

Week#6 Labs

Neha Agrawal

Table of Contents

EB Guestbook	2
Elastic Beanstalk.....	2
Running the application	2
Handling failure seamlessly.....	2
Elastic Beanstalk Guestbook	2
Elastic Beanstalk CLI in Cloud9	2
Deploying the Guestbook	2
Clean up.....	3
App Engine Guestbook.....	3
App engine	3
Reducing privileges.....	3
app.yaml.....	3
Deploying the Guestbook.....	3
Handling failures seamlessly	4
Cleanup.....	4
Cloud Run (Web proxy)	4
Cloud run.....	4
Application.....	4
Templates/proxy.html	4
App.py	5
Requirements.txt.....	5
Dockerfile	5
Build and test in cloud shell	5
Cloud build and container registry	5
Deploy to Cloud Run	6
Visit the site	6
Clean up.....	6
ECS Guestbook.....	7
Prepare a container image.....	7

Create a task role	7
Create a task definition	7
Create a cluster and a Service	7
View the Guestbook.....	7
Clean up.....	9
Cloud run Guestbook	9
Cloud run	9
Prepare a container image	9
Deploy container with minimal privileges	10
View the Guestbook	10
Cleanup.....	10
Lambda (MoTD).....	10
MoTD function	10
IAM role setup	11
Lambda creation	11
API integration.....	11
Lambda code	11
Test code	11
Clean up.....	12
Cloud Functions (Image blurring)	12
Image blurring	12
Cloud vision setup	12
Code	12
Code.....	12
Deploy the function.....	12
Test function	12
Clean up.....	13

