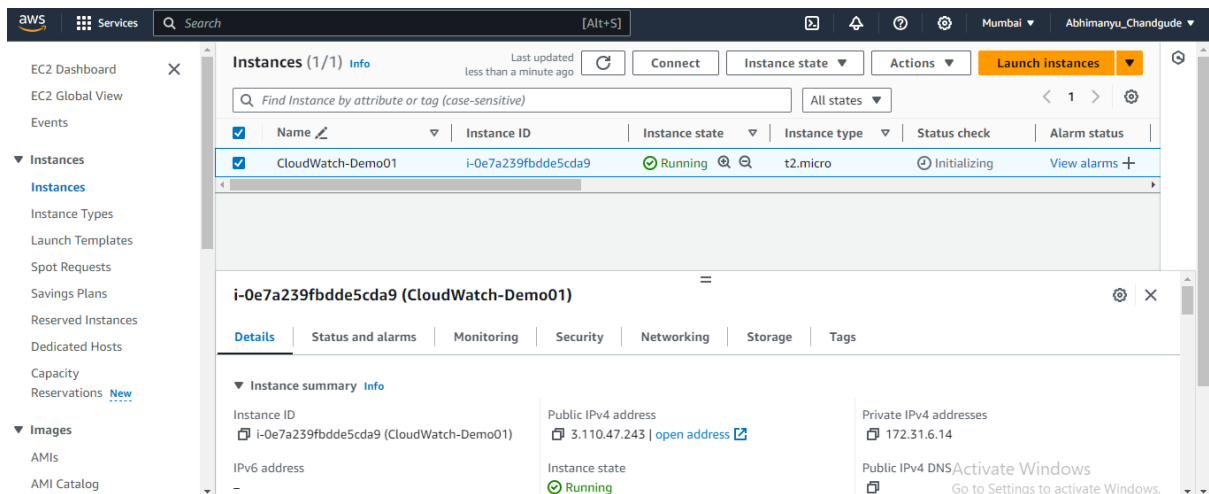


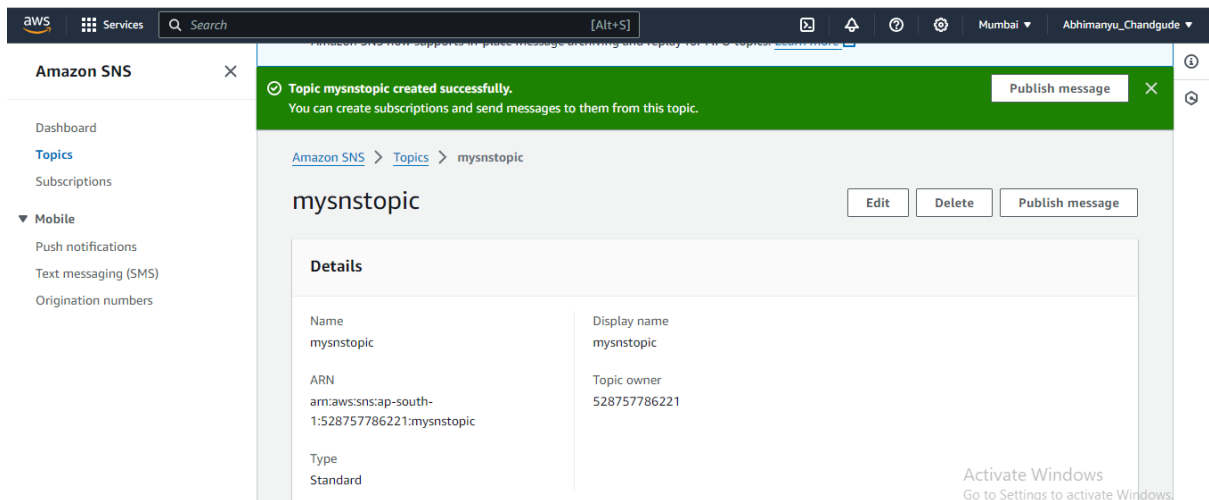
09th September 2024 – CloudWatch

- Monitor the CPU utilization of instance and set threshold of CPU utilization greater than 80% and send a alert via SNS (Simple Notification Service).

