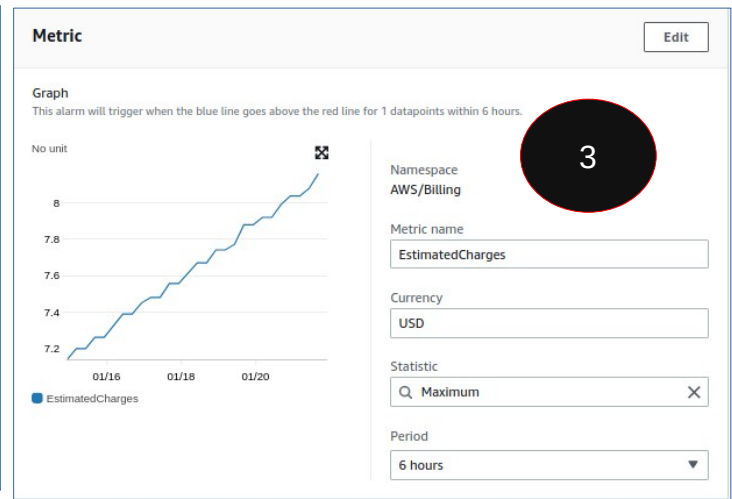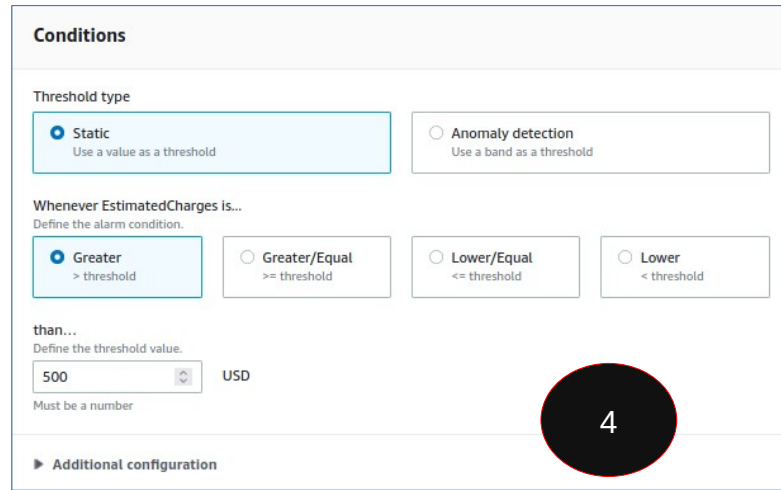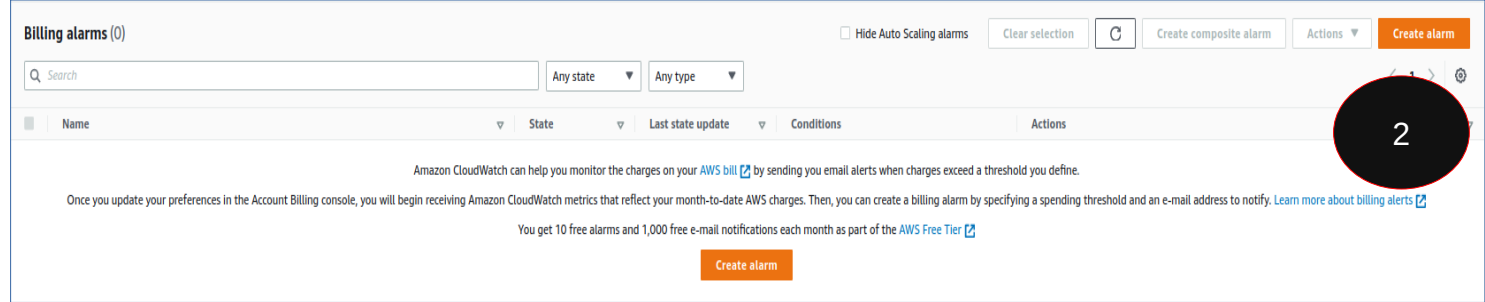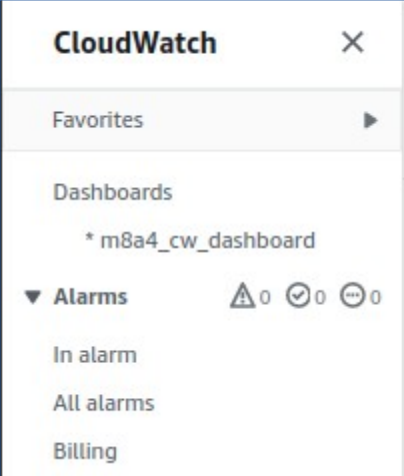# Module 8 Assignment 5 - CloudWatch

