# Module 3: CloudWatch Dashboard Assignment

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.
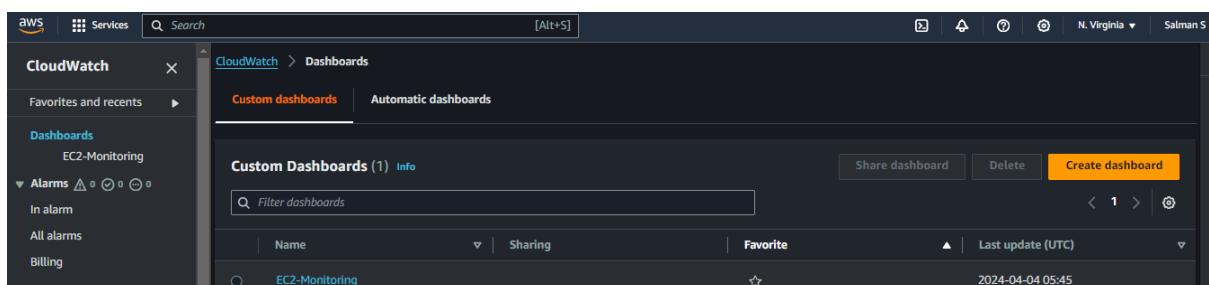
Tasks To Be Performed:

1. Create a dashboard which lets you check the CPU utilization and networking for a particular EC2 instance.
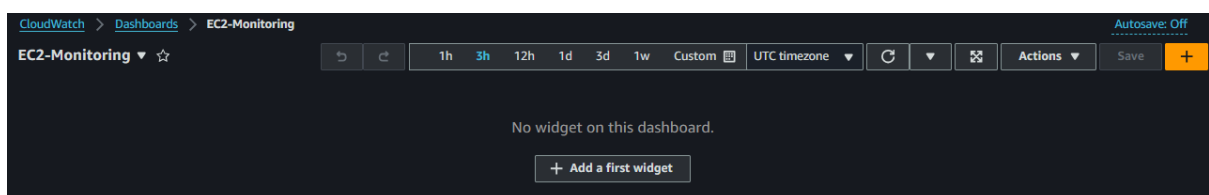
   1. First We need to Create an Custom EC2-Server
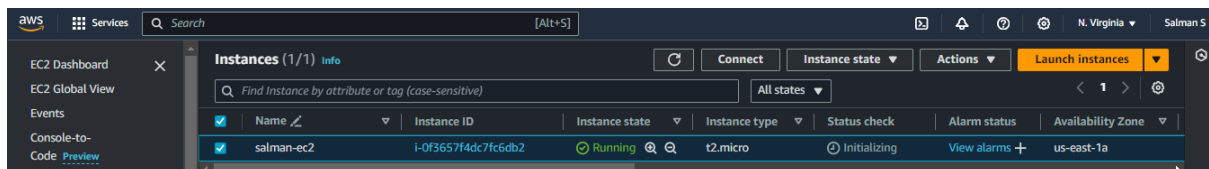
   2. Go to Cloudwatch Click Create a Dashboard with I named as a EC2-Monitoring

   3. Click On Created Dashboard and Now Check the CPU and Networking Status For Particular Instances Before that Need to Add Widget

