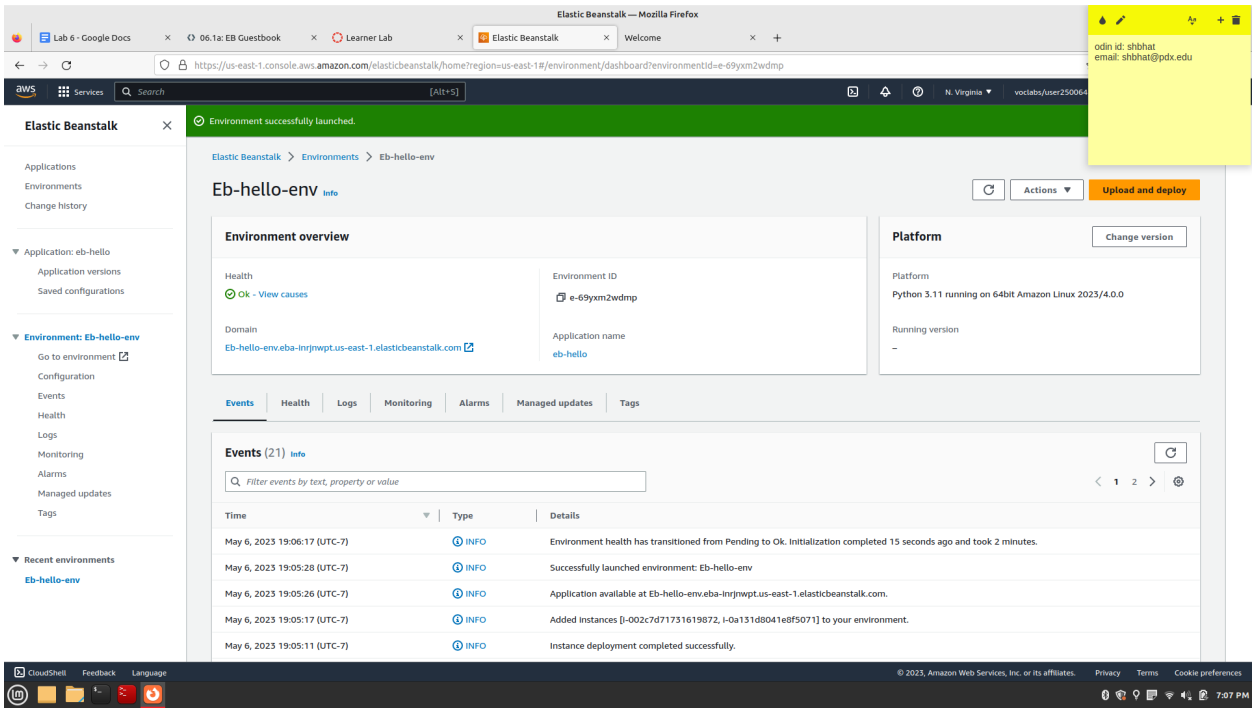
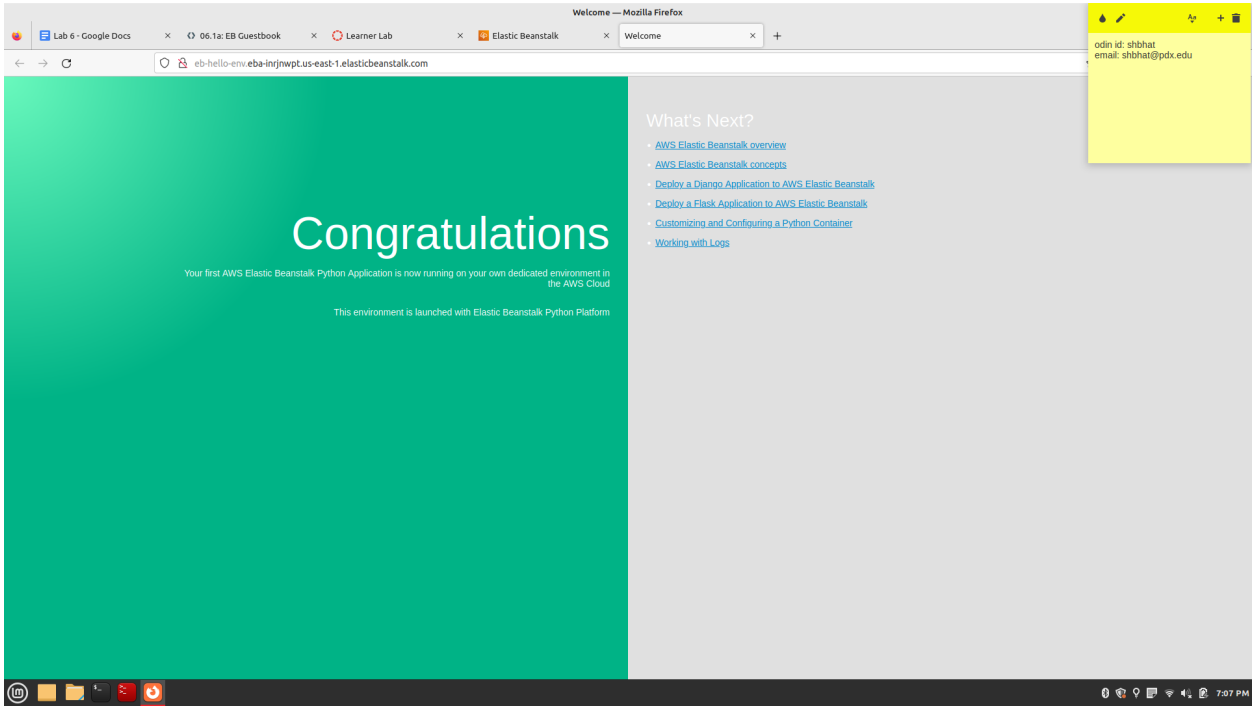
Lab Notebook - Week 6

