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Project:3

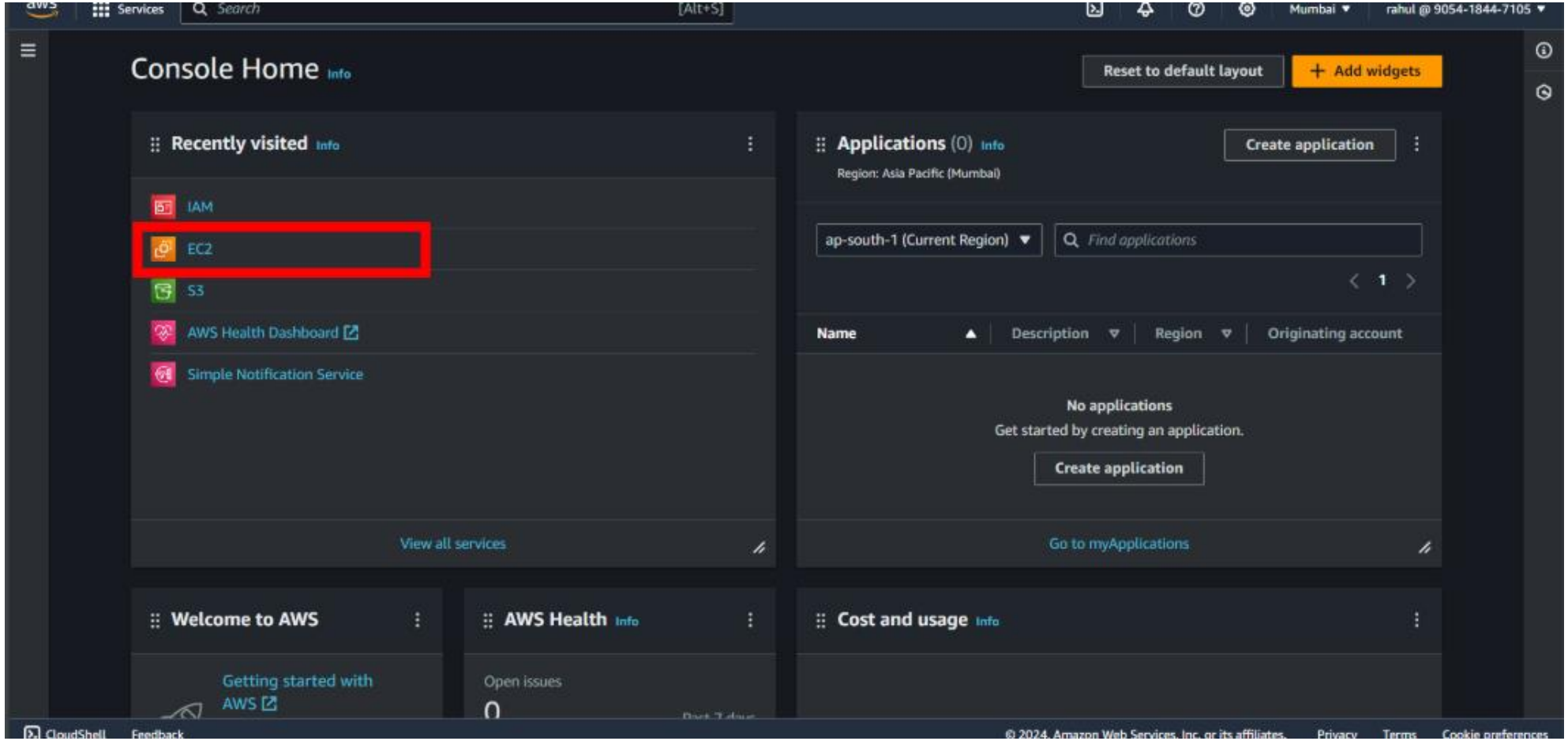
Integrate Grafana with Linux Server for high cpu utilization and create a graph in Grafana

❖ Sign in to AWS Management Console:

1. Click on the Open Console button, and you will get redirected to AWS Console in a new browser tab.

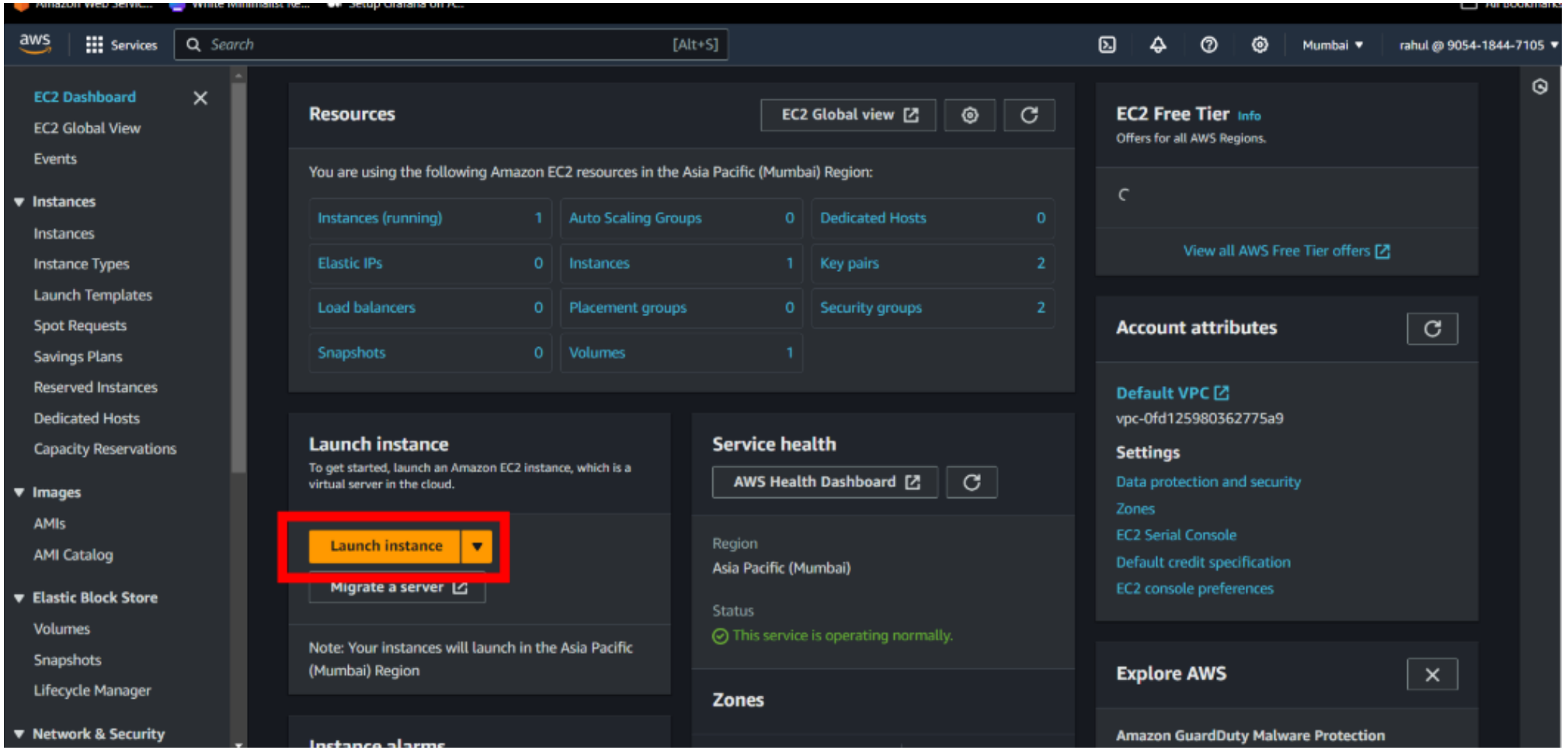
- On the AWS sign-in page, Leave the Account ID as default. Never edit/remove the 12-digit Account ID present in the AWS Console. otherwise, you cannot proceed with the lab.
- Now copy your User Name and Password in the Lab Console to the IAM Username and Password in AWS Console and click on the Sign in button.

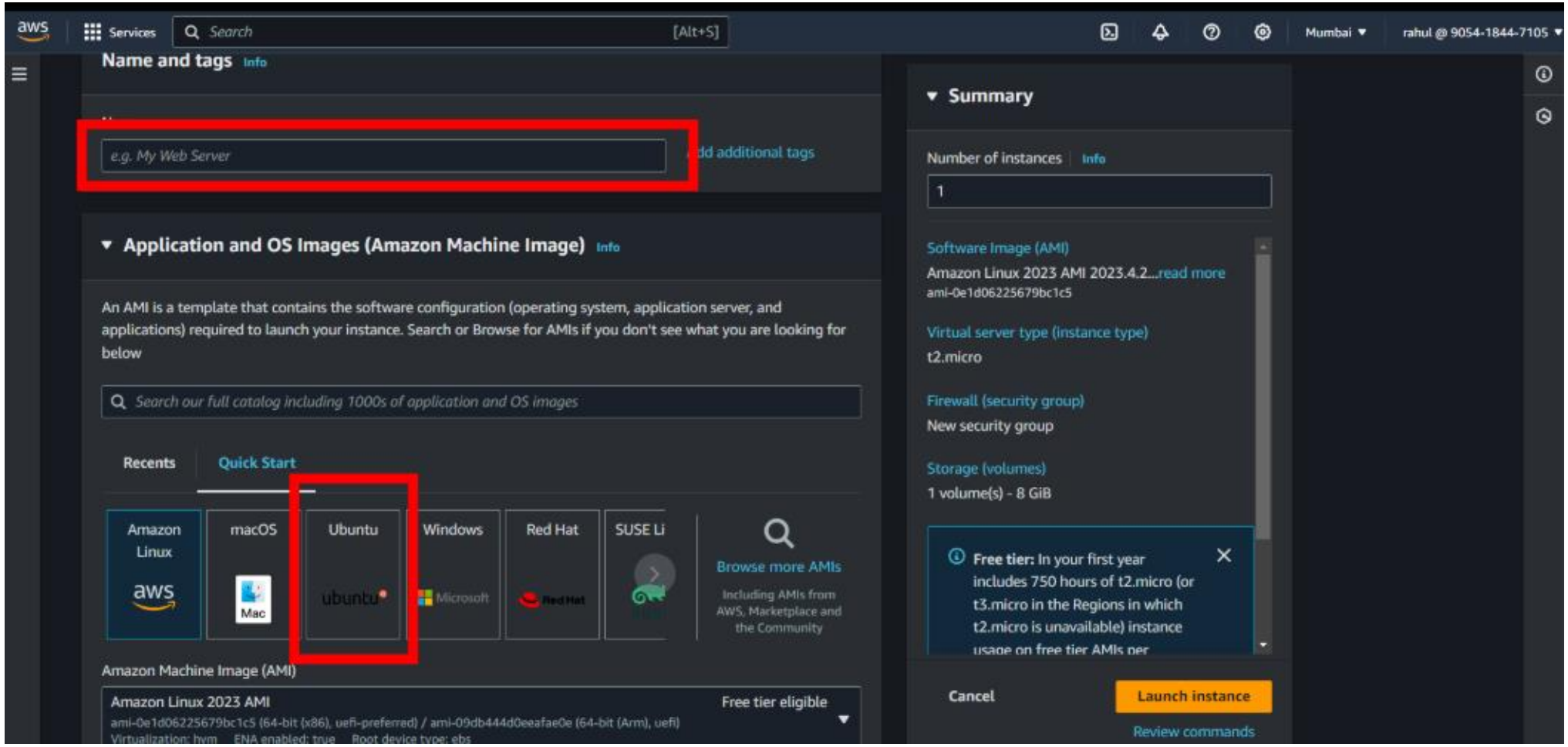
2. Once Signed in to the AWS Management Console, Make the default AWS Region as US East (N. Virginia) us-east-1.



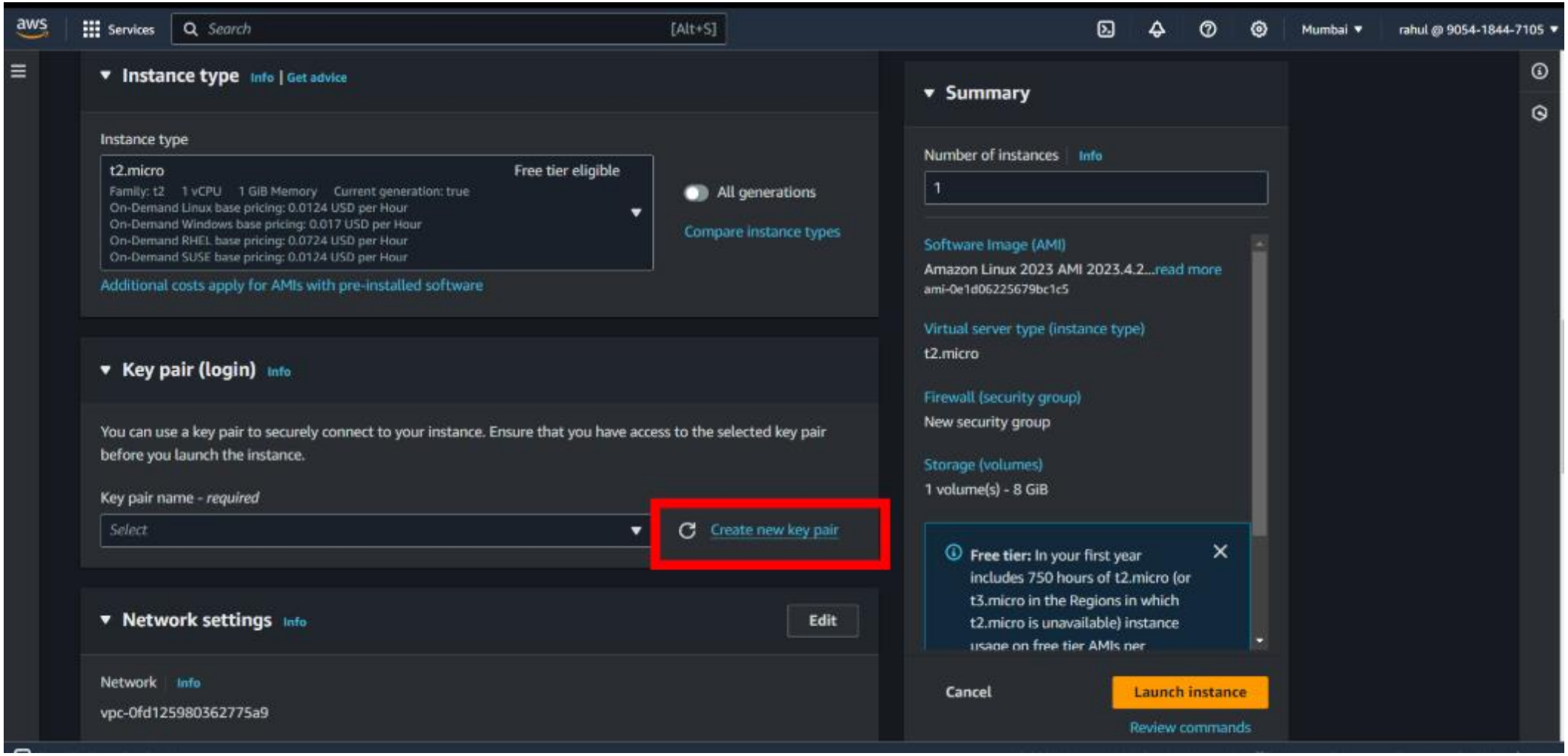
❖ Create an EC2 Instance(ubuntu):

- For creating an EC2 instance follow the following steps as shown in snapshots.

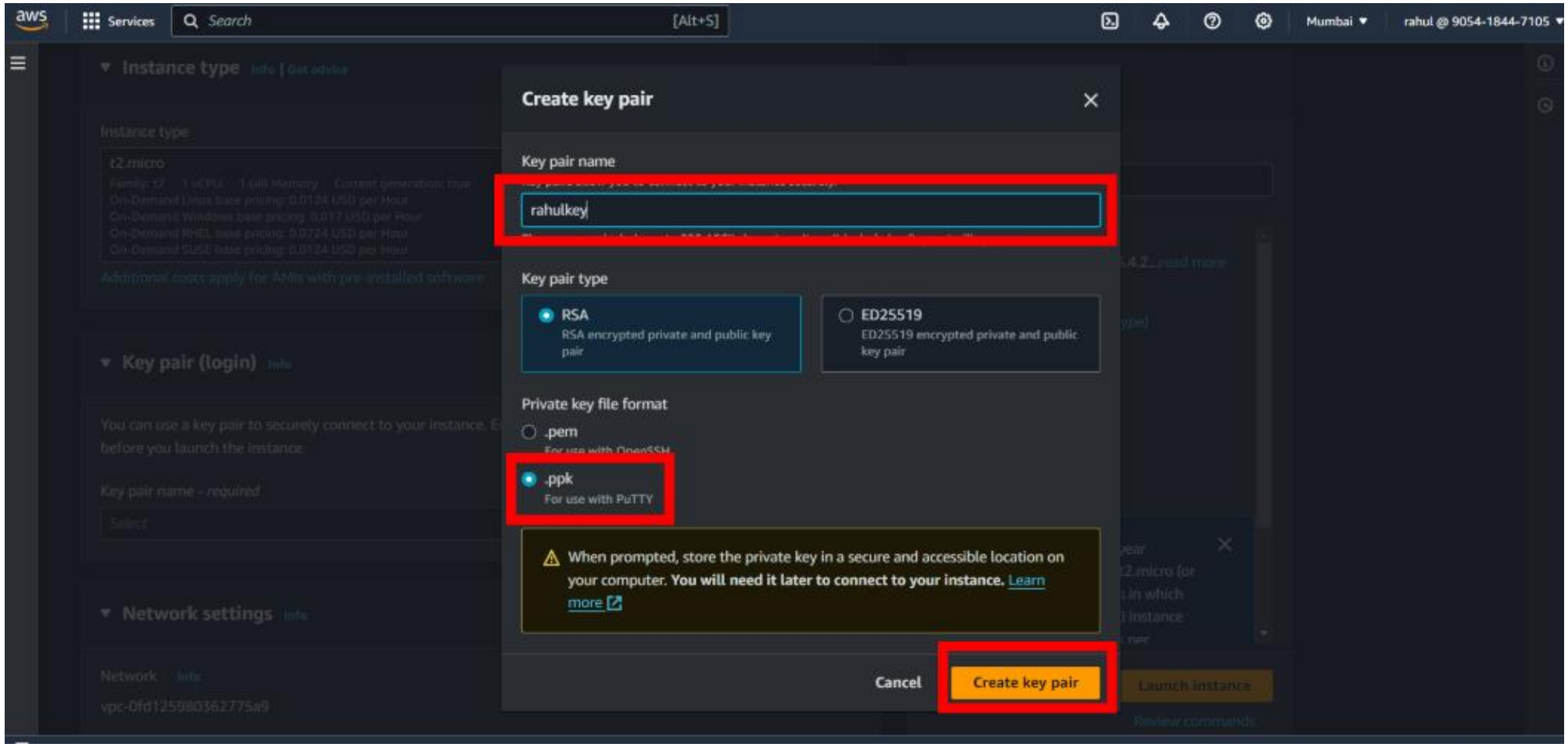




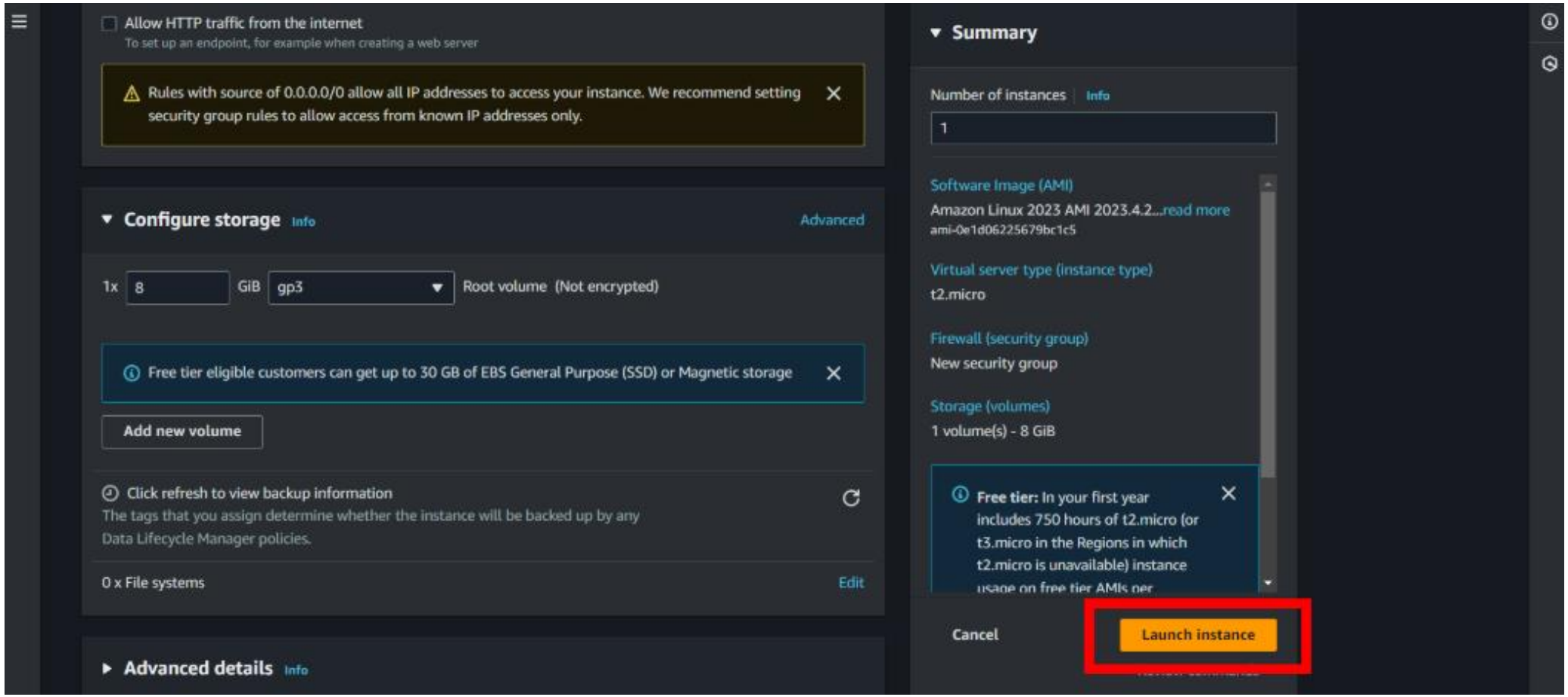
- Provide the EC2 name of your choise and select”**Ubuntu”**as an OS Image.



- Create a new key pair.

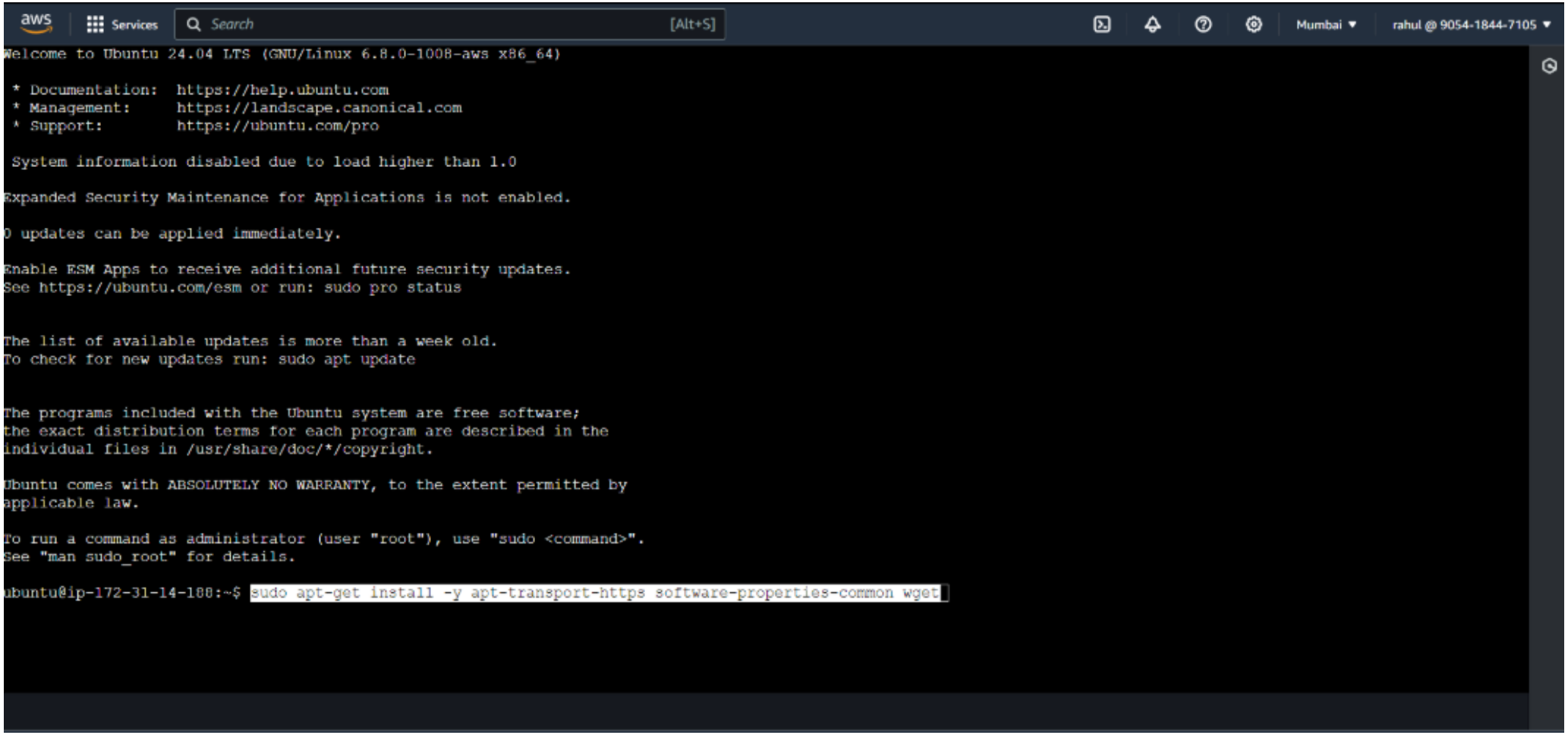


- Scroll down and click on “**LAUNCH INSTANCE** “.

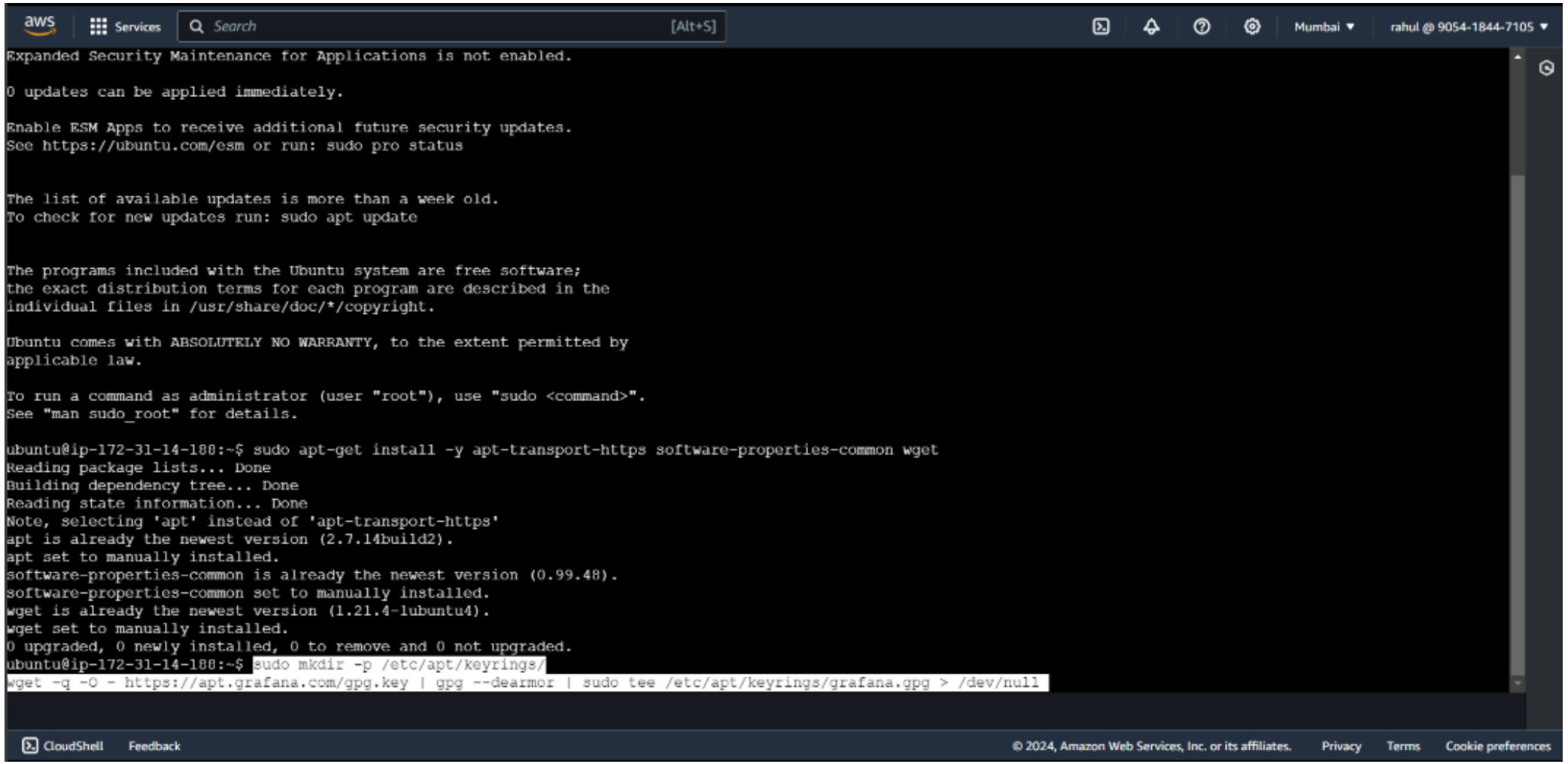


- Then open your instance and connect that instance by putty or on web browser.
- After connecting the instance follow the given command or read Grafana documentation for help.

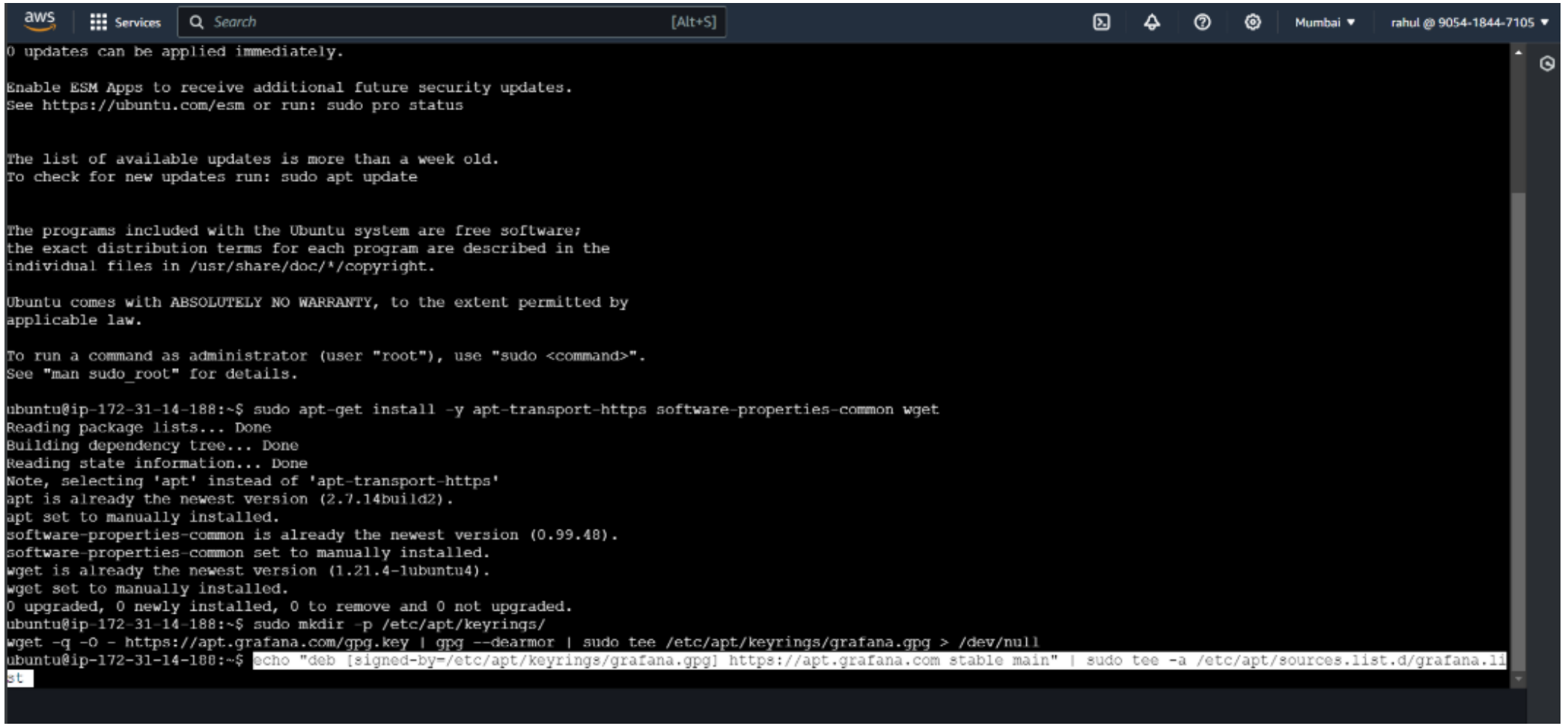
❖ Installation of GRAFANA into instance:



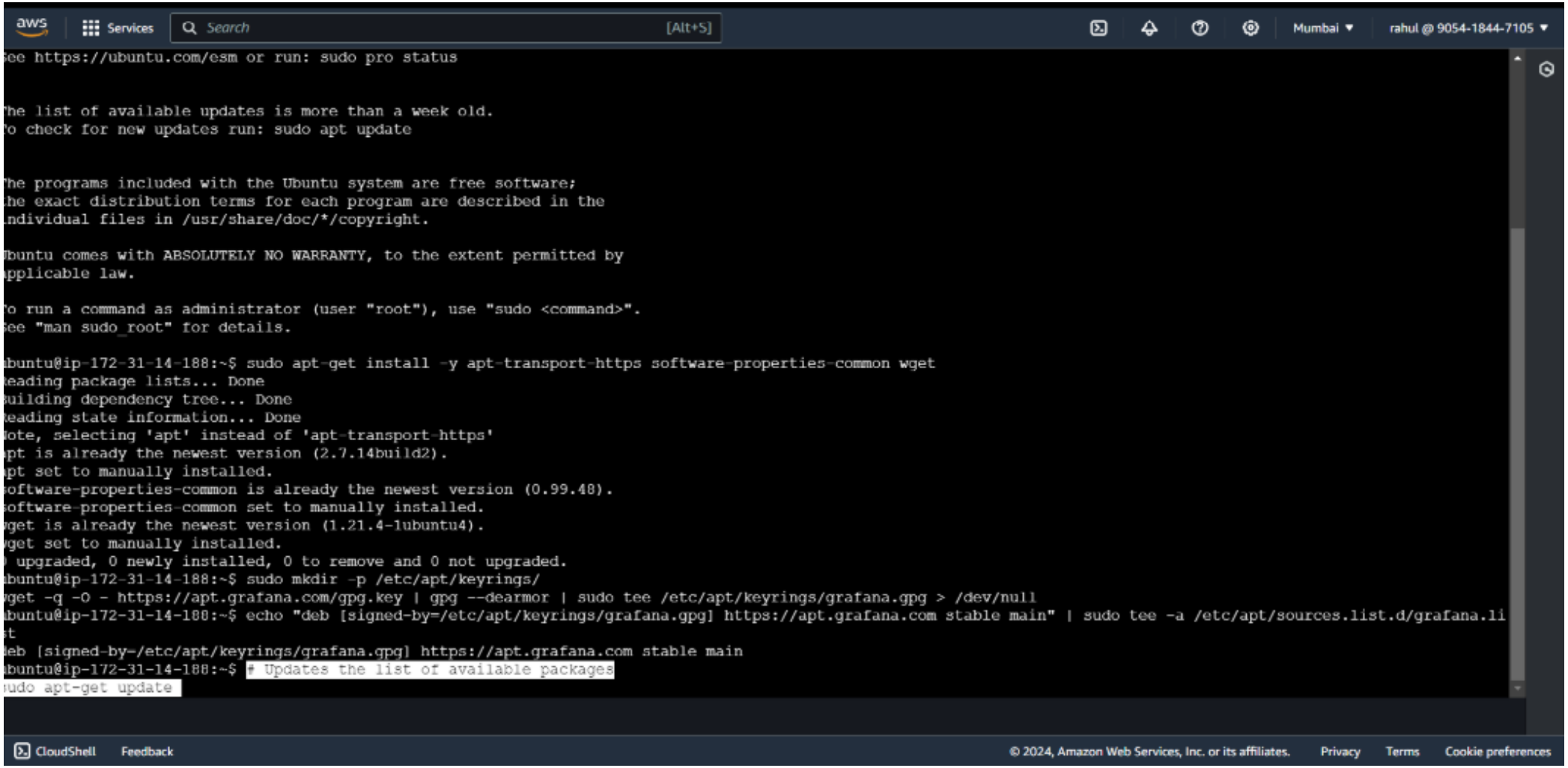
sudo apt-get install -y apt-transport-https software-properties-common wget



sudo mkdir -p /etc/apt/keyrings/wget -q -O - https://apt.grafana.com/gpg.key | gpg --dearmor | sudo tee /etc/apt/keyrings/grafana.gpg > /dev/null

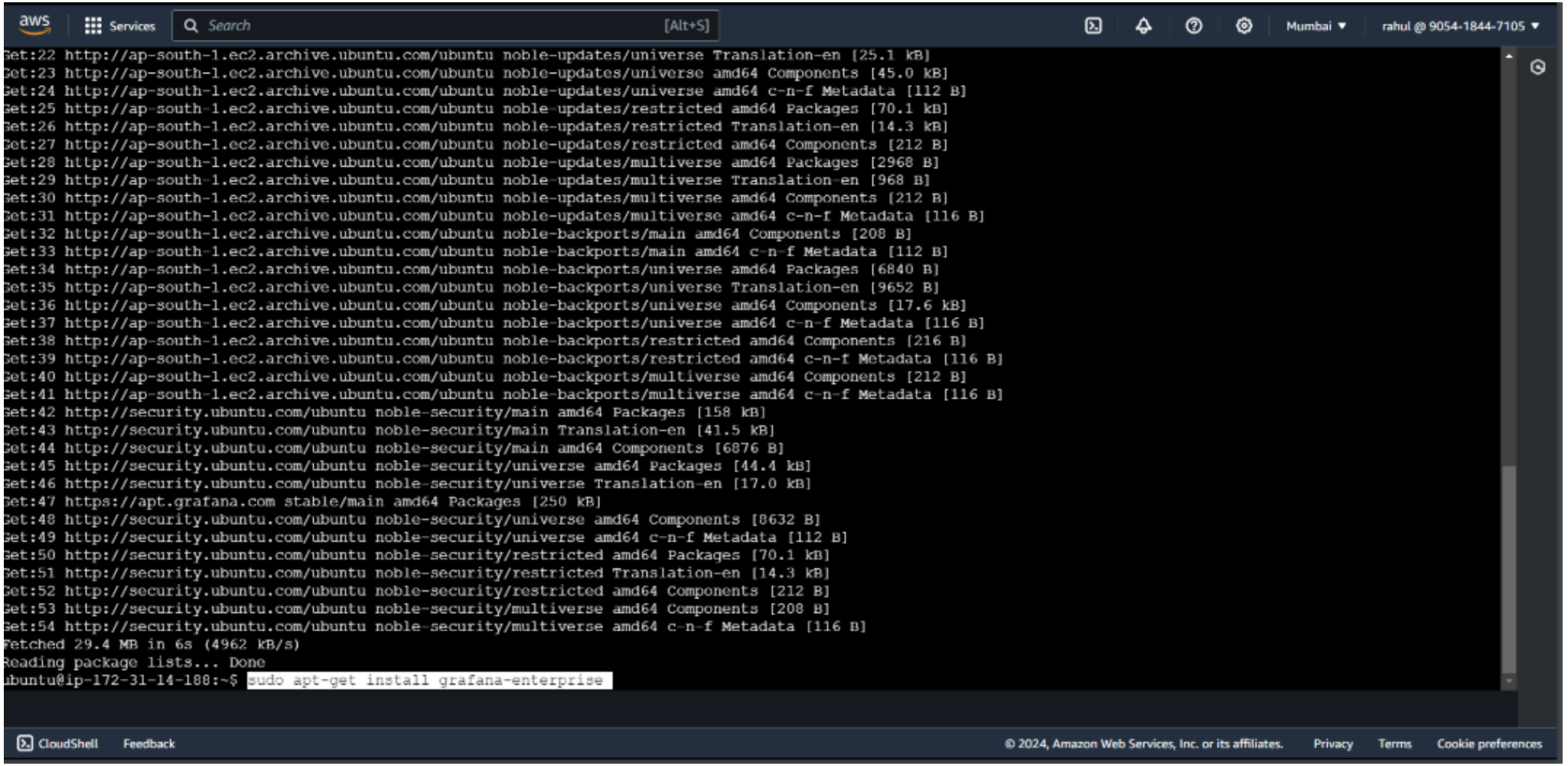


echo "deb [signed-by=/etc/apt/keyrings/grafana.gpg] https://apt.grafana.com stable main" | sudo tee -a /etc/apt/sources.list.d/grafana.list



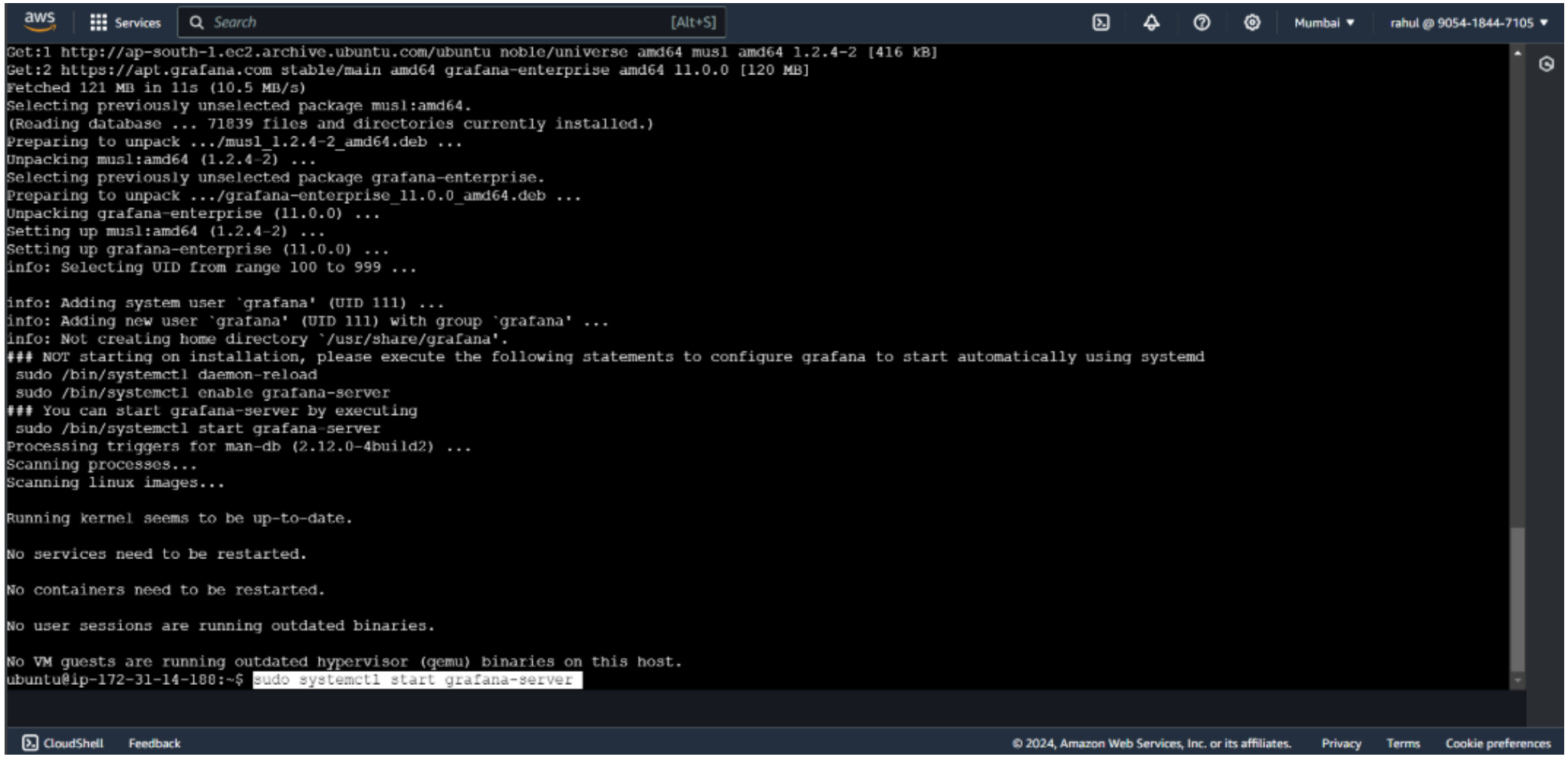
To updates the list of available packages

sudo apt-get update



To installs the latest Enterprise release:

sudo apt-get install grafana-enterprise



- *sudo systemctl start grafana-server*
- *sudo systemctl enable grafana-server.service*

```
un 18 15:11:30 ip-172-31-14-188 grafana[2028]: logger=provisioning.dashboard t=2024-06-18T15:11:38.3311250892 level=info msg="starting to provision dashboards"
un 18 15:11:38 ip-172-31-14-188 grafana[2028]: logger=provisioning.dashboard t=2024-06-18T15:11:38.331155154Z level=info msg="finished to provision dashboards"
un 18 15:11:38 ip-172-31-14-188 grafana[2028]: logger=http.server t=2024-06-18T15:11:38.380358573Z level=info msg="HTTP Server Listen" address=[::]:3000 protocol=
un 18 15:11:38 ip-172-31-14-188 grafana[2028]: logger=sqlstore.transactions t=2024-06-18T15:11:38.493822724Z level=info msg="Database locked, sleeping then retryi
un 18 15:11:38 ip-172-31-14-188 grafana[2028]: logger=sqlstore.transactions t=2024-06-18T15:11:38.516065191Z level=info msg="Database locked, sleeping then retryi
un 18 15:11:38 ip-172-31-14-188 grafana[2028]: logger=plugins.update.checker t=2024-06-18T15:11:38.853932226Z level=info msg="Update check succeeded" duration=554
un 18 15:11:38 ip-172-31-14-188 grafana[2028]: logger=grafana.update.checker t=2024-06-18T15:11:38.874267515Z level=info msg="Update check succeeded" duration=580
un 18 15:11:39 ip-172-31-14-188 grafana[2028]: logger=plugin.angulardetectorsprovider.dynamic t=2024-06-18T15:11:39.007963038Z level=info msg="Patterns update fin
un 18 15:11:39 ip-172-31-14-188 grafana[2028]: logger=grafana-apiserver t=2024-06-18T15:11:39.383980342Z level=info msg="Adding GroupVersion playlist.grafana.app
un 18 15:11:39 ip-172-31-14-188 grafana[2028]: logger=grafana-apiserver t=2024-06-18T15:11:39.384644464Z level=info msg="Adding GroupVersion featuretoggle.grafana

buntu@ip-172-31-14-188:~$ sudo systemctl enable grafana-server.service
ynchronizing state of grafana-server.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
xecuting: /usr/lib/systemd/systemd-sysv-install enable grafana-server
reated symlink /etc/systemd/system/multi-user.target.wants/grafana-server.service → /usr/lib/systemd/system/grafana-server.service.
buntu@ip-172-31-14-188:~$ sudo systemctl status grafana-server
```

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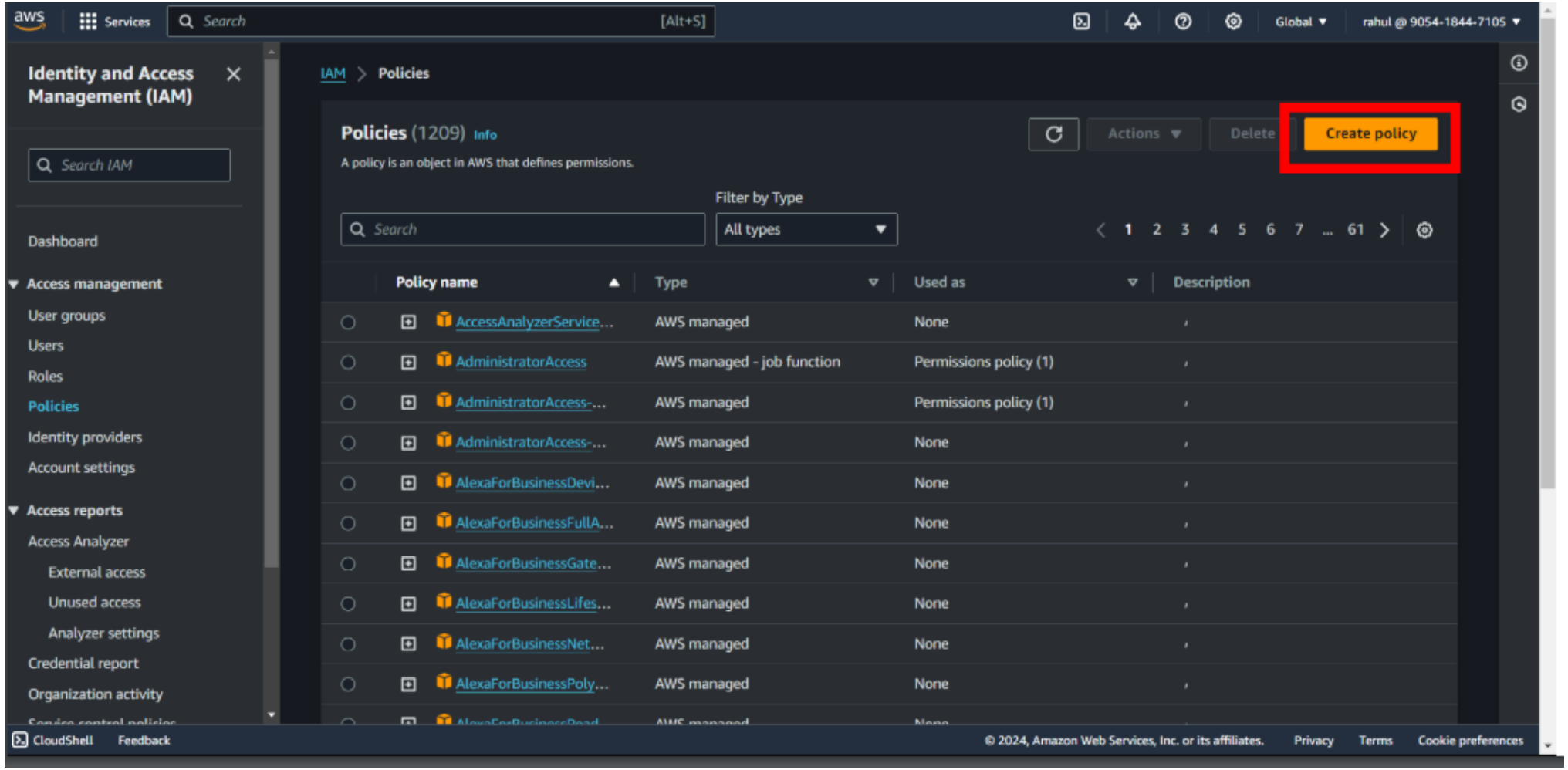
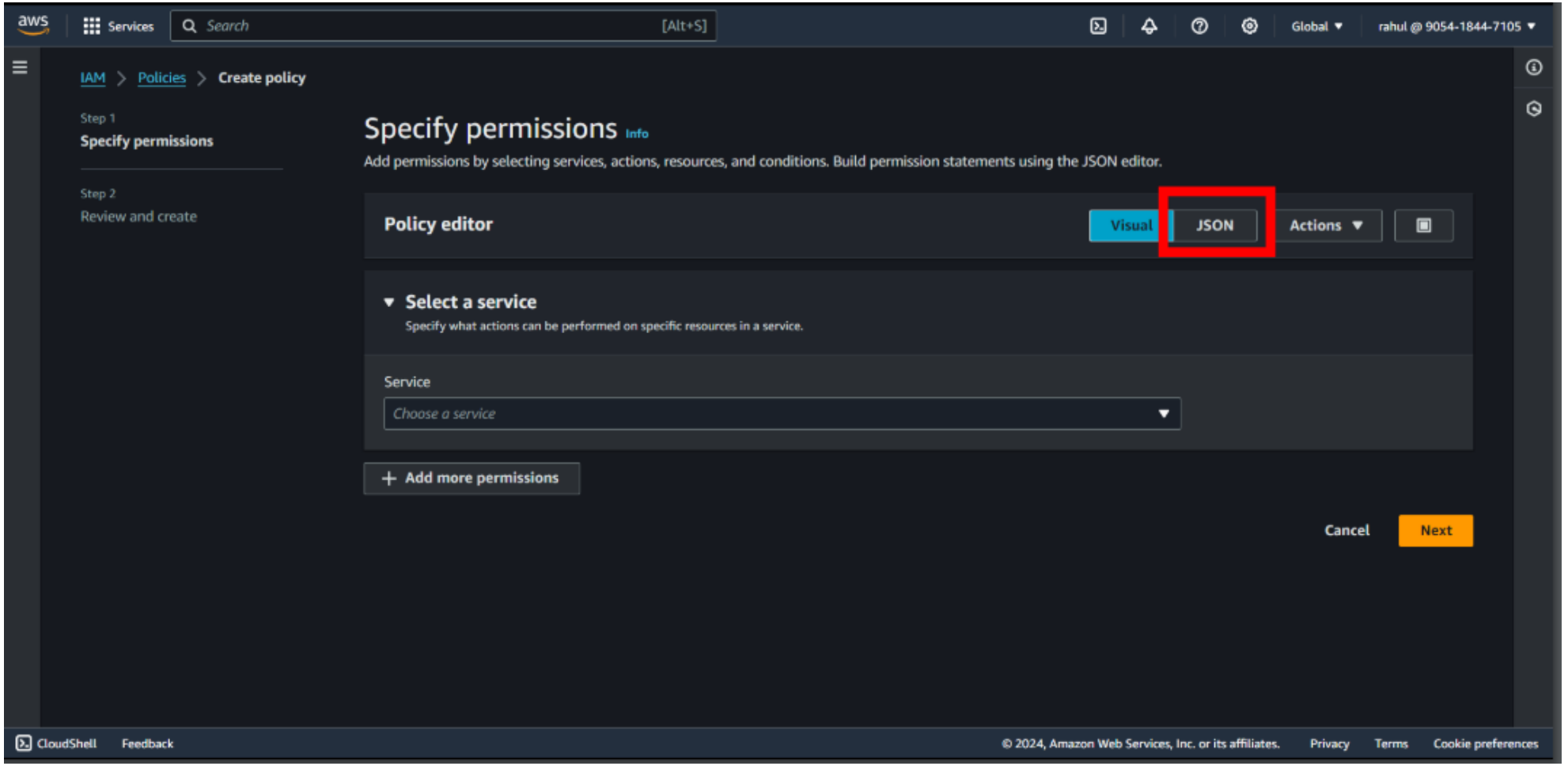
sudo systemctl status grafana-server.service

```
o services need to be restarted.

o containers need to be restarted.

o user sessions are running outdated binaries.

o VM guests are running outdated hypervisor (qemu) binaries on this host.
buntu@ip-172-31-14-188:~$ sudo systemctl start grafana-server
buntu@ip-172-31-14-188:~$ sudo systemctl status grafana-server
 grafana-server.service - Grafana instance
     Loaded [illegible]ystemd/system/grafana-server.service; disabled; preset: enabled)
     Active: active (running) since Tue 2024-06-18 15:11:29 UTC; 21s ago
       Docs: [illegible].org
   Main PID: 2028 (grafana)
      Tasks: 16 (limit: 1130)
     Memory: 88.9M (peak: 89.3M)
        CPU: 3.284s
```

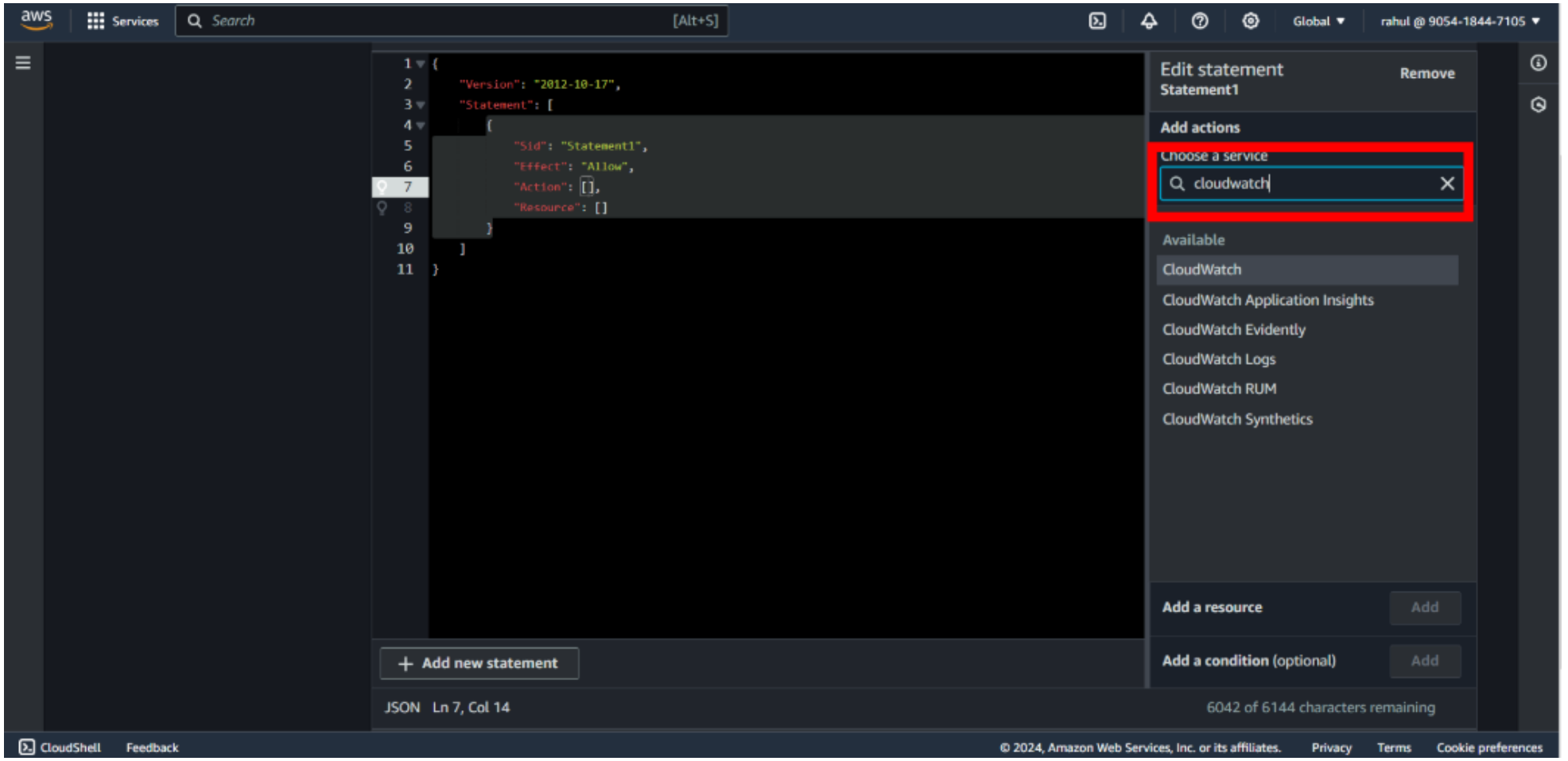
❖ Creating policy:



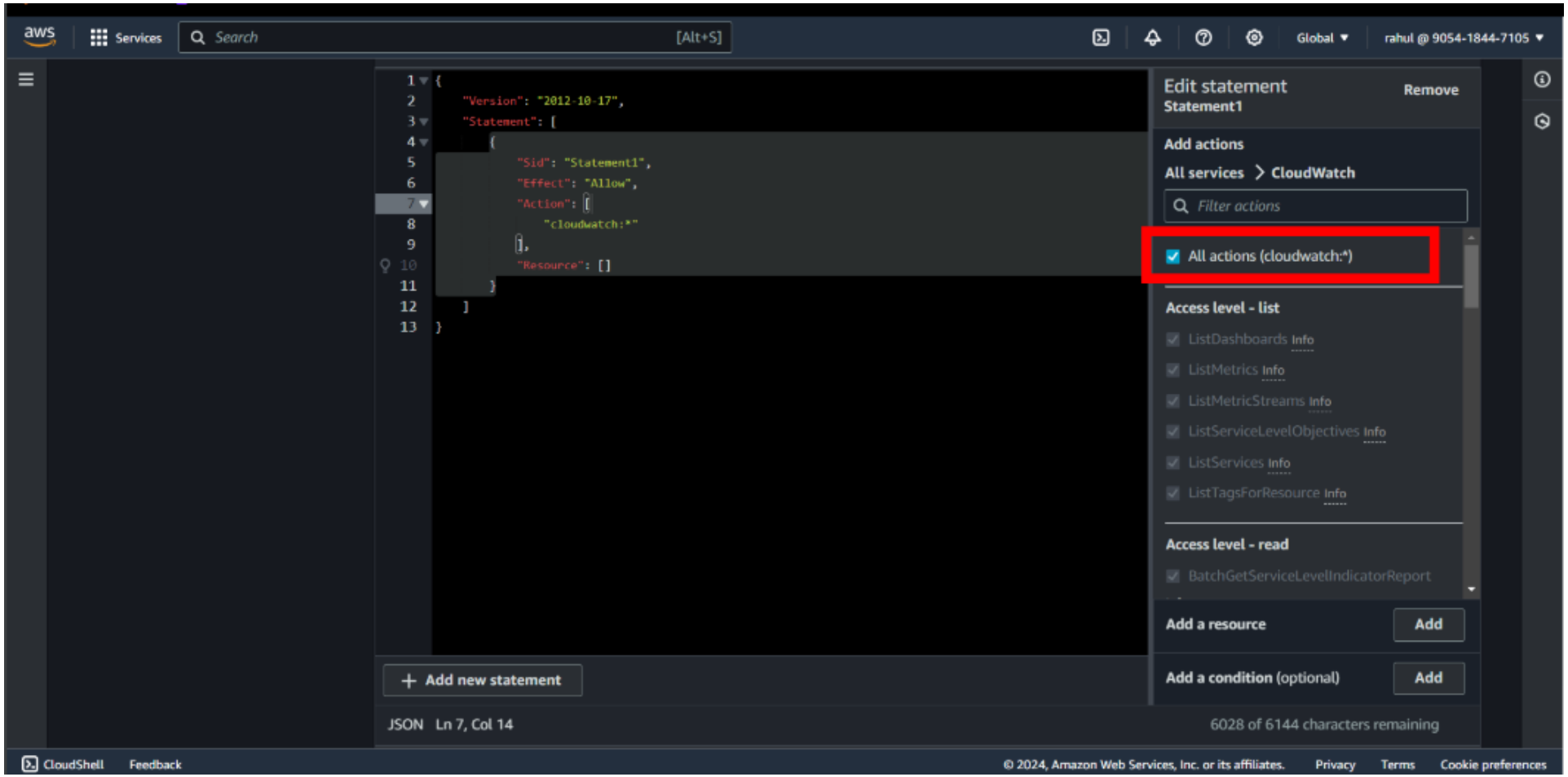
- Then search IAM role and go to policies and click on **Create policies**.



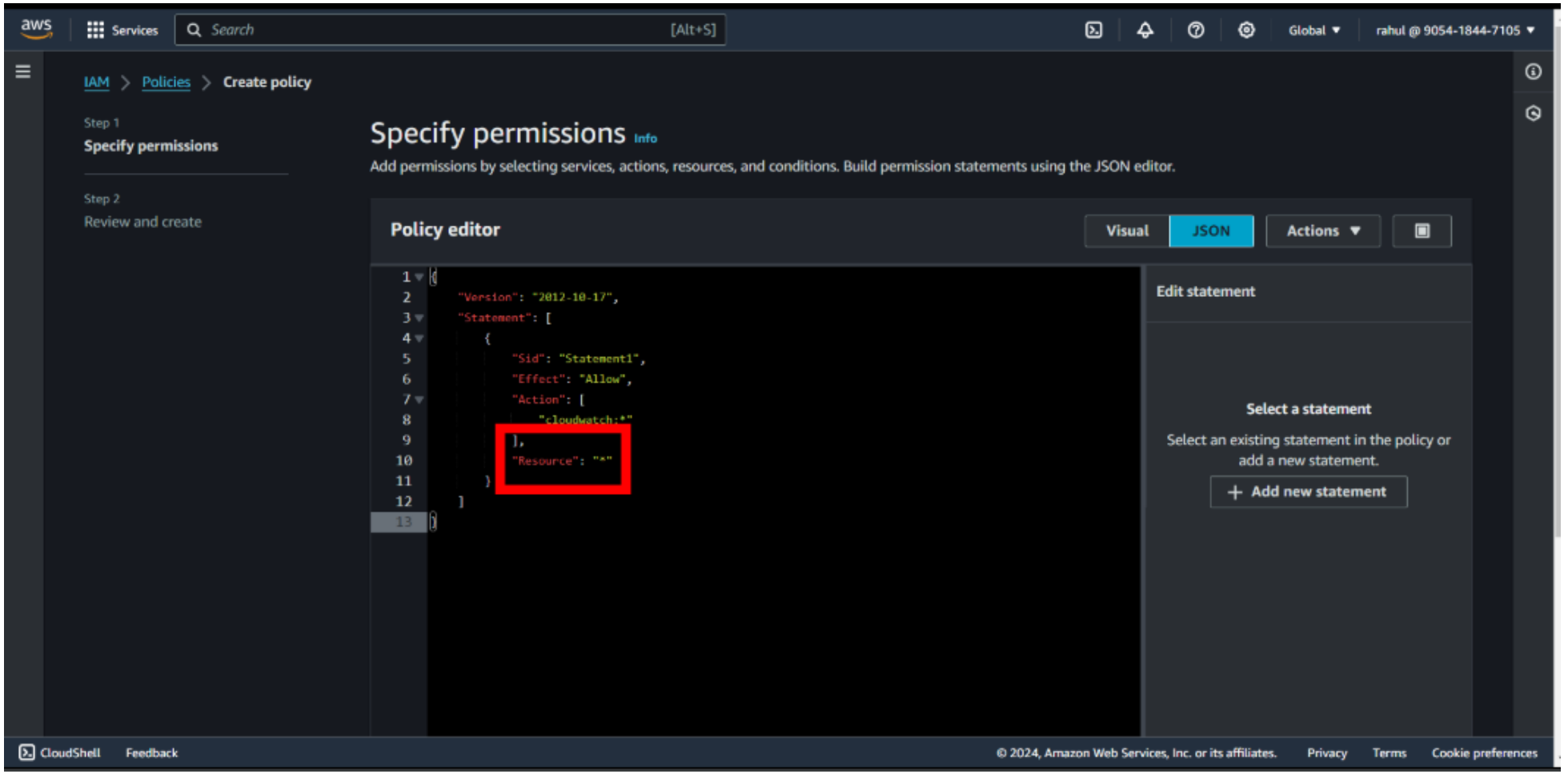
- Then go to **JSON** type.



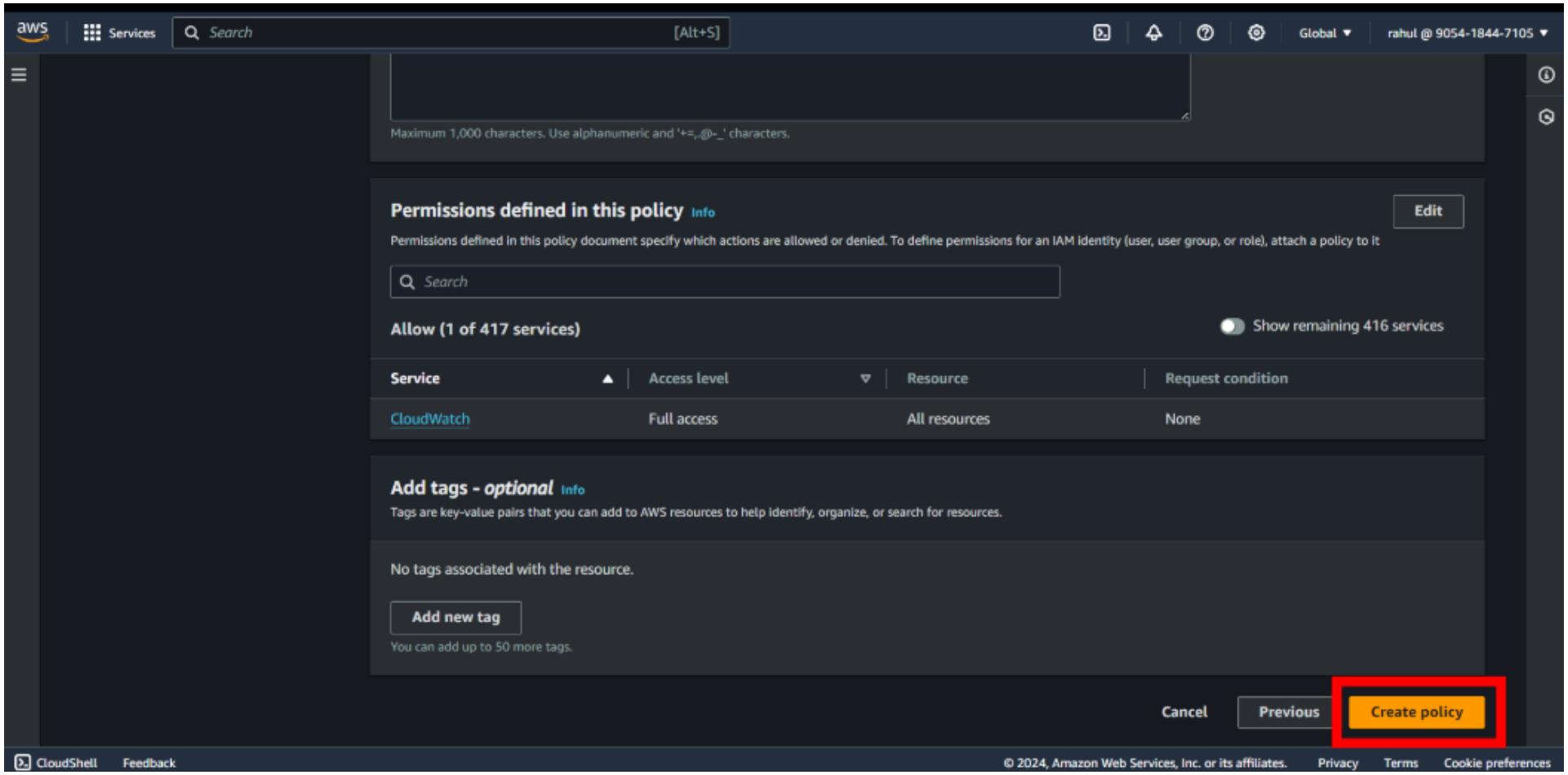
- Click on add action and search for **“Cloudwatch”**.



- After selecting cloudwatch select **“All actions “.**

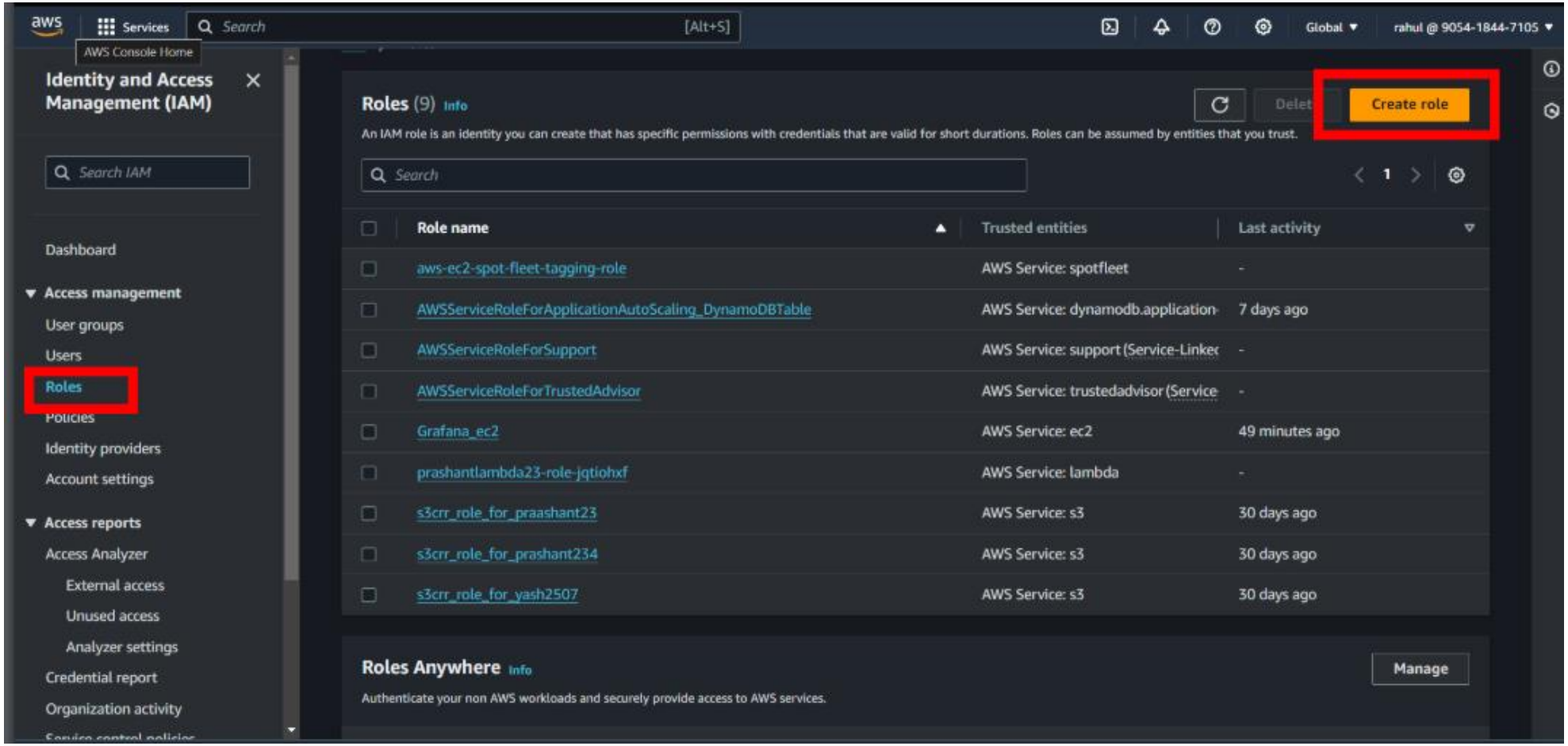


- Then put **“Resource “ : ”*”**

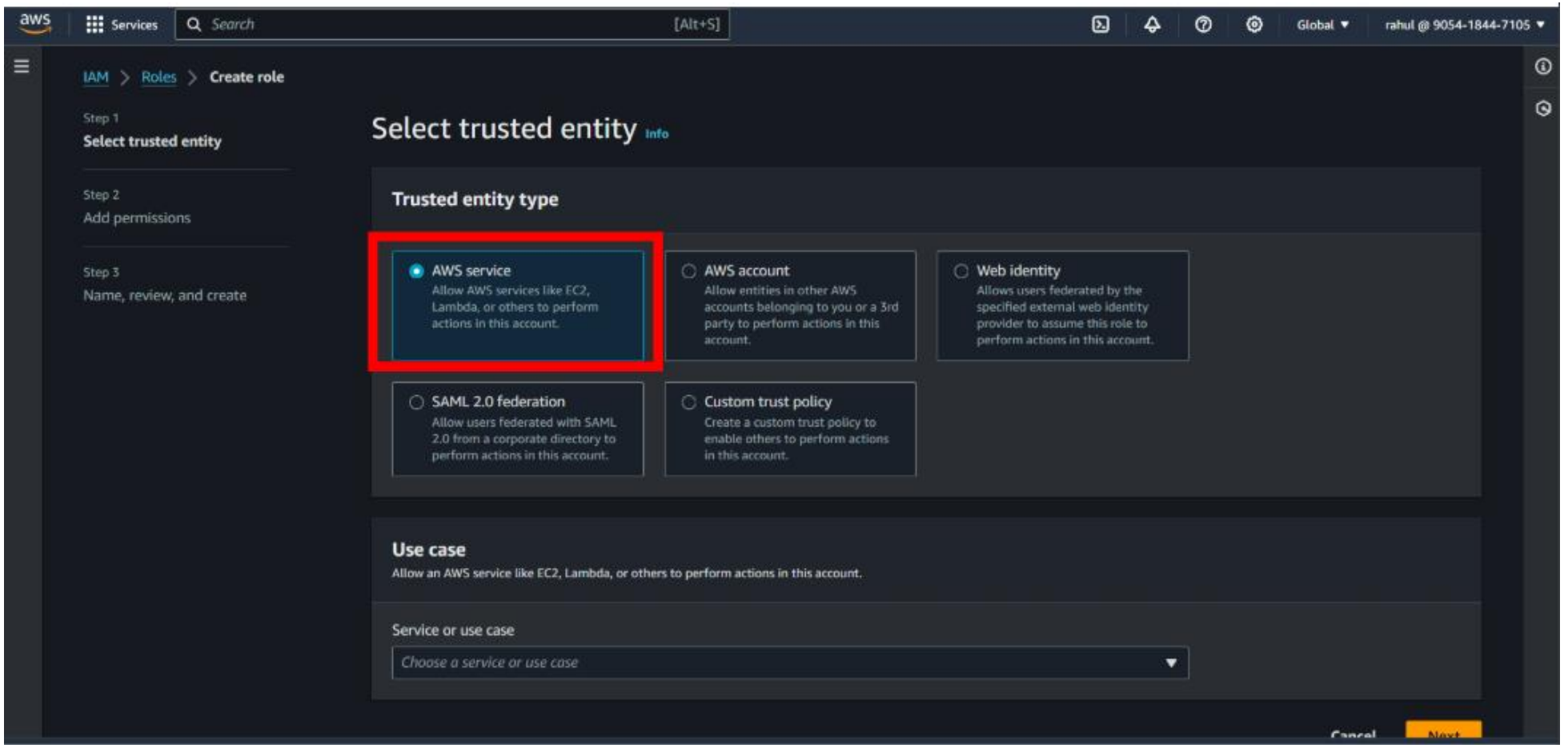


- Scroll down and click on **Create policy.**

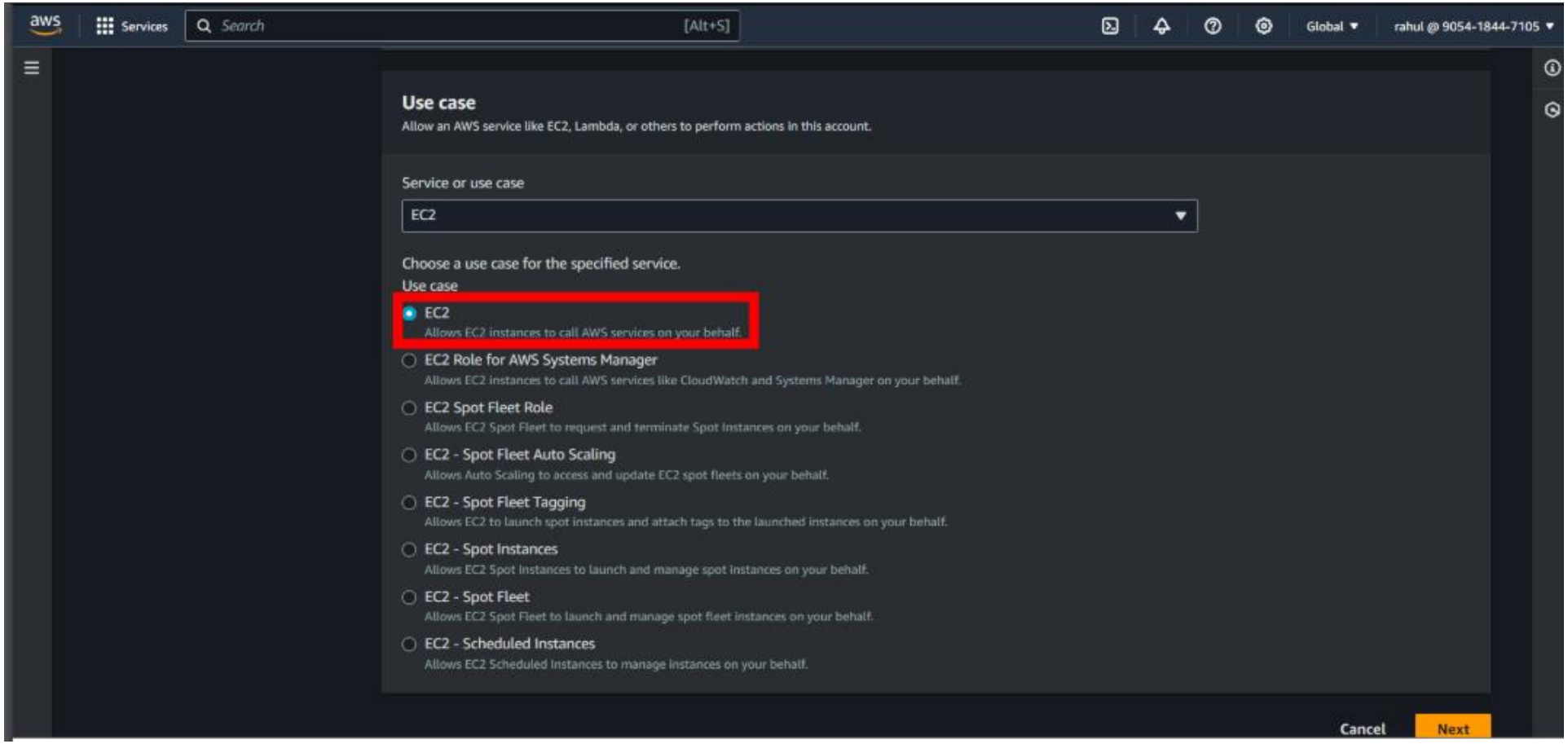
❖ Creating role :



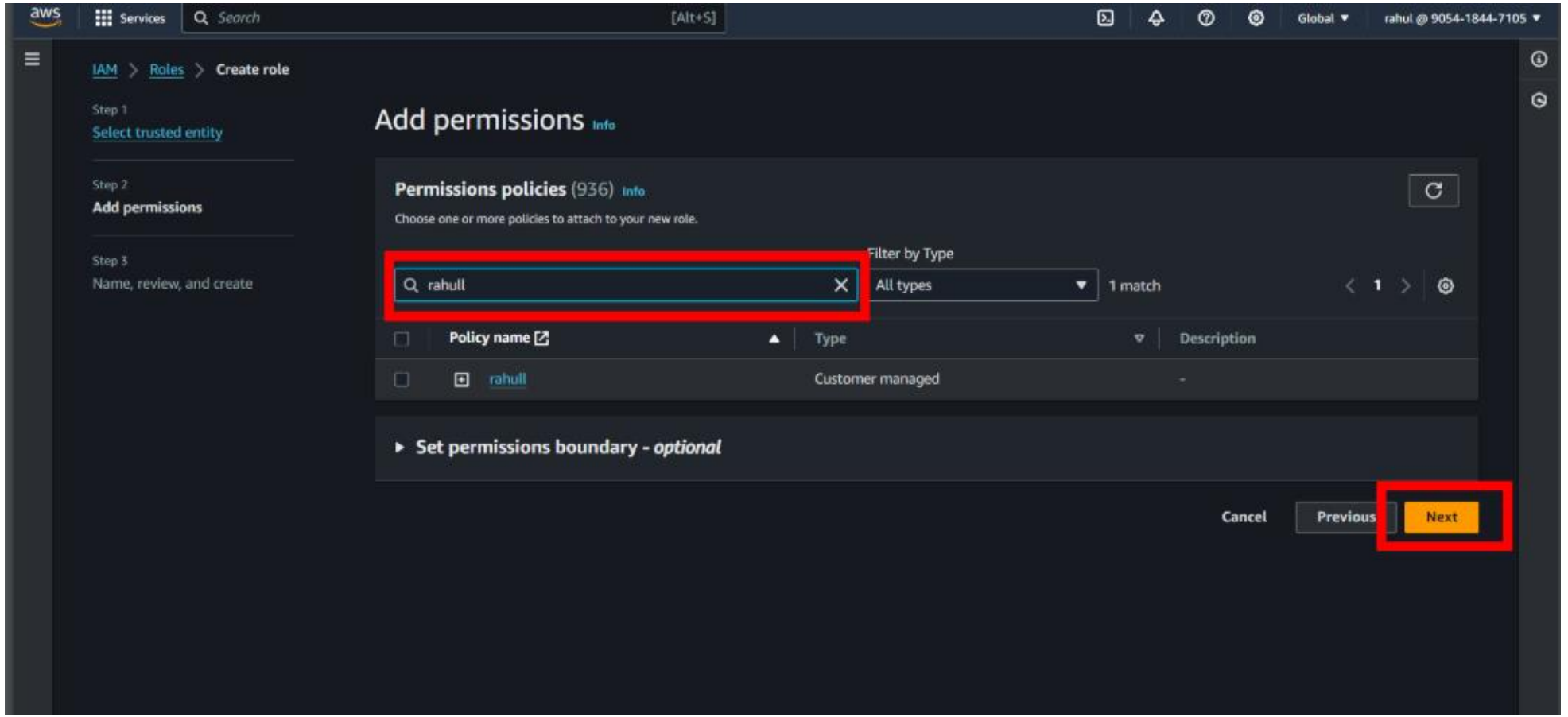
- Then go to roles and click on **Create roles.**



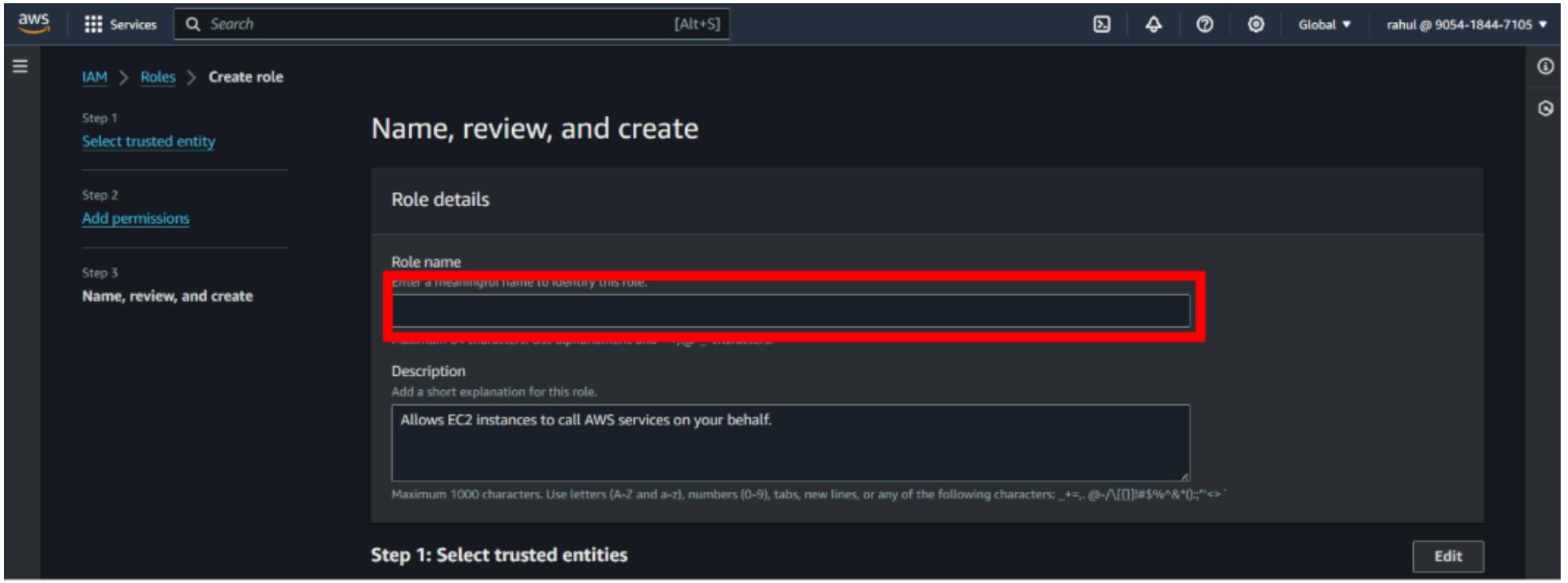
- Then select entity type is **AWS services .**



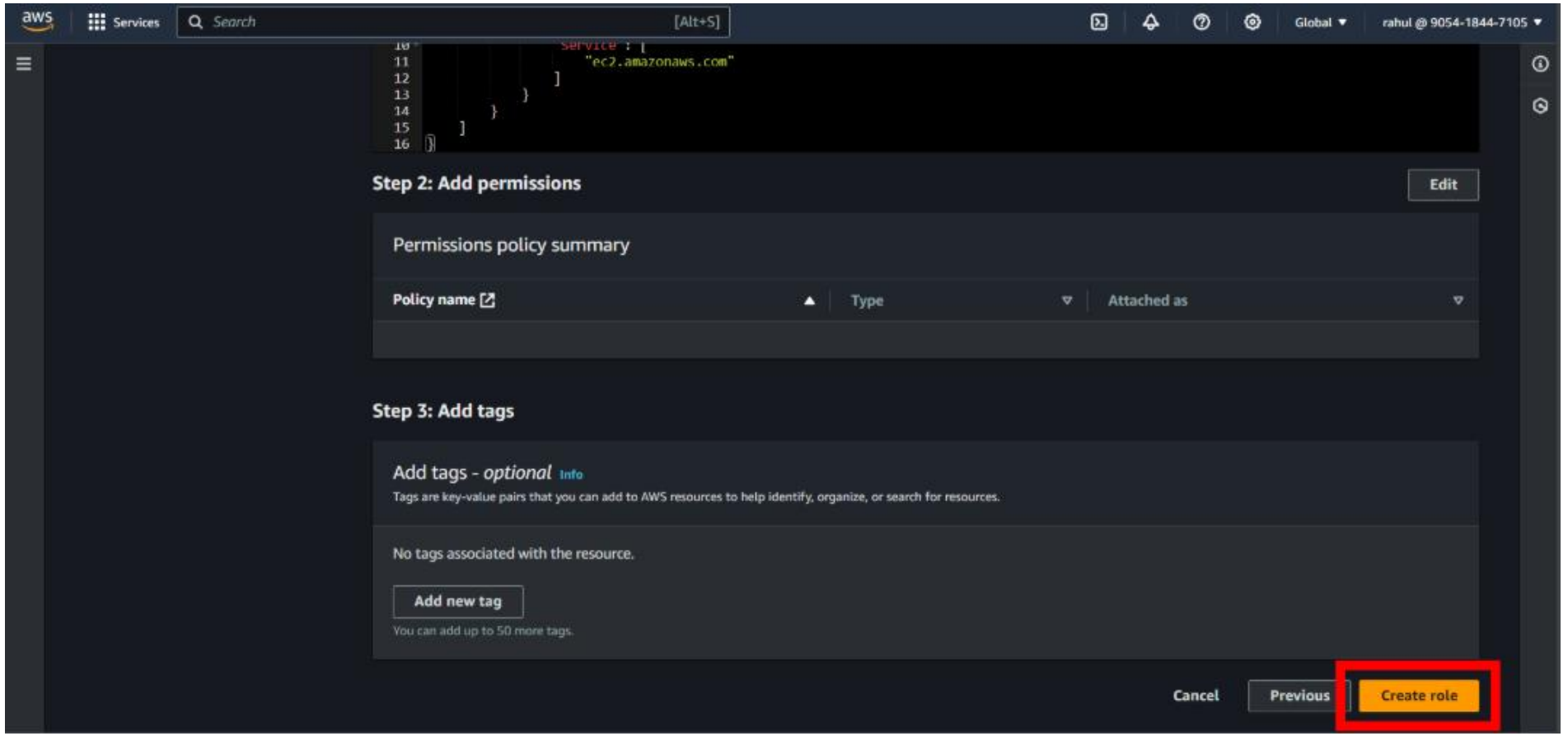
- Now , select use case as **EC2 .**



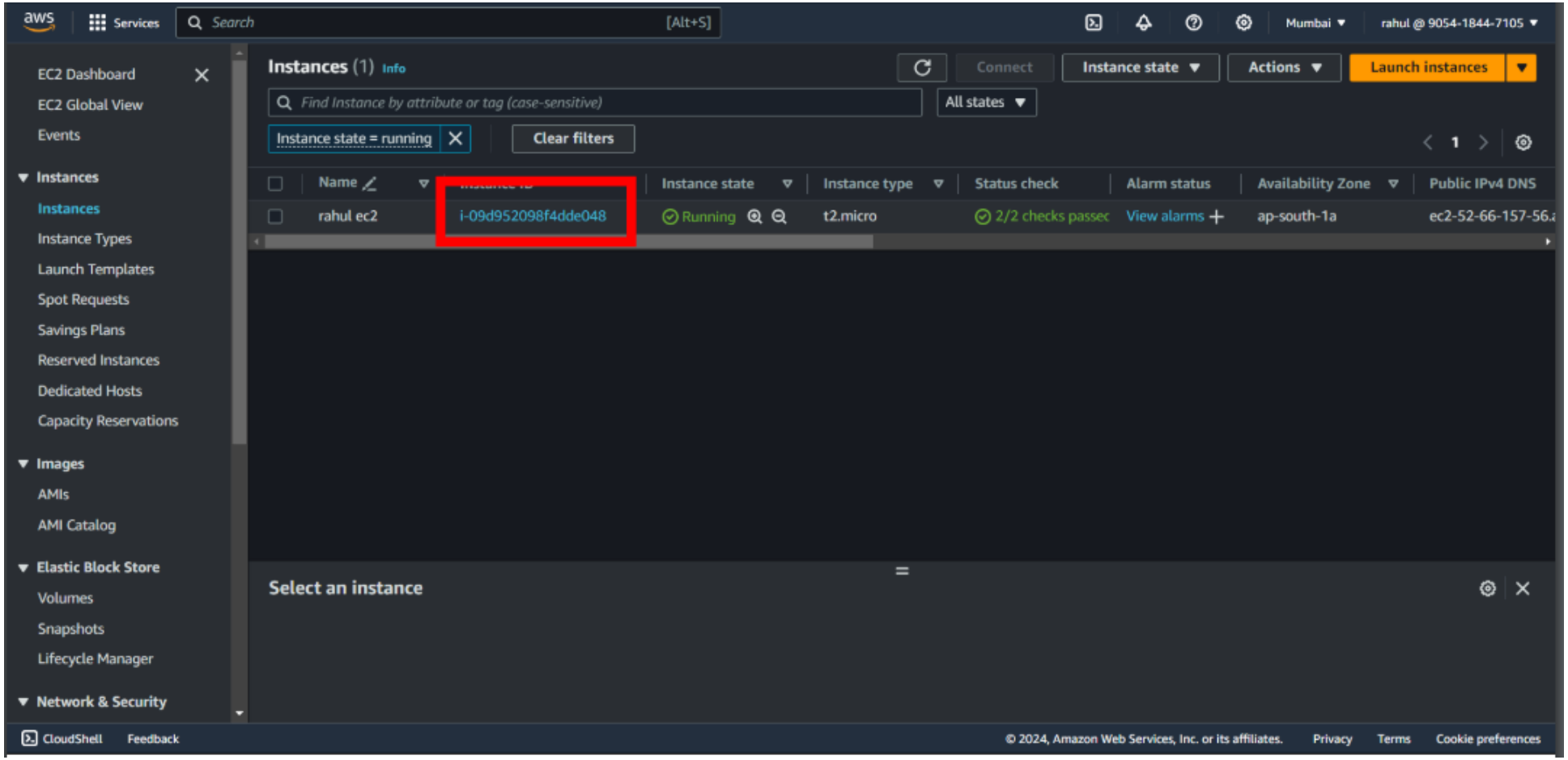
- Select your policy here which you have created previously , then click on **Next**.



- Then give a name of your choise to the role .

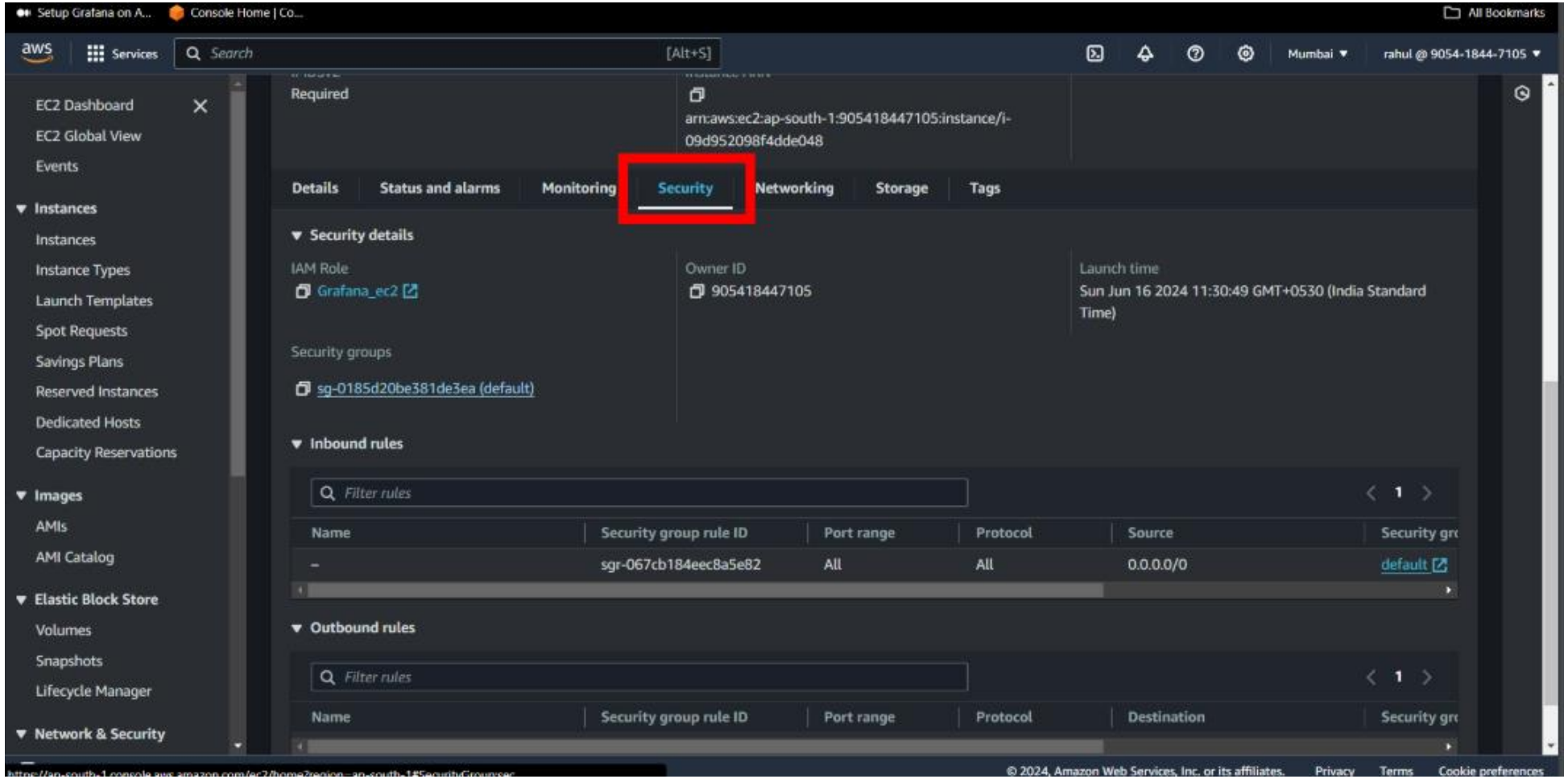


- Then scroll down and click on the **Create role** .

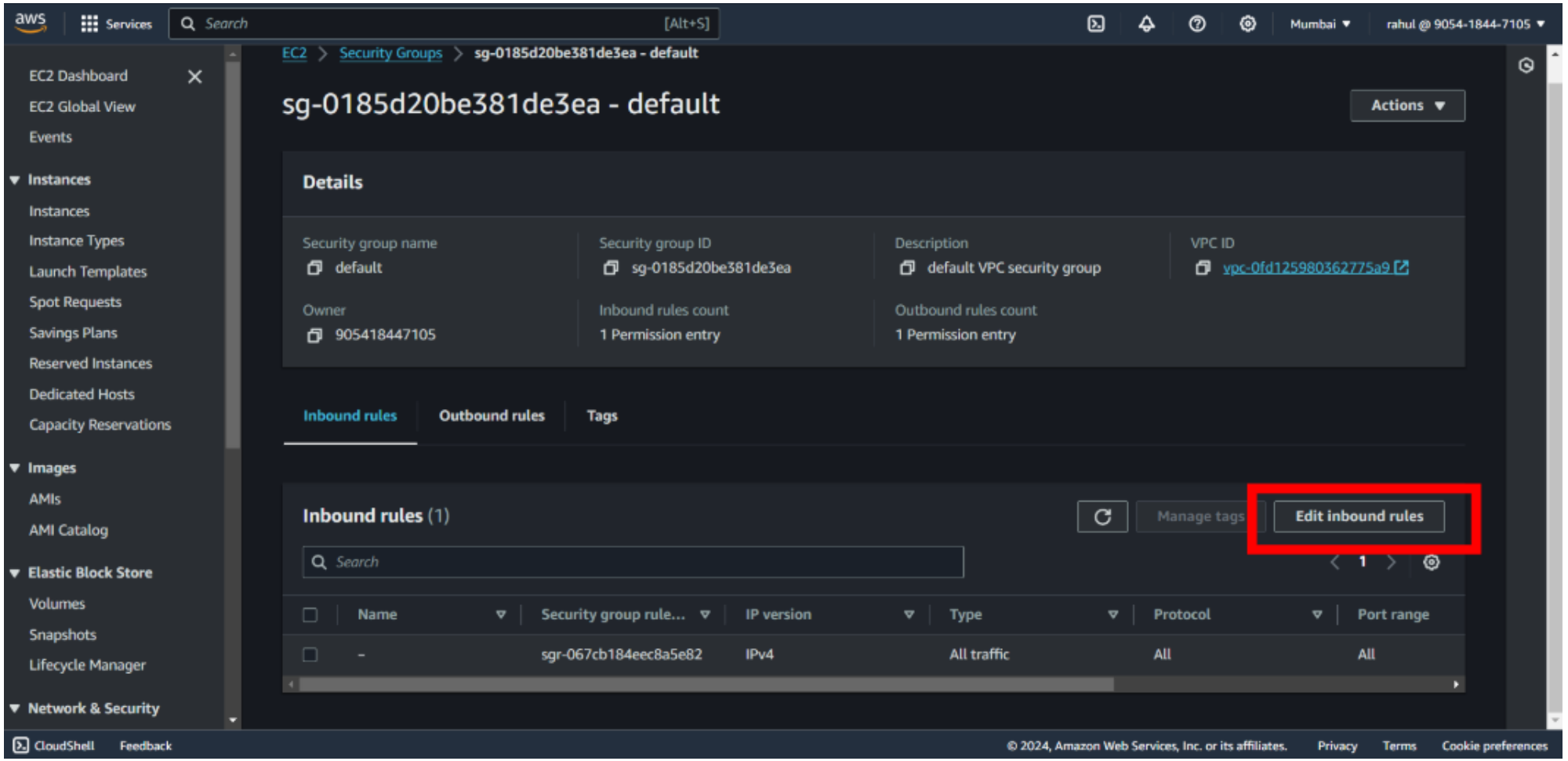


- After creating your role and policy go to instance and open your instance , which you have already created.

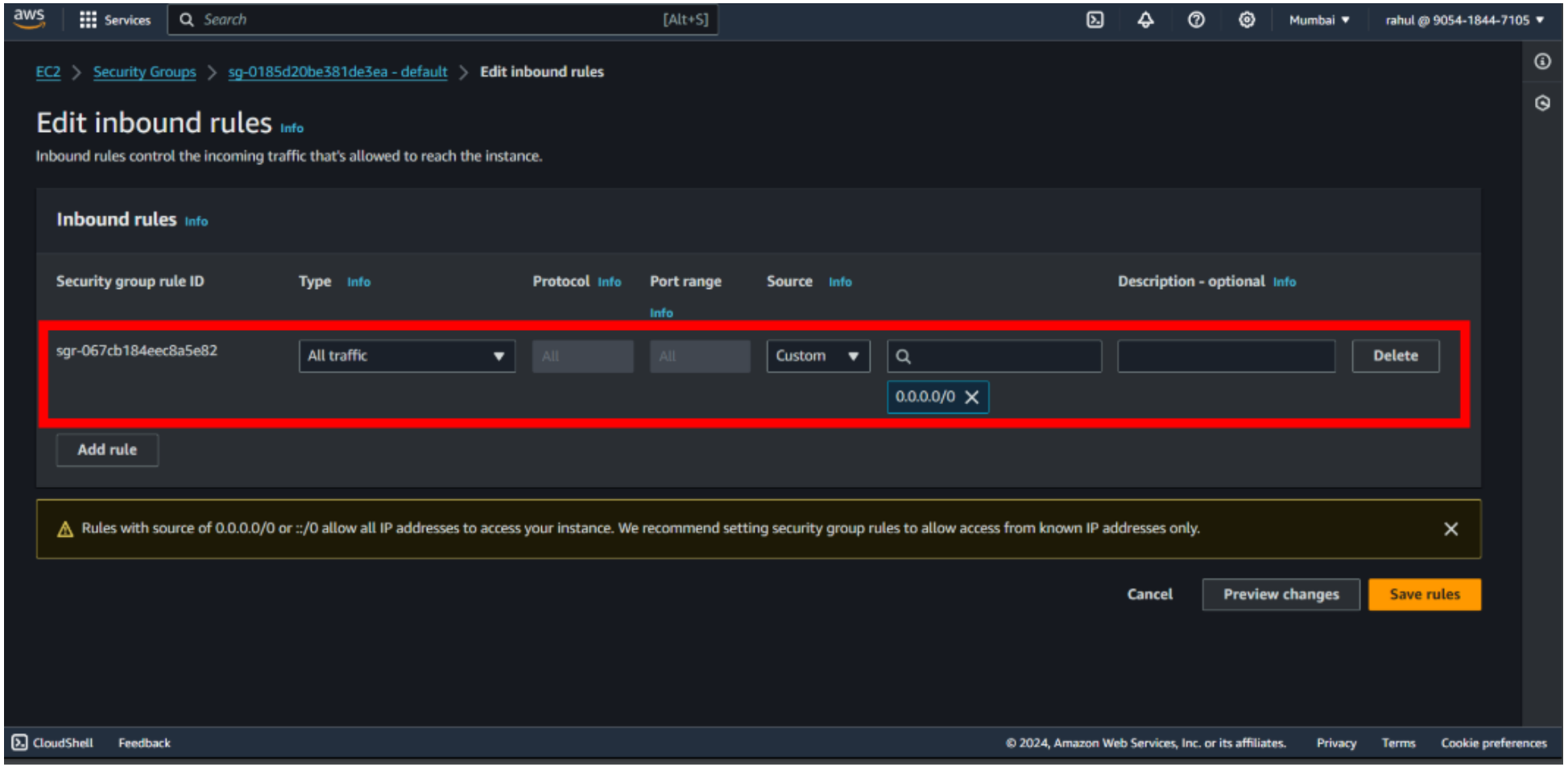
❖ Modifying security rules:



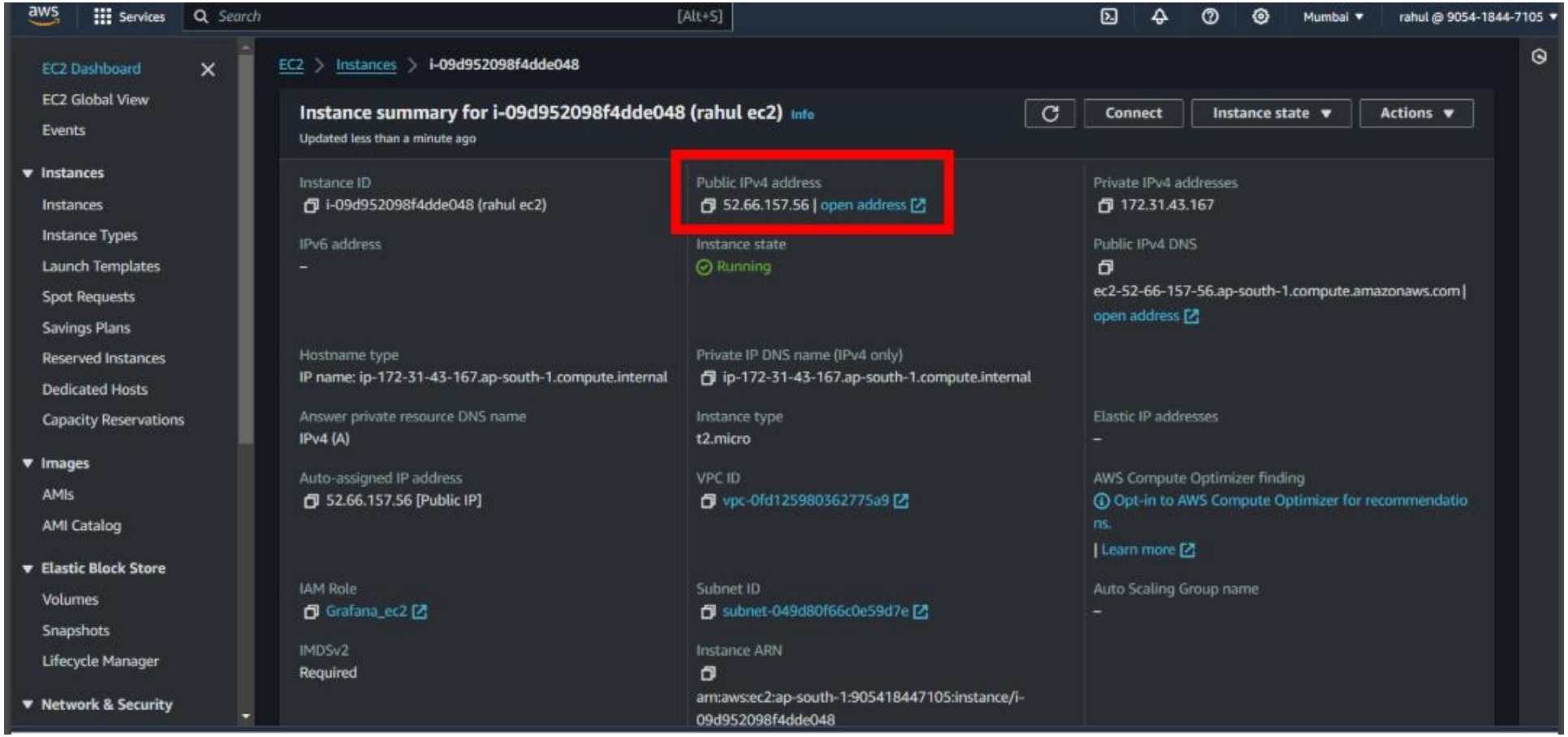
- Scroll down and go to **Security** option.



- Then click on **Edit inbound rule** .

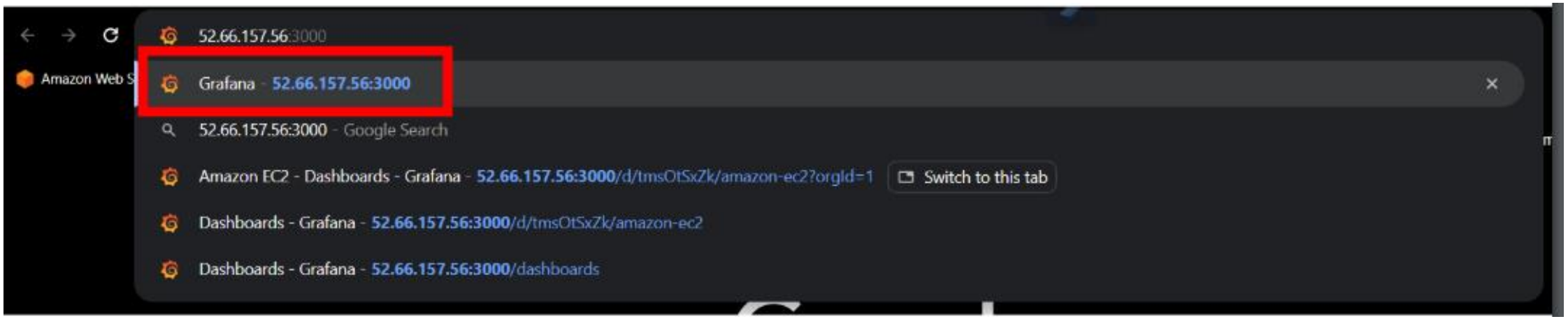


- Then modify your rule **select type = All traffic** and **source =0.0.0.0/0**

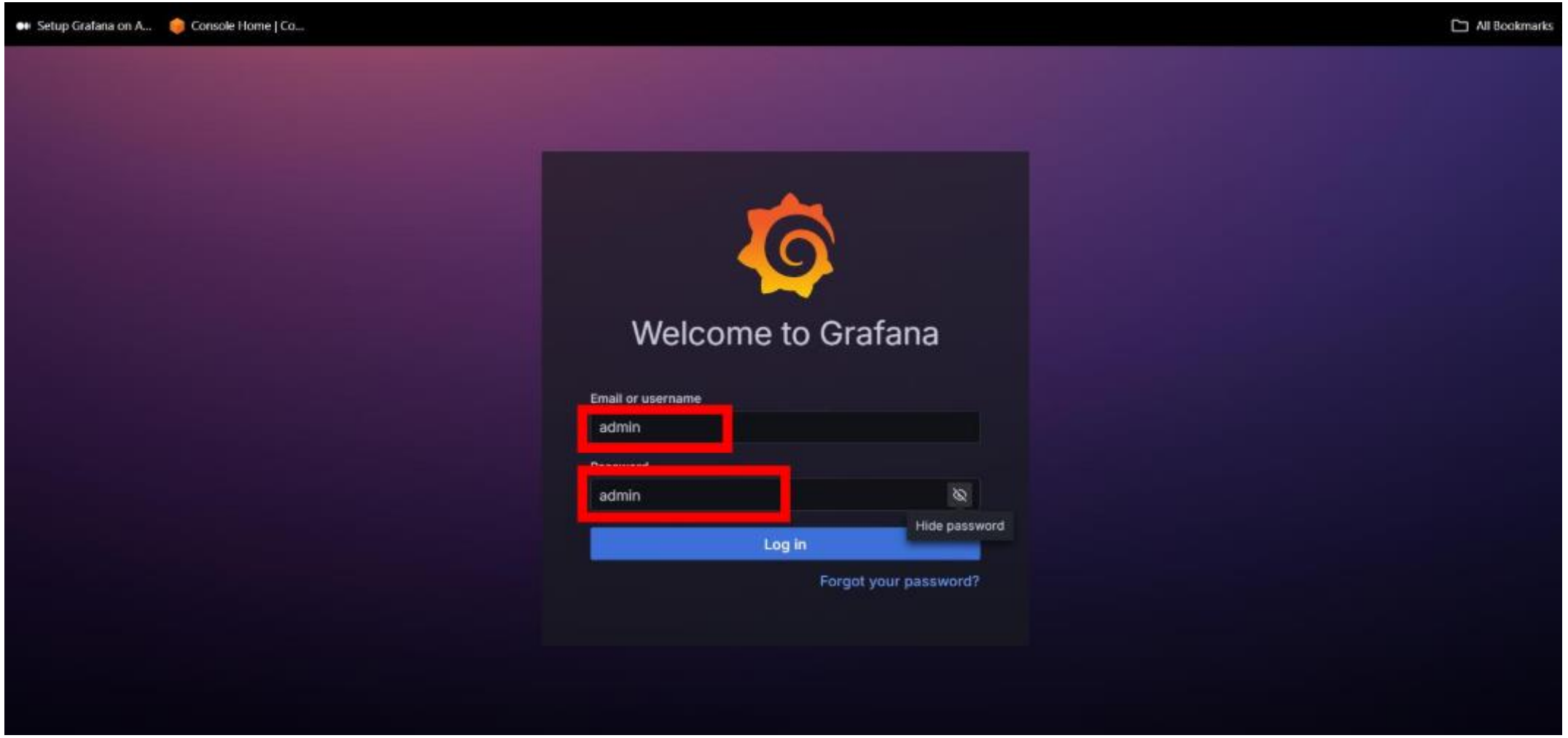


- Then copy your **public IPv4 address** of your instance .

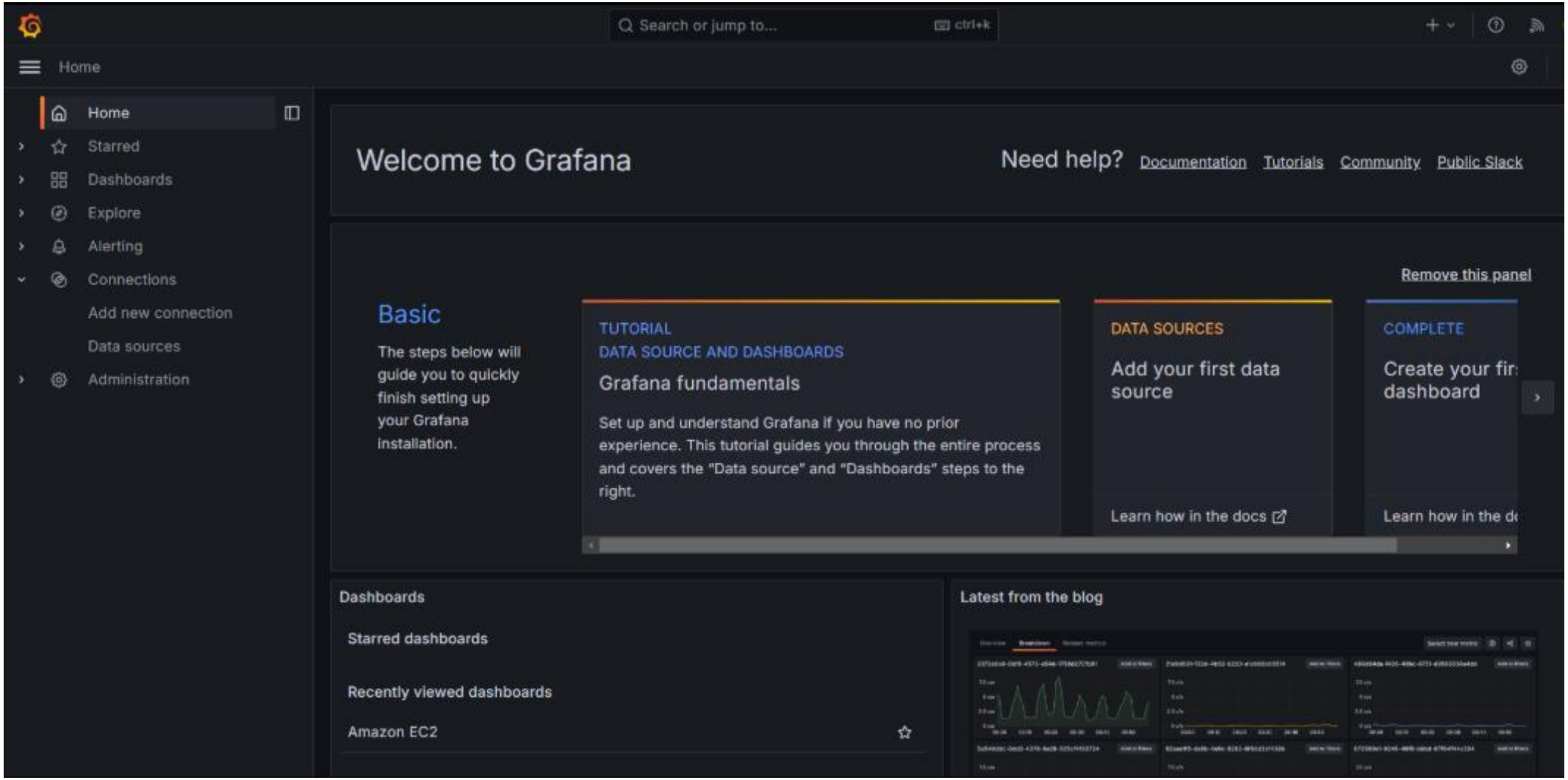
❖ Starting GRAFANA:



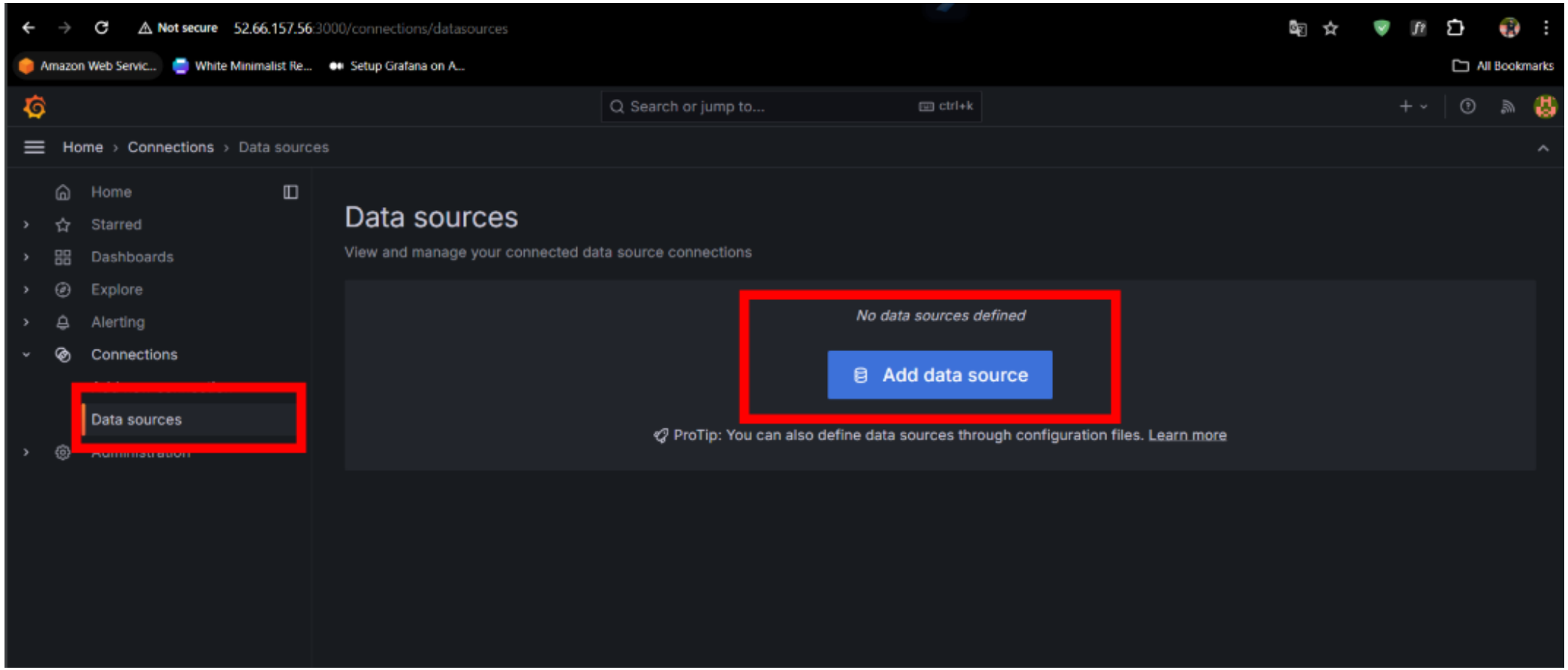
- Then paste your copied ip address and type “**:3000”** after ip address and search it .



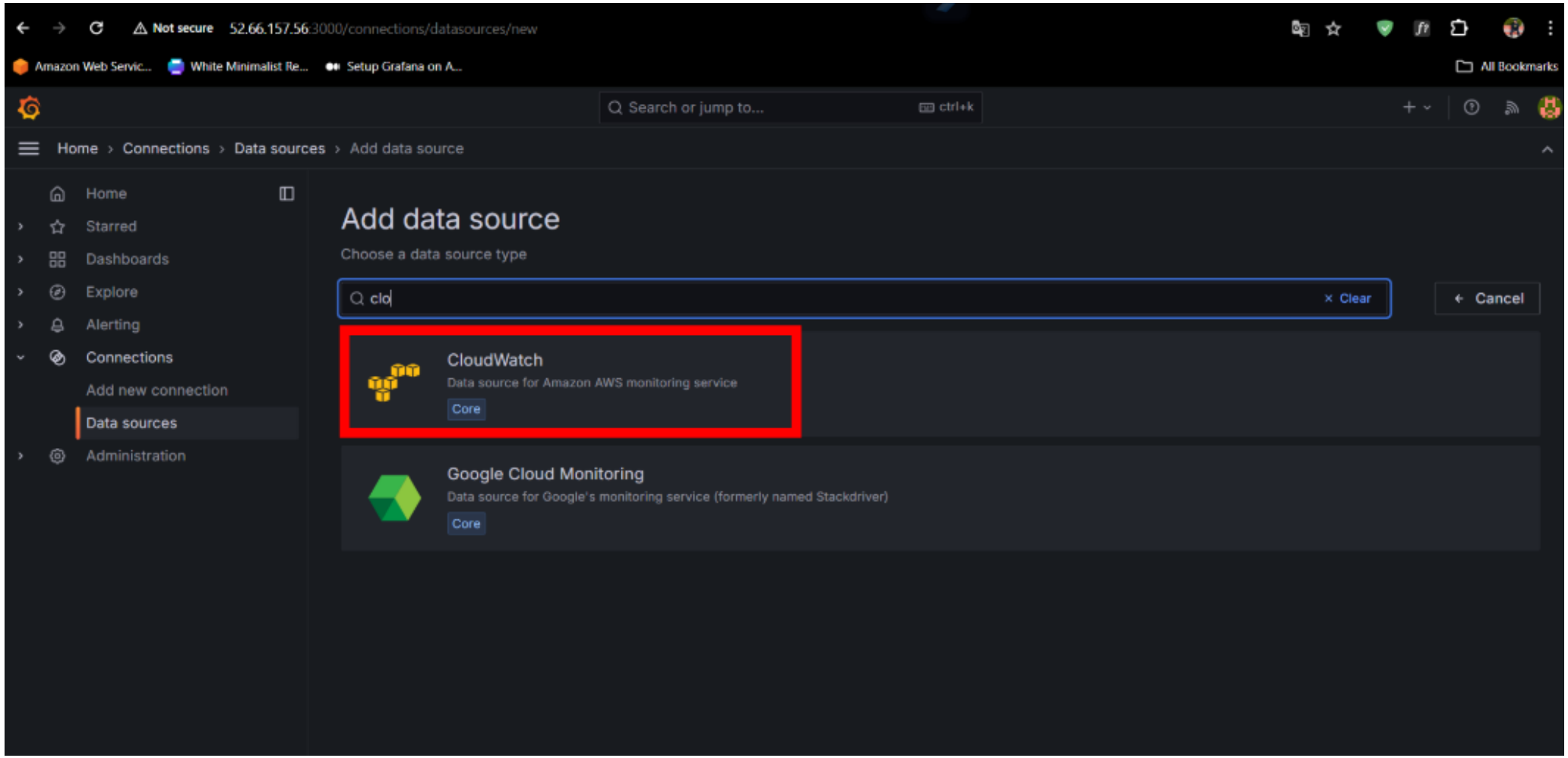
- Then login in Grafana by the help of credientials shown in above snapshot.


Search or jump to...
ctrl+k
Home
Home
Starred
Dashboards
Explore
Alerting
Connections
Add new connection
Data sources
Administration
Welcome to Grafana
Need help?
Documentation
Tutorials
Community
Public Slack
Remove this panel
Basic
The steps below will guide you to quickly finish setting up your Grafana installation.
TUTORIAL
DATA SOURCE AND DASHBOARDS
Grafana fundamentals
Set up and understand Grafana if you have no prior experience. This tutorial guides you through the entire process and covers the "Data source" and "Dashboards" steps to the right.
DATA SOURCES
Add your first data source
Learn how in the docs
COMPLETE
Create your fir dashboard
Learn how in the d
Dashboards
Starred dashboards
Recently viewed dashboards
Amazon EC2
Latest from the blog

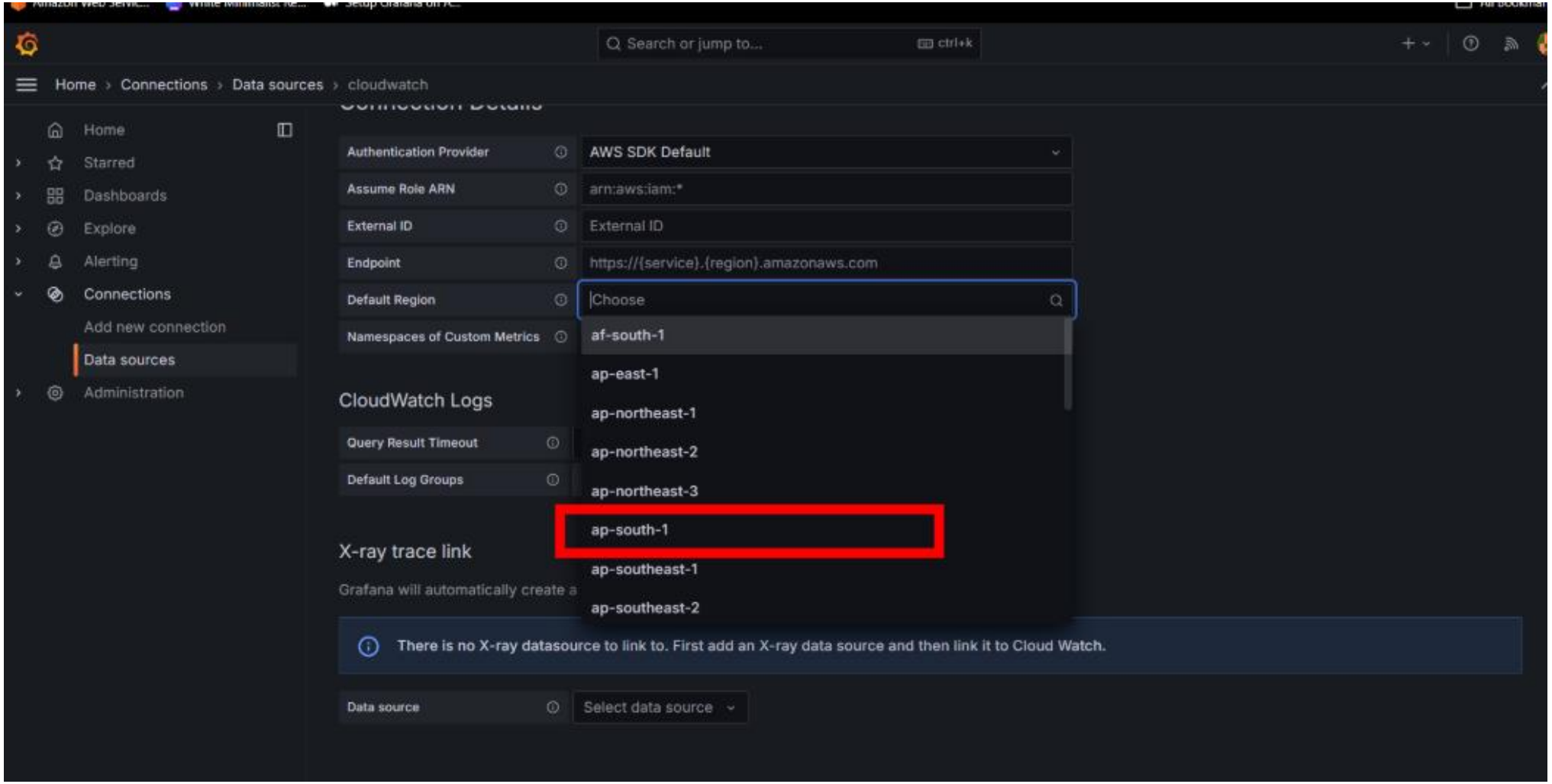
❖ Adding data source to grafana :



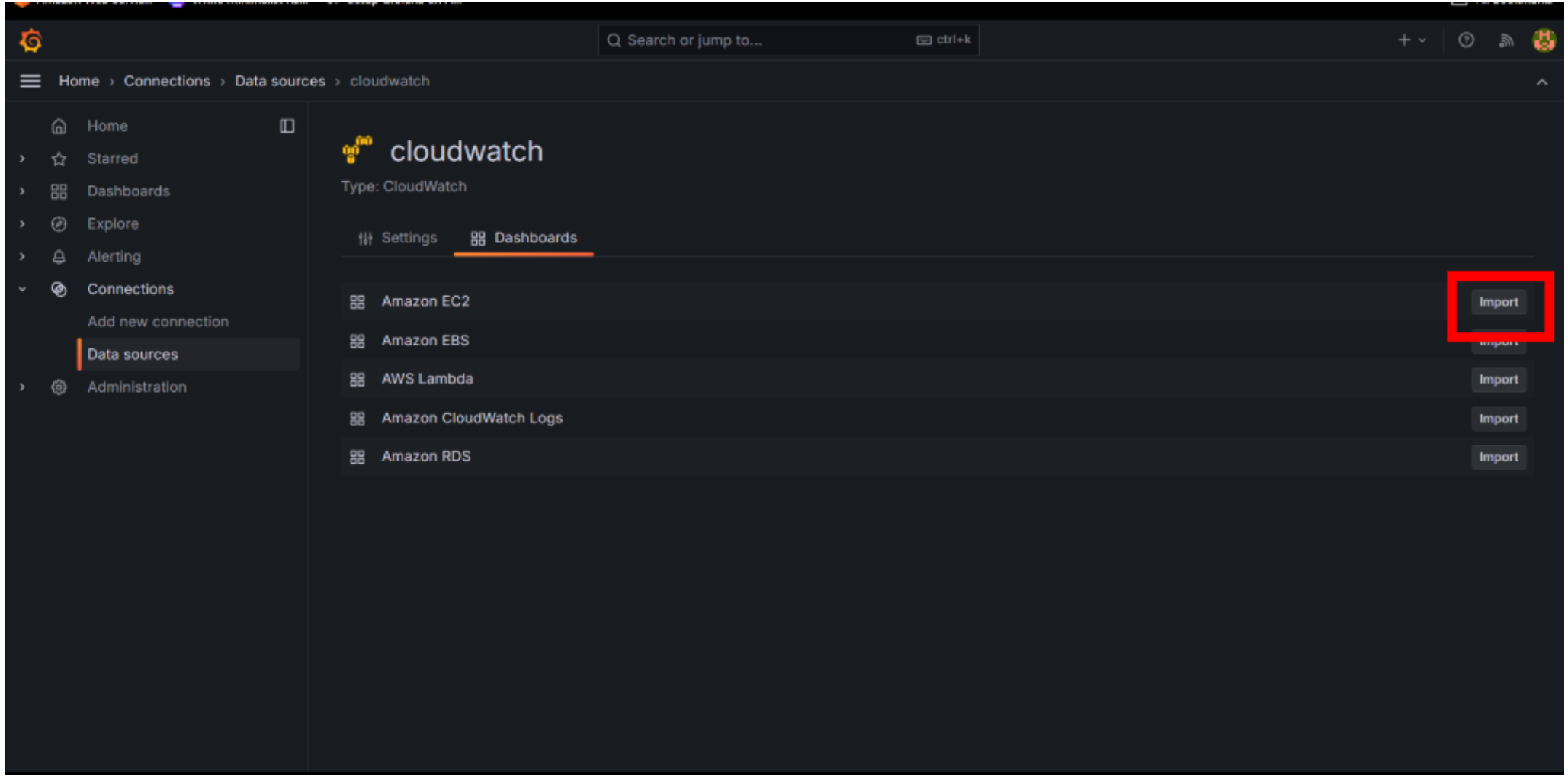
- Then go to **Dashboard** and click on **Add data source** .



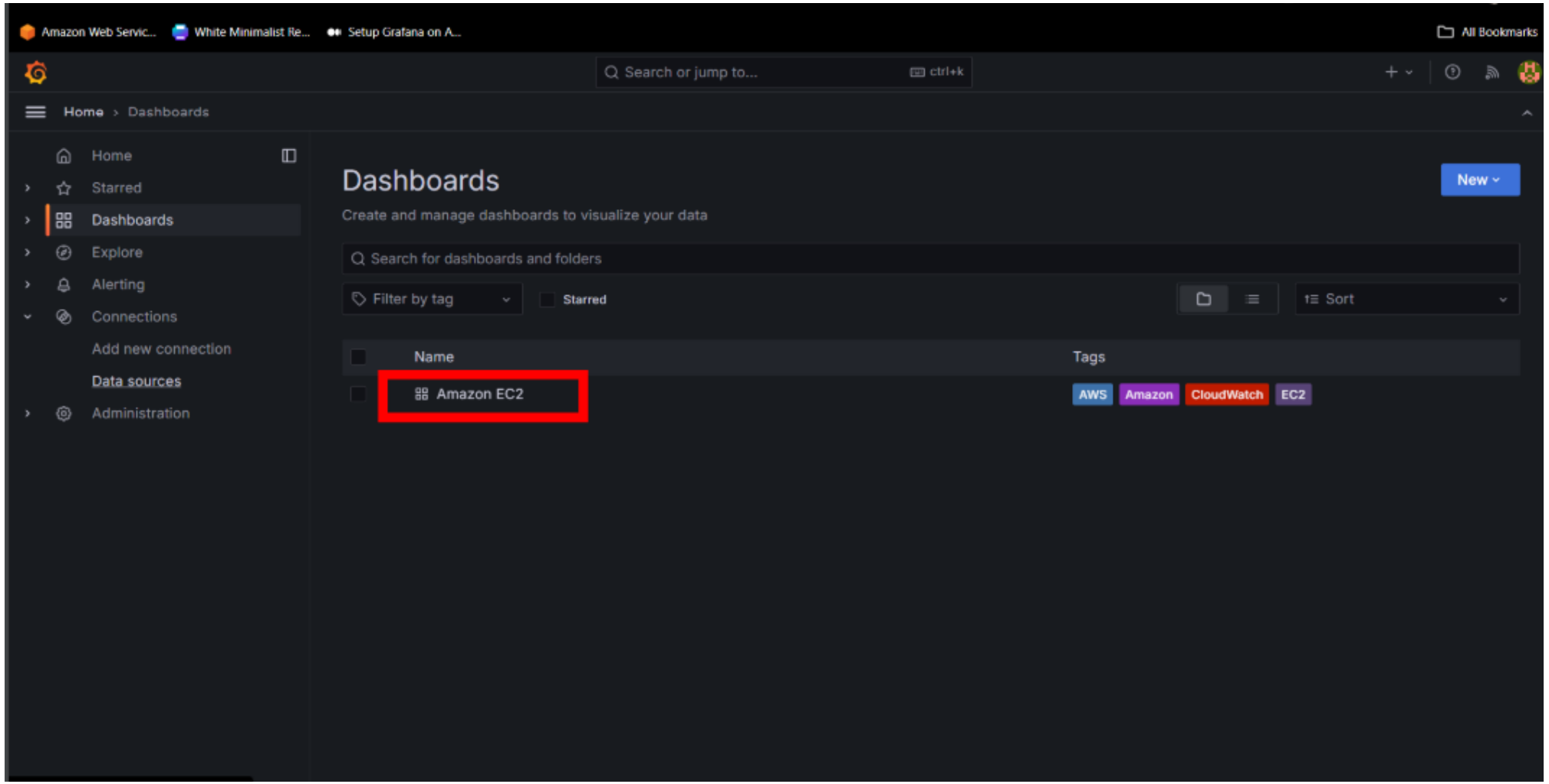
- Now , select “**Cloudwatch**” as an data source .



- Then after selecting cloudwatch select your region .

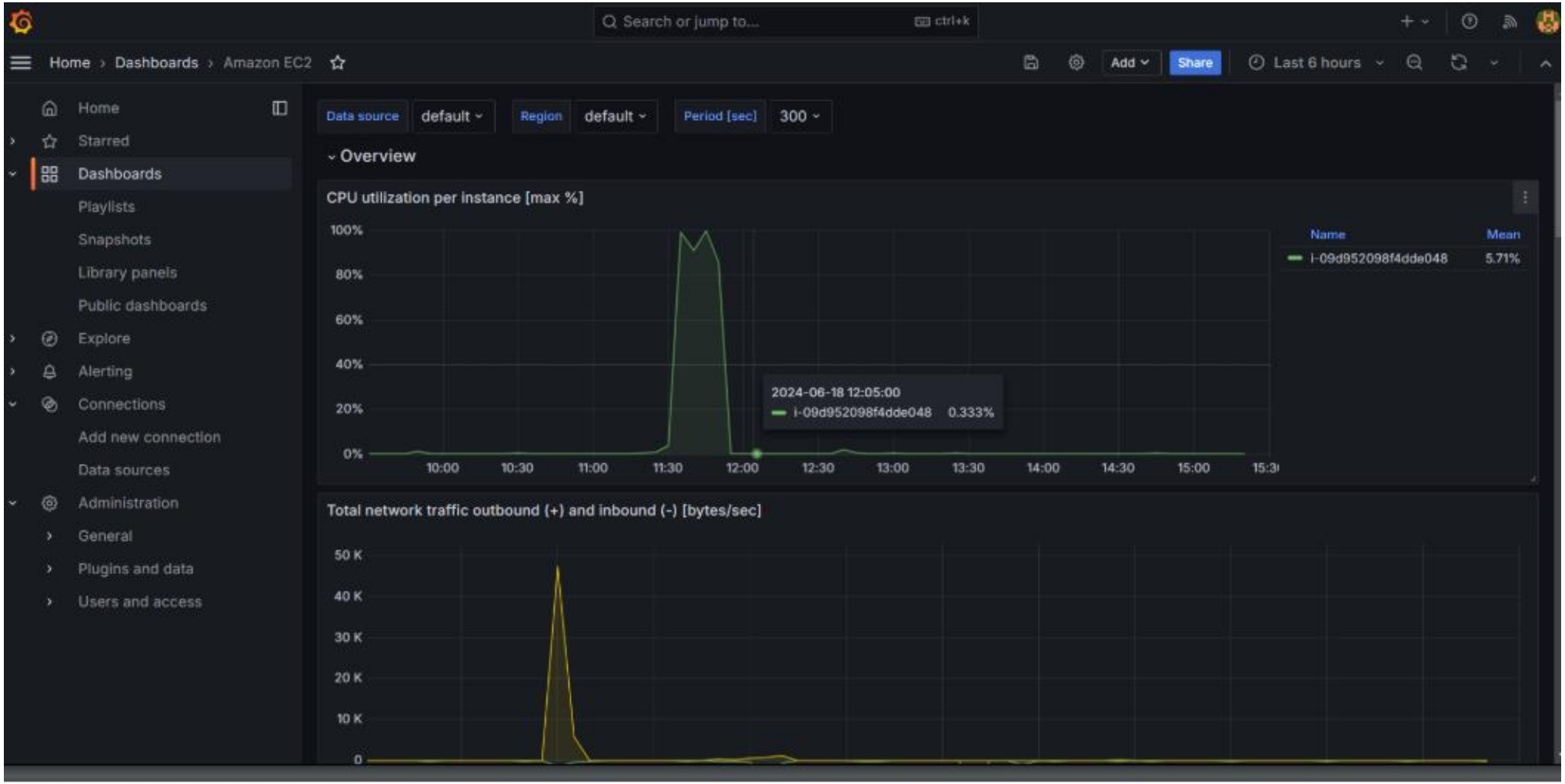


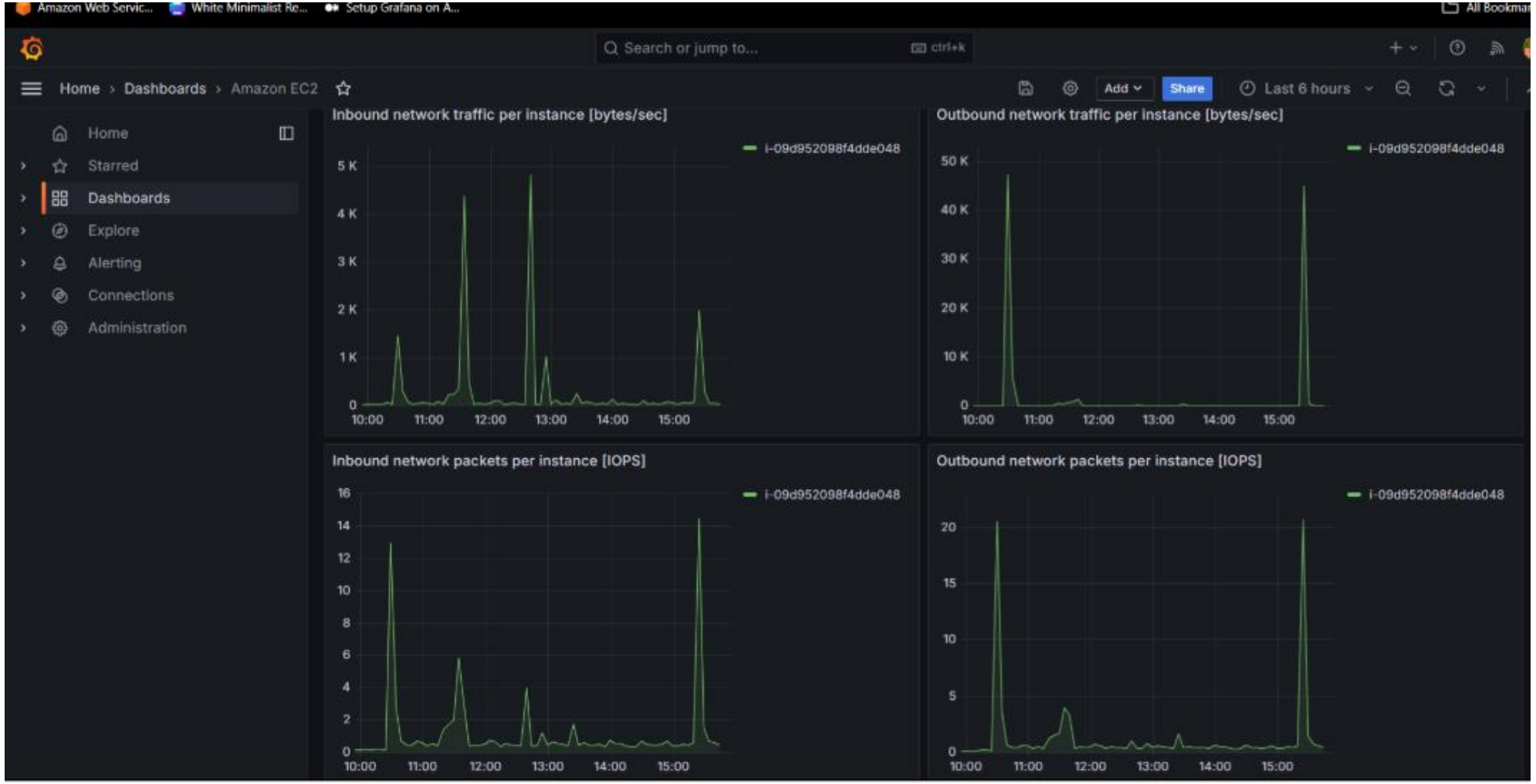
- Then inside your cloudwatch go to dashboard and **Import EC2**.



- Then go to dashboard and open your **Amazon EC2**.

❖ Graph of CPU utilization in GRAFANA :



❖ Graph of Network Traffic in GRAFANA :

❖ Detailed graph of Network Traffic in GRAFANA :