You have been asked to:

1. Create a CloudWatch Billing Alarm which goes off when the Estimated Charges goes 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%
   a) Also add an SNS topic so it notifies the person when the threshold is crossed

CloudWatch ✕

Favorites ▶

Dashboards
  * m8a4_cw_dashboard

▼ Alarms   ⚠ 0 ✓ 0 ⋯ 0

In alarm

All alarms

Billing

(1)

Billing alarms (0)   ☐ Hide Auto Scaling alarms   Clear selection   ↻   Create composite alarm   Actions ▼   **Create alarm**

🔍 Search   Any state ▼   Any type ▼

                                                                                                        ‹ 1 › ⚙

☐ | Name ▽ | State ▽ | Last state update ▽ | Conditions | Actions

Amazon CloudWatch can help you monitor the charges on your AWS bill ⬏ by sending you email alerts when charges exceed a threshold you define.

Once you update your preferences in the Account Billing console, you will begin receiving Amazon CloudWatch metrics that reflect your month-to-date AWS charges. Then, you can create a billing alarm by specifying a spending threshold and an e-mail address to notify. Learn more about billing alerts ⬏

You get 10 free alarms and 1,000 free e-mail notifications each month as part of the AWS Free Tier ⬏

Create alarm

(2)

Conditions

Threshold type

◉ Static
Use a value as a threshold

○ Anomaly detection
Use a band as a threshold

Whenever EstimatedCharges is...
Define the alarm condition.

◉ Greater
> threshold

○ Greater/Equal
>= threshold

○ Lower/Equal
<= threshold

○ Lower
< threshold

than...
Define the threshold value.

500   USD

Must be a number

▶ Additional configuration

(4)

Metric   Edit

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

No unit   ⛶

8
7.8
7.6
7.4
7.2
       01/16   01/18   01/20

■ EstimatedCharges

Namespace
AWS/Billing

Metric name
EstimatedCharges

Currency
USD

Statistic
🔍 Maximum   ✕

Period
6 hours   ▼

(3)

---

1. Open "CloudWatch" Console. Click on "Alarms" -> "Billing
2. Click on "Create Alarm"
3. Select "EstimatedCharges". Currency as "USD". Statistic as "Maximum".
4. Select "Static", "Greater", and "500" USD

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.

Select an 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

Send a notification to...

🔍 m7a3sns   ✕

Only email lists for this account are available.

Email (endpoints)
enhariharan@gmail.com - View in SNS Console ⤴

Add notification

5

Add name and description

Name and description

Alarm name

m4a8_cw_alarm_billing   **6**

Alarm description - *optional*

Alarm description

Up to 1024 characters (0/1024)

Cancel   Previous   **Next**

CloudWatch > Alarms

Billing alarms (1)

☐ Hide Auto Scaling alarms   Clear selection   ⟳   Create composite alarm   Actions ▼   **Create alarm**

🔍 Search   Any state ▼   Any type ▼   ‹ 1 › ⚙

☐	Name	▽	State	▽	Last state update	▽	Conditions	Actions	▽
☐	m4a8_cw_alarm_billing		⊖ Insufficient data		2022-01-22 23:05:55		EstimatedCharges > 500 for 1 datapoints within 6 hours	⊘ Actions enabled	

7

5. Add SNS notification
6. Name the alarm, review and create.
7. Verify that alarm is created successfully

CloudWatch

Favorites ▶

Dashboards

　　* m8a4_cw_dashboard

▼ **Alarms**　⚠ 0　✅ 1　⊖ 0

In alarm

(8)

All alarms

Billing

Specify metric and conditions

Metric

Graph
Preview of the metric or metric ex... alarm threshold.

[Select metric]

(9)

Cancel　[**Next**]

EC2 **(10)**	17
S3	4
Usage	163

(11)

☑ m8a4_ec2_instance　　　　i-01c546d25d6be3fe9 ▽　　　　CPUUtilization ▽

Specify metric and conditions

Metric　　[Edit]

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

Percent　　　　　　　　⤢

60 ────────────────────

40

20

　　15:30　　16:30　　17:30
● CPUUtilization

Namespace
AWS/EC2

Metric name
[CPUUtilization]

InstanceId
[i-01c546d25d6be3fe9]

Instance name
m8a4_ec2_instance

Statistic
[🔍 p90]

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

(12)

▶ dditional configuration

Cancel　[**Next**]

8. From CloudWatch console, select "In alarm" and then select "Create alarm"
9. Select metric
10. