



## **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.

Dec 15 3:53 PM

ChatGPT | Console Home | Console | CloudWatch | us-east-1

https://us-east-1.console.aws.amazon.com/cloudwatch/home?region=us-east-1#alarmsV2:create?~(Page~'MetricSelection~AlarmType~'MetricAla...

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### Select metric

USD-charges

1h 3h 12h 1d 3d 1w Custom UTC timezone Line

Browse | Multi source query - new | Graphed metrics (1) | Options | Source

Metrics (1)

N. Virginia All > Billing > Total Estimated Charge

Search for any metric, dimension, resource id or account id

| <input checked="" type="checkbox"/> | Currency 1/1 | Metric name      | Alarms    |
|-------------------------------------|--------------|------------------|-----------|
| <input checked="" type="checkbox"/> | USD          | EstimatedCharges | No alarms |

Cancel Select metric

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CloudWatch > Alarms > Create alarm

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

### Metric

Edit

**Graph**  
This alarm will trigger when the blue line goes above the red line for 1 datapoints within 6 hours.

No unit

500

250

0.13

12/08 12/10 12/12 12/14

EstimatedCharges

**Namespace**  
AWS/Billing

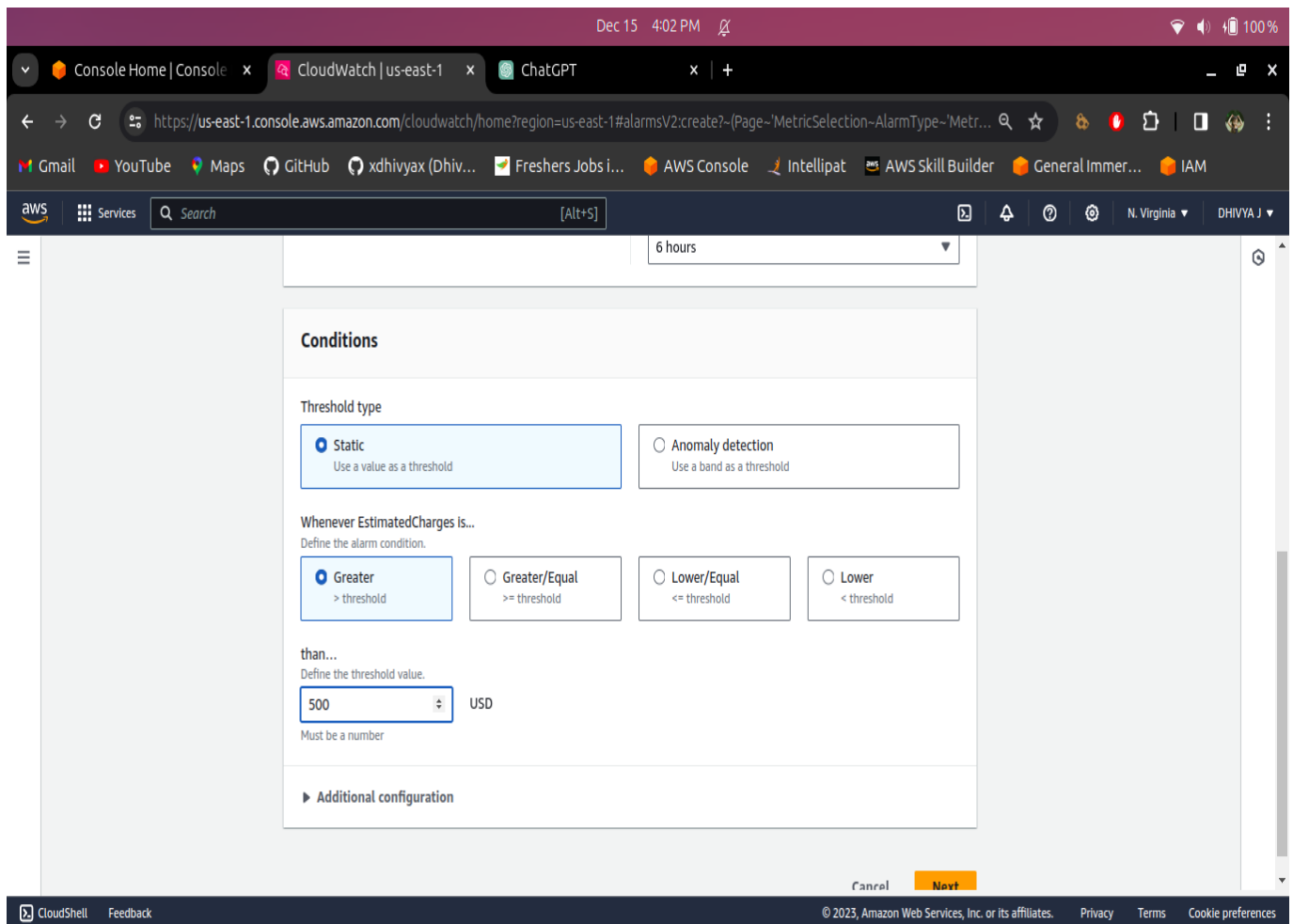
**Metric name**  
EstimatedCharges

**Currency**  
USD

**Statistic**  
Maximum

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Console Home | Console x CloudWatch | us-east-1 x ChatGPT x +

https://us-east-1.console.aws.amazon.com/cloudwatch/home?region=us-east-1#alarmsV2.create?~(Page~Details~AlarmType~MetricAlarm~...

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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

BillingAlarmDemd

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.

Cancel Previous Next

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Console Home | Console x Alarms | CloudWatch | us x ChatGPT x | +

https://us-east-1.console.aws.amazon.com/cloudwatch/home?region=us-east-1#alarmsV2:

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### CloudWatch

CloudWatch > Alarms

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

Search Any state Any type Any actions ... < 1 > ⚙

| <input type="checkbox"/> | Name                             | State | Last state update   | Conditions   | Actions   |