4. Select Metrics and leave it as Line and Click Next

5. Now Here Select EC2

6. Click Per-Instance Metrics
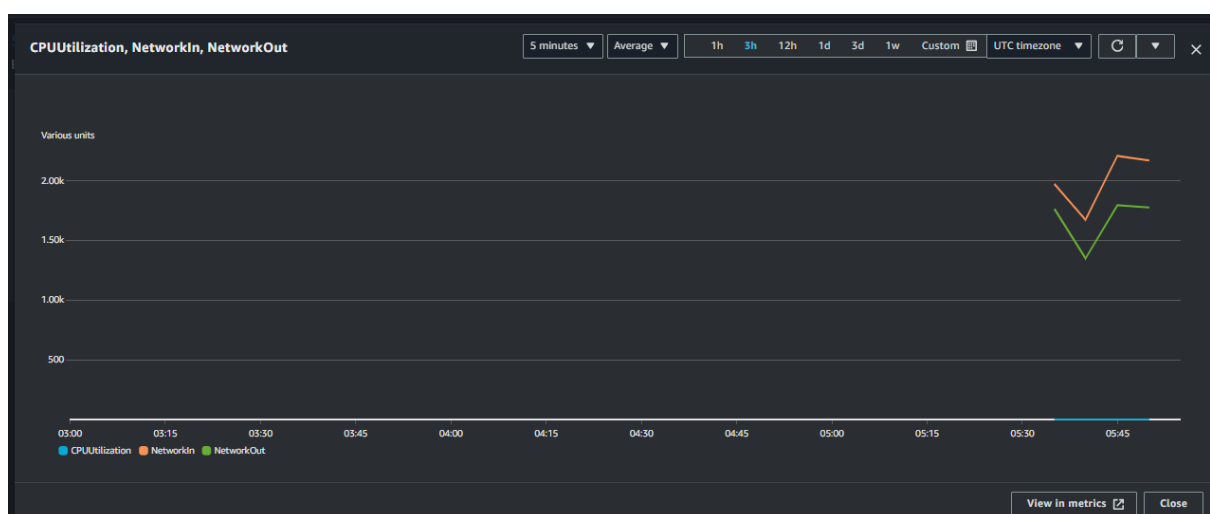
7. Filter Your EC2-Instances and Select CPU-Utilization and Networkin and Networkout and Create Widget
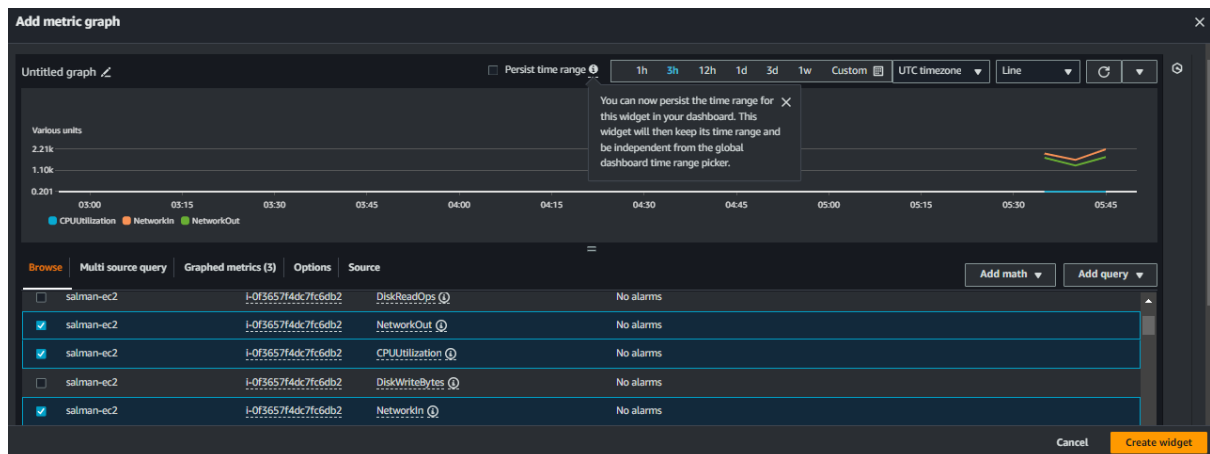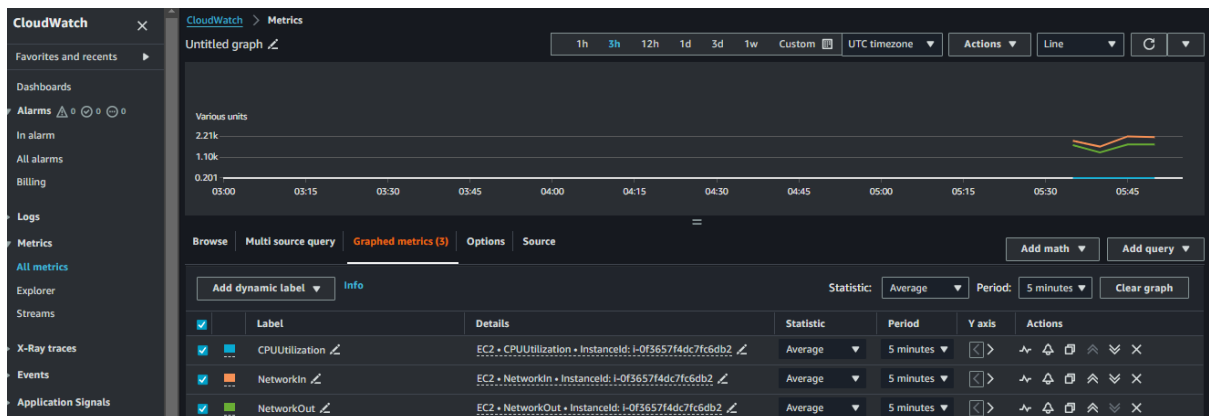