Submitted by: Shrikrishna Bhat

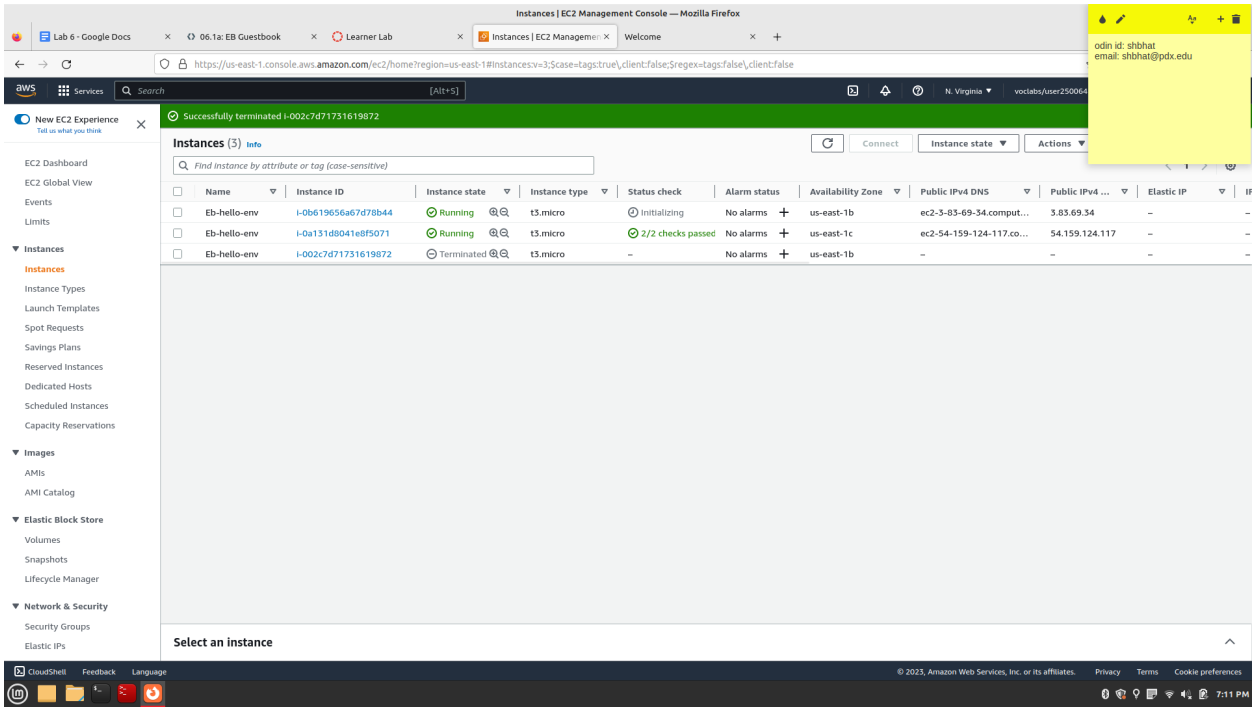
6.1a EB Guestbook

6.1a.1 **Take a screenshot showing it has been brought up successfully**

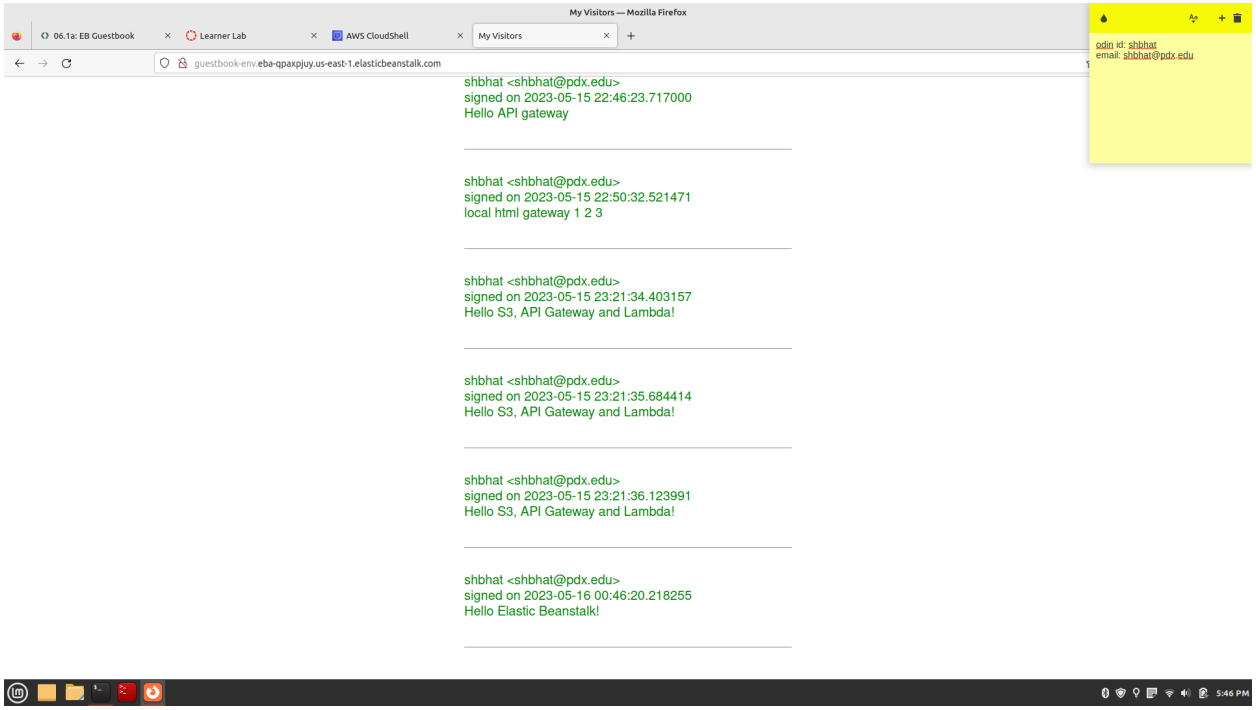




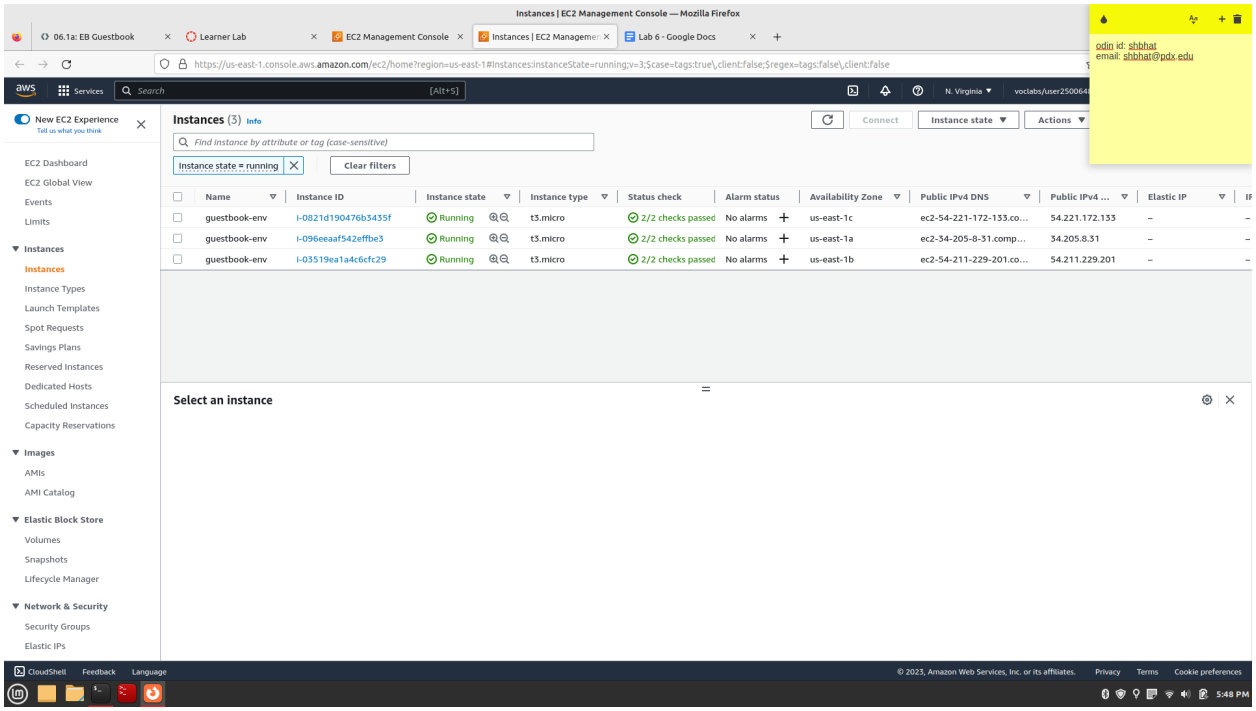
6.1a.2 **Take a screenshot of the replacement VM being started.**



6.1a.3 **Take a screenshot of the Guestbook including the URL with the entry in it.**

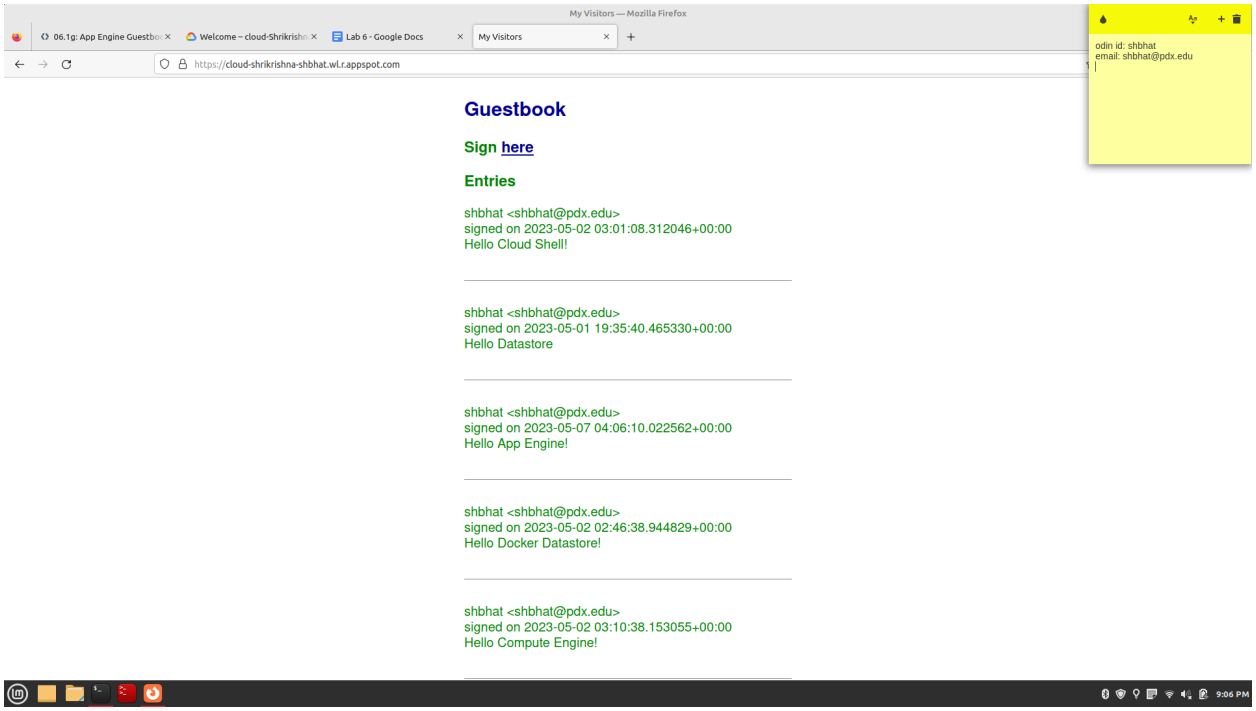


6.1a.4 **Then, visit the EC2 console to see that the specified minimum number of instances has been created, Take a screenshot of them.**

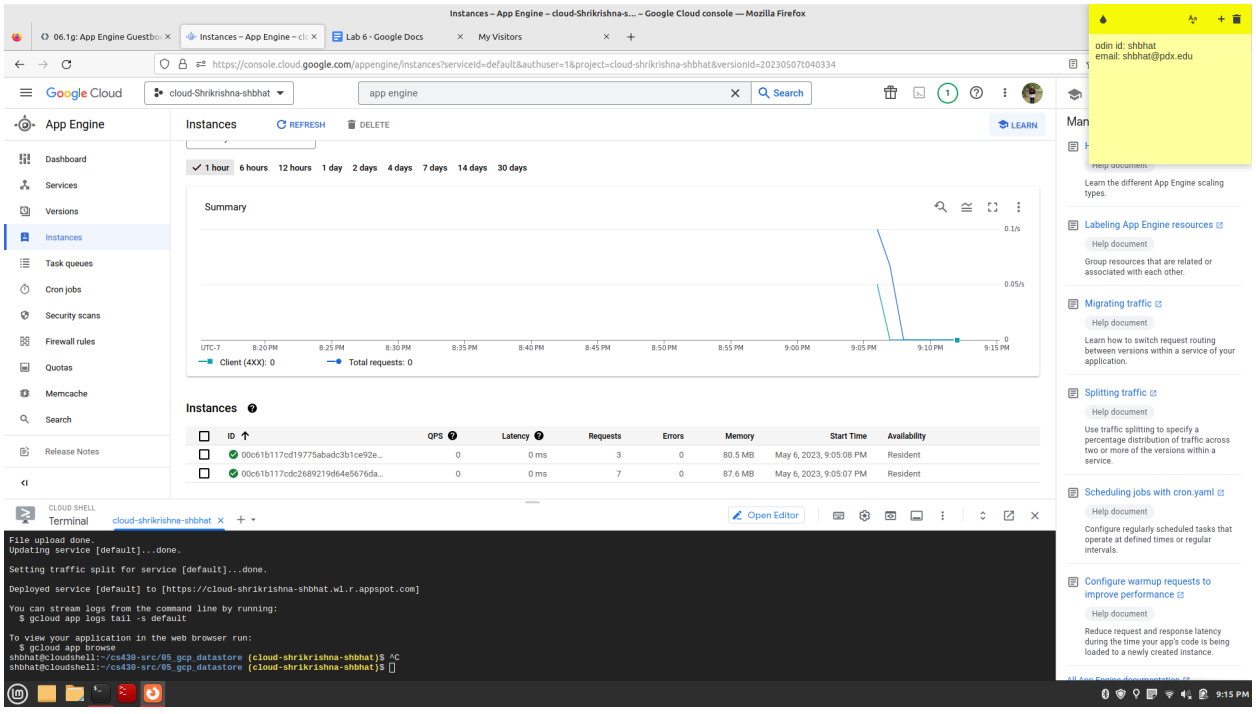


6.1g App Engine Guestbook

6.1g.1 **Take a screenshot of the output that includes the URL in the address bar for your lab notebook.**

