

Lab 06

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CS530: Internet Web & Cloud, Fall 2023

Odin: srimel

** In all the terminal screenshots my Odin name is in the terminal prompt **

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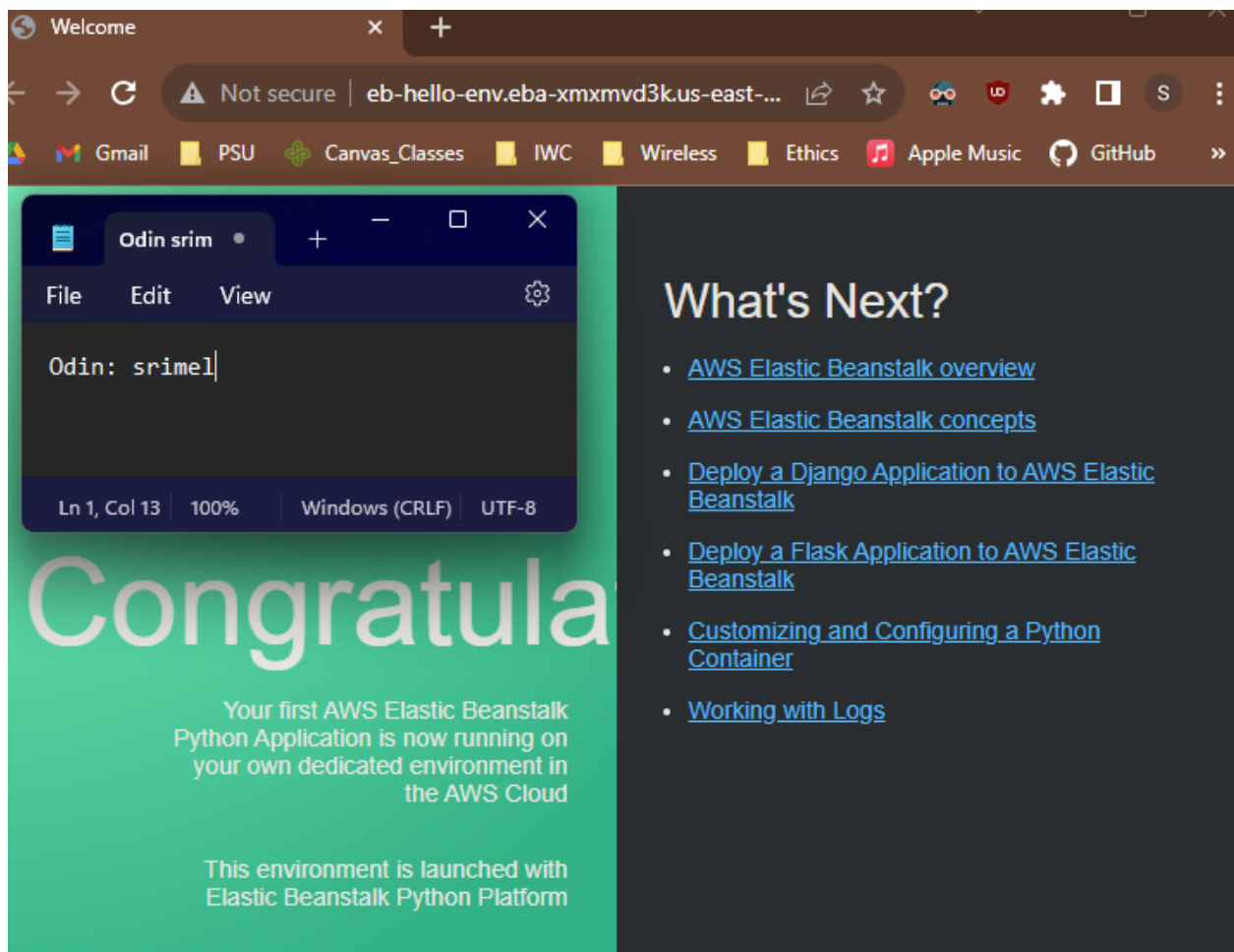
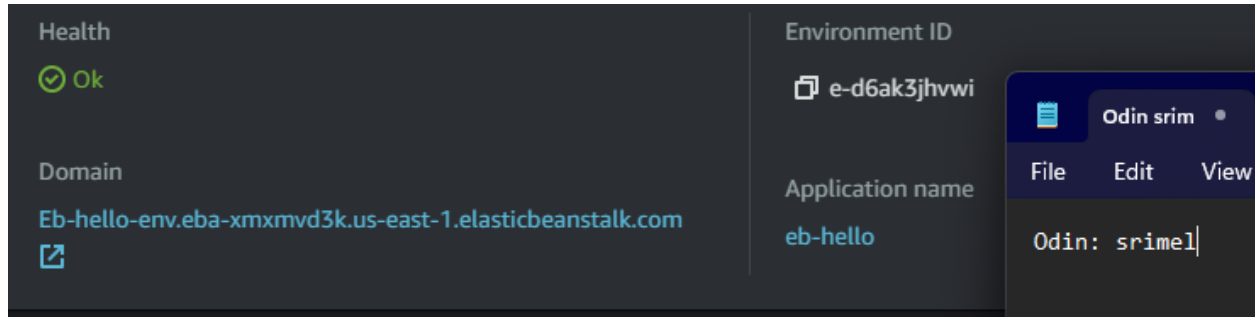
[6.4g.7: Test function](#)

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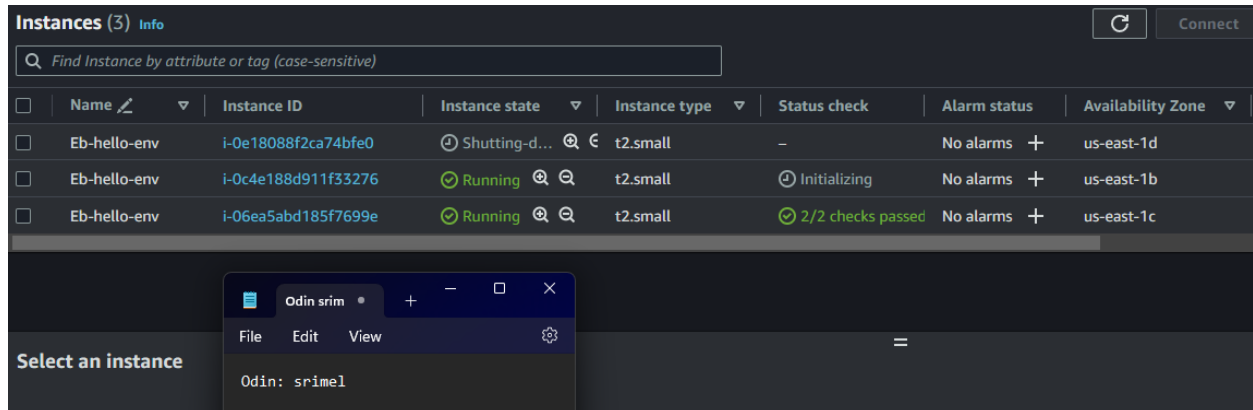
[6.4g.15: Test programs and clean up](#)