06.1a: EB Guestbook

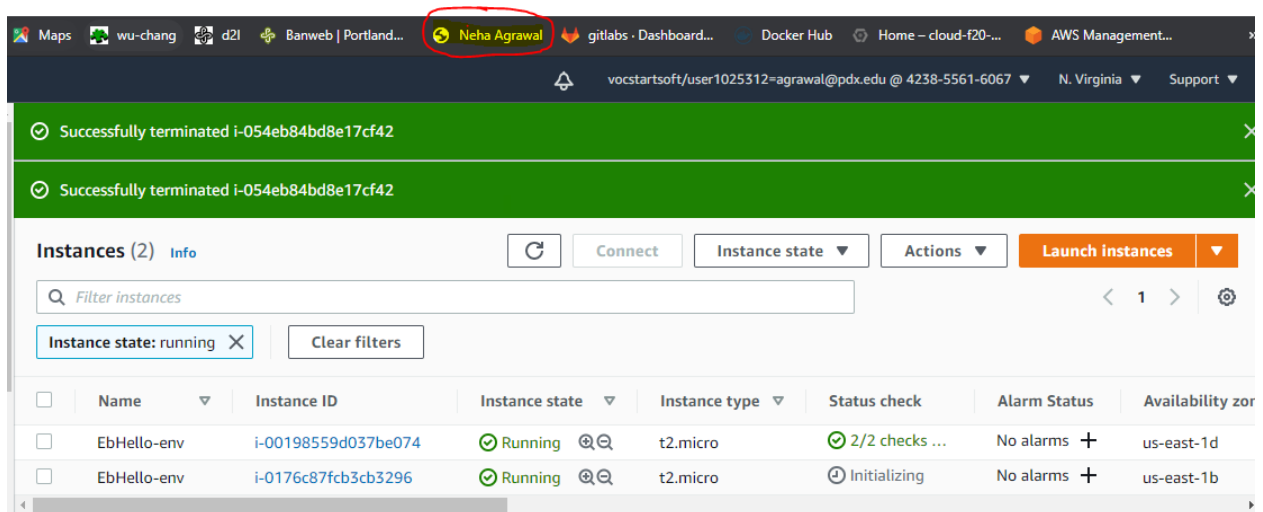
1. Elastic Beanstalk

No screenshots required

2. Running the application

No screenshots required

3. Handling failures seamlessly



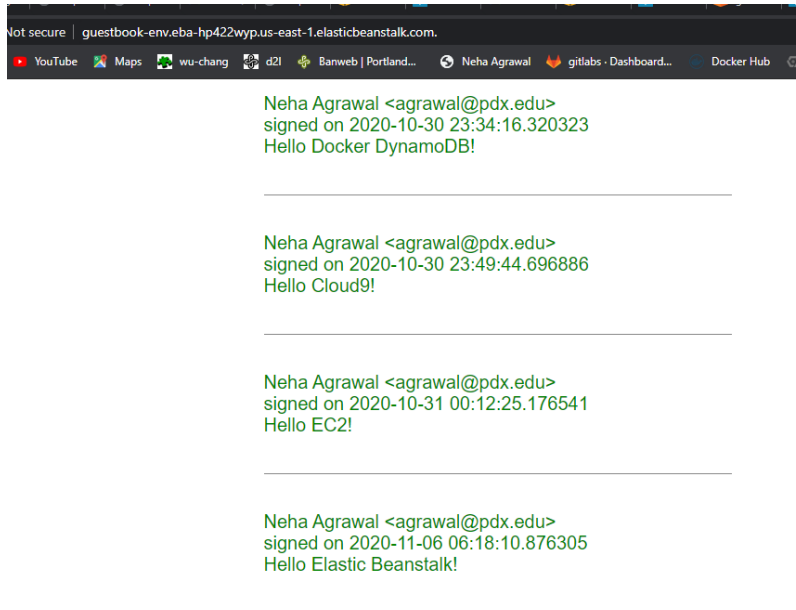
4. Elastic Beanstalk Guestbook

No screenshots required

5. Elastic Beanstalk CLI in Cloud9

No screenshots required

6. Deploying the Guestbook



7. Clean up

No screenshots required

06.1g: App Engine Guestbook

1. App Engine

No screenshots required

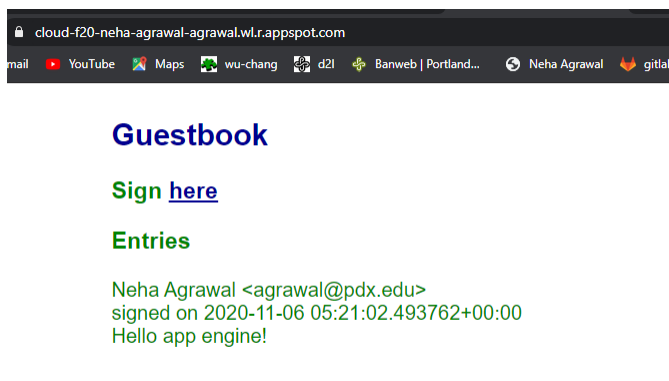
2. Reducing privileges

No screenshots required

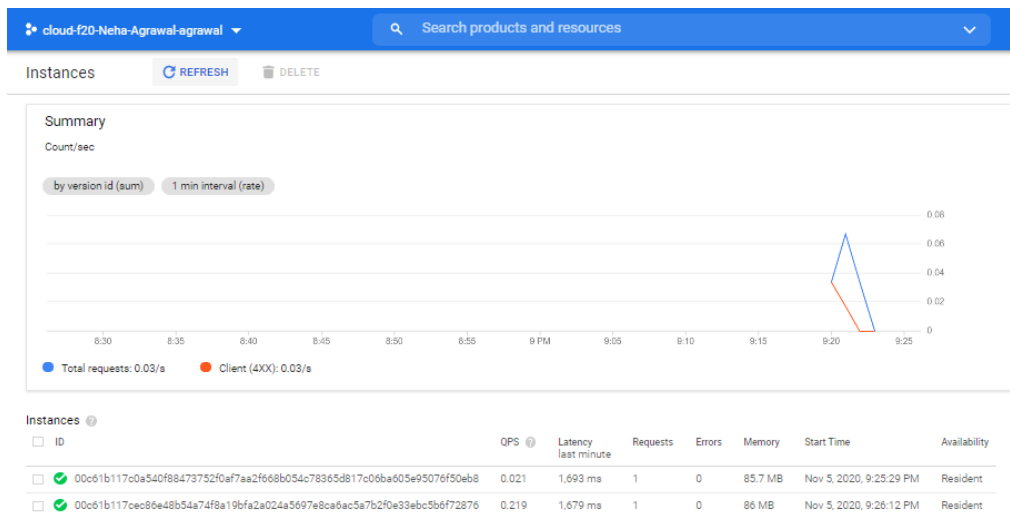
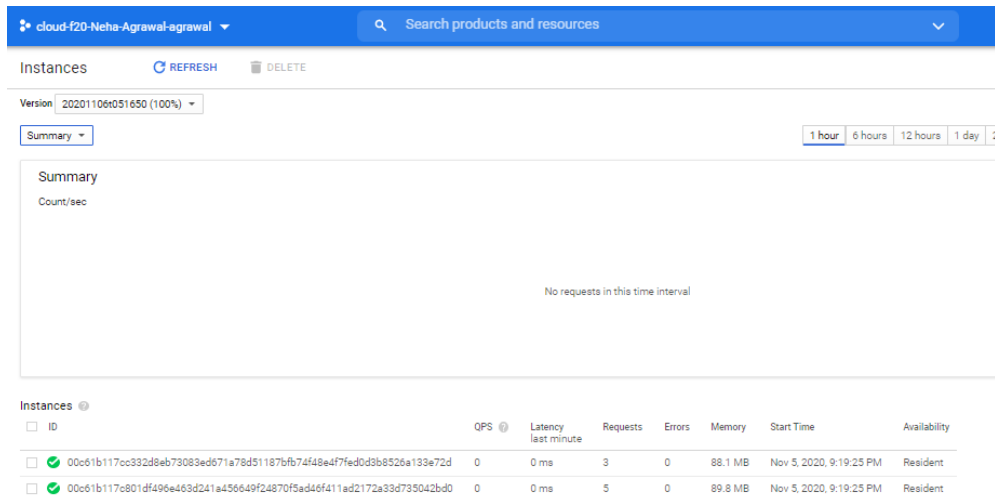
3. app.yaml