|--------------------------|----------------------------------|-------|---------------------|--|-----------|
| <input type="checkbox"/> | <a href="#">BillingAlarmDemo</a> | OK    | 2023-12-15 10:36:02 | EstimatedCharges > 500 for 1 datapoints within 6 hours | No action |

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Instances | EC2 | us-east-1 x CloudWatch | us-east-1 x ChatGPT x +

https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:instanceId=i-0e9213ef93dbc0a2b

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EC2 Dashboard x

EC2 Global View

Events

Console-to-Code [Preview](#)

▼ Instances

Instances

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts

Capacity Reservations

[New](#)

▼ Images

AMIs

AMI Catalog

Instances (1) Info

Find Instance by attribute or tag (case-sensitive)

Instance ID = i-0e9213ef93dbc0a2b x Clear filters

< 1 > ⚙

| <input type="checkbox"/> | Name ↗          | Instance ID         | Instance state | Instance type | Status check | Actions |
|--------------------------|-----------------|---------------------|----------------|---------------|--------------|---------|
| <input type="checkbox"/> | DemoEC2Instance | i-0e9213ef93dbc0a2b | Running        | t2.micro      | Initializing |         |

Select an instance

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Instances | EC2 | us-east-1 x CloudWatch | us-east-1 x ChatGPT x +

https://us-east-1.console.aws.amazon.com/cloudwatch/home?region=us-east-1#alarmsV2:create?~(Page~'MetricSelection~AlarmType~Metr... ☆

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CloudWatch > Alarms > Create alarm

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

65

32.7

0.345

08:30 09:30 10:30

CPUUtilization

Namespace  
AWS/EC2

Metric name  
CPUUtilization

InstanceId  
i-0e9213ef93dbc0a2b

Instance name  
DemoEC2Instance

Statistic  
Maximum

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Dec 15 4:22 PM 100 %

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Period  
5 minutes

### Conditions

Threshold type

☒ Static  
Use a value as a threshold

☐ Anomaly detection  
Use a band as a threshold

Whenever CPUUtilization is...  
Define the alarm condition.

☒ Greater  
> threshold

☐ Greater/Equal  
>= threshold

☐ Lower/Equal  
<= threshold

☐ Lower  
< threshold

than...  
Define the threshold value.

