

CloudWatch-Dashboard-Assignment—4

Problem Statement:

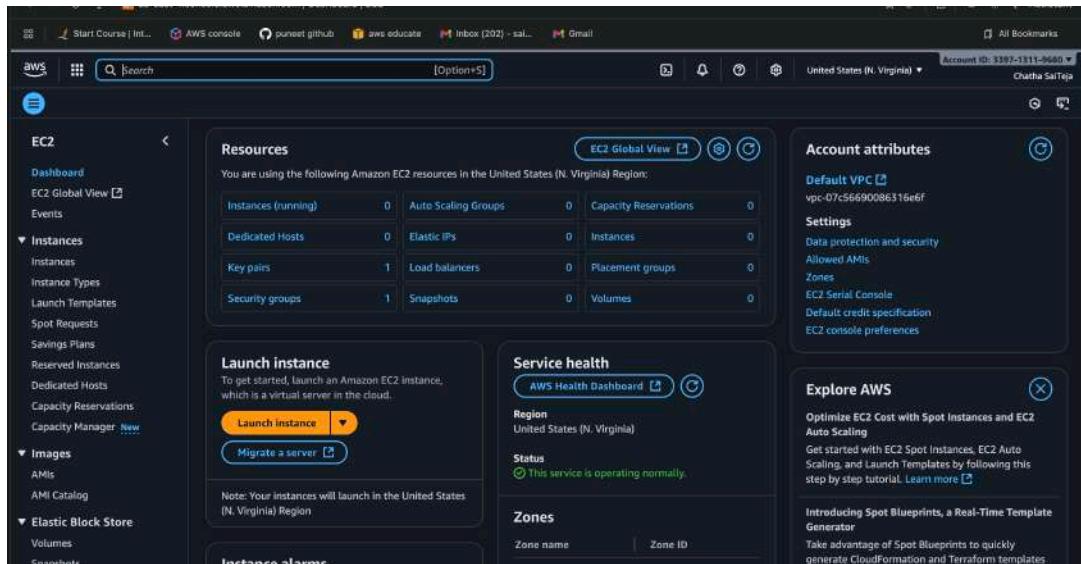
You work for XYZ Corporation. To maintain the security of the AWS account and the resources you have been asked to implement a solution that can help easily recognize and monitor the different users. Also, you will be monitoring the machines created by these users for any errors or misconfigurations.

Tasks To Be Performed:

1. Create a dashboard which lets you check the CPU utilization and networking for a particular EC2 instance.

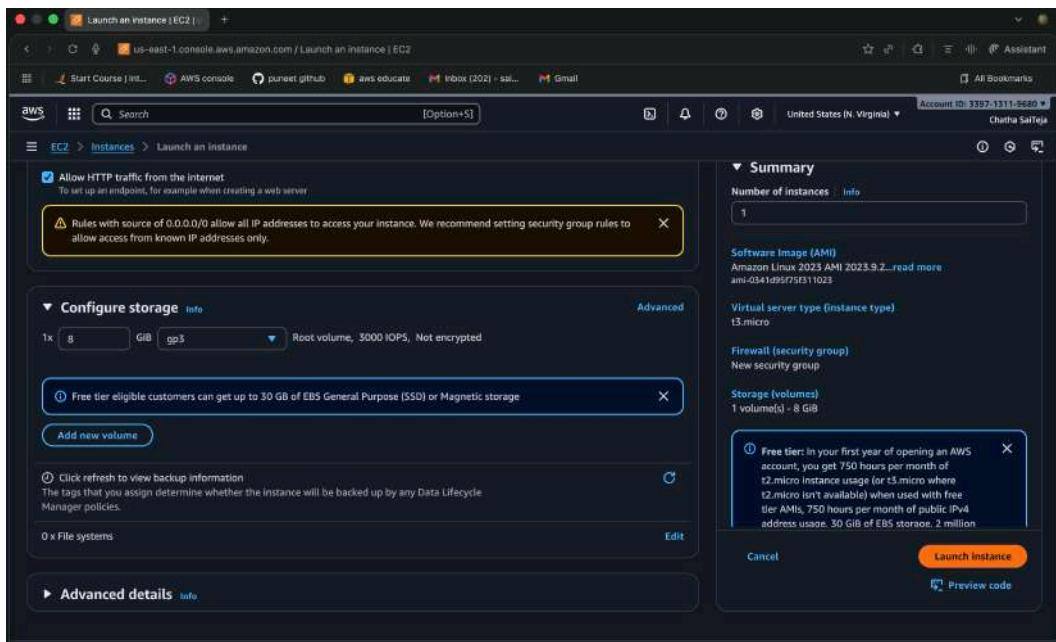
Step-By-Step Procedure:-

Step 1:- To create a dashboard to check cpu utilization and networking for a particular EC2 instance ,for that first we have to create an Instance ,so go to EC2 , Click on Launch Instance.