No screenshots required

4. Deploying the Guestbook



5. Handling failures seamlessly



6. Clean up

No screenshots required

06.2g: Cloud Run (Web proxy)

1. Cloud Run

No screenshots required

2. Application

No screenshots required

3. templates/proxy.html

No screenshots required

4. app.py

No screenshots required

5. requirements.txt

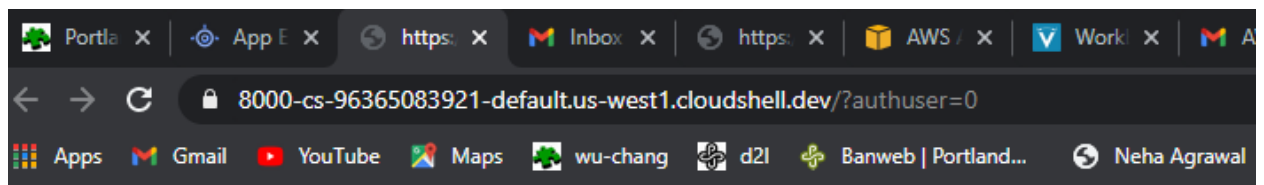
No screenshots required

6. Dockerfile

No screenshots required

7. Build and test in Cloud Shell

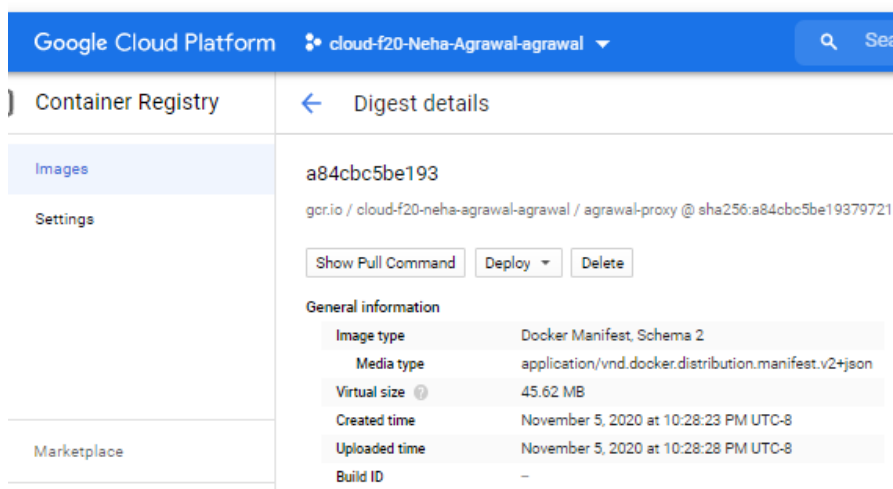
```
agrawal@cloudshell:~/agrawal-proxy/templates (cloud-f20-neha-agrawal-agrawal)$ docker run --env PORT=8000 -p 8000:8000 --name=proxy -di agrawal-proxy-image
53de99c1fe61237d4120ac0203fb1ef36143100e27dc9c833ecd0df86d279e97
```



Hello World!

There is nothing to see here so move along.