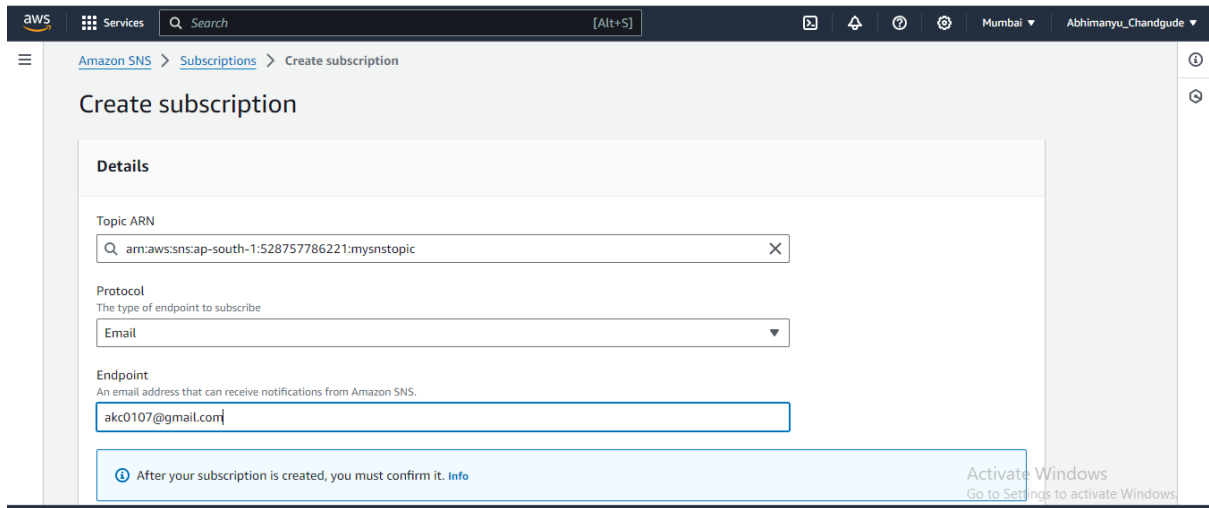
1) Create instance



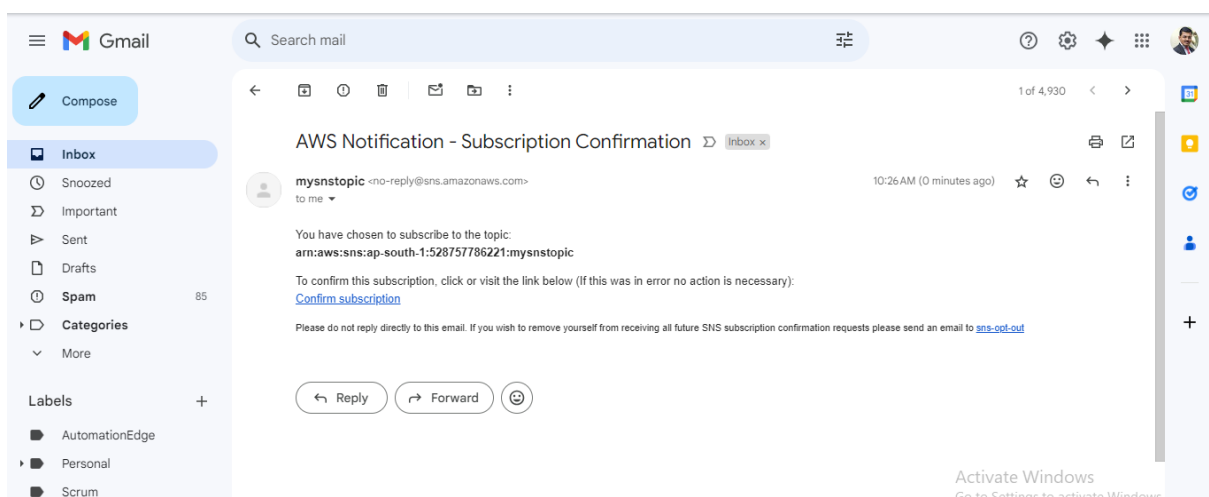
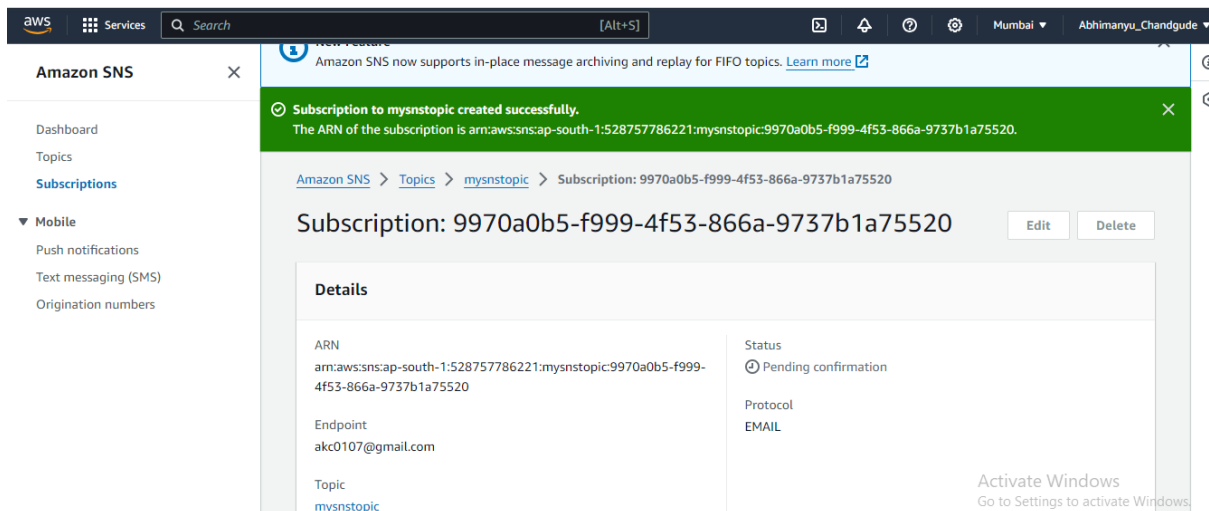
2) By default there is no alarm, to set alarm go to SNS service and create topic first