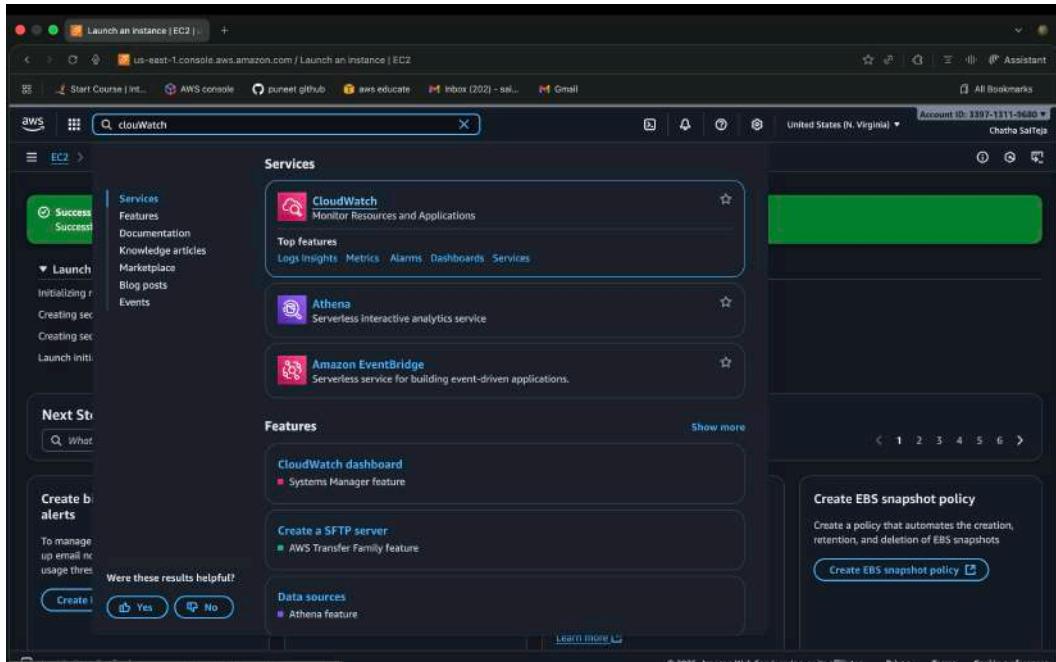
Click on launch instance

Step 2:- Specify the name(demoEc2) and other details which are necessary to create an instance and click on create instance ,then our instance (demoEc2)will be created.

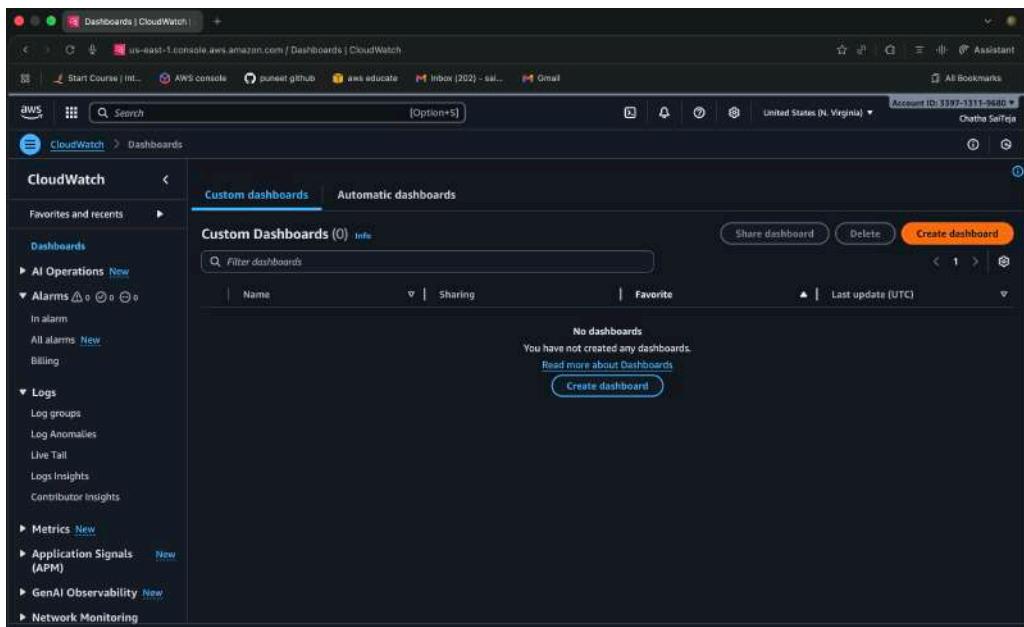


Creating instance (demoEc2)

Step 3:- To create a dashboard we have to go to CloudWatch, search for CloudWatch in search bar and open it then go to dashboards ,click on create dashboard.