8. This is the CPU-Utilization and NetworkIn, NetworkOut Data of Selected EC2 and Click on the Chart
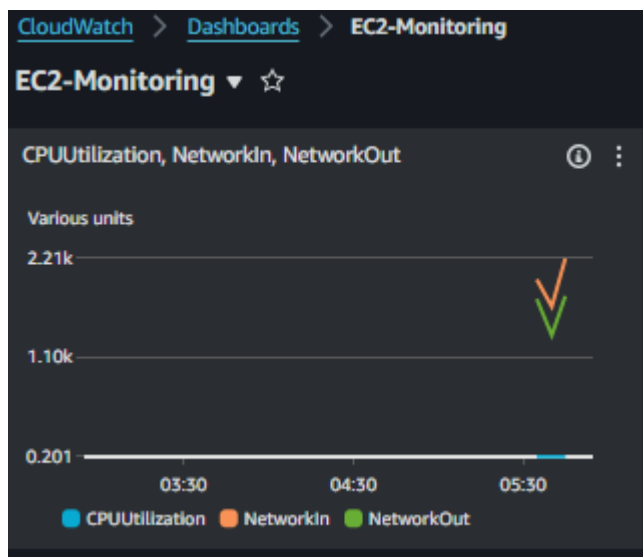
9. Click View Metrics

10. Here We ==Can Add Math and Query== and We can ==Change Statistic and change Period Time== and This is our ==Task Which We Completed==

# Module 3: CloudWatch Alarms Assignment

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 CloudWatch billing alarm which goes off when the estimated charges go above $500.
2. Create a CloudWatch alarm which goes off to an Alarm state when the CPU utilization of an EC2 instance goes above 65%. Also add an SNS topic so that it notifies the person when the threshold is crossed.

1. Create a ==Cloudwatch Billing Alarm== Click ==Create Alarm==
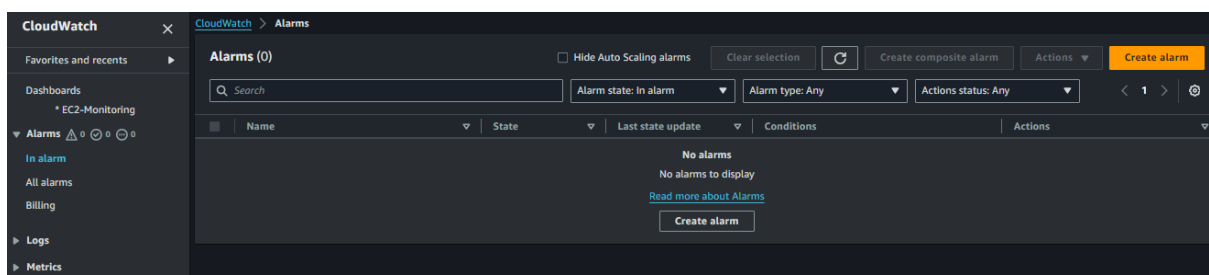
2. Select Metrics and Click Next