6.1a: EB Guestbook

6.1a.3: Running the application



6.1a.4: Handling failures seamlessly



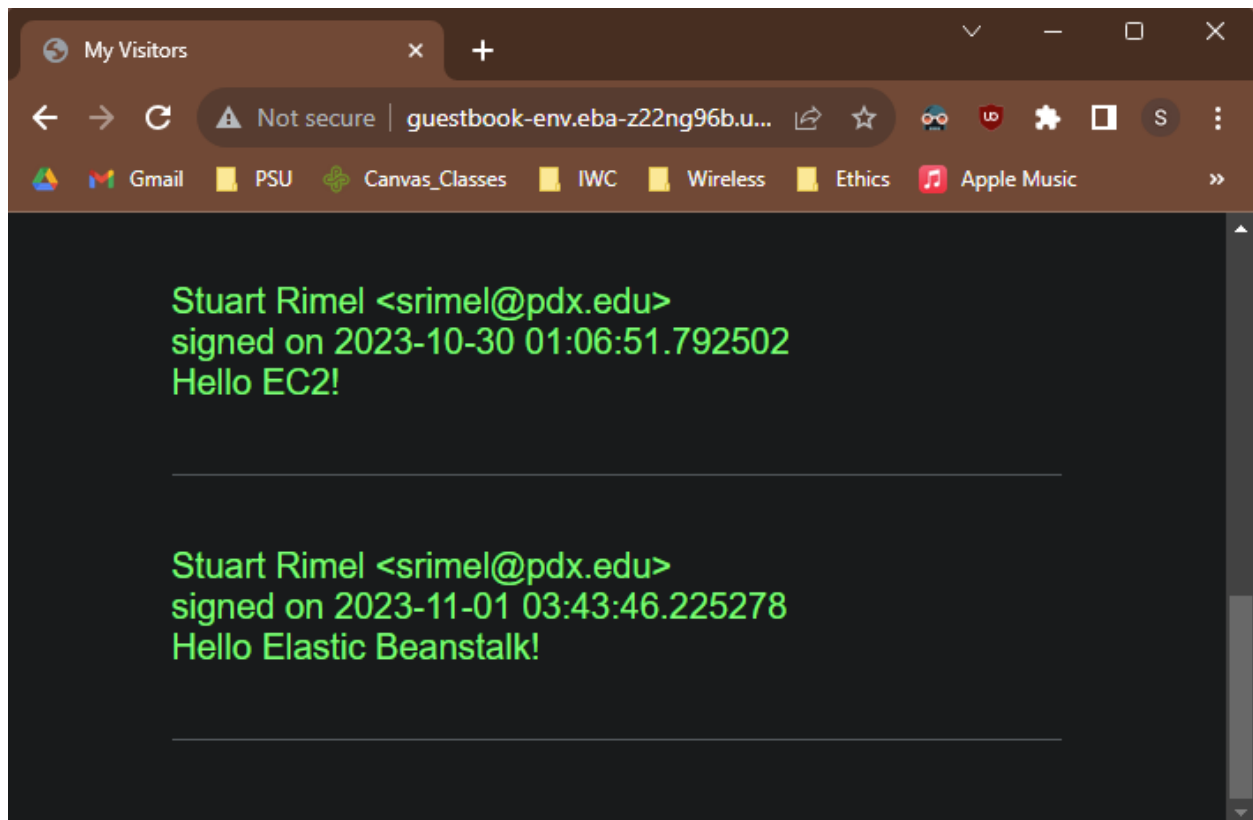
The screenshot shows the AWS Management Console 'Instances' page with three instances. A terminal window titled 'Odin srim' is open, showing the command 'Odin: srimel'.

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
<input type="checkbox"/>	Eb-hello-env	i-0e18088f2ca74bfe0	Shutting-d...	t2.small	-	No alarms	us-east-1d
<input type="checkbox"/>	Eb-hello-env	i-0c4e188d911f33276	Running	t2.small	Initializing	No alarms	us-east-1b
<input type="checkbox"/>	Eb-hello-env	i-06ea5abd185f7699e	Running	t2.small	2/2 checks passed	No alarms	us-east-1c

Select an instance

Odin: srimel

6.1a.7: Deploying the Guestbook



<input type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
<input type="checkbox"/>	guestbook-env	i-0afb31230d60cac	Running	t3.micro	2/2 checks passed	No alarms +	us-east-1b
<input type="checkbox"/>	guestbook-env	i-0df1c3ad62d213600	Running	t3.micro	2/2 checks passed	No alarms +	us-east-1c
<input type="checkbox"/>	guestbook-env	i-0dfbbca92dbae5793	Running	t3.micro	2/2 checks passed	No alarms +	us-east-1a