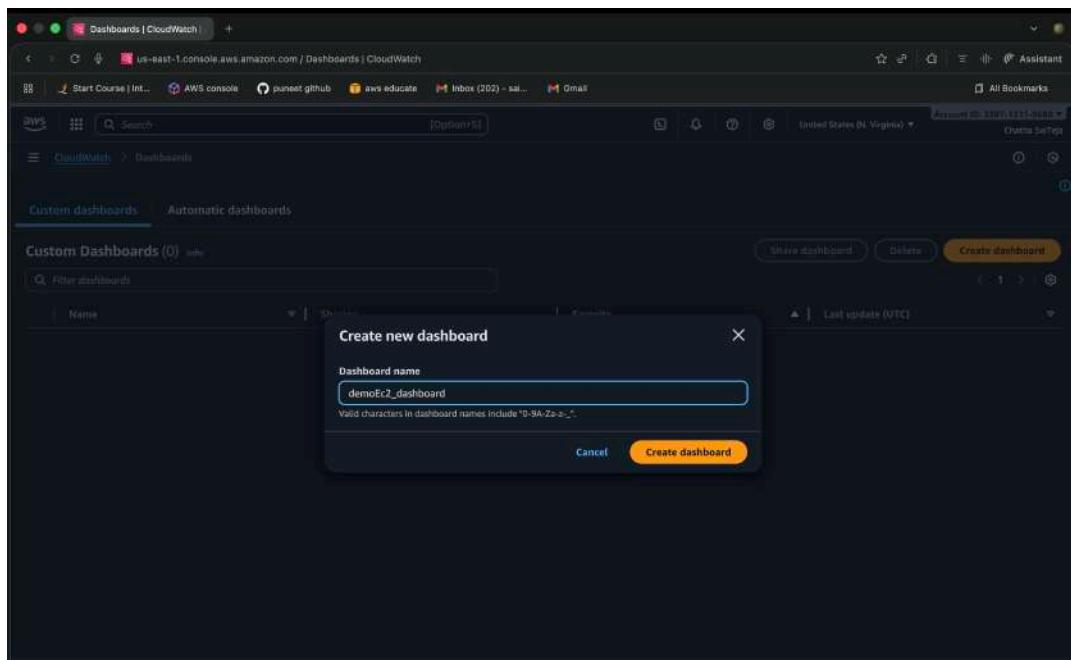


Search for cloud watch

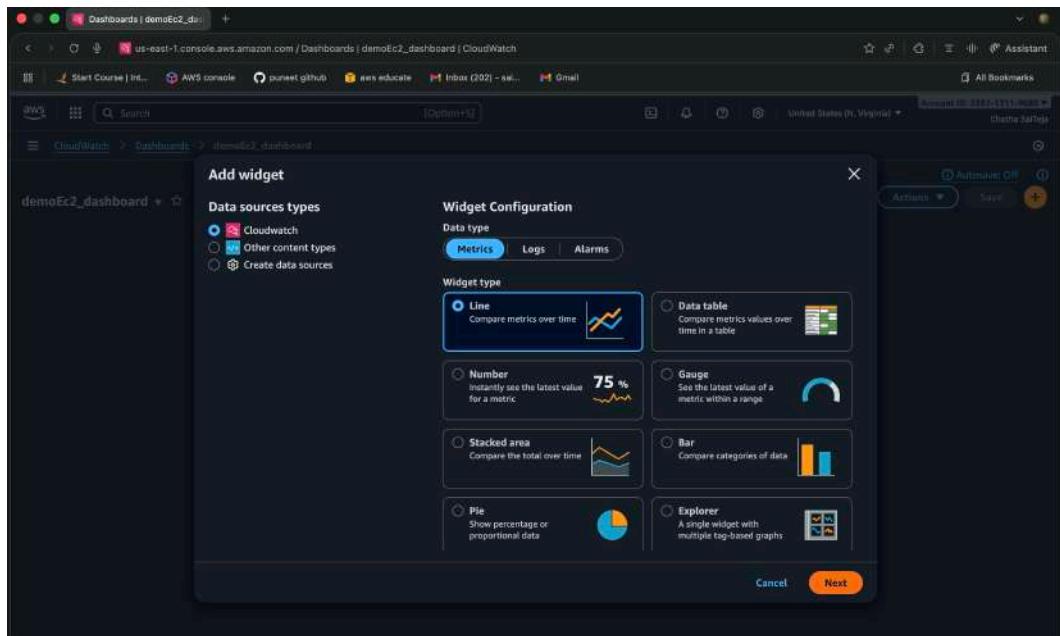


Click on create dashboard

Step 4:- Give a name to dashboard as you created we can see the plus symbol, click on it add a widget and specify the widget type like line, bar, graph , number etc.. (we select line as widget type)