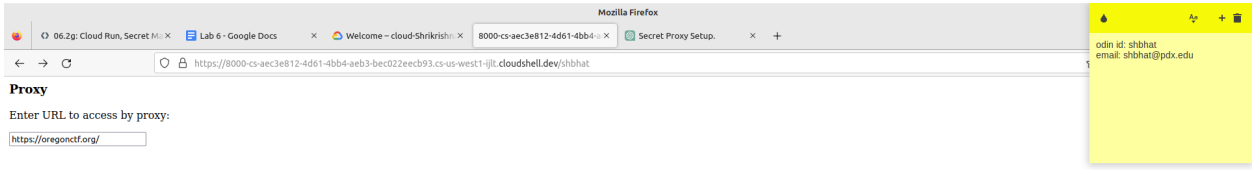


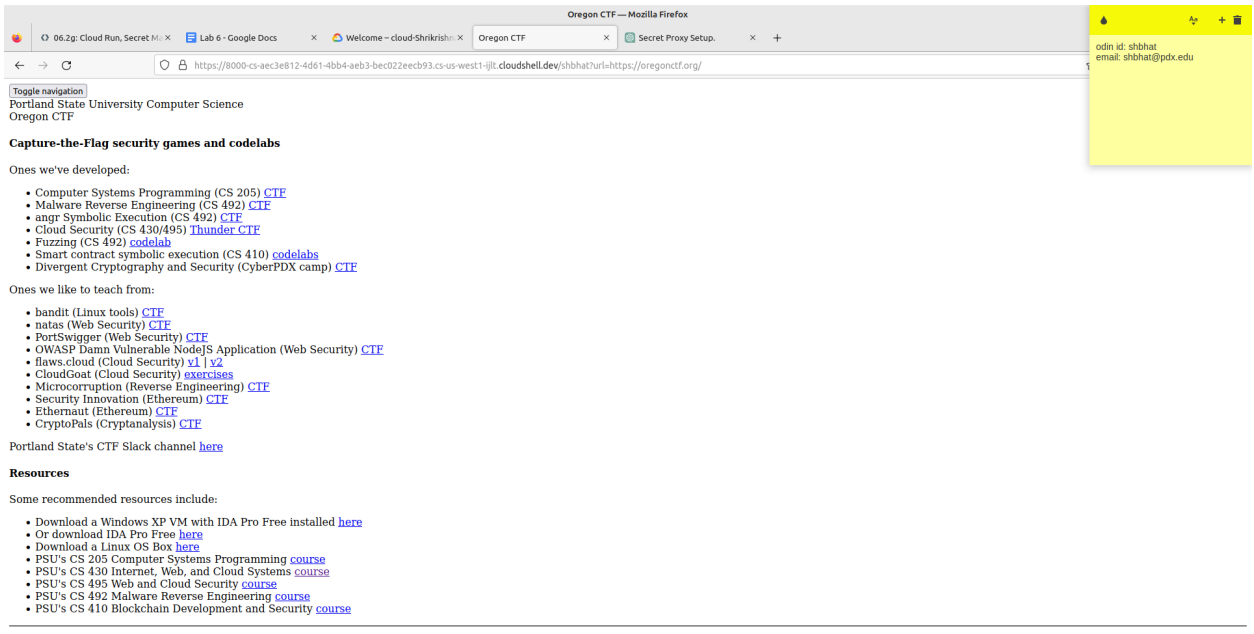
6.1g.2 **Take a screenshot of them.**



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

6.2g.1 **Take a screenshot of the proxy and its results including the URL containing your OdinID**





6.2g.2 **What is the security advantage of passing in the secret proxy route as an environment variable?**

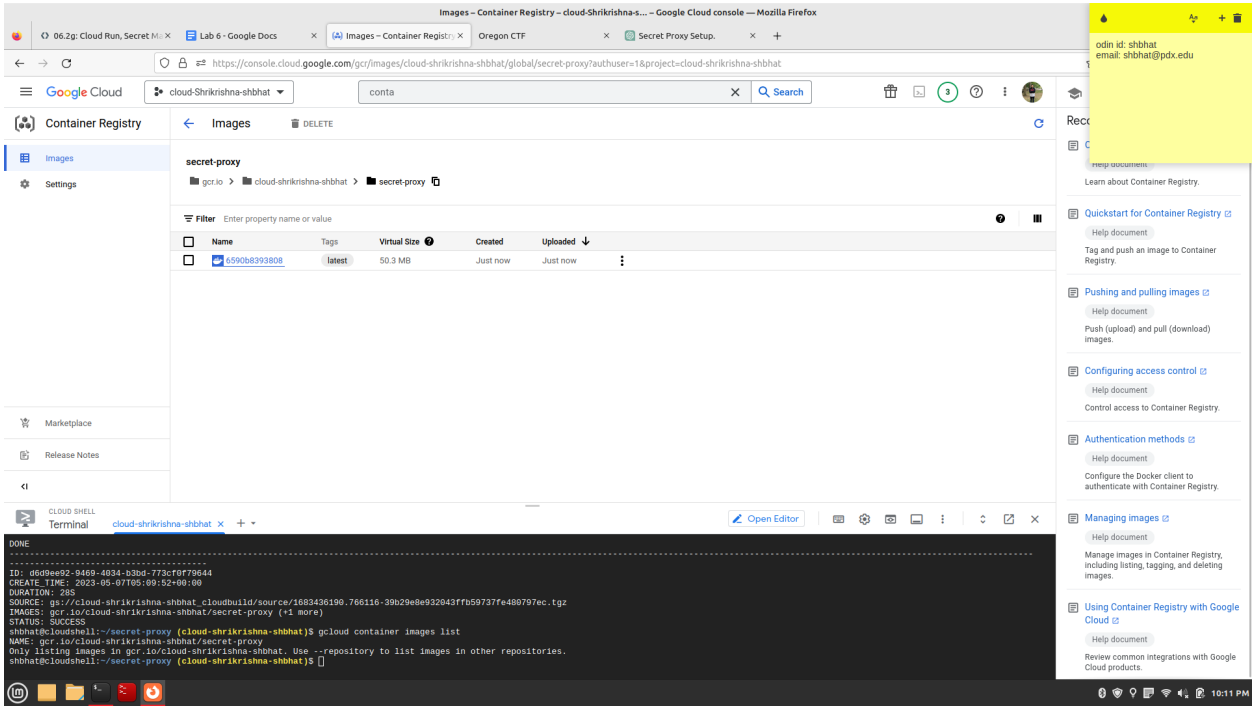
Passing the secret proxy route as an environment variable provides a security advantage by allowing the application to keep sensitive configuration details separate from the application code.

If the secret proxy route were hard-coded into the application code, it would be visible to anyone who has access to the source code, including potential attackers. This would make it easier for attackers to identify the proxy route and potentially use it for malicious purposes.

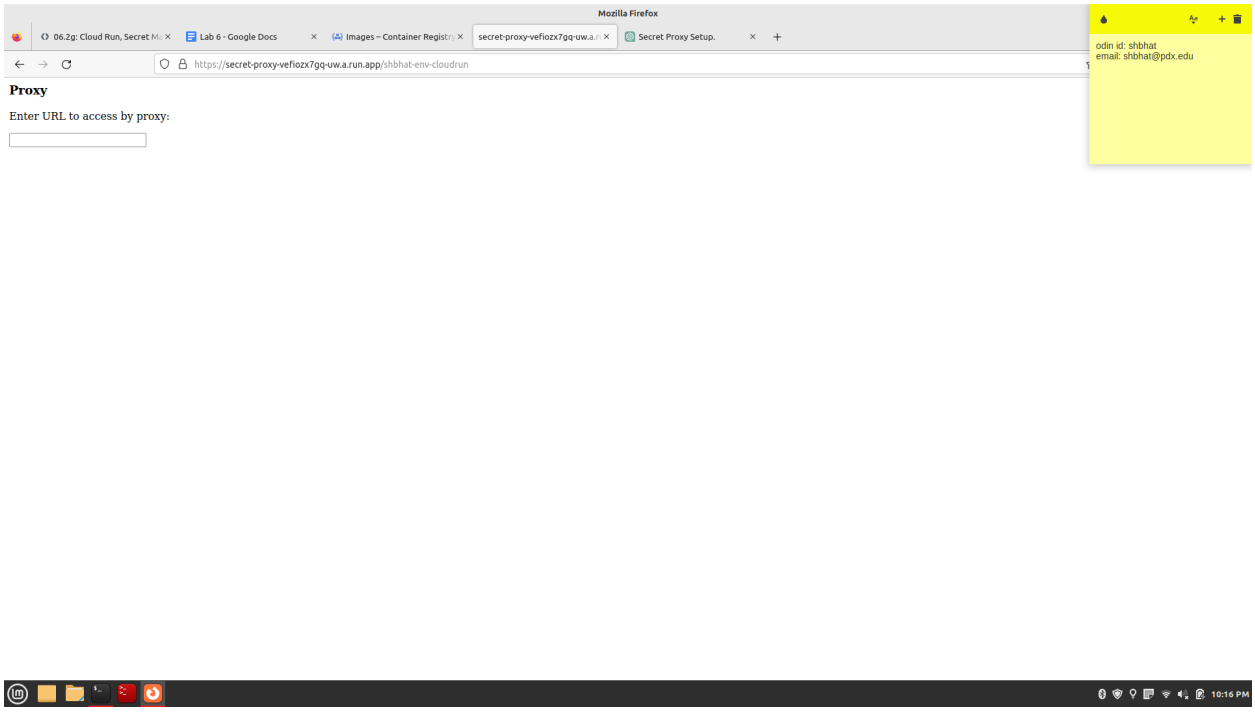
By passing the secret proxy route as an environment variable, it is kept separate from the application code and can be stored securely, for example, in a configuration file or a deployment environment. This makes it more difficult for attackers to discover the proxy route and exploit it.