3) Create Subscription



4) After creating subscription, got email for confirmation



5) Subscription confirmed



Simple Notification Service

Subscription confirmed!

You have successfully subscribed.

Your subscription's id is:

arn:aws:sns:ap-south-1:528757786221:mynstopic:9970a0b5-f999-4f53-866a-9737b1a75520

If it was not your intention to subscribe, [click here to unsubscribe](#).

6) After confirmation, status will change to “Confirmed”

The screenshot shows the AWS SNS console interface. The left sidebar contains navigation links for Dashboard, Topics, Subscriptions, Mobile, Push notifications, Text messaging (SMS), and Origination numbers. The main content area displays the details for a topic named 'mynstopic'. The details include Name (mynstopic), Display name (mynstopic), ARN (arn:aws:sns:ap-south-1:528757786221:mynstopic), Topic owner (528757786221), and Type (Standard). Below the details, there are tabs for Subscriptions, Access policy, Data protection policy, Delivery policy (HTTP/S), Delivery status logging, Encryption, Tags, and Integrations. The Subscriptions tab is active, showing a table with one subscription. The subscription has an ID of Deleted, an Endpoint of akc0107@gmail.com, a Status of Confirmed, and a Protocol of EMAIL. The table has columns for ID, Endpoint, Status, and Protocol. There are also buttons for Edit, Delete, Request confirmation, Confirm subscription, and Create subscription. The bottom of the console shows the CloudShell and Feedback links, and the copyright notice for Amazon Web Services, Inc. or its affiliates.

ID	Endpoint	Status	Protocol
Deleted	akc0107@gmail.com	Confirmed	EMAIL

7) Now go to “CloudWatch” service and create alarm

a. Specify metric and condition

aws Services Search [Alt+S] Mumbai Abhimanyu_Chandgude

Step 1 Specify metric and conditions

Step 2 Configure actions

Step 3 Add name and description

Step 4 Preview and create

Specify metric and conditions

Alarm recommendations View details

Metric Edit

Graph
This alarm will trigger when the blue line goes above the red line for 1 datapoints within 5 minutes.

Percent

2.24

2

1.76

02:30 03:30 04:30

CPUUtilization

Namespace
AWS/EC2

Metric name
CPUUtilization

InstanceId
i-0e7a239fbdde5cda9

Instance name
CloudWatch-Demo01

Statistic

Activate Windows
Go to Settings to activate Windows.

aws Services Search [Alt+S] Mumbai Abhimanyu_Chandgude

Step 3 Add name and description

Step 4 Preview and create

Specify metric and conditions

Alarm recommendations View details

Graph
This alarm will trigger when the blue line goes above the red line for 1 datapoints within 2 minutes.