Odin srim

File

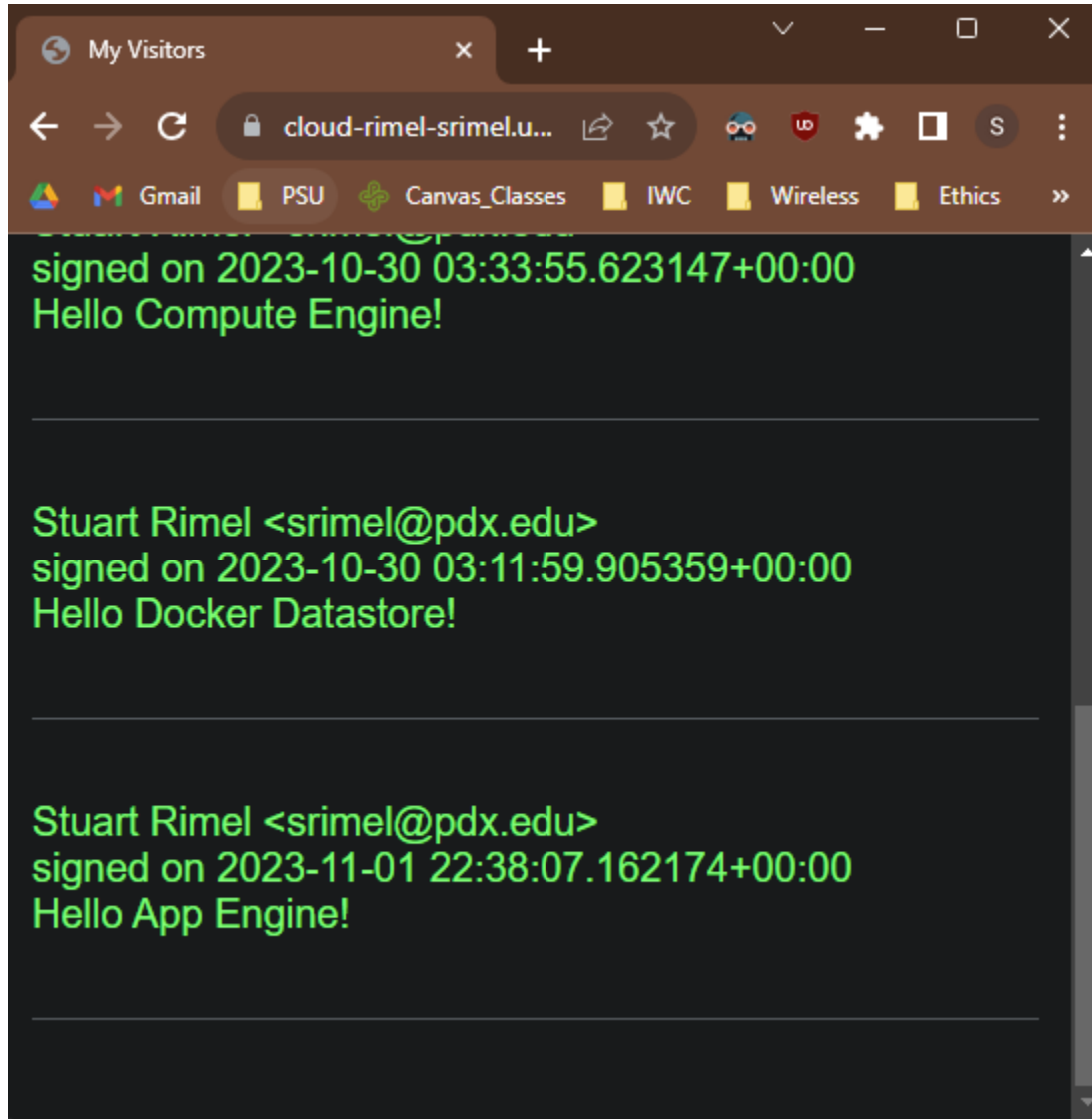
Edit

View

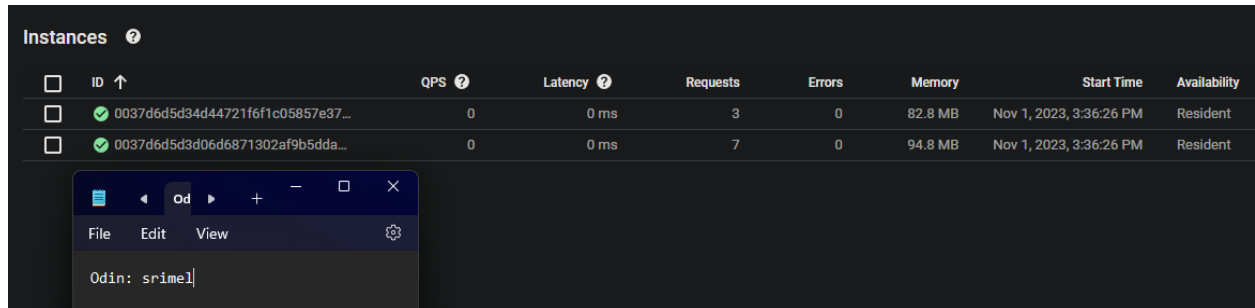
Odin: srimel

6.1g: App Engine Guestbook

6.1g.3: Deploying the Guestbook



6.1g.4: Handling failures seamlessly

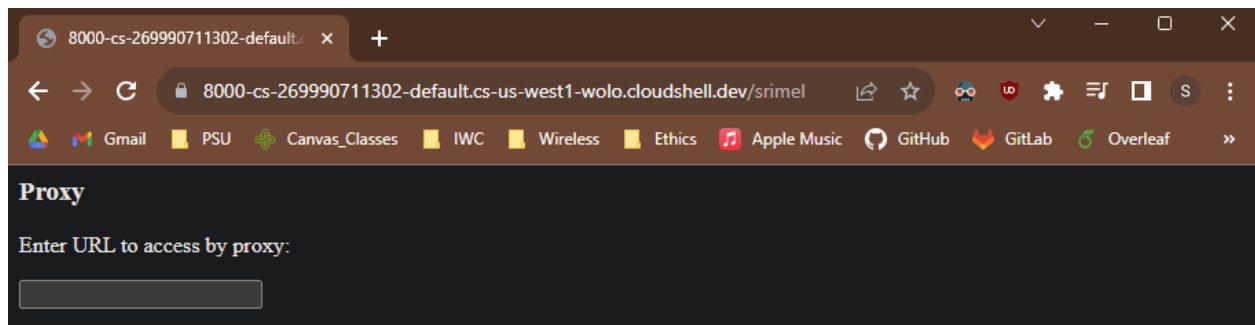


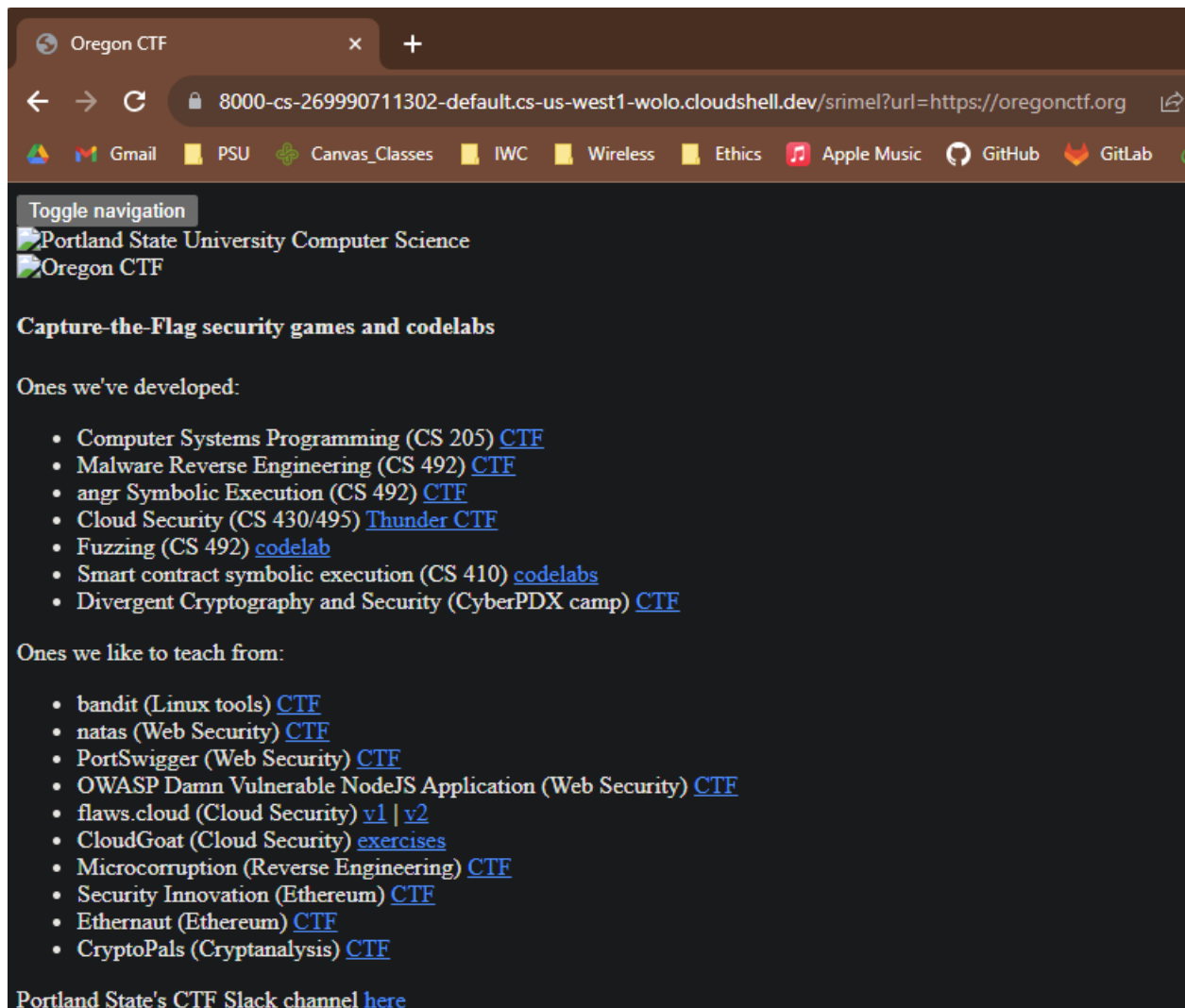
The screenshot shows the Google Cloud Platform console. At the top, there's a section titled "Instances" with a help icon. Below it is a table with columns: ID, QPS, Latency, Requests, Errors, Memory, Start Time, and Availability. Two instances are listed, both with a green status icon. A terminal window is open in the foreground, showing a shell prompt "Odin: srime1" with a cursor.