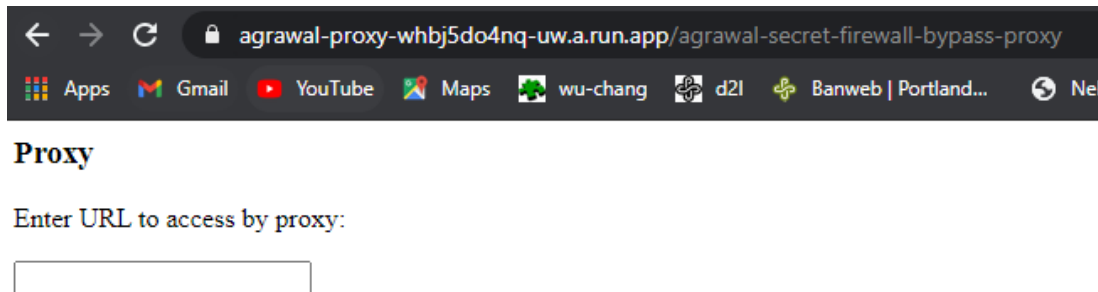
8. Cloud Build and Container Registry



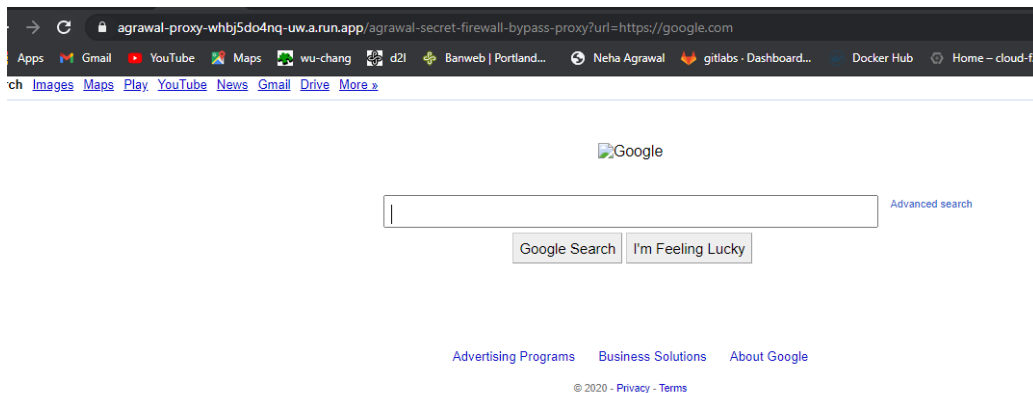
9. Deploy to Cloud Run

No screenshots required

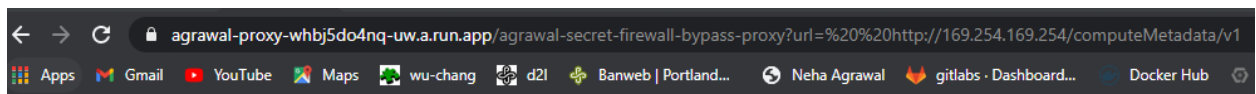
10. Visit the site



- Then, screenshot the result that is returned when <https://google.com> is entered as the URL to access



- Attempt to access the Metadata service associated with the VM that runs your container by entering the following URLs into the proxy <http://169.254.169.254/computeMetadata> and <http://169.254.169.254/computeMetadata/v1>. Read [this article](#) and [this article](#). Identify the vulnerability in your lab notebook that Google has prevented.



Missing required header: Metadata-Flavor

-

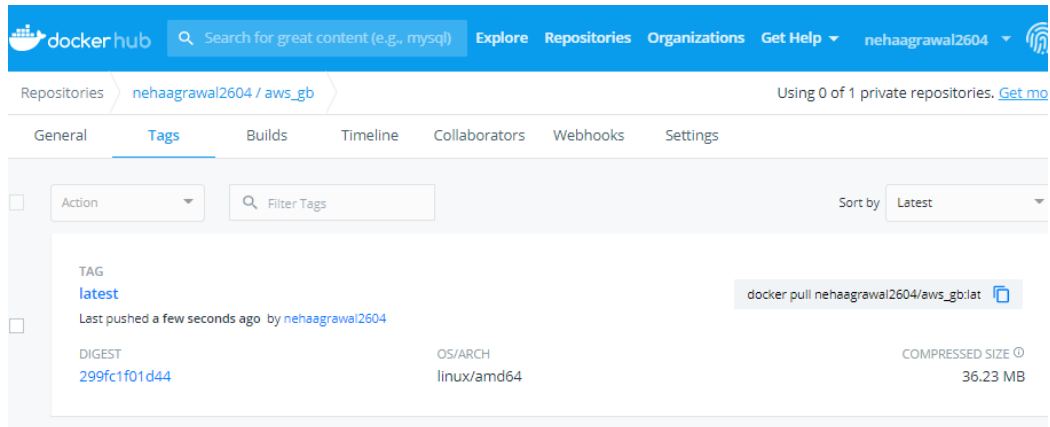
Google prevented the Server-Side Request Forgery (SSRF) vulnerability