3. We are Not able to Find Billing Option So Before that we need to Billing Console

4. Go to Billing Preferences in the right Corner We will get Alert Preferences Edit it

5. Select Receive Cloudwatch Billing Alerts and Update it
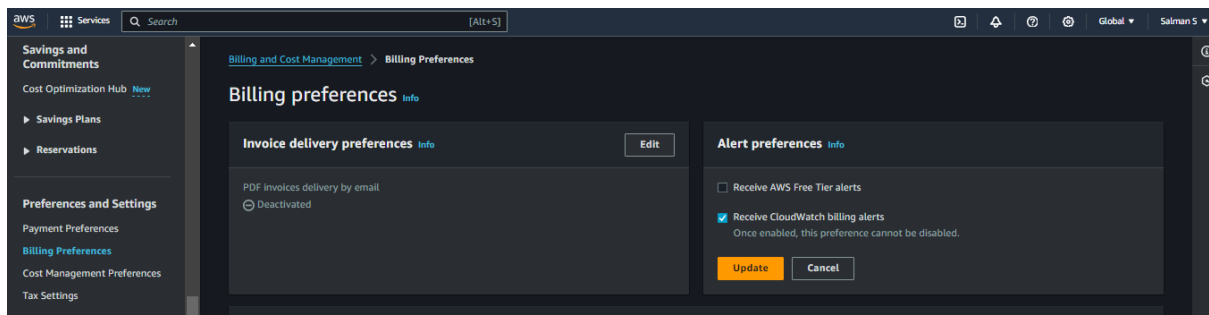
6. Now Again go to Cloudwatch Alarm and Now we able to see Billing Option Click on it

7. Selecting Cloudwatch service and Click Select Metric
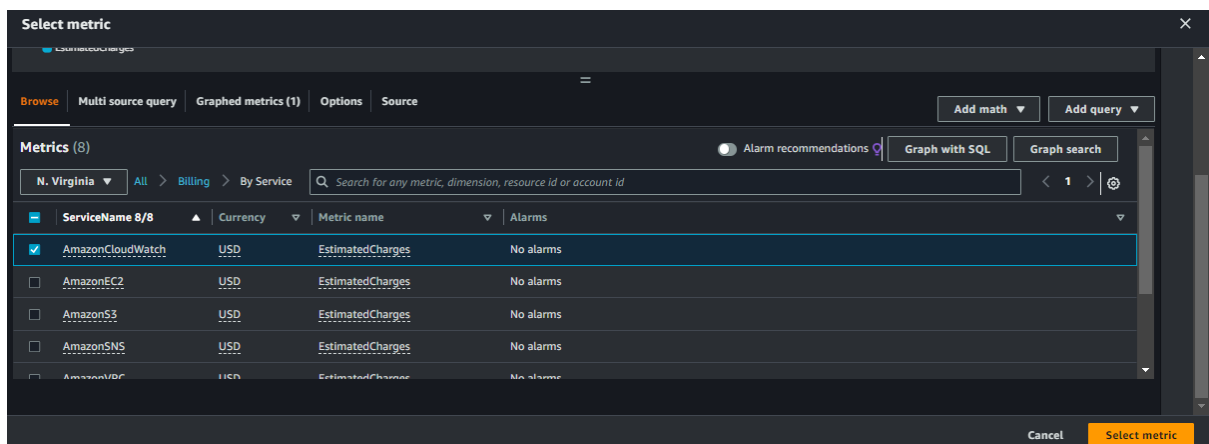
8. ==Estimated Charges==, Now Present I leave Everything as ==Default== but only ==one change 500 USD==