ID	QPS	Latency	Requests	Errors	Memory	Start Time	Availability
0037d6d5d34d44721f6f1c05857e37...	0	0 ms	3	0	82.8 MB	Nov 1, 2023, 3:36:26 PM	Resident
0037d6d5d3d06d6871302af9b5dda...	0	0 ms	7	0	94.8 MB	Nov 1, 2023, 3:36:26 PM	Resident

6.2g: Cloud Run, Secret Manager (Web proxy)

6.2g.8: Setup secret proxy






The advantage of using an environment variable for the secret proxy route is so that it is well hidden and can be easily changed without changing the code itself. It will also hide it from version control so that it may be hard to block.

6.2g.9: Cloud Build and Container Registry

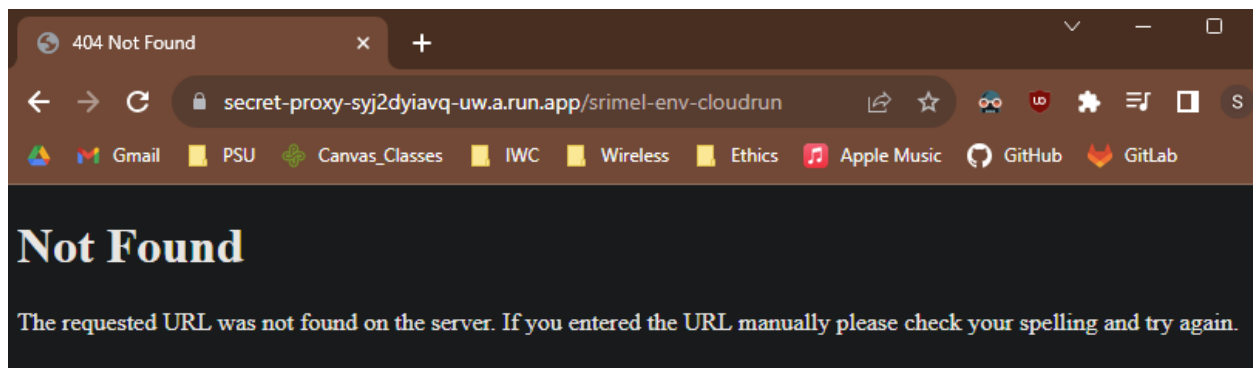
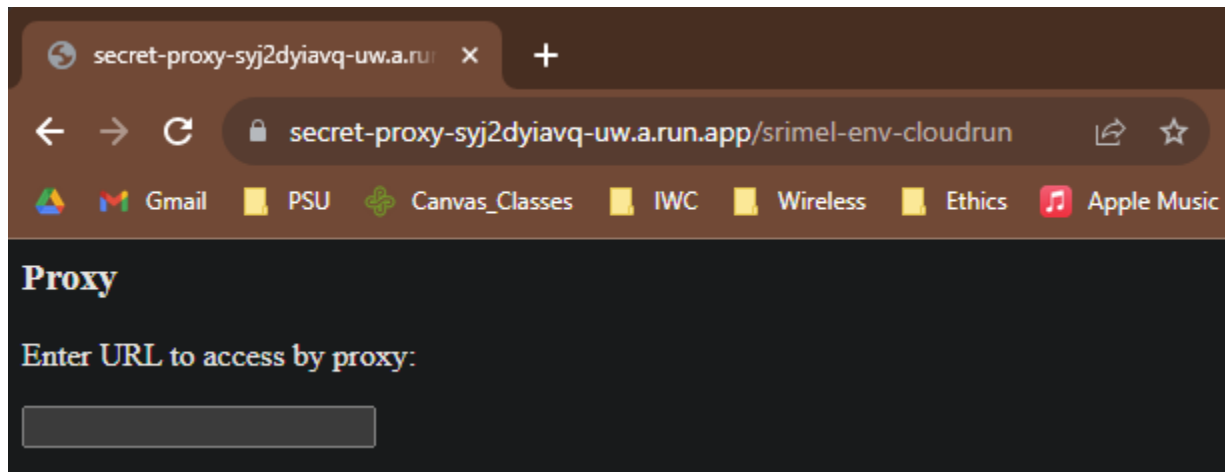
secret-proxy