11. Clean Up

No screenshots required

06.3a: ECS Guestbook

1. Prepare a container image



2. Create a Task Role

No screenshots required

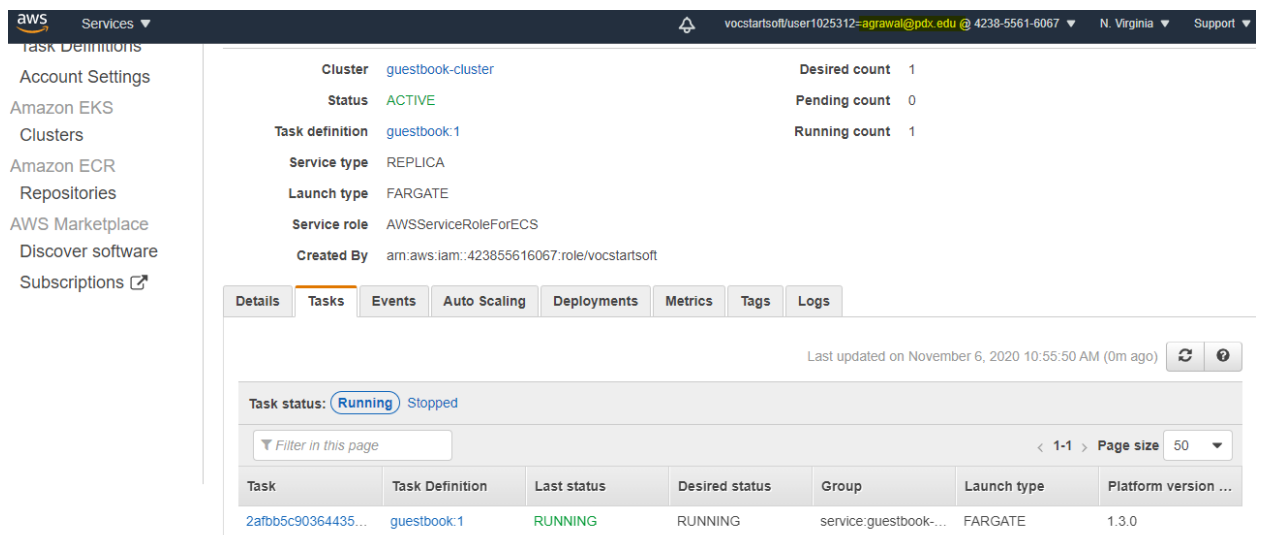
3. Create a Task Definition

No screenshots required

4. Create a Cluster and a Service

No screenshots required

5. View the Guestbook



Task : 2afbb5c9036443539d9964e4e10eeaa9

Run more like this Stop

Details Tags Logs

Cluster [questbook-cluster](#)

Launch type FARGATE

Platform version 1.3.0

Task definition [questbook:1](#)

Group [service:questbook-service](#)

Task role [ecsDynamoDBTaskRole](#)

Last status **RUNNING**

Desired status RUNNING

Created at 2020-11-06 10:54:45 -0800

Started at 2020-11-06 10:55:17 -0800

Network

Network mode [aws-vpc](#)

ENI Id [eni-0ece0972f4b1675e](#)

Subnet Id [subnet-09c97a38](#)

Private IP 172.31.45.171

Public IP 34.204.80.94

Mac address 0e:04:53:81:95:87

Containers

Last updated on November 6, 2020 10:57:08 AM (0m ago)

Name	Container Runtime I...	Status	Image	Image Digest	CPU Units	Hard/Soft memory limi...	Essential	Resource ID
questbook	c40c9ea131211323ee...	RUNNING	nehaagrawal2604/aws_gb		0	---	true	00ef0c02-f9e3-4fe4-a24...

© 2008 - 2020, Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Terms of Use

Not secure | 34.204.80.94

mail YouTube Maps wu-chang d2l Banweb | Portland... Neha Agrawal gitlabs · Dashboard...