9. Selected ==Static and Threshold== is ==greater than== ==500 USD== and Click Next

10. 2nd Step is Configure Actions Select Alarm and Here Need to Create a Topic I gave Name and Email Address

11. Leave it as Default and Next

12. ==Triggering Error== ==Click== ==Create Topic==

13. Give Name ==I gave Wrongly Because we are doing Task if More than 500 USD Usage for cloudwatch== ==then it will trigger the Notification to Us==. ==But I gave CPUgreaterthen65tosendSNS==, But the ==Concept is Clear==

14. Preview

15. Preview and Click Create Alarm

16. We ==Created== But in the ==Config Part Pending Confirmation==, So go ==Your Email== which u given and Confirm It
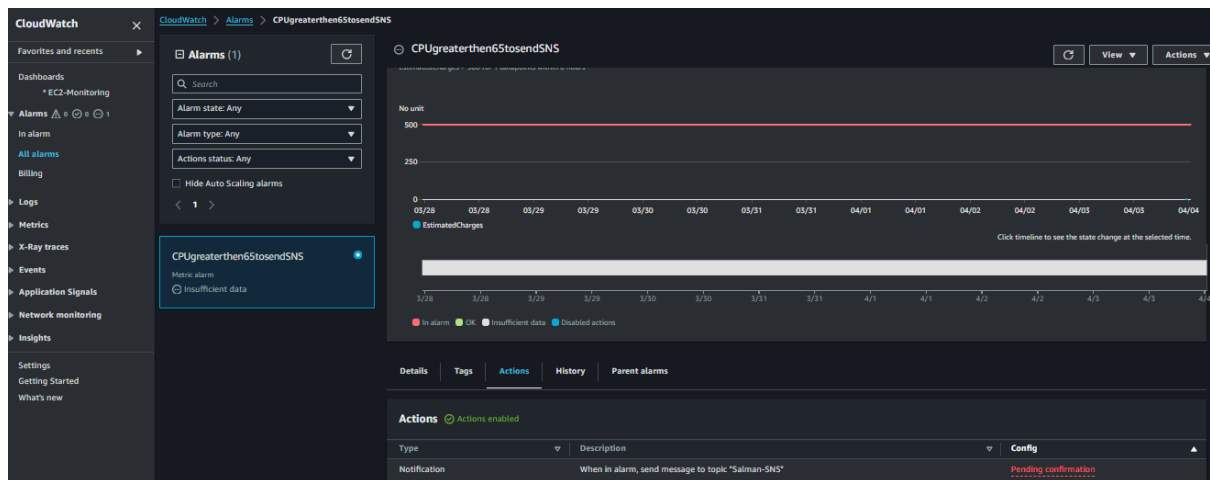
17. See ==I received Notification from AWS== Notification Subscription Confirmation and ==Click Confirm==

AWS Notification - Subscription Confirmation Inbox ×

AWS Notifications <no-reply@sns.amazonaws.com>
to me ▾

12:31PM (3 minutes ago)

You have chosen to subscribe to the topic:
arn:aws:sns:us-east-1:211125783778:Salman-SNS

To confirm this subscription, click or visit the link below (If this was in error no action is necessary):
Confirm subscription

Please do not reply directly to this email. If you wish to remove yourself from receiving all future SNS subscription confirmation requests please send an email to sns-opt-out