Additionally, passing the secret proxy route as an environment variable allows for easy configuration changes without having to modify the application code. This can make it simpler to manage the application's configuration and reduce the risk of introducing errors or vulnerabilities during code changes.

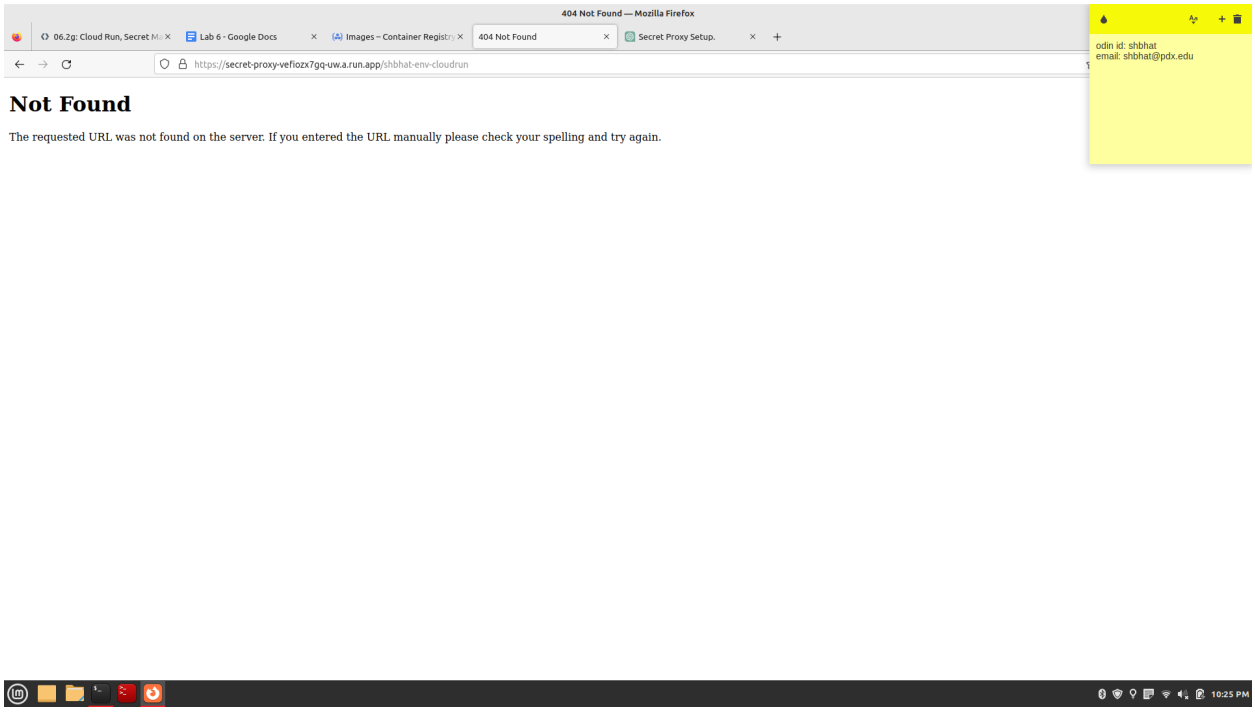
6.2g.3 **Take a screenshot of the image in the registry that shows the size of the container for your lab notebook.**



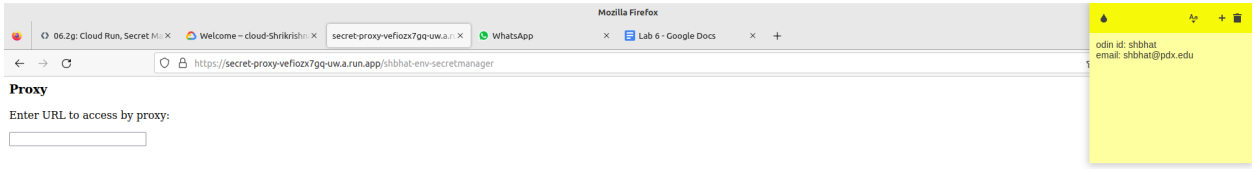
6.2g.4 **Take a screenshot of it that includes the proxy URL for your lab notebook.**

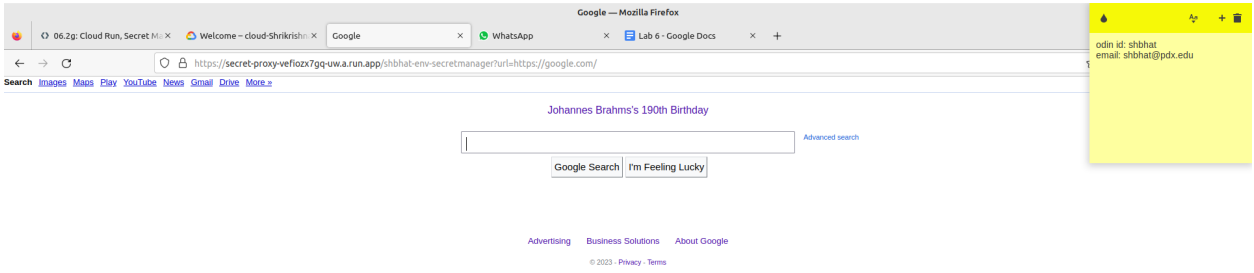


6.2g.5 **Take a screenshot of the error page that includes the proxy URL for your lab notebook.**



6.2g.6 **Take a screenshot of it that includes the proxy URL for your lab notebook.**