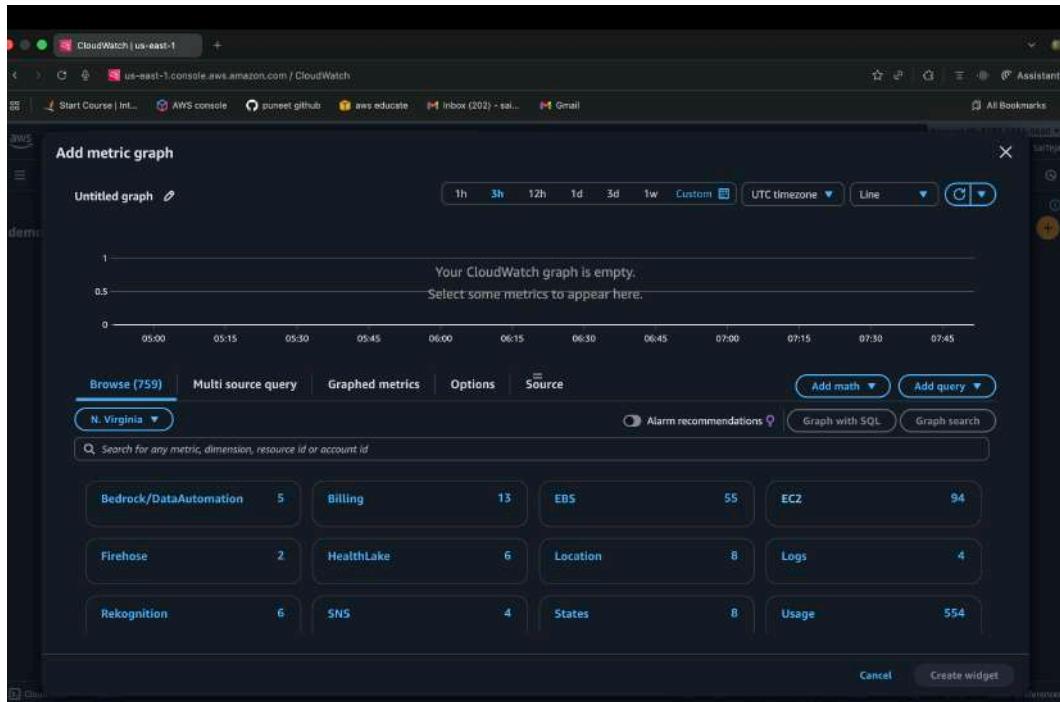


Specifying the dashboard name (demoEc2_dashboard)



Selecting widget type

Step 5:- Now we have to add a metric to the widget so here we have many namespaces but we are creating a dashboard for Ec2 so we select Ec2 namespace.



Selecting Ec2 namespace

Step 6:- As we selected the Ec2 we get “Per Instance metrics” , here we have to paste the instance id for which we creating the dashboard so go toEc2 instances copy the Instance ID an paste in search bar then we can see the metrics for a particular Instance (demoEc2).

The screenshot shows the AWS EC2 Instances page. The left sidebar is collapsed. The main area displays a table of instances. One instance is selected, highlighted with a blue border. The instance details are shown in a modal window below:

| Name | Instance ID | Instance state | Instance type | Status check | Alarm status | Availability Zone |
|---------|---------------------|----------------|---------------|-------------------|---------------|-------------------|
| demoEc2 | i-0a492b822499ce03d | Running | t5.micro | 2/3 checks passed | View alarms + | us-east-1b |

Below the table, the instance summary is expanded, showing:

- Public IPv4 address:** 54.89.168.188 | open address
- Private IPv4 addresses:** 172.31.30.244
- Public DNS:** ec2-54-89-168-188.compute-1.amazonaws.com | open address

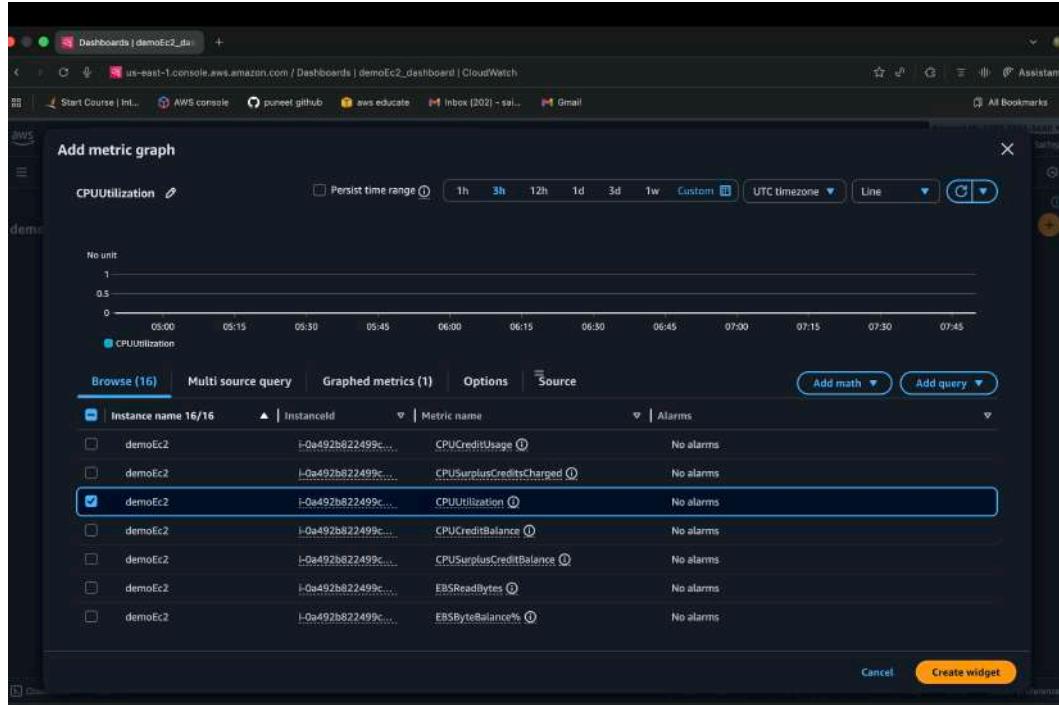
Copying the Instance ID

The screenshot shows the AWS CloudWatch Metrics interface with the 'Add metric graph' dialog open. The dialog has the following settings:

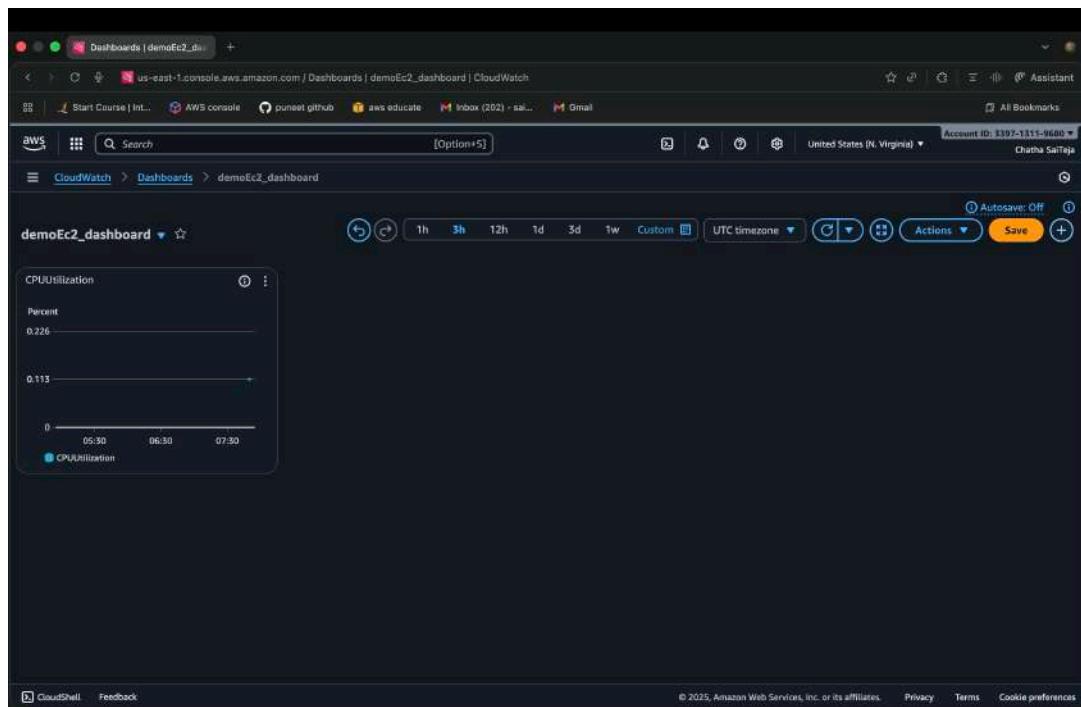
- Graph Type:** Untitled graph
- Time Range:** Custom (1h)
- Source:** EC2
- Region:** N. Virginia
- Metric Filter:** i-0a492b822499ce03d
- Metrics:** EC2 > Per-Instance Metrics (16)

Caption

Step 7:- Here we can see 16 metrics for demoEc2 Instance ,click on that select cpu utilization and click on create widget.

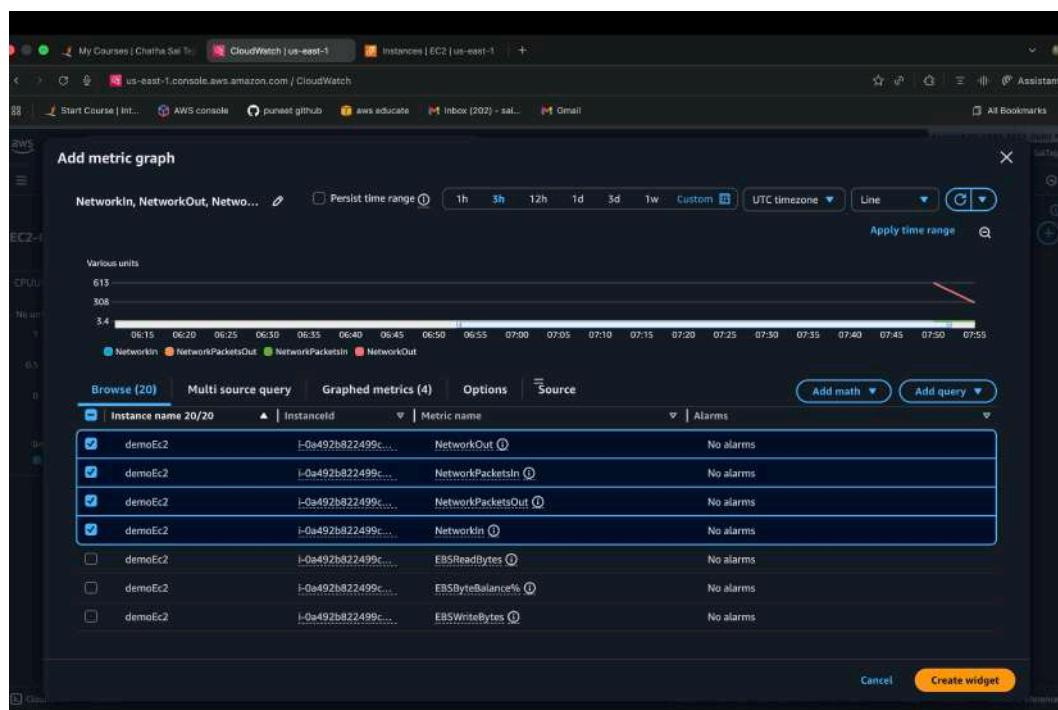
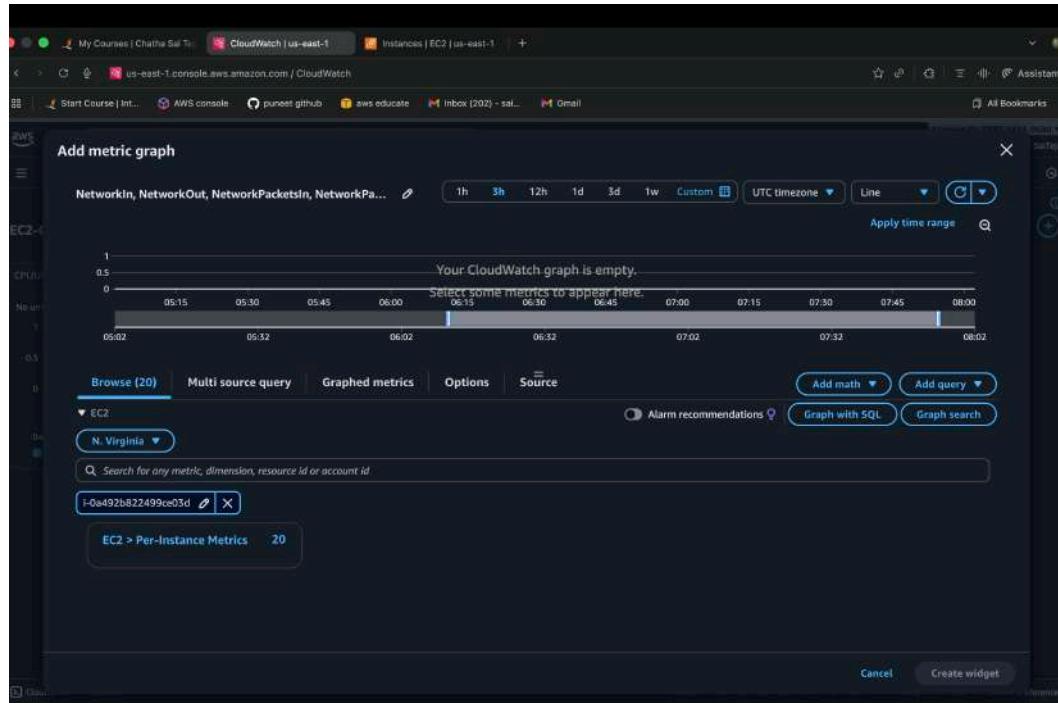