18. Now Again ==Go to Alarm== ==Create another Alarm== which ==CPU 65 greater then task== have to perform
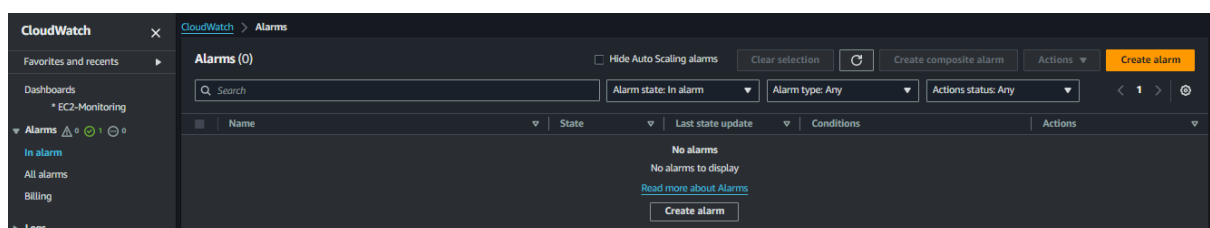
19. Select ==Metric== and Next
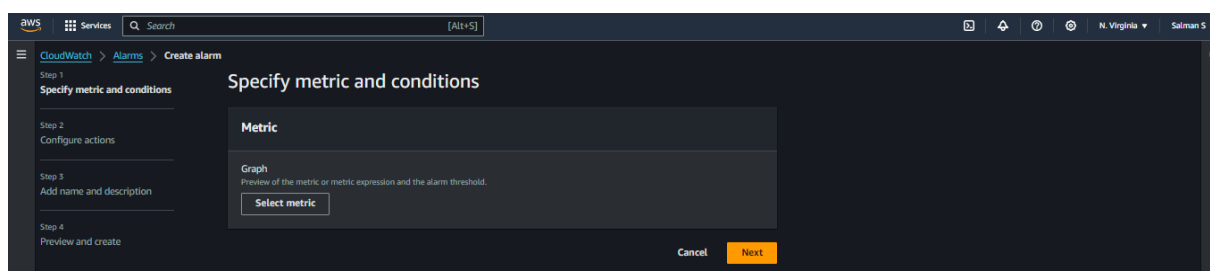
20. Select EC2

21. Select Per-Instance Metrics Because we are not creating to Autoscaling only Particular Instances so Click it.

22. Select CPU-Utilization According to Task

23. Leave it as a Default

24. Selected Static and Selected Greater than 65 and Click Next

25. Select ==In alarm== and Selected ==SNS According to our Task== for ==Future Notification Receive==

26. Here ==I Selected Terminate== ==Instance== ==No need according to Task== ==But Once it will cross 65% CPU Utilization then it will going to Terminate==, Generally ==No Need to terminate== ==Better we will stop Instance== is Better and ==also we Receive Notification According to Our Configuration==