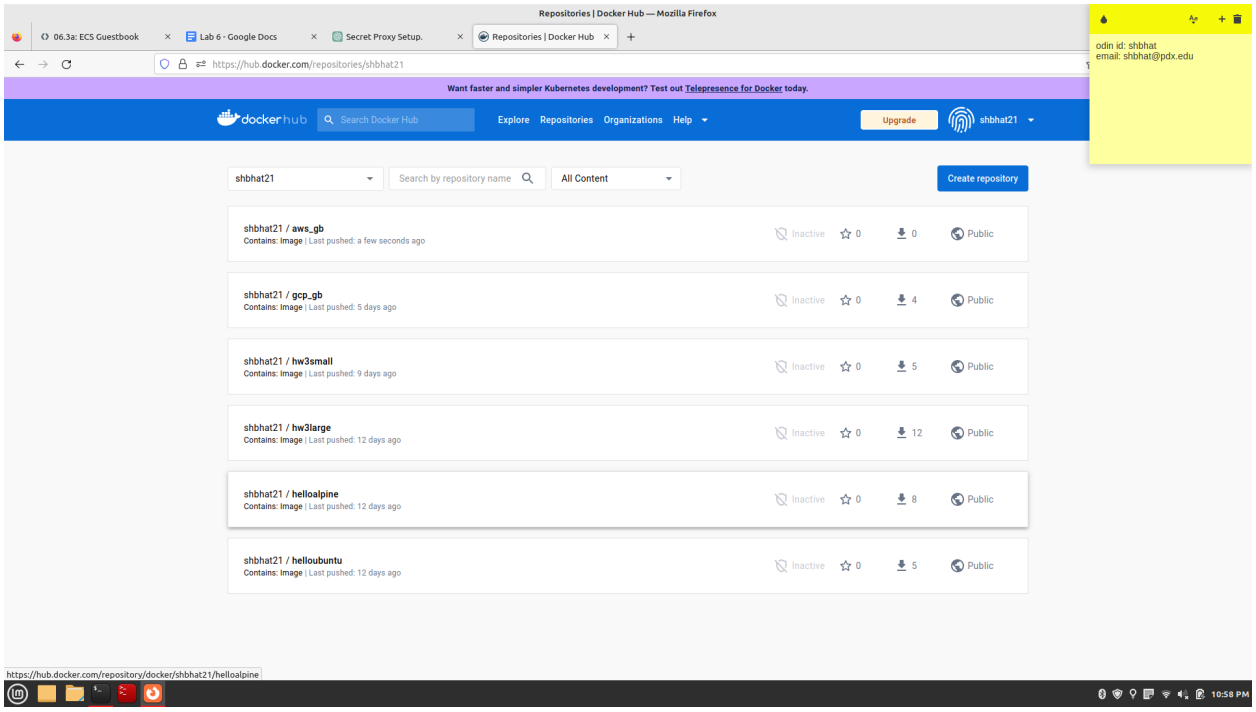




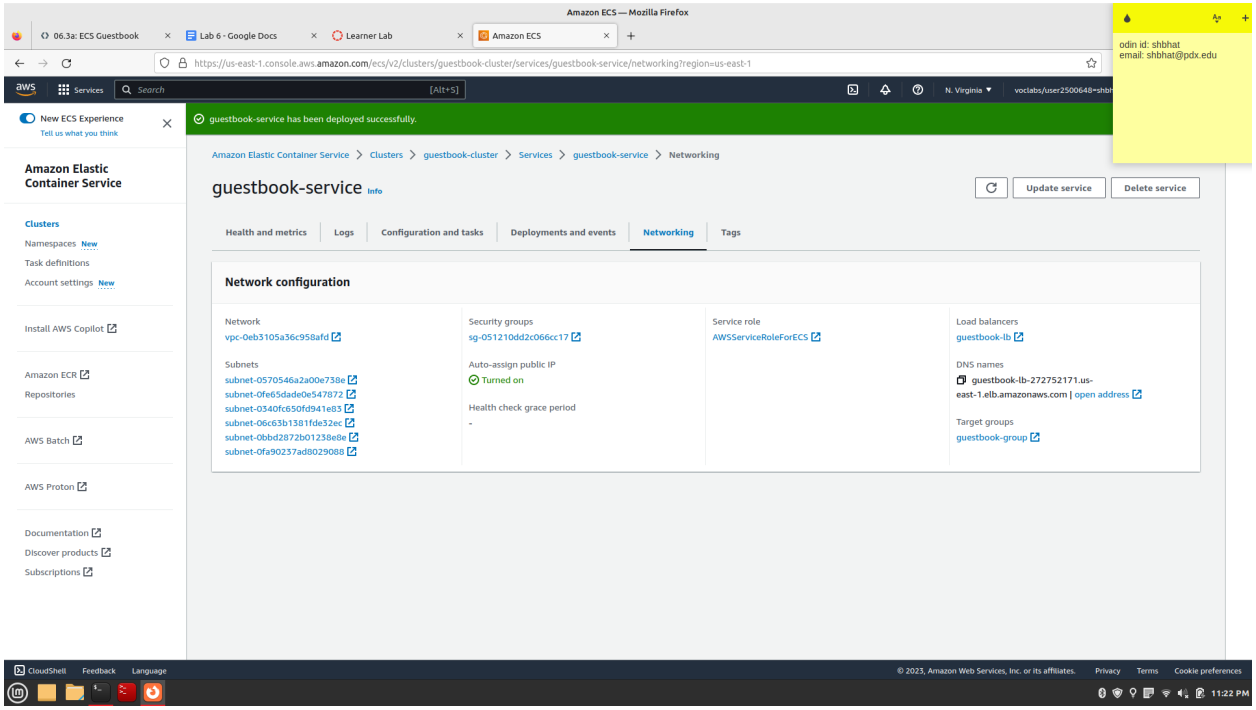
6.2g.7 **Identify the vulnerability in your lab notebook that Google has prevented.**
It appears that the vulnerability that Google has prevented is related to the unauthorized access of sensitive information through the Metadata service associated with the VM that runs a container.
The URLs http://169.254.169.254/computeMetadata and http://169.254.169.254/computeMetadata/v1 are used to access the Metadata service, which provides information about the VM's configuration and identity, including its authentication tokens.
If a container running on a VM can access the Metadata service, it may be possible for an attacker to exploit this to gain unauthorized access to the sensitive information stored on the VM or to perform other malicious actions.
Google has implemented various security measures to prevent this type of vulnerability, including limiting the scope of access to the Metadata service, requiring authentication for access, and monitoring access to the service for suspicious activity.

6.3 a ECS Guestbook

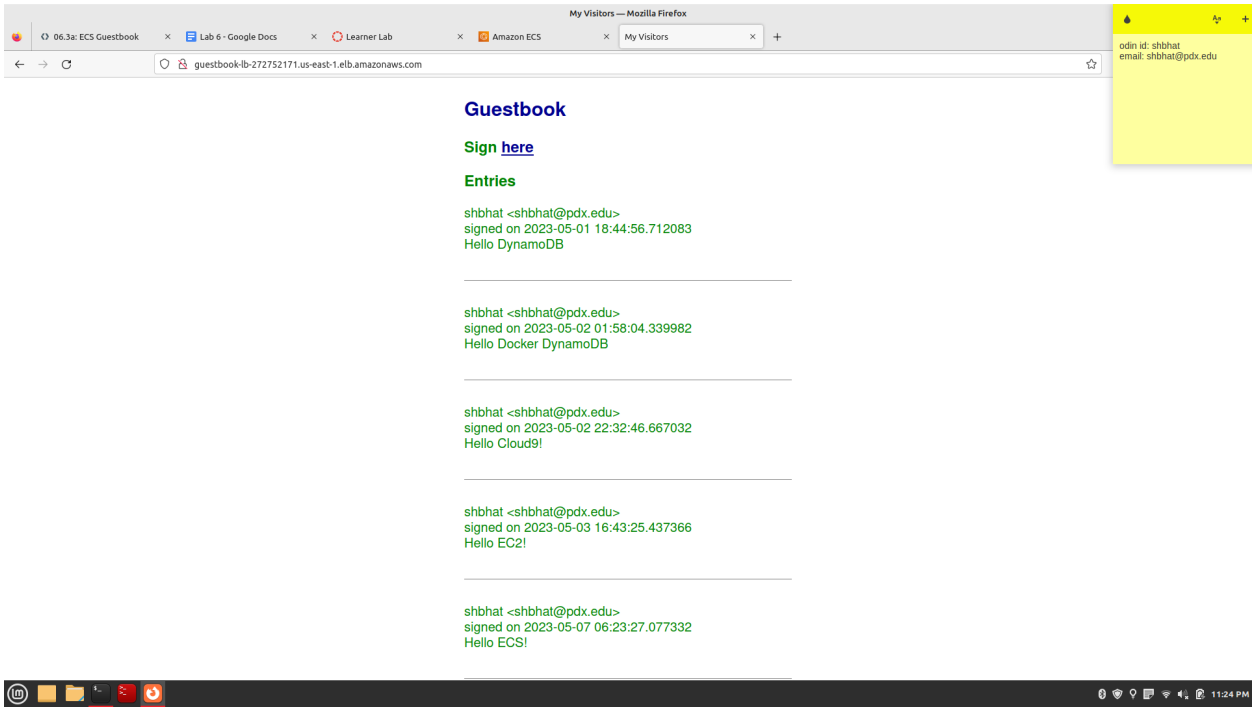
6.3a.1 Show that your image was uploaded to your account on Docker Hub.



6.3a.2 **Take a screenshot of the DNS name of the guestbook-lb load balancer for your lab notebook**

