

### Entries

Raghuram <raghurar@pdx.edu>  
signed on 2024-05-07 04:04:49.085611+00:00  
Hello Cloud Shell!

---

Raghuram <raghurar@pdx.edu>  
signed on 2024-05-07 03:09:44.206532+00:00  
Hello Datastore

---

Raghuram <raghurar@pdx.edu>  
signed on 2024-05-13 21:58:34.463629+00:00  
Hello Cloud Run!

---

- What port do container instances listen on?

**8080 port**

- What are the maximum number of instances Cloud Run will autoscale up to for your service?

Autoscaling

**Max instances 3**



## 06.4g: Cloud Functions, PubSub

4. -

- After downloading the file from the bucket, where is it stored?

**Temp\_local\_filename**

- What class in the ImageMagick package is used to do the blurring of the file?

**resize method of the image class**

- What lines of code perform the blurring of the image and its storage back into the filesystem?

```
# Download file from bucket.
current_blob.download_to_filename(temp_local_filename)
print(f"Image {file_name} was downloaded to {temp_local_filename}.")

# Blur the image using ImageMagick.
with Image(filename=temp_local_filename) as image:
    image.resize(*image.size, blur=16, filter="hamming")
    image.save(filename=temp_local_filename)

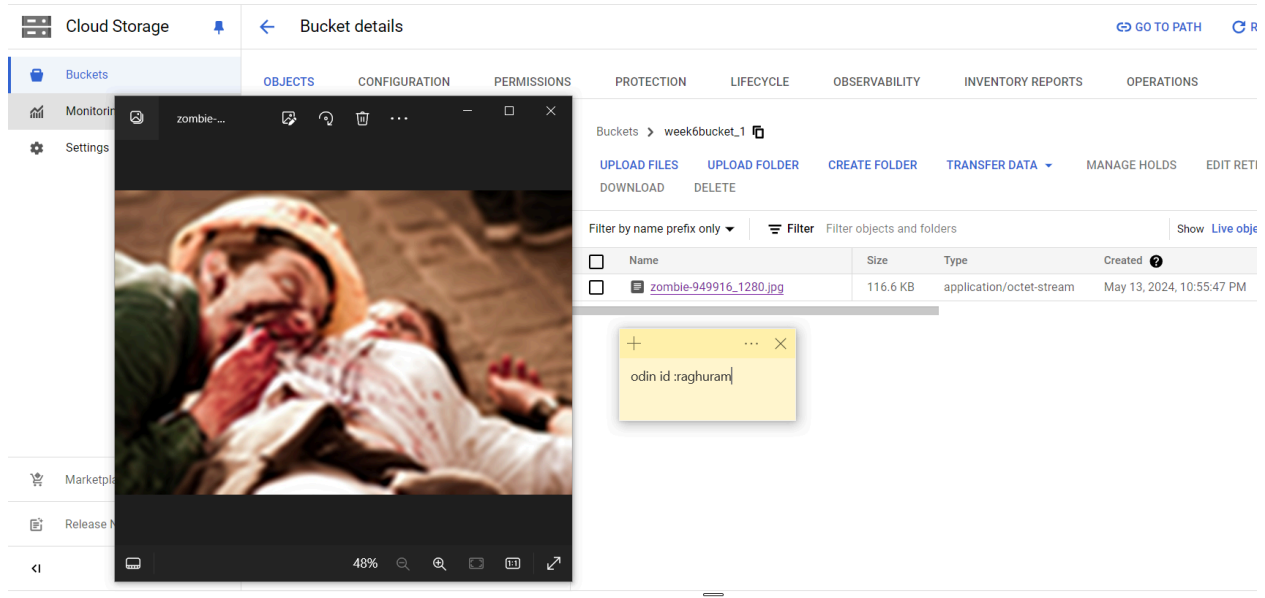
print(f"Image {file_name} was blurred.")
```

+ ... X

odin id :raghuram|

## 7. Test function

- Take a screenshot of the blurred image in the output bucket for your lab notebook