Select Cpu Utilisation and Click on create widget

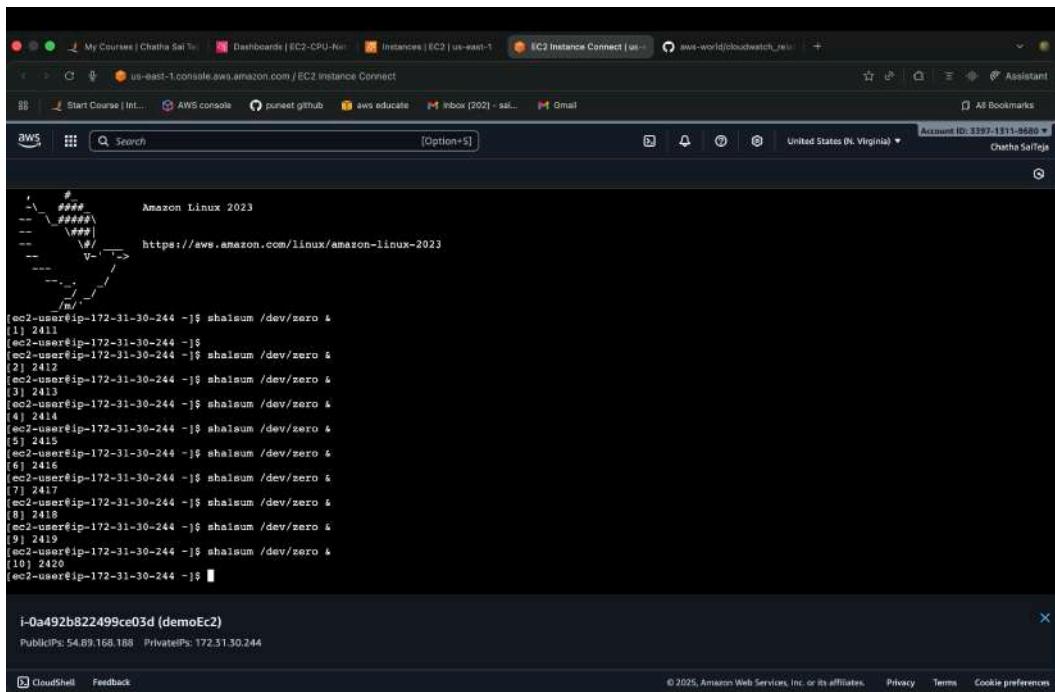


Cpu Utilisation widget is created in demoEc2_dashboard

Step 8:- Now we have to create another widget it is Networking for demoEc2 Instance, the process is same as cpu utilization widget but here in instance metrics we have to select “NetworkIn”, “NetworkOut”, “NetworkPacketsIn”, “NetworkPacketsOut”.



Step 9:- To see the line graph of both widgets we have to put some stress on demoEc2 Instance by that we can see some graph ,if not it shows like no data available, so we put stress on demoEc2 by using command - “sha1sum /dev/zero &”.



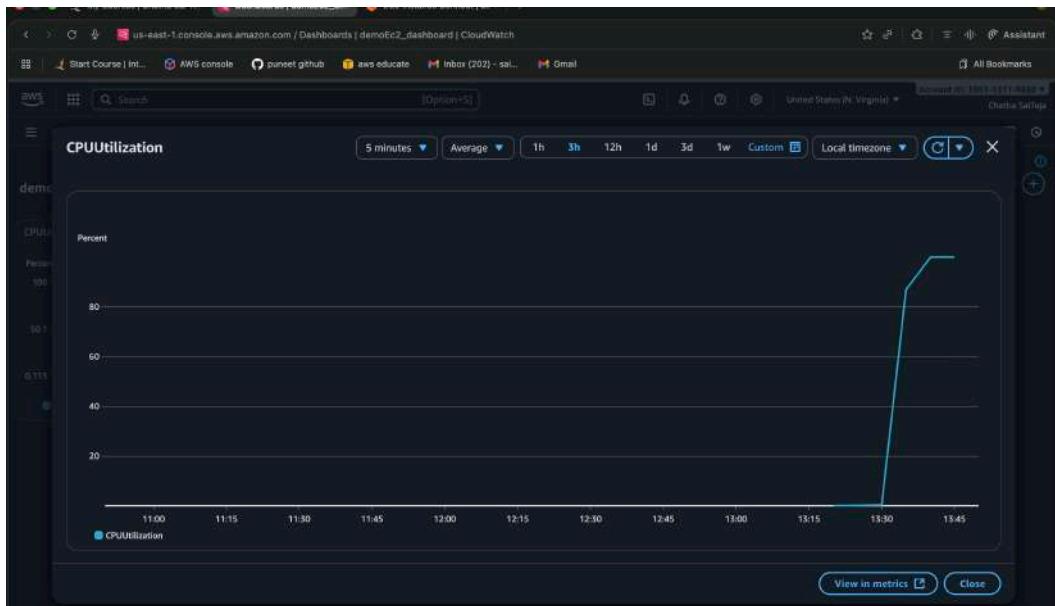
The screenshot shows a terminal window in an AWS CloudShell session. The user is running multiple concurrent sha1sum commands on the /dev/zero device. The terminal output is as follows:

```
[ec2-user@ip-172-31-30-244 ~]$ sha1sum /dev/zero &
[1] 2411
[ec2-user@ip-172-31-30-244 ~]$ sha1sum /dev/zero &
[2] 2412
[ec2-user@ip-172-31-30-244 ~]$ sha1sum /dev/zero &
[3] 2413
[ec2-user@ip-172-31-30-244 ~]$ sha1sum /dev/zero &
[4] 2414
[ec2-user@ip-172-31-30-244 ~]$ sha1sum /dev/zero &
[5] 2415
[ec2-user@ip-172-31-30-244 ~]$ sha1sum /dev/zero &
[6] 2416
[ec2-user@ip-172-31-30-244 ~]$ sha1sum /dev/zero &
[7] 2417
[ec2-user@ip-172-31-30-244 ~]$ sha1sum /dev/zero &
[8] 2418
[ec2-user@ip-172-31-30-244 ~]$ sha1sum /dev/zero &
[9] 2419
[ec2-user@ip-172-31-30-244 ~]$ sha1sum /dev/zero &
[10] 2420
[ec2-user@ip-172-31-30-244 ~]$
```