Neha Agrawal <agrawal@pdx.edu>
signed on 2020-10-30 23:49:44.696886
Hello Cloud9!

Neha Agrawal <agrawal@pdx.edu>
signed on 2020-10-31 00:12:25.176541
Hello EC2!

Neha Agrawal <agrawal@pdx.edu>
signed on 2020-11-06 06:18:10.876305
Hello Elastic Beanstalk!

Neha Agrawal <agrawal@pdx.edu>
signed on 2020-11-06 18:58:35.118763
Hello ECS!

6. Clean Up

No screenshots required

06.3g: Cloud Run Guestbook

1. Cloud Run

No screenshots required

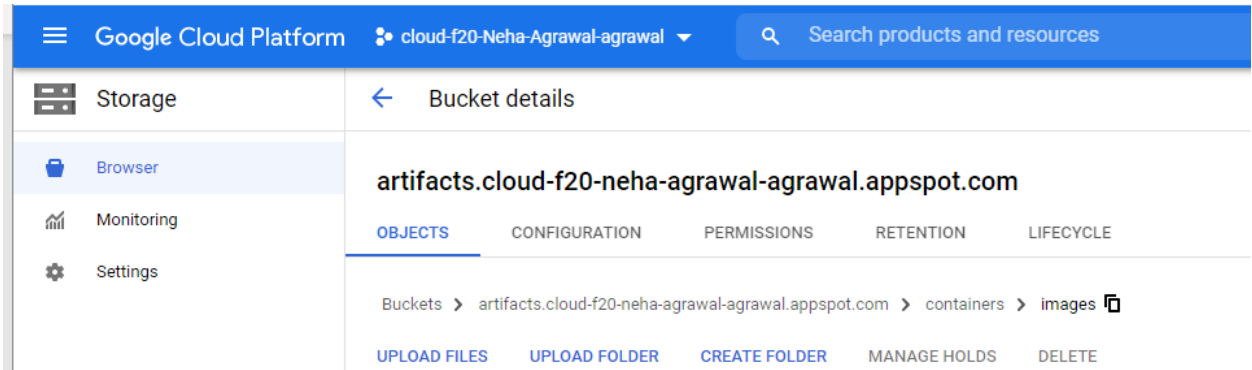
2. Prepare a container image

The screenshot shows the Google Cloud Platform Build details page for a build named 'cloud-f20-Neha-Agrawal-agrawal'. The build status is 'Successful: 9874e363', started on Nov 6, 2020, at 11:05:02 AM. The source is a Google Storage link. The build log shows the following steps:

Steps	Duration	BUILD LOG	EXECUTION DETAILS	BUILD ARTIFACTS
Build Summary 1 Step	00:10:58	<input type="checkbox"/> Wrap lines <input type="checkbox"/> Show newest entries first		
0: gcr.io/cloud-builders/docker build --network cloudbuild --no-c...	00:10:33	143 Removing intermediate container a98/ef0b0d3e 144 ----> 8531f7c886d1 145 Successfully built 8531f7c886d1 146 Successfully tagged gcr.io/cloud-f20-neha-agrawal-agrawal/gcp_gb:latest 147 PUSH 148 Pushing gcr.io/cloud-f20-neha-agrawal-agrawal/gcp_gb 149 The push refers to repository [gcr.io/cloud-f20-neha-agrawal-agrawal/gcp_gb]		

The screenshot shows the Google Cloud Platform Container Registry 'Images' page for the repository 'gcp_gb'. The image 'gcr.io/cloud-f20-neha-agrawal-agrawal/gcp_gb' is listed with a virtual size of 1.1 GB, created 3 minutes ago, and uploaded 3 minutes ago. The image is tagged 'latest'.

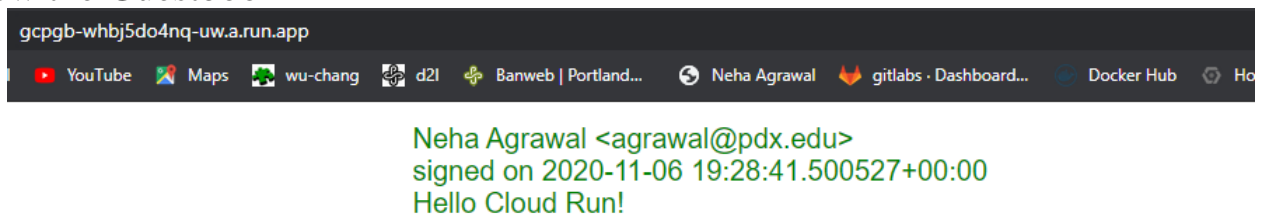
Name	Tags	Virtual size	Created	Uploaded
20f7a02b1844	latest	1.1 GB	3 minutes ago	3 minutes ago