gcr.io > cloud-rimel-srimel > secret-proxy

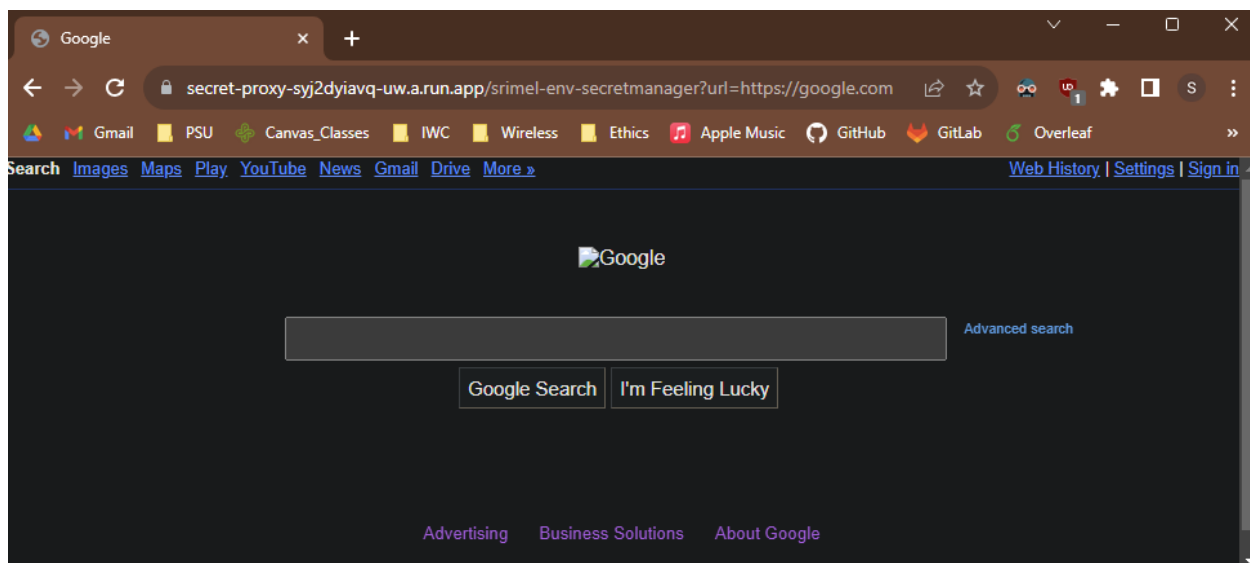
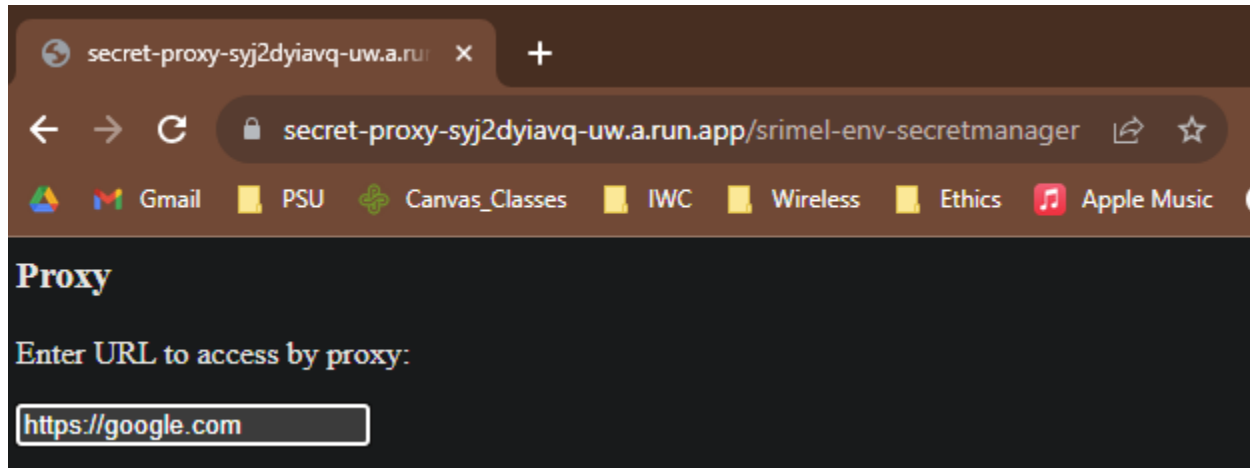
Filter Enter property name or value

<input type="checkbox"/>	Name	Tags	Virtual Size ?	Created	Uploaded ↓	
<input type="checkbox"/>	 d4dfcb756983	latest	51.2 MB	1 minute ago	1 minute ago	⋮

6.2g.10: Deploy to Cloud Run



6.2g.12: Deploy to Cloud Run with Secret Manager



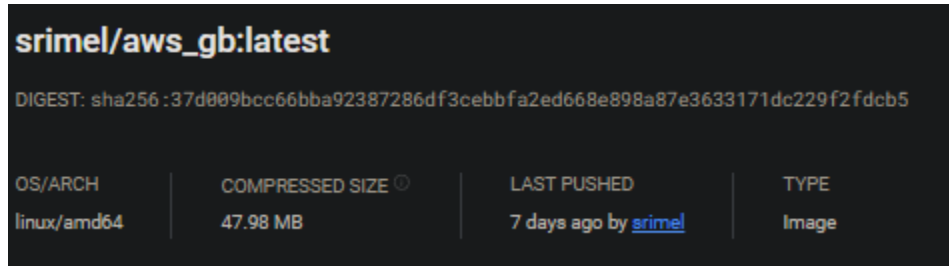
The first link just shows the text 'v1/'.