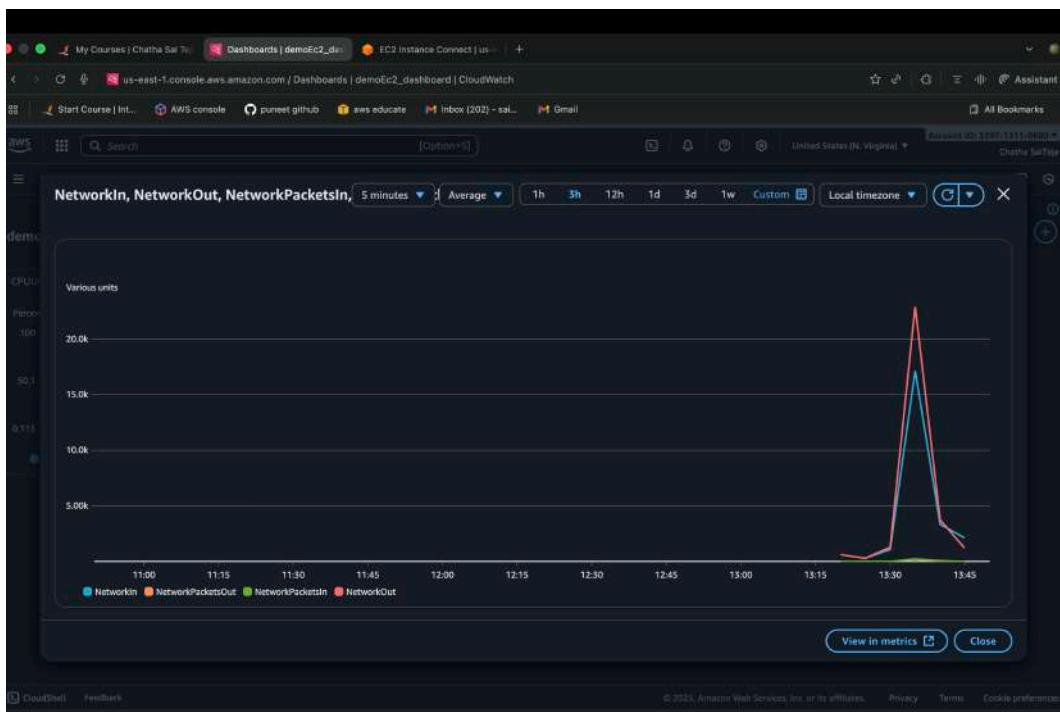
i-0a492b822499ce03d (demoEc2)
PublicIP: 54.89.168.188 PrivateIP: 172.31.30.244

Stress the demoEc2 instance

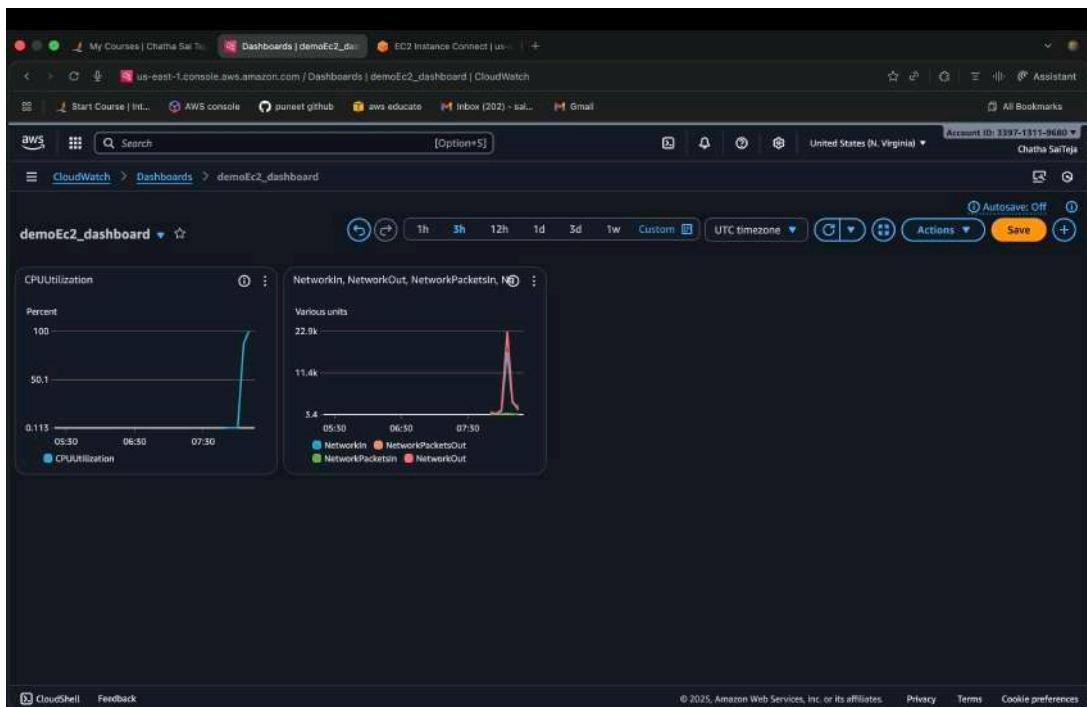
Step 10:- Now we can see some graph movements in that widget we can edit the time and set average, minimum ,maximum and many other parameters.



Cpu Utilisation Line graph



Networking Line graph



demoEc2_dashboard containing cpu utilisation and networking of demoEc2 Instance.