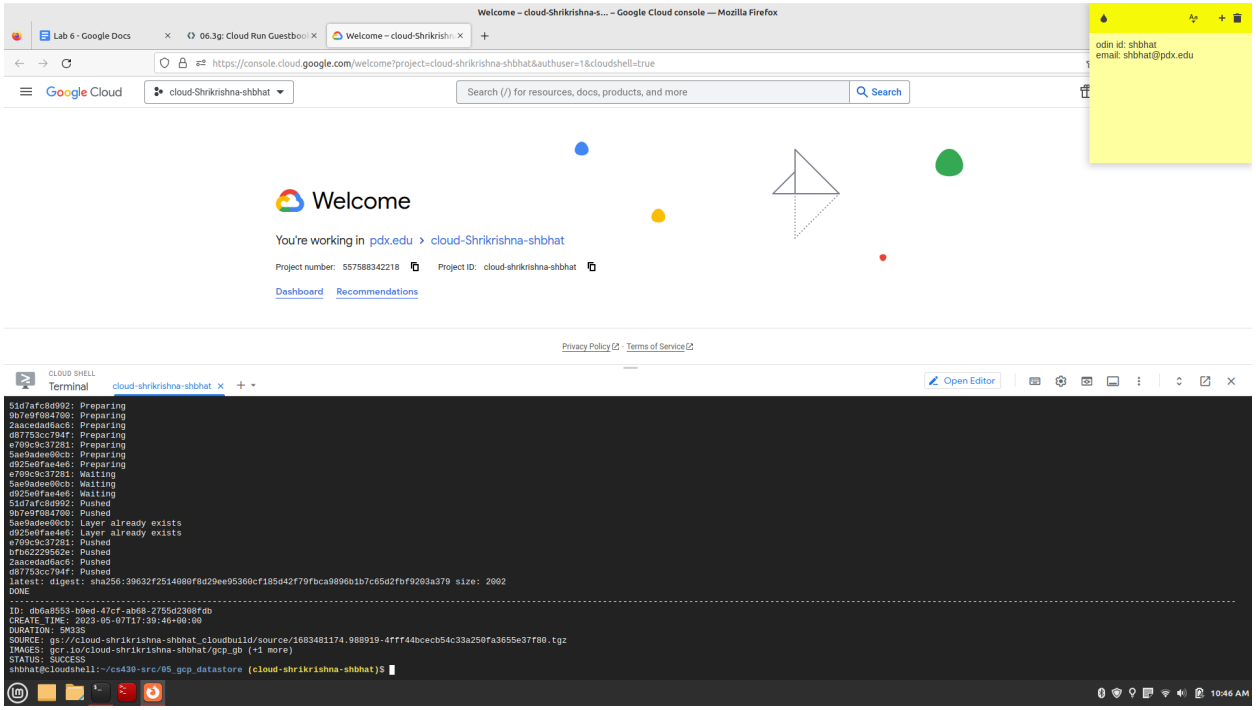


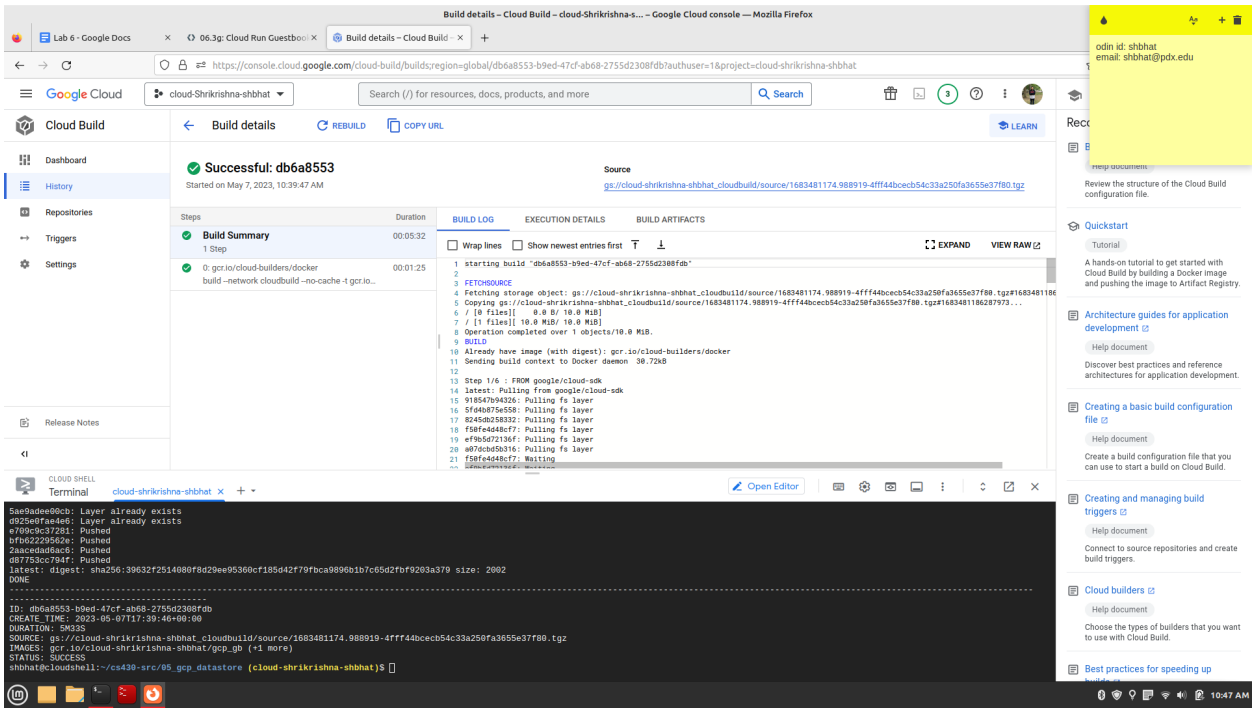
6.3a.3 Take a screenshot of the Guestbook app running in a browser that includes the DNS name of the site.



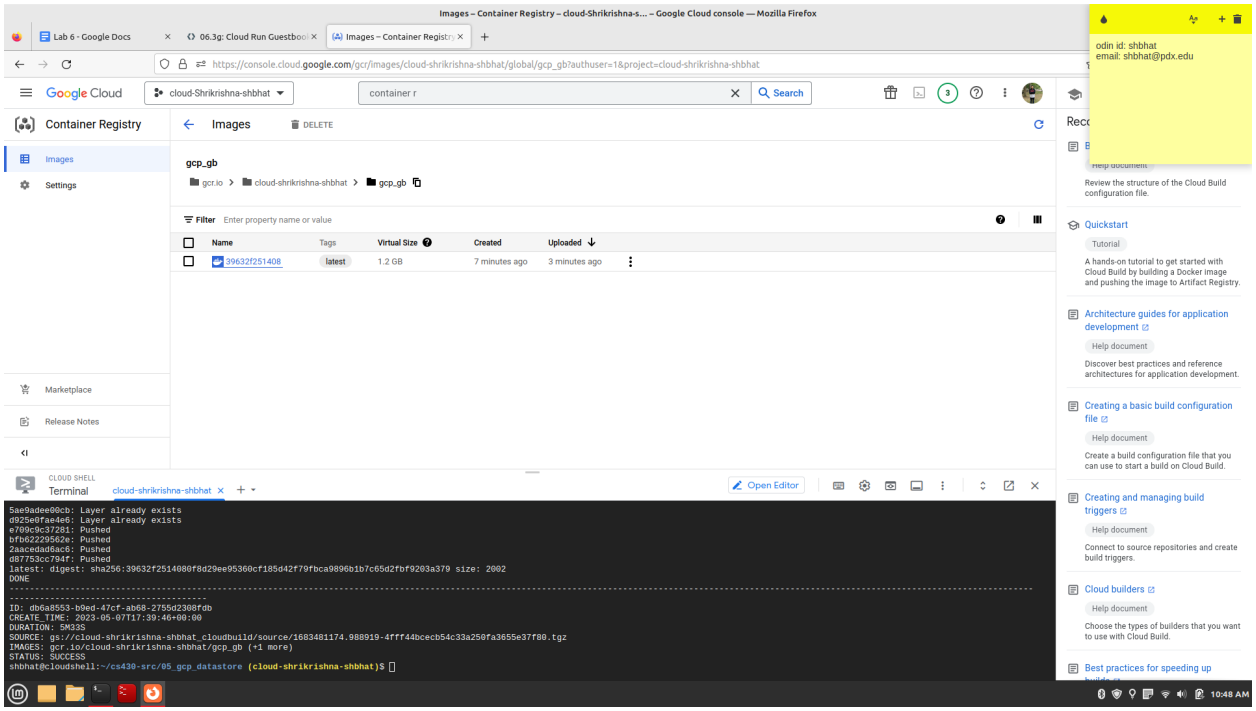
6.3 g Cloud Run Guestbook

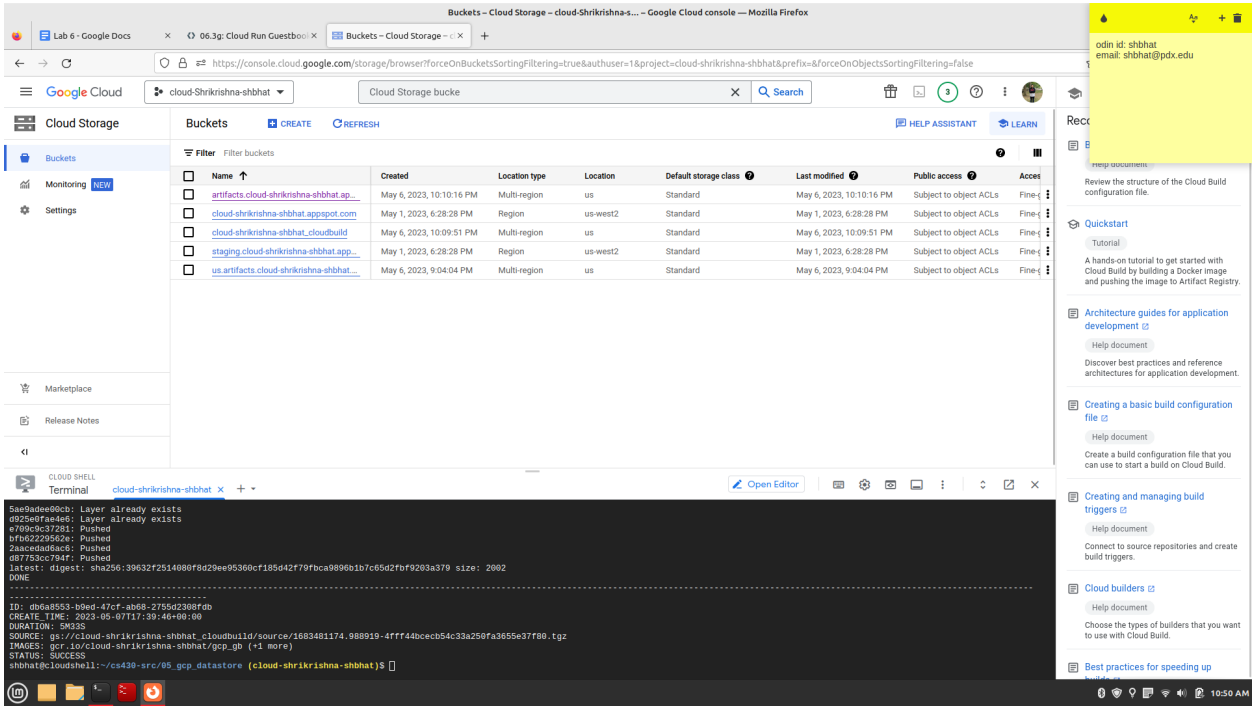
6.3g.1 **Take a screenshot that includes the output of the command and the time it took to execute.**



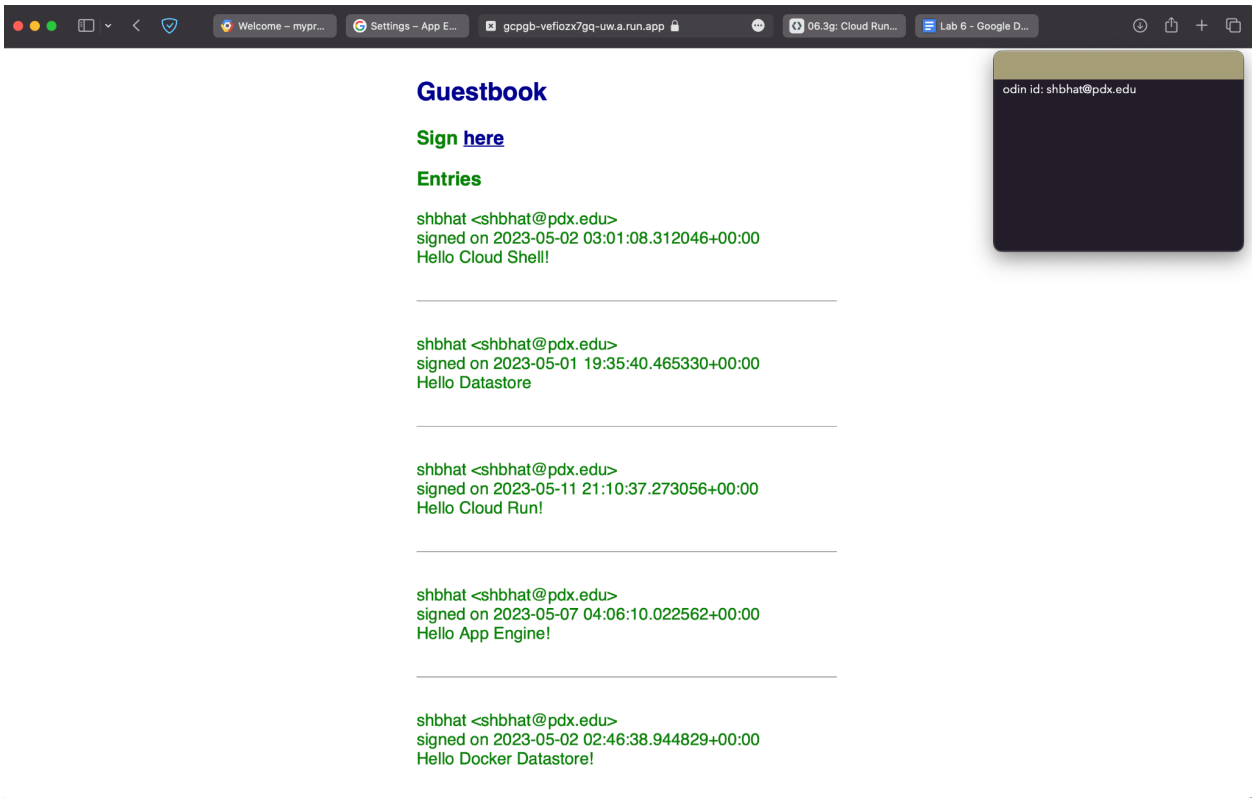


6.3g.2 **Take a screenshot showing the container image and its virtual size**





6.3g.3 **Take a screenshot that includes the URL Cloud Run has created for your site.**