The second link shows the text 'Missing required header: Metadata-Flavor'

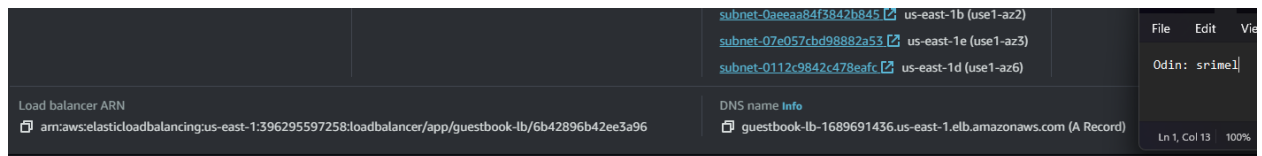
The vulnerability is a potential SSRF attack where user input is used to make a network/HTTP request. This may allow hackers to access the Metadata endpoint. Google Cloud's Metadata-Flavor header is an attempt to prevent such attacks.

6.3a: ECS Guestbook

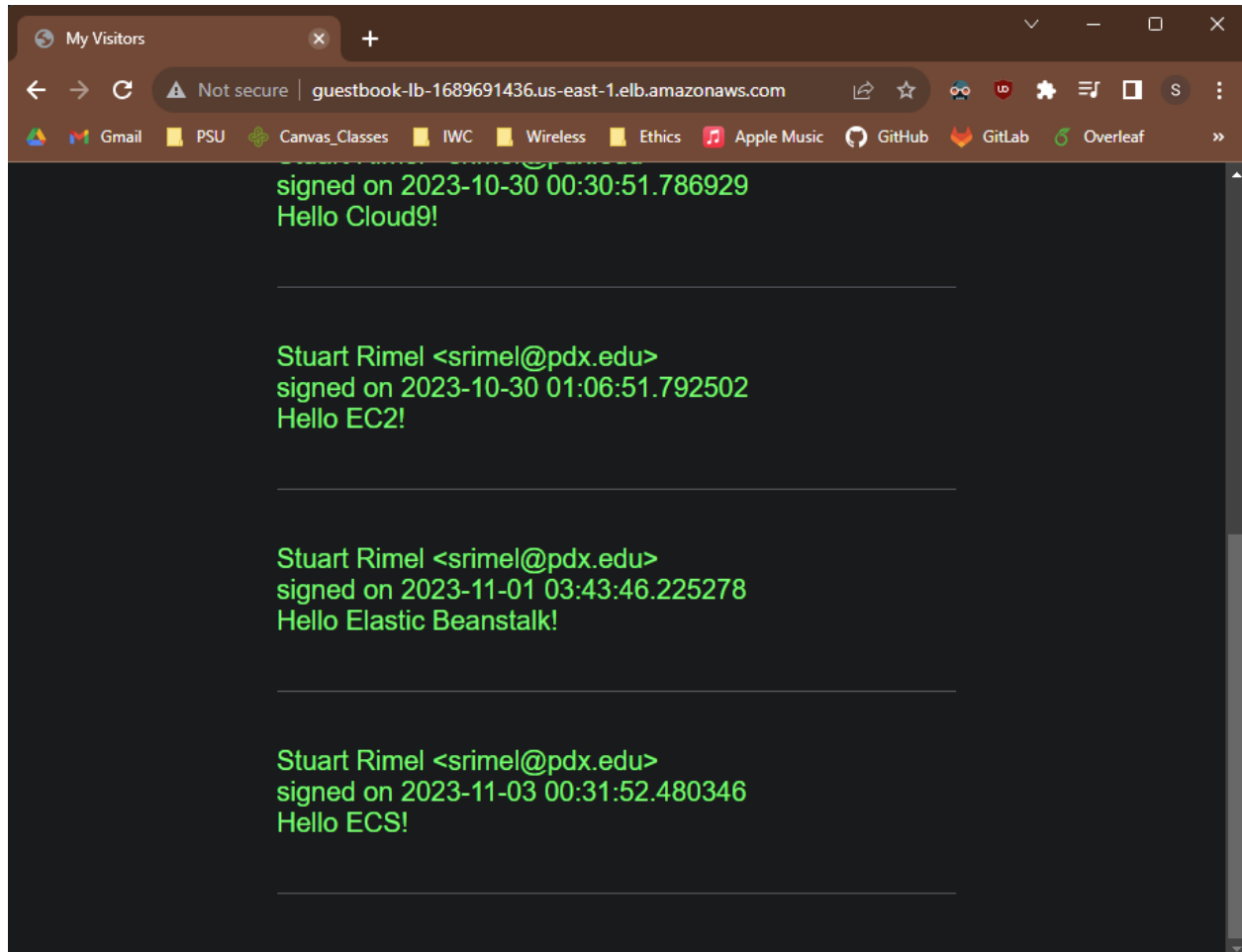
6.3a.1: Prepare a container image



6.3a.5: Examine the service



6.3a.6: Visit the site

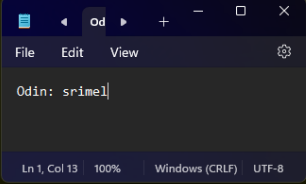


6.3g: Cloud Run Guestbook

6.3g.2: Prepare a container image

✓ **Successful: 474f95cd-0c80-4dcc-b7ce-fee50542c205** Source
Started on Nov 2, 2023, 5:46:48 PM gs://cloud-rimel-srimel_cloudbuild/source/1698972396_401301-5636478db89648a18ee046de1efeb081.tgz



Steps	Duration	BUILD LOG	EXECUTION DETAILS	BUILD ARTIFACTS
✓ Build Summary 1 Step	00:03:03	<input type="checkbox"/> Wrap lines <input type="checkbox"/> Show newest entries first ⌵ ⌴ EXPAND VIEW RAW		
✓ 0: gcr.io/cloud-builders/docker build --network cloudbuild --no-cache -t gcr.io...	00:01:10	<pre>156 Removing intermediate container e3d5d9c9771e 157 --> d1d546972414 158 Successfully built d1d546972414 159 Successfully tagged gcr.io/cloud-rimel-srimel/gcp_gb:latest 160 PUSH 161 Pushing gcr.io/cloud-rimel-srimel/gcp_gb 162 The push refers to repository [gcr.io/cloud-rimel-srimel/gcp_gb] 163 e3efda8f163f: Preparing 164 9dff346e914b: Preparing 165 be0bd9a6b44e: Preparing 166 f3abdcddda10: Preparing 167 94cca38a5611: Preparing 168 f438a9a76f12: Preparing 169 1f77dbec8f9f: Preparing 170 673f527c30ab: Preparing 171 53ae7e5bcd8: Preparing 172 f438a9a76f12: Waiting 173 1f77dbec8f9f: Waiting 174 673f527c30ab: Waiting 175 53ae7e5bcd8: Waiting 176 9dff346e914b: Pushed 177 be0bd9a6b44e: Pushed 178 f438a9a76f12: Layer already exists 179 1f77dbec8f9f: Layer already exists 180 673f527c30ab: Layer already exists 181 53ae7e5bcd8: Layer already exists 182 e3efda8f163f: Pushed 183 f3abdcddda10: Pushed 184 94cca38a5611: Pushed</pre>		