Percent

50

25.9

1.76

02:30 03:30 04:30

CPUUtilization

Namespace
AWS/EC2

Metric name
CPUUtilization

InstanceId
i-0e7a239fbdde5cda9

Instance name
CloudWatch-Demo01

Statistic
Average

Period
2 minutes

Activate Windows
Go to Settings to activate Windows.

b. Configure actions

aws Services Search [Alt+S] Mumbai Abhimanyu_Chandgude

Step 1 Specify metric and conditions

Step 2 Configure actions

Step 3 Add name and description

Step 4 Preview and create

Configure actions

Notification

Alarm state trigger
Define the alarm state that will trigger this action.

☒ In alarm
The metric or expression is outside of the defined threshold.

☐ OK
The metric or expression is within the defined threshold.

☐ Insufficient data
The alarm has just started or not enough data is available.

Remove

Send a notification to the following SNS topic
Define the SNS (Simple Notification Service) topic that will receive the notification.

☒ Select an existing SNS topic

☐ Create new topic

mynstopic

mynstopic

Q mynstopic X

Only topics belonging to this account are listed here. All persons and applications subscribed to the selected topic will receive notifications.

Activate Windows
Go to Settings to activate Windows.

c. Add name and description

aws Services Search [Alt+S] Mumbai Abhimanyu_Chandgude

Step 1 Specify metric and conditions

Step 2 Configure actions

Step 3 **Add name and description**

Step 4 Preview and create

Add name and description

Name and description

Alarm name
CPU_utilization_i-0e7a239fbdde5cda9

Alarm description - optional View formatting guidelines

Edit Preview

This is an H1
double asterisks will produce strong character
This is [an example](https://example.com/) inline link.

Up to 1024 characters (0/1024)

Markdown formatting is only applied when viewing your alarm in the console. The description will remain in plain text in the alarm notifications.

d. Created alarm Successfully

aws Services Search [Alt+S] Mumbai Abhimanyu_Chandgude

CloudWatch

Successfully created alarm CPU_utilization_i-0e7a239fbdde5cda9. View alarm

CloudWatch > Alarms

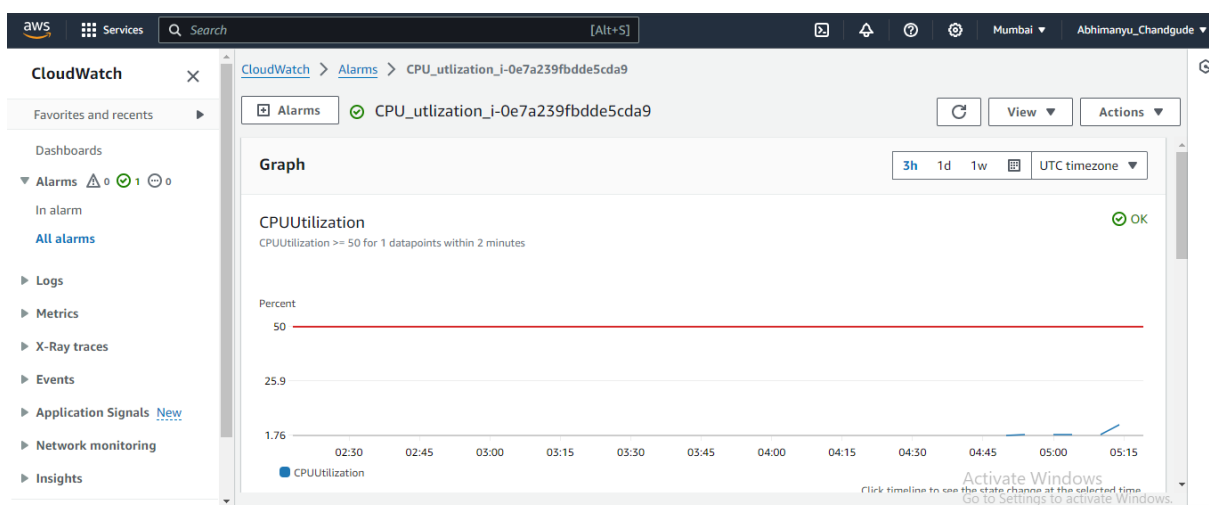
Alarms (1) Hide Auto Scaling alarms Clear selection Create composite alarm Actions Create alarm

Search Alarm state: Any Alarm type: Any Actions status: Any

	Name	State	Last state update (UTC)	Conditions
	CPU_utilization_i-0e7a239fbdde5cda9	Insufficient data	2024-09-11 05:17:43	CPUUtilization >= 50 for 1 datapoints within 2 minutes