3. Deploy container with minimal privileges

No screenshots required

4. View the Guestbook



From the web console, visit Cloud Run, click on the service you created, then click on "Revisions". As the UI shows, one can create multiple revisions of a service and manage user traffic between them. This is helpful for A/B testing. View the "Details" section to the right and answer the following questions:

- What port do container instances listen on?
8080
- How many instances will Cloud Run autoscale up to by default?
1000

5. Clean Up

No screenshots required

06.4a: Lambda (MoTD)

1. MoTD function

No screenshots required

2. IAM role setup

No screenshots required

3. Lambda creation

No screenshots required

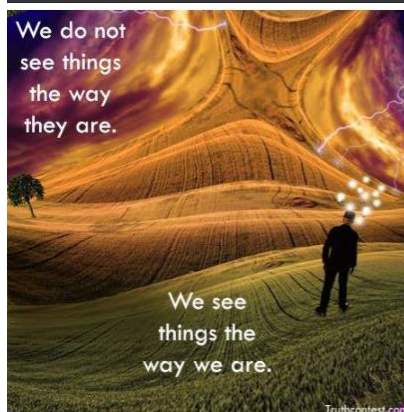
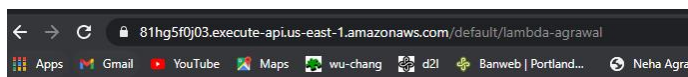
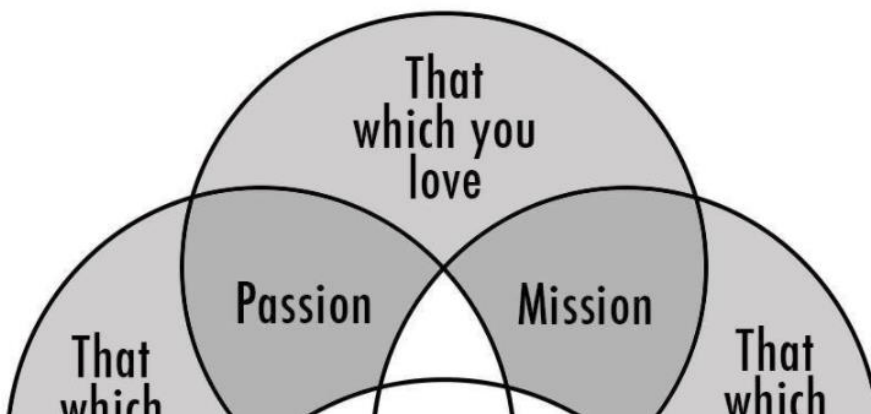
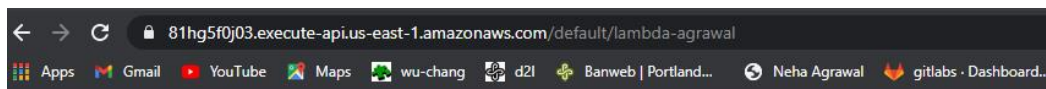
4. API integration

No screenshots required

5. Lambda code

No screenshots required

6. Test code



7. Clean up

No screenshots required

06.4g: Cloud Functions (Image blurring)

1. Image blurring

No screenshots required

2. Cloud Vision setup

No screenshots required

3. Code

No screenshots required

4. Code

Visit the file and examine the code for `__blur_image`. Answer the following questions for your lab notebook:

- **After downloading the file from the bucket, where is it stored?**
The file is stored in the temporary directory.
- **What class in the ImageMagick package is used to do the blurring of the file?**
The Image class
- **What lines of code perform the blurring of the image and its storage back into the filesystem?**
Lines 72,73,74