- Include a screenshot of the output logs that show that the above image was blurred.

```
Google Cloud cloud-nataraja-raghuram Search (/) for resources, docs, products

CLOUD SHELL Terminal (cloud-nataraja-raghuram) x + v

EXECUTION_ID: nwf7ied2xhzz
TIME_UTC: 2024-05-14 05:52:06.012
LOG: Function execution started

LEVEL: D
NAME: blur_offensive_images
EXECUTION_ID: o04hsjxy8ygn
TIME_UTC: 2024-05-14 05:23:06.127
LOG: Function execution took 19748 ms, finished with status: 'ok'

LEVEL:
NAME: blur_offensive_images
EXECUTION_ID: o04hsjxy8ygn
TIME_UTC: 2024-05-14 05:23:06.124
LOG: Blurred image uploaded to: gs://week6bucket_1/zombie-949916_1280.jpg

LEVEL:
NAME: blur_offensive_images
EXECUTION_ID: o04hsjxy8ygn
TIME_UTC: 2024-05-14 05:23:05.871
LOG: Image zombie-949916_1280.jpg was blurred.

LEVEL:
NAME: blur_offensive_images
EXECUTION_ID: o04hsjxy8ygn
TIME_UTC: 2024-05-14 05:22:48.367
LOG: Image zombie-949916_1280.jpg was downloaded to /tmp/tmpihd0cgtk.

LEVEL:
NAME: blur_offensive_images
EXECUTION_ID: o04hsjxy8ygn
TIME_UTC: 2024-05-14 05:22:48.087
LOG: The image zombie-949916_1280.jpg was detected as inappropriate.

LEVEL:
NAME: blur_offensive_images
EXECUTION_ID: o04hsjxy8ygn
TIME_UTC: 2024-05-14 05:22:47.588
LOG: Analyzing zombie-949916_1280.jpg.
raghuram@cloudshell:~/python-docs-samples/functions/imagemagick (cloud-nataraja-raghuram) $
```

## 11. PubSub via CLI

- Why are there no items returned?

there are no people subscribed when a message is sent to a topic, nobody will receive it.

```
raghuram@pubsub:~$ gcloud pubsub subscriptions pull sub-$USER
Listed 0 items.
```

## 12. -

- What is the `messageId` of the published message?

`messageId`s:

- '11210043914965221

- Take a screenshot of the output of the successful pull that includes the message and its `messageId`.

```
raghuram@pubsub:~$ gcloud pubsub subscriptions pull sub-${USER}
```

	DATA	MESSAGE_ID	ORDERING_KEY	ATTRIBUTES	DELIVERY_ATTEMPT	ACK_ID
Message #2		11210043914965221				RFAGFlxdRkhRNxkIaFEOT14jPzUgKEU8WNPAlhdeTJNIEFdGgdRDR1yfgkjbV9AUAUvnpVWxENem1cbcro5ZtEX0B0a1gSAQJBUHdeXxIILbV
	SadC-o-2q526qtSUavoc_07_xpe7HR919tZiA9KhJLLD5-RTZPQV5AEkw-A0RJUyLDCypYEU4EISE-MD5F0w					

## 15. Test programs and clean up

- Take a screenshot showing the `messageIds` and messages sent

```
(env) raghuram@cloudshell:~ (cloud-nataraja-raghuram) $ python3 publisher.py
Enter a message to send: hi
Published 11212493153769987 to topic projects/cloud-nataraja-raghuram/topics/my_topic
Enter a message to send: hello
Published 11212635225147233 to topic projects/cloud-nataraja-raghuram/topics/my_topic
Enter a message to send: hihi
Published 11212613856317315 to topic projects/cloud-nataraja-raghuram/topics/my_topic
Enter a message to send: raghu
```

- Take a screenshot showing the same `messageIds` and messages received

```
(env) raghuram@pubsub:~$ python3 subscriber.py
Received message 11212635225147233: 2024-05-14 07:31:03 (projects/cloud-nataraja-raghuram/topics/my_topic) : hello
Received message 11212613856317315: 2024-05-14 07:31:18 (projects/cloud-nataraja-raghuram/topics/my_topic) : hihi
Received message 11212544474687631: 2024-05-14 07:32:32 (projects/cloud-nataraja-raghuram/topics/my_topic) : raghu
```