Activate Windows Go to Settings to activate Windows.

e. CPU Utilization

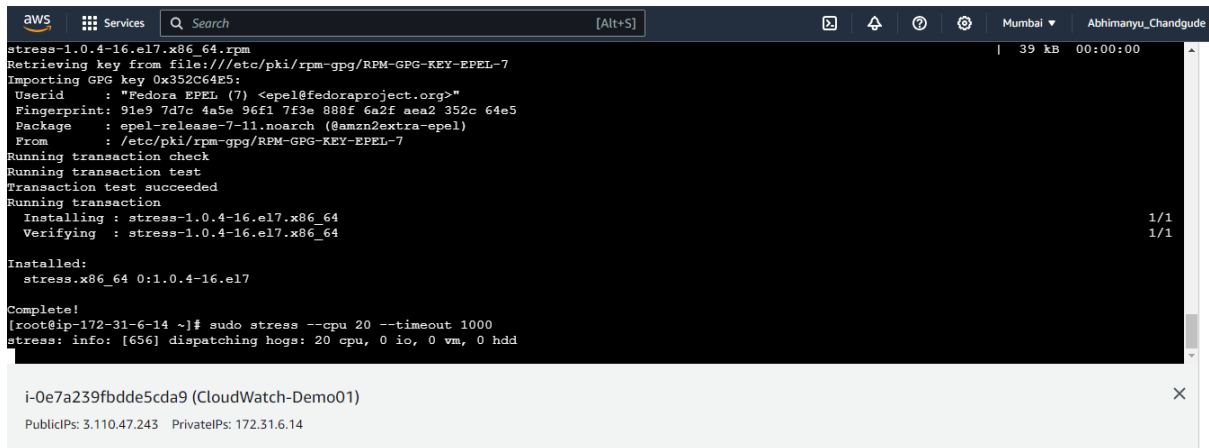


8) To increase CPU utilization installed stress package with below steps:

{

1. `sudo amazon-linux-extras install epel -y`
2. `sudo yum install stress -y`

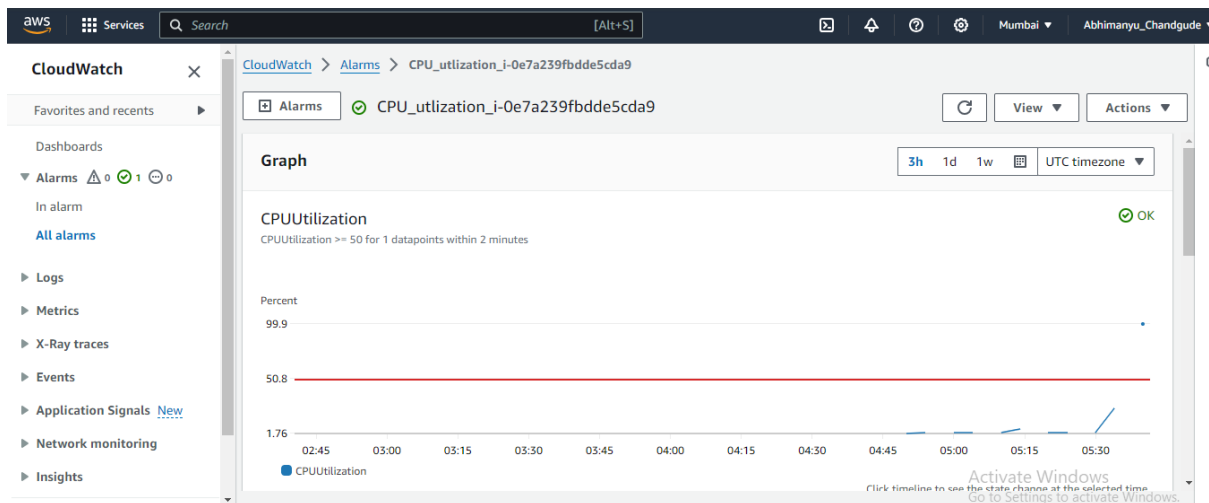
}



```
stress-1.0.4-16.el7.x86_64.rpm
Retrieving key from file:///etc/pki/rpm-gpg/RPM-GPG-KEY-EPEL-7
Importing GPG key 0x352C64E5:
  Userid   : "Fedora EPEL (7) <epel@fedoraproject.org>"
  Fingerprint: 91e9 7d7c 4a5e 96f1 7f3e 888f 6a2f aea2 352c 64e5
  Package   : epel-release-7-11.noarch (@amzn2extra-epel)
  From      : /etc/pki/rpm-gpg/RPM-GPG-KEY-EPEL-7
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Installing : stress-1.0.4-16.el7.x86_64                                1/1
  Verifying  : stress-1.0.4-16.el7.x86_64                                1/1
Installed:
  stress.x86_64 0:1.0.4-16.el7

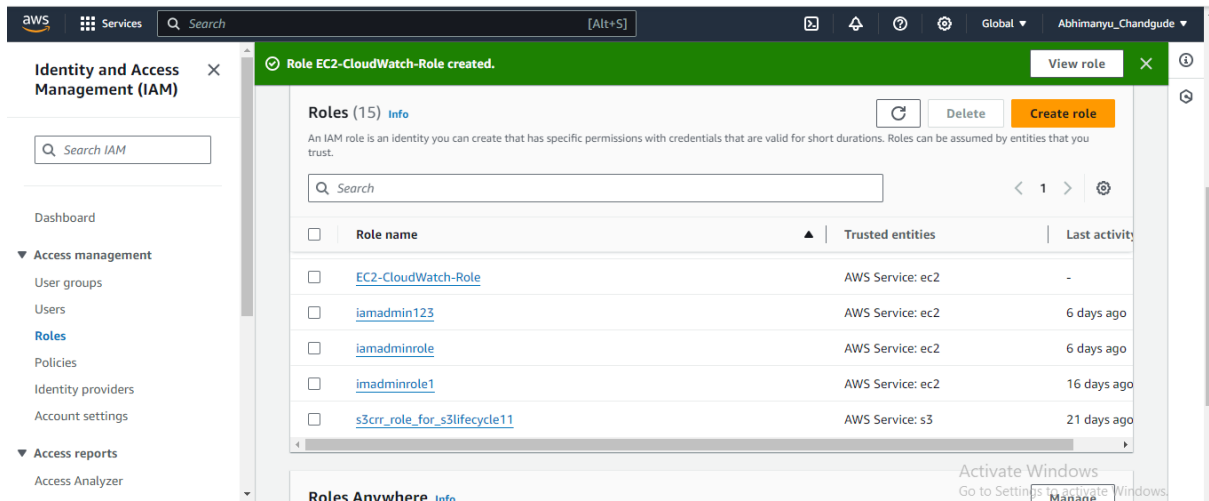
Complete!
[root@ip-172-31-6-14 ~]# sudo stress --cpu 20 --timeout 1000
stress: info: [656] dispatching hogs: 20 cpu, 0 io, 0 vm, 0 hdd
```

9) We can see CPU Utilization is in Alarm state

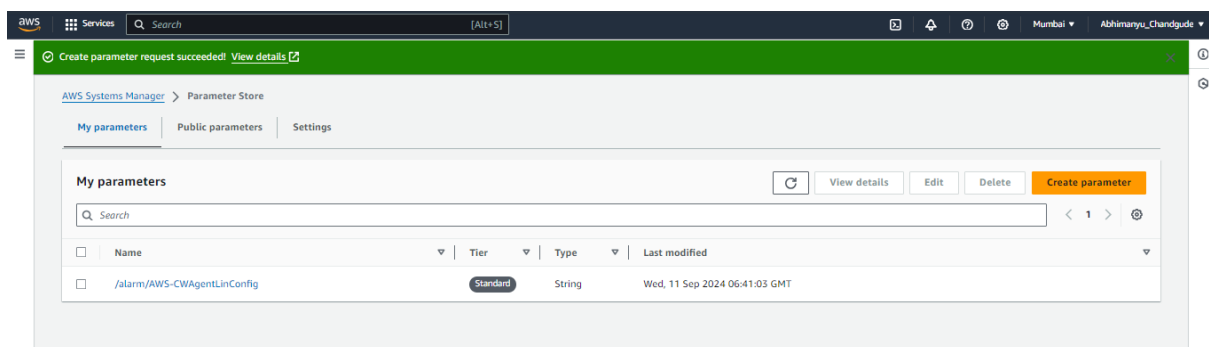
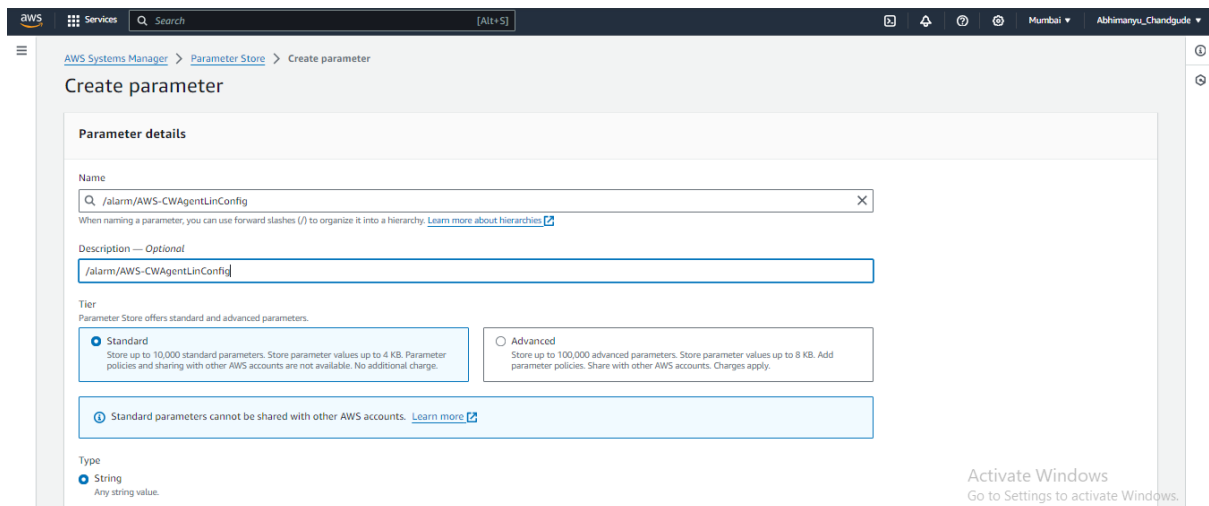