5. Deploy the function

No screenshots required

6. Test function

Google Cloud Platform

cloud-f20-neha-agrawal-agrawal

Search products and resources

Storage

Bucket details

Browser

Monitoring

Settings

imageblur_bucket

OBJECTS CONFIGURATION PERMISSIONS RETENTION LIFECYCLE

Buckets

imageblur_bucket

UPLOAD FILES

UPLOAD FOLDER

CREATE FOLDER

MANAGE HOLDS

DELETE

Filter Filter by object or folder name prefix

<input type="checkbox"/>	Name	Size	Type	Created time	Storage class	Last modified	Public access	Encryption	Retention exp
<input type="checkbox"/>	EEKXOUR27Y3S5MFQCWYWWAJ6Z	20.1 KB	application/octet-stream	Nov 6, 2020, 3:...	Standard	Nov 6, 202...	Not public	Google-managed key	—
<input type="checkbox"/>	vertical-zombies.jpg	46.1 KB	application/octet-stream	Nov 6, 2020, 3:...	Standard	Nov 6, 202...	Not public	Google-managed key	—
<input type="checkbox"/>	zombie-949916_1280.jpg	87.1 KB	application/octet-stream	Nov 6, 2020, 2:...	Standard	Nov 6, 202...	Not public	Google-managed key	—

```

agrawal@cloudshell:~/python-docs-samples/functions/imagemagick (cloud-f20-neha-agrawal-agrawal)$ gcloud functions logs read
LEVEL NAME EXECUTION_ID TIME UTC LOG
I blur_offensive_images vmosdca5ds76 2020-11-06 22:44:21.994 Analysing zombie-949916_1280.jpg.
I blur_offensive_images vmosdca5ds76 2020-11-06 22:44:22.594 The image zombie-949916_1280.jpg was detected as inappropriate.
I blur_offensive_images vmosdca5ds76 2020-11-06 22:44:23.066 Image zombie-949916_1280.jpg was downloaded to /tmp/tmp1jehsy42.
I blur_offensive_images vmosdca5ds76 2020-11-06 22:44:36.860 Image zombie-949916_1280.jpg was blurred.
I blur_offensive_images vmosdca5ds76 2020-11-06 22:44:36.985 Blurred image uploaded to: gs://imageblur_bucket/zombie-949916_1280.jpg
D blur_offensive_images vmosdca5ds76 2020-11-06 22:44:36.987 Function execution took 15151 ms, finished with status: 'ok'
D blur_offensive_images vmoscj3rrmxa 2020-11-06 23:09:36.356 Function execution started
I blur_offensive_images vmoscj3rrmxa 2020-11-06 23:09:36.494 Analysing EEKXOUR27Y3S5MFQCWYWWAJ6Z4.jpg.
I blur_offensive_images vmoscj3rrmxa 2020-11-06 23:09:36.923 The image EEKXOUR27Y3S5MFQCWYWWAJ6Z4.jpg was detected as inappropriate.
I blur_offensive_images vmoscj3rrmxa 2020-11-06 23:09:37.271 Image EEKXOUR27Y3S5MFQCWYWWAJ6Z4.jpg was downloaded to /tmp/tmp1b3c1h47.
I blur_offensive_images vmoscj3rrmxa 2020-11-06 23:09:40.663 Image EEKXOUR27Y3S5MFQCWYWWAJ6Z4.jpg was blurred.
I blur_offensive_images vmoscj3rrmxa 2020-11-06 23:09:40.766 Blurred image uploaded to: gs://imageblur_bucket/EEKXOUR27Y3S5MFQCWYWWAJ6Z4.jpg
D blur_offensive_images vmoscj3rrmxa 2020-11-06 23:09:40.771 Function execution took 4417 ms, finished with status: 'ok'
D blur_offensive_images vmosx97ik2yh 2020-11-06 23:09:45.058 Function execution started
I blur_offensive_images vmosx97ik2yh 2020-11-06 23:09:45.093 Analysing vertical-zombies.jpg.
I blur_offensive_images vmosx97ik2yh 2020-11-06 23:09:45.536 The image vertical-zombies.jpg was detected as inappropriate.
I blur_offensive_images vmosx97ik2yh 2020-11-06 23:09:46.158 Image vertical-zombies.jpg was downloaded to /tmp/tmp23yogp2w.
I blur_offensive_images vmosx97ik2yh 2020-11-06 23:09:55.270 Image vertical-zombies.jpg was blurred.
I blur_offensive_images vmosx97ik2yh 2020-11-06 23:09:55.390 Blurred image uploaded to: gs://imageblur_bucket/vertical-zombies.jpg
D blur_offensive_images vmosx97ik2yh 2020-11-06 23:09:55.393 Function execution took 10326 ms, finished with status: 'ok'
agrawal@cloudshell:~/python-docs-samples/functions/imagemagick (cloud-f20-neha-agrawal-agrawal)$

```

7. Clean up

No screenshots required