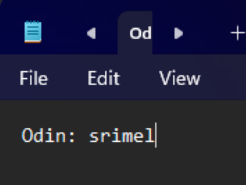


6.3g.3: View container image

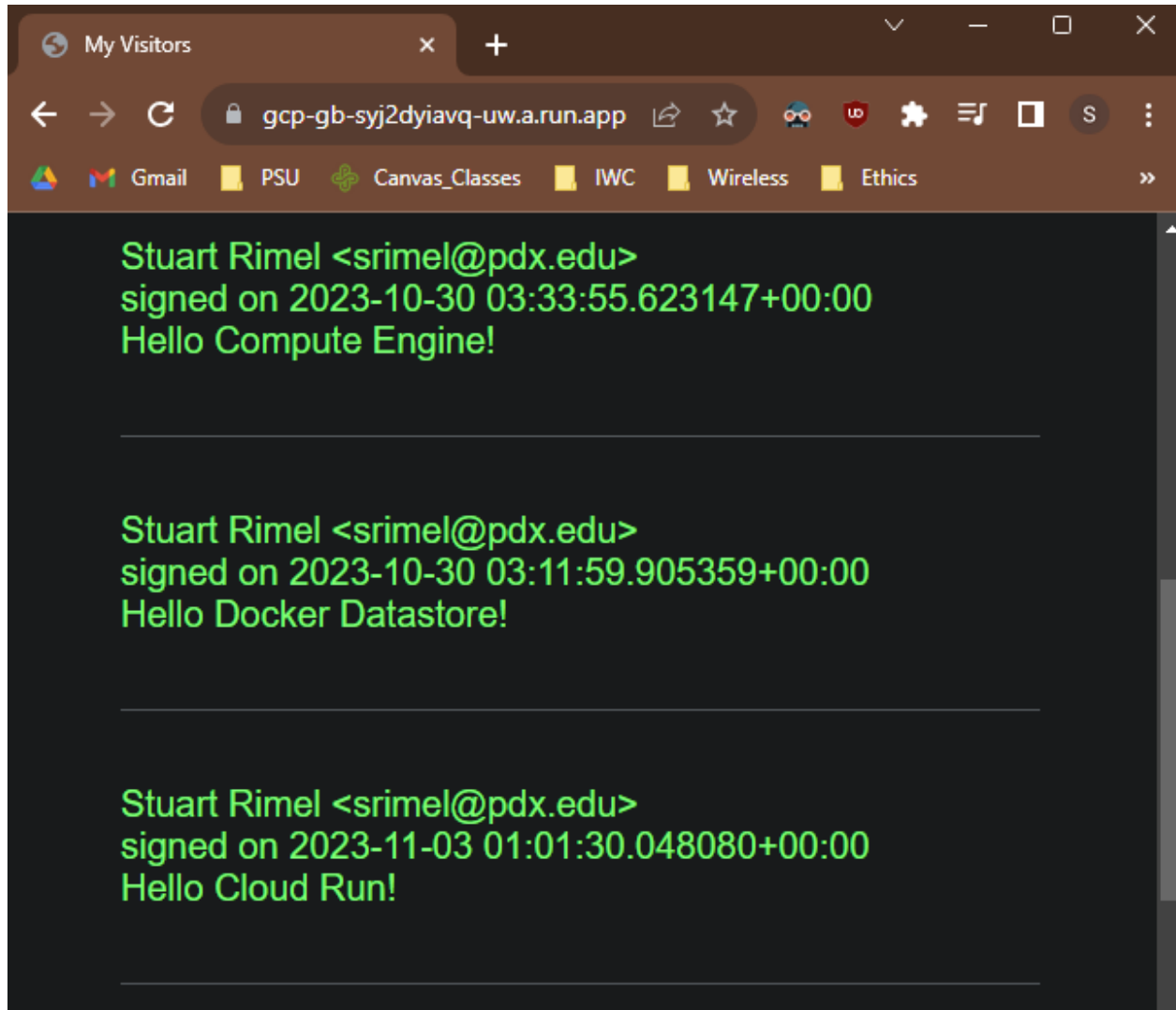
gcp_gb
gcr.io > cloud-rimel-srimel > gcp_gb

Filter Enter property name or value

<input type="checkbox"/>	Name	Tags	Virtual Size ?	Created	Uploaded ↓	
<input type="checkbox"/>	 7fab0270957f	latest	1.1 GB	6 minutes ago	5 minutes ago	



6.3g.5: View the Guestbook



Containers listen on port 8080

Max instances for auto-scaling is set at 100

6.4g: Cloud Functions, PubSub

6.4g.4: -

1. This downloads the blob to a temp file presumably in tmp/
2. It looks like the Image class is used to create the blurred image with the resize method
3. Lines 72-73