➤ Install CloudAgent using bootstrapping and create dashboard of Utilization

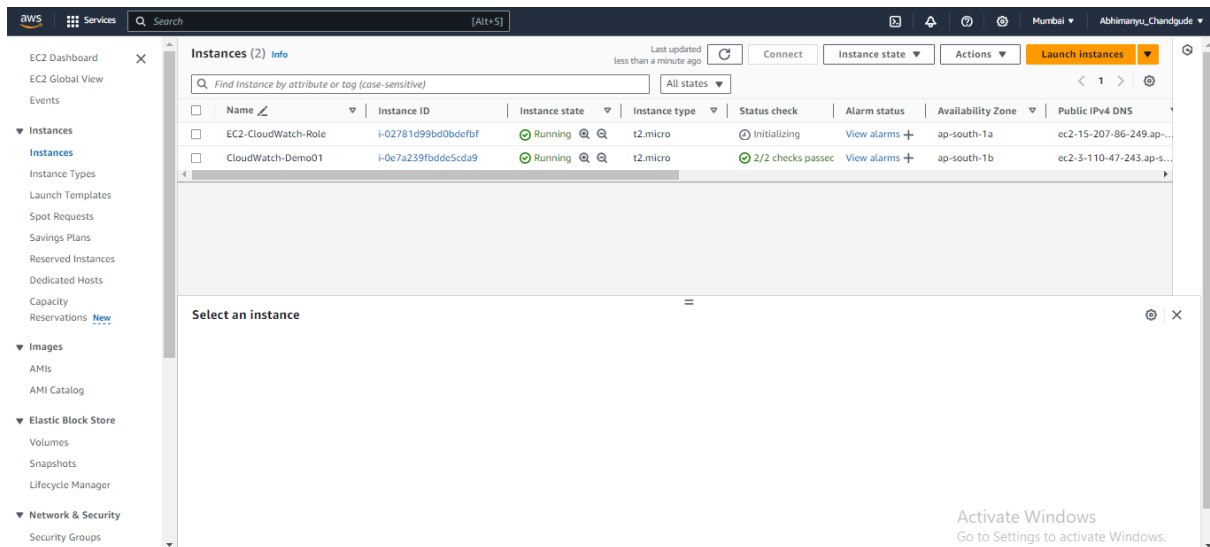
1) Create IAM role (EC2-CloudWatch-Role) with CloudWatchFullAccess and SSM