27. Give <mark>Alarm Name and Next</mark>

28. Preview
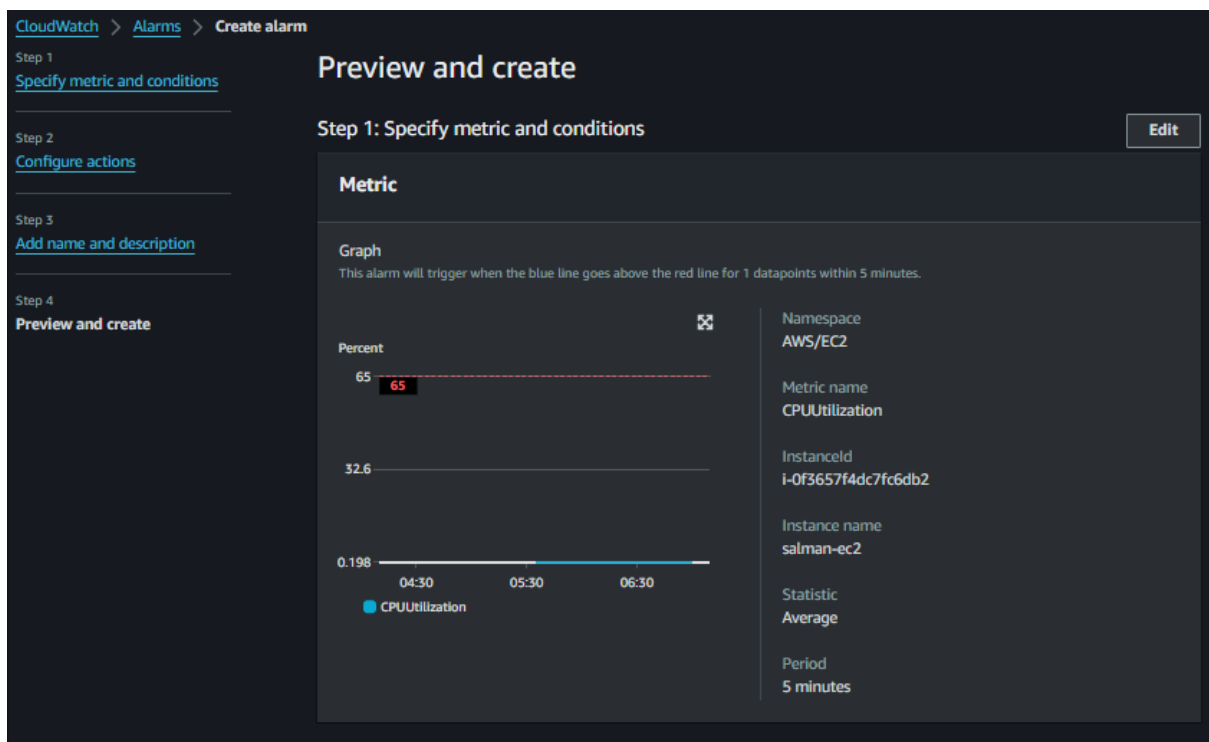
29. This are Actions for CPU-Utilization which we configured Send Message and Terminate Alarm

Details	Tags	Actions	History	Parent alarms

Actions ✓ Actions enabled

Type	▽	Description	▽	Config	▽
Notification		When in alarm, send message to topic "Salman-SNS"		-	
EC2		When in alarm, terminate the instance with id "i-0f3657f4dc7fc6db2"		-	

30. These 2 Alarms Which we Created

CloudWatch > Alarms

Alarms (2) 　　 ☐ Hide Auto Scaling alarms 　 Clear selection 　 ⟳ 　 Create composite alarm 　 Actions ▼ 　 Create alarm

🔍 Search 　　 Alarm state: OK ▼ 　 Alarm type: Any ▼ 　 Actions status: Any ▼ 　 ‹ 1 › ⚙

☐	Name	▽	State	▽	Last state update	▽	Conditions	Actions	▽
☐	greaterthen65thenterminatetheinstance		✓ OK		2024-04-04 07:15:45		CPUUtilization > 65 for 1 datapoints within 5 minutes	✓ Actions enabled	
☐	CPUgreaterthen65tosendSNS		✓ OK		2024-04-04 07:05:38		EstimatedCharges > 500 for 1 datapoints within 6 hours	✓ Actions enabled	

31. And This is Billing alarm, So This is the Task Which given in the Assignment.

CloudWatch ✕ 　　 CloudWatch > Alarms

Favorites and recents ▶

Dashboards
　* EC2-Monitoring

▼ Alarms ⚠ 0 ✓ 2 ⊖ 0
In alarm
All alarms

Billing alarms (1) 　 ☐ Hide Auto Scaling alarms 　 Clear selection 　 ⟳ 　 Create composite alarm 　 Actions ▼ 　 Create alarm

🔍 Search 　　 Alarm state: Any ▼ 　 Alarm type: Any ▼ 　 Actions status: Any ▼ 　 ‹ 1 › ⚙

☐	Name	▽	State	▽	Last state update	▽	Conditions	Actions	▽
☐	CPUgreaterthen65tosendSNS		✓ OK		2024-04-04 07:05:38		EstimatedCharges > 500 for 1 datapoints within 6 hours	✓ Actions enabled	

Thank You