6.3g.4 **What port do container instances listen on?**

Answer: 8080

6.3g.5 **What are the maximum number of instances Cloud Run will autoscale up to for your service?**

Answer: 100

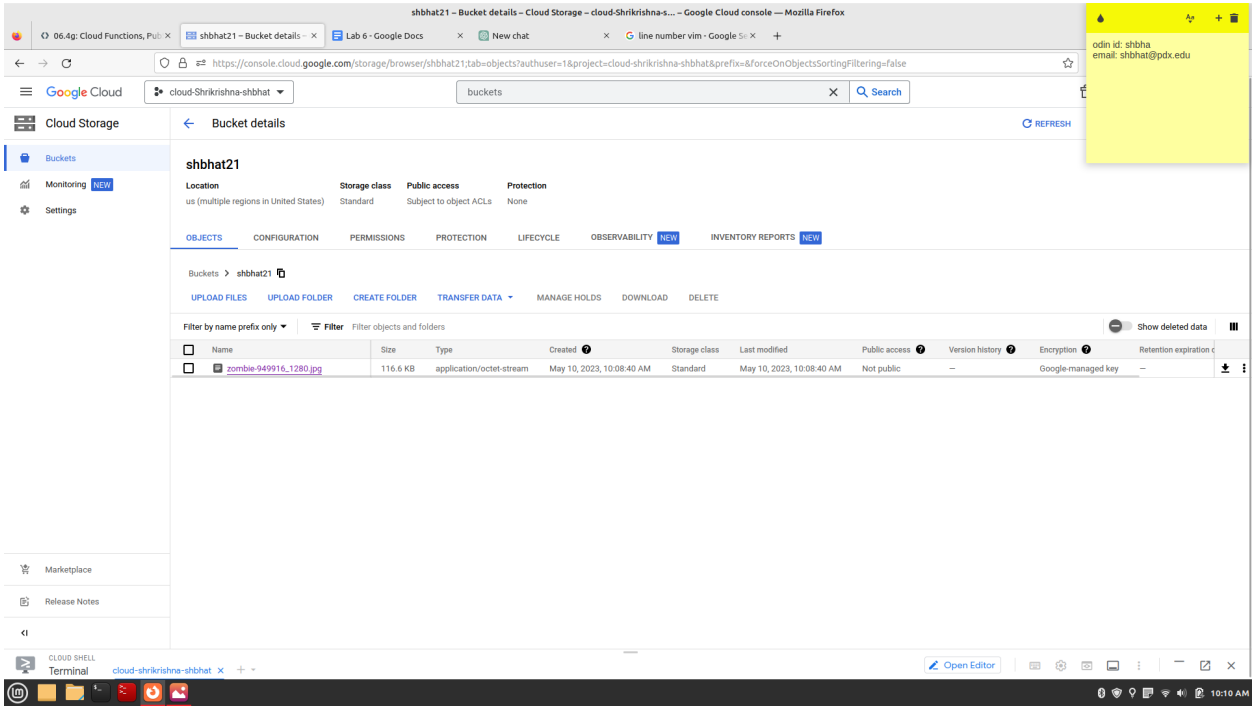
6.4 G Cloud Functions and Pub Sub

6.4g.1 **After downloading the file from the bucket, where is it stored?**
Answer: temp_local_filename

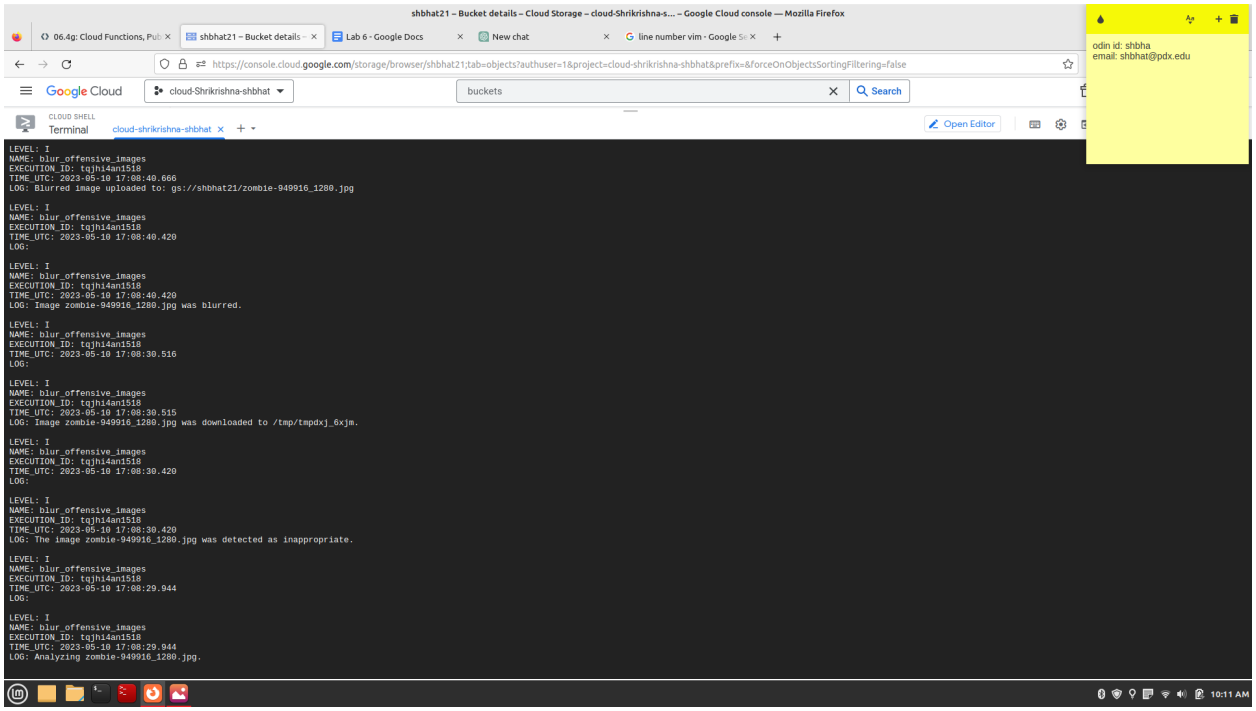
6.4g.2 **What class in the ImageMagick package is used to do the blurring of the file?**
Answer: def __blur_image is used for blurring the image

6.4g.3 **What lines of code perform the blurring of the image and its storage back into the filesystem?**
Answer: Lines 71-74

6.4g.4 **Take a screenshot of the blurred image in the output bucket for your lab notebook**



6.4g.5 **Include a screenshot of the output logs that show that the above image was blurred.**

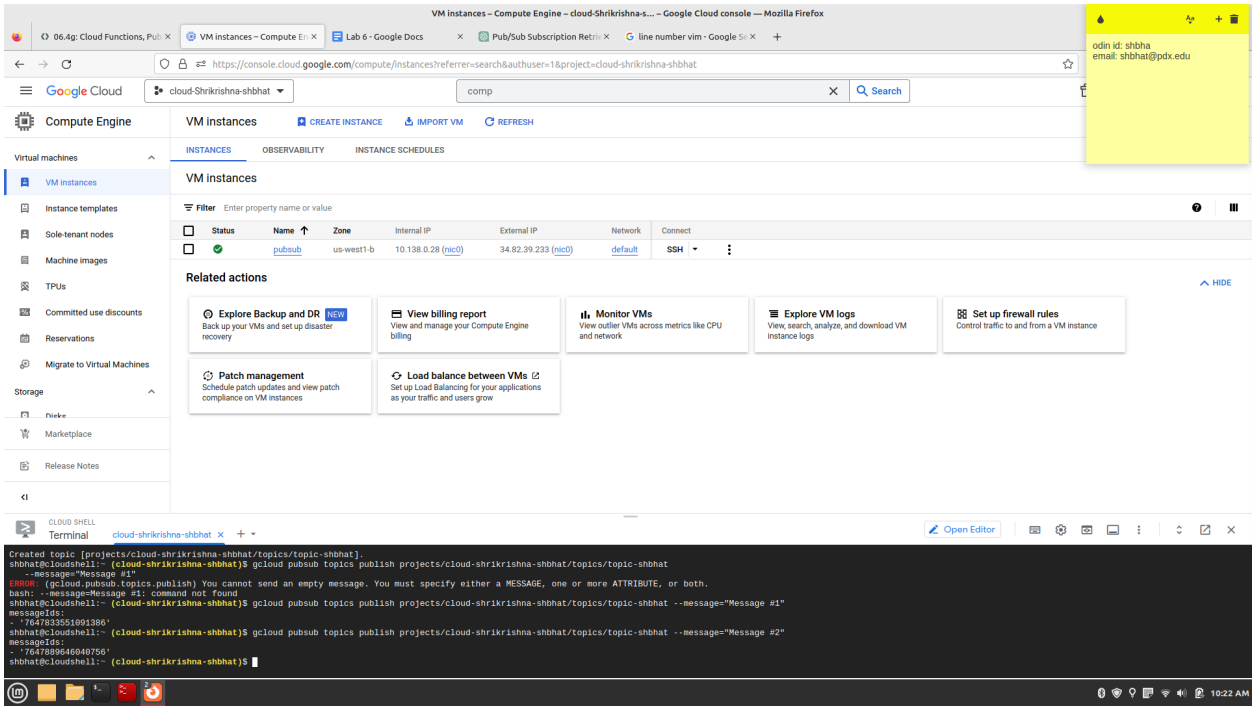


6.4g.6 **Why are there no items returned?**

If we immediately run the “gcloud pubsub subscriptions pull” command after creating the subscription and publishing a message, it's possible that the message has not yet been delivered to the subscription. There may be a delay between publishing a message and it being available for subscription, so it's possible that the message hasn't arrived in the subscription yet.
But in our case, we have sent the message before creating the subscription in the VM, hence when we pull, no items are returned.