6.4g.7: Test function

Object details

Buckets > blurpicsb1 > zombie-949916_1280.jpg

Last modified	Nov 2, 2023, 9:39:31 PM
Storage class	Standard
Custom time	—
Public URL	Not applicable
Authenticated URL	https://storage.cloud.google.com/blurpicsb1/zombie-949916_1280.jpg
gsutil URI	gs://blurpicsb1/zombie-949916_1280.jpg
Permissions	
Public access	Not public
Protection	
Version history	—
Retention policy	None
Hold status	None
Encryption type	Google-managed

```
Od
File Edit View
Odin: srime1
Ln 1, Col 13 100% Windows (CRLF) UTF-8
```



```
srime1@cloudshell:~/python-docs-samples/functions/imagenagick ([cloud-rime1-srime1])$ gcloud functions logs read
LEVEL: E
NAME: blur_offensive_images
EXECUTION ID:
TIME UTC: 2023-11-03 04:39:54.223
LOG: /layers/google.python.pip/lib/python3.7/site-packages/google/oauth2/_init_.py:40: Python3DeprecationWarning: After January 1, 2024, new releases of this library will drop support for Python 3.7. More details about Python 3.7 support can be found at https://cloud.google.com/python/docs/python37-sunset/warnings.warn(message, Python3DeprecationWarning)

LEVEL: E
NAME: blur_offensive_images
EXECUTION ID:
TIME UTC: 2023-11-03 04:39:54.215
LOG: /layers/google.python.pip/lib/python3.7/site-packages/google/auth/_init_.py:55: Python3DeprecationWarning: After January 1, 2024, new releases of this library will drop support for Python 3.7. More details about Python 3.7 support can be found at https://cloud.google.com/python/docs/python37-sunset/warnings.warn(message, Python3DeprecationWarning)

LEVEL: D
NAME: blur_offensive_images
EXECUTION ID: 556801x3p6s
TIME UTC: 2023-11-03 04:39:32.004
LOG: Function execution took 16764 ms, finished with status: 'ok'

LEVEL: I
NAME: blur_offensive_images
EXECUTION ID: 556801x3p6s
TIME UTC: 2023-11-03 04:39:32.002
LOG:

LEVEL: I
NAME: blur_offensive_images
EXECUTION ID: 556801x3p6s
TIME UTC: 2023-11-03 04:39:32.002
LOG: Blurred image uploaded to: gs://blurpicsb1/zombie-949916_1280.jpg

LEVEL: I
NAME: blur_offensive_images
EXECUTION ID: 556801x3p6s
TIME UTC: 2023-11-03 04:39:31.822
LOG:

LEVEL: I
NAME: blur_offensive_images
EXECUTION ID: 556801x3p6s
TIME UTC: 2023-11-03 04:39:31.822
LOG: Image zombie-949916_1280.jpg was blurred.

LEVEL: I
NAME: blur_offensive_images
EXECUTION ID: 556801x3p6s
TIME UTC: 2023-11-03 04:39:16.230
LOG:
```

```
LEVEL: I
NAME: blur_offensive_images
EXECUTION ID: 556801x3p6s
TIME UTC: 2023-11-03 04:39:16.230
LOG: Image zombie-949916_1280.jpg was downloaded to /tmp/tmp2c6hjc.

LEVEL: I
NAME: blur_offensive_images
EXECUTION ID: 556801x3p6s
TIME UTC: 2023-11-03 04:39:16.085
LOG:

LEVEL: I
NAME: blur_offensive_images
EXECUTION ID: 556801x3p6s
TIME UTC: 2023-11-03 04:39:16.085
LOG: The image zombie-949916_1280.jpg was detected as inappropriate.

LEVEL: I
NAME: blur_offensive_images
EXECUTION ID: 556801x3p6s
TIME UTC: 2023-11-03 04:39:15.679
LOG:

LEVEL: I
NAME: blur_offensive_images
EXECUTION ID: 556801x3p6s
TIME UTC: 2023-11-03 04:39:15.679
LOG: Analyzing zombie-949916_1280.jpg.

LEVEL: D
NAME: blur_offensive_images
EXECUTION ID: 556801x3p6s
TIME UTC: 2023-11-03 04:39:15.240
LOG: Function execution started

LEVEL: E
NAME: blur_offensive_images
EXECUTION ID:
TIME UTC: 2023-11-03 04:36:26.669
LOG: /layers/google.python.pip/lib/python3.7/site-packages/google/oauth2/_init_.py:40: Python3DeprecationWarning: After January 1, 2024, new releases of this library will drop support for Python 3.7. More details about Python 3.7 support can be found at https://cloud.google.com/python/docs/python37-sunset/warnings.warn(message, Python3DeprecationWarning)

LEVEL: E
NAME: blur_offensive_images
EXECUTION ID:
TIME UTC: 2023-11-03 04:36:26.659
LOG: /layers/google.python.pip/lib/python3.7/site-packages/google/auth/_init_.py:55: Python3DeprecationWarning: After January 1, 2024, new releases of this library will drop support for Python 3.7. More details about Python 3.7 support can be found at https://cloud.google.com/python/docs/python37-sunset/warnings.warn(message, Python3DeprecationWarning)

srime1@cloudshell:~/python-docs-samples/functions/imagenagick ([cloud-rime1-srime1])$
```

6.4g.11: PubSub via CLI

1. Nothing is listed because messages are delivered to subscribers then deleted once they all acknowledge. In this case, there were no subscriptions so once the message was published it must have been deleted.
2. messageIds:
- '8979596835972984'

```
srime1@pubsub:~$ gcloud pubsub subscriptions pull sub-srime1
```

DATA	MESSAGE_ID	ORDERING_KEY	ATTRIBUTES	DELIVERY_ATTEMPT	ACK_ID
Message #2	8979596835972984				RFAGFixdRkhrRNxkIaFEOT14jPzUgKEUQBggUBXx9cFtFdV5edmhRDRlyfWB90FMXCVEXUH1ZURsHaE5tdR-rwrvoS0NVY1MUCAdMVXZcXhIKalVUCS_Q6_HbvY69VUAvoOfiK8eRpe5n-v-1vZiM9XxJLLD5-NTBFQV5AEkw-BURJUytDCypYEU4EISE-MD5FUw

```
srime1@pubsub:~$
```

6.4g.15: Test programs and clean up

```
(env) srime1@cloudshell:~/pubsub (cloud-rime1-srime1)$ python publisher.py
Enter a message to send: Message #3
Published 8979411184437412 to topic projects/cloud-rime1-srime1/topics/topic-srime1
Enter a message to send: Message #4
Published 8979547260181171 to topic projects/cloud-rime1-srime1/topics/topic-srime1
Enter a message to send: Message #5
Published 9563098464192798 to topic projects/cloud-rime1-srime1/topics/topic-srime1
Enter a message to send:
```

```
(env) srime1@pubsub:~$ python subscriber.py
Using subscription previously created...
Received message 8979596835972984: Message #2
Received message 8979411184437412: 2023-11-03 09:55:20 (projects/cloud-rime1-srime1/topics/topic-srime1) : Message #3
Received message 8979547260181171: 2023-11-03 09:55:42 (projects/cloud-rime1-srime1/topics/topic-srime1) : Message #4
Received message 9563098464192798: 2023-11-03 09:55:53 (projects/cloud-rime1-srime1/topics/topic-srime1) : Message #5
```