65

Must be a number

► Additional configuration

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Instances | EC2 | us-east-1 | EmailNoification | Topics | CloudWatch | us-east-1 | ChatGPT

https://us-east-1.console.aws.amazon.com/sns/v3/home?region=us-east-1#/topic/arn:aws:sns:us-east-1:917788167444:EmailNoification

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### Amazon SNS

- Dashboard
- Topics
- Subscriptions
- Mobile
  - Push notifications
  - Text messaging (SMS)
  - Origination numbers

## EmailNoification

Edit Delete Publish message

### Details

|   |                  |
|---|------------------|
| Name  | Display name     |
| EmailNoification                                    | EmailNoification |
| ARN   | Topic owner      |
| arn:aws:sns:us-east-1:917788167444:EmailNoification | 917788167444     |
| Type  |                  |
| Standard  |                  |

< Subscriptions Access policy Data protection policy Delivery policy (HTTP/S) Delivery status logging E >

### Subscriptions (0)

Edit Delete Request confirmation Confirm subscription Create subscription

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Instances | EC2 | us-east-1 x Subscription: 1acb726b-71f9-4a1c-ac5b-3f8f1cb231e1 x CloudWatch | us-east-1 x ChatGPT x +

https://us-east-1.console.aws.amazon.com/sns/v3/home?region=us-east-1#/subscription/am:aws:sns:us-east-1:917788167444:EmailNoification:1a...

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### Amazon SNS

- Dashboard
- Topics
- Subscriptions

▼ Mobile

- Push notifications
- Text messaging (SMS)
- Origination numbers

## Subscription: 1acb726b-71f9-4a1c-ac5b-3f8f1cb231e1

Edit Delete

### Details

|  |           |
|--|-----------|
| ARN  | Status    |
| arn:aws:sns:us-east-1:917788167444:EmailNoification:1acb726b-71f9-4a1c-ac5b-3f8f1cb231e1 | Confirmed |
| Endpoint   | Protocol  |
| dhivyavpy@gmail.com  | EMAIL     |
| Topic  |           |
| EmailNoification   |           |
| Subscription Principal   |           |
| arn:aws:iam::917788167444:root   |           |

[Subscription filter policy](#) | [Redrive policy \(dead-letter queue\)](#)

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Instances | EC2 | us-east-1 x Subscription: 1acb726b- x CloudWatch | us-east-1 x ChatGPT x +

https://us-east-1.console.aws.amazon.com/cloudwatch/home?region=us-east-1#alarmsV2:create?~(Page~'Actions~AlarmType~'MetricAlarm...

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### Configure actions

Step 1  
[Specify metric and conditions](#)

Step 2  
**Configure actions**

Step 3  
Add name and description

Step 4  
Preview and create

#### Notification

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

☒ **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.

**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

☐ Use topic ARN to notify other accounts

**Send a notification to...**

Search EmailNotification X

Only email lists for this account are available.

**Email (endpoints)**  
dhivyavpy@gmail.com - [View in SNS Console](#)

Add notification

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Instances | EC2 | us-east-1 | EC2 Instance Connect | Alarms | CloudWatch | ChatGPT

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### CloudWatch

Alarms

Alarms (1) ☐ Hide Auto Scaling alarms

Search Any state Any type Any actions ...

| <input type="checkbox"/> | Name                     | State | Last state update   | Conditions  | Actions                                |
|--------------------------|--------------------------|-------|---------------------|---|--|
| <input type="checkbox"/> | <a href="#">EC2Alarm</a> | OK    | 2023-12-15 11:00:45 | CPUUtilization > 65 for 1 datapoints within 5 minutes | <input type="button" value="Actions"/> |

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Instances | EC2 | us-east-1 | EC2 Instance Connect | Alarms | CloudWatch | ChatGPT

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### CloudWatch

Favorites and recents

Dashboards

Alarms 1 0 0

In alarm

All alarms

Billing

Logs [New](#)

Metrics [New](#)

All metrics

Explorer

Streams

X-Ray traces

Events

Application Signals [New](#)

#### CloudWatch > Alarms

Alarms (1) ☐ Hide Auto Scaling alarms

Any state Any type Any actions ... < 1 >

| <input type="checkbox"/> | Name                     | State                                       | Last state update   | Conditions  | Actions                                     |
|--------------------------|--------------------------|---|---------------------|---|---|
| <input type="checkbox"/> | <a href="#">EC2Alarm</a> | <span style="color: red;">⚠ In alarm</span> | 2023-12-15 11:04:45 | CPUUtilization > 65 for 1 datapoints within 5 minutes | <span style="color: green;">✔ Action</span> |

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