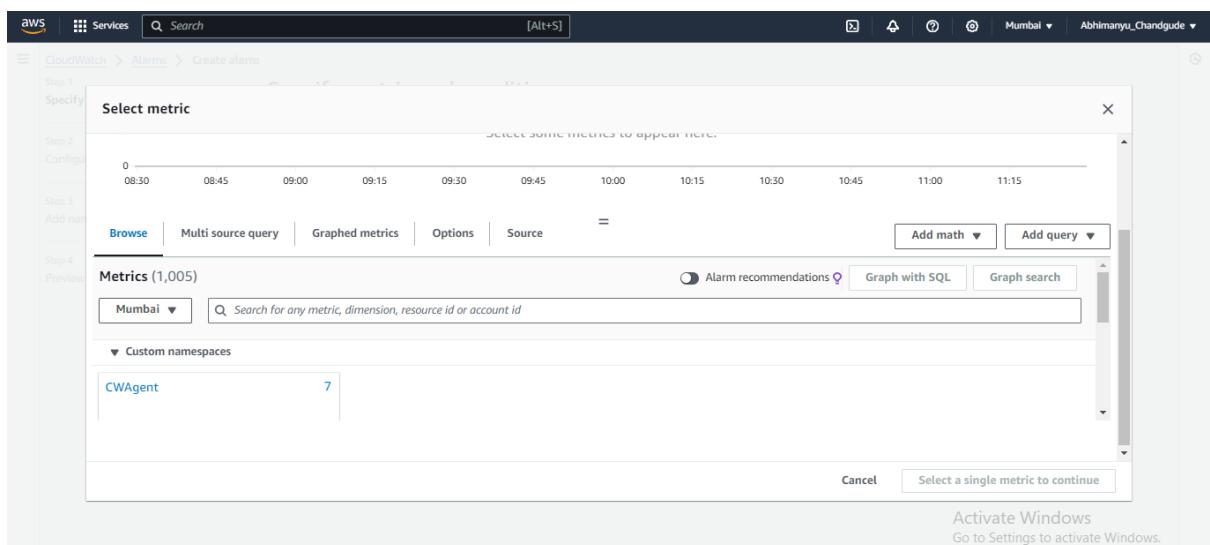
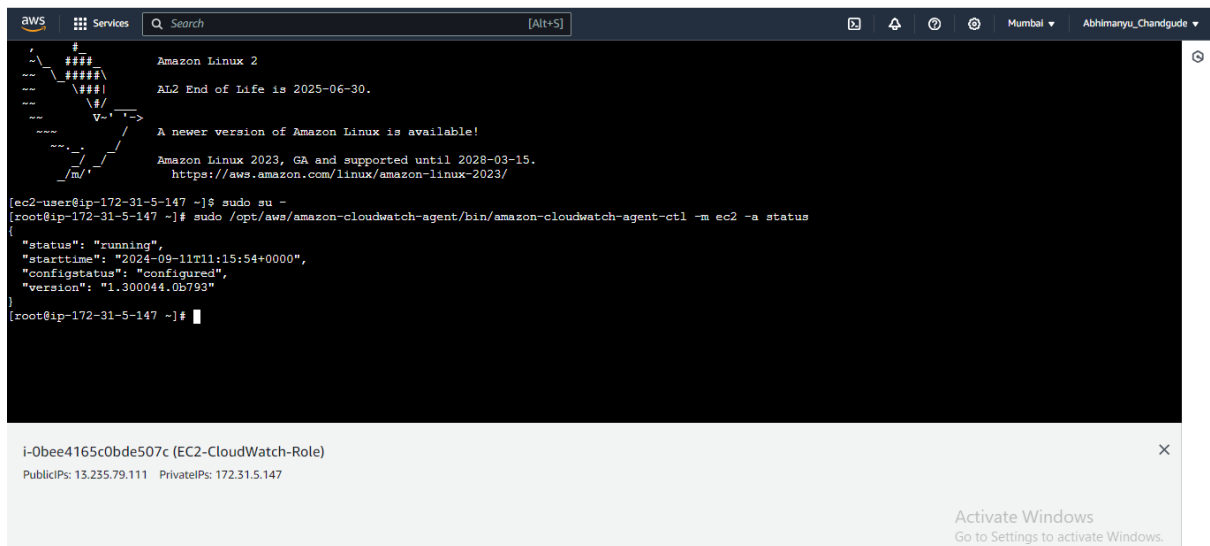
- 2) Create a parameter in System Manager with the name “/alarm/AWS-CWAgentLinConfig” and store the value



- 3) Create EC2 Instance (EC2-CloudWatch-Role)



4) Check the CloudWatch Agent is installed or not



5) Created one dashboard as “EC2” and add metrics