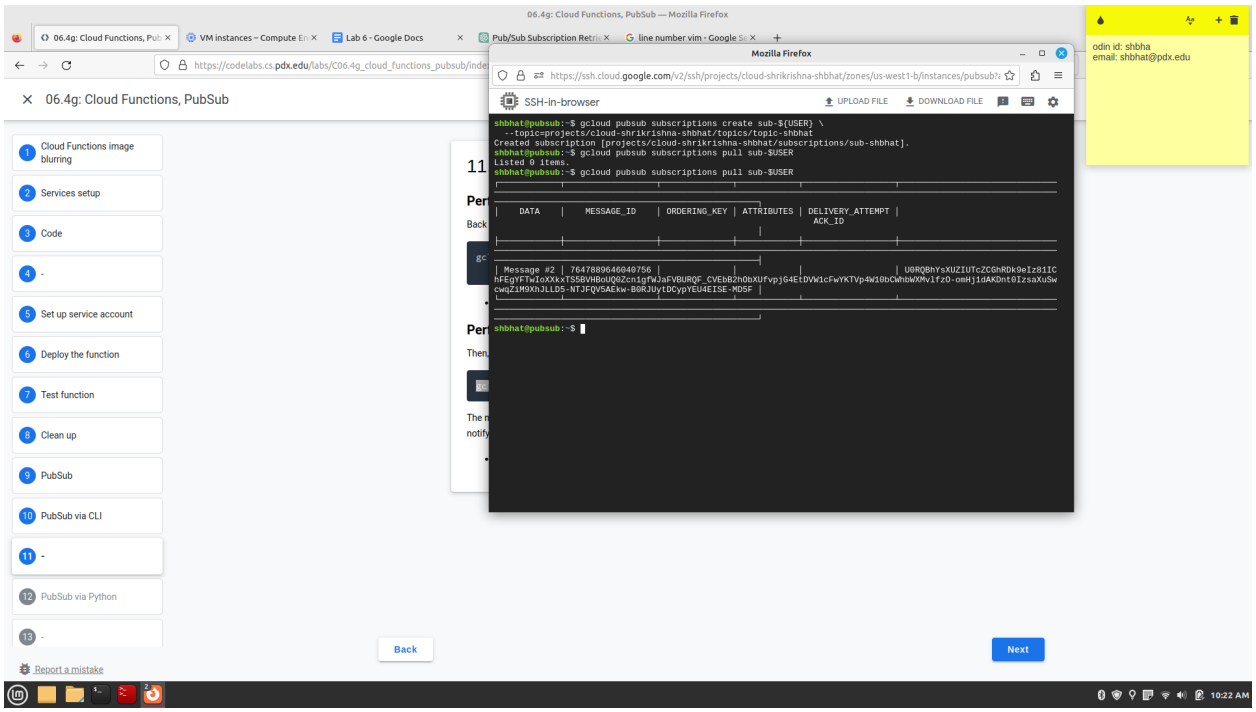
6.4g.7 **What is the messageId of the published message?**

Answer: 7647889646040756



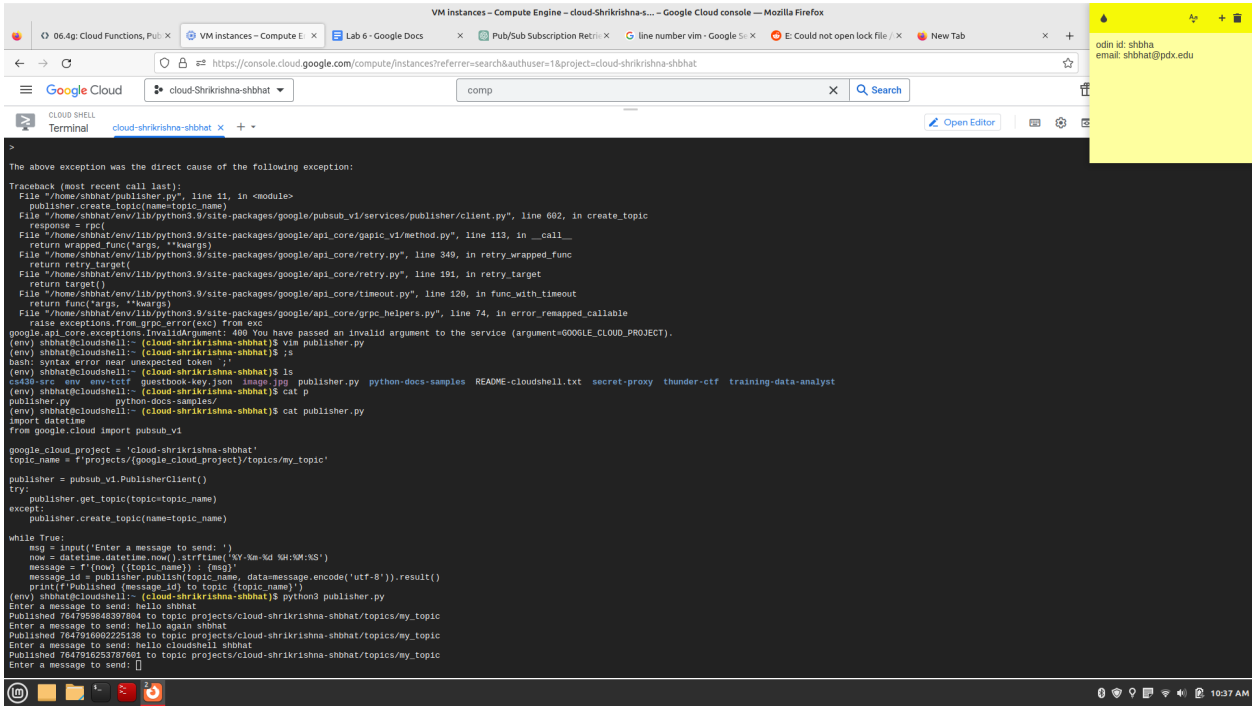
6.4g.8 **Take a screenshot of the output of the successful pull that includes the message and its messageId.**

Answer:

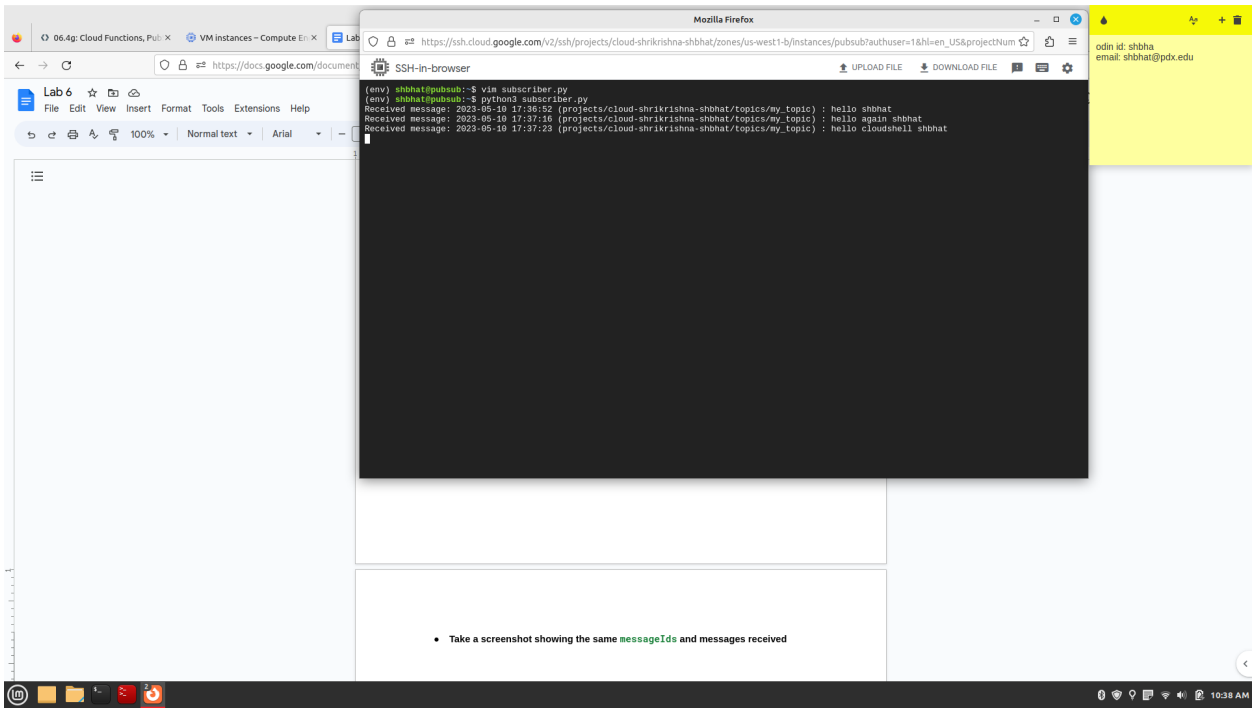


Message id: 7647889646040756

6.4g.9 **Take a screenshot showing the messageIds and messages sent**



6.4g.10 **Take a screenshot showing the same messageIds and messages received**



Note: In my case, the message id was not displayed, but the right messages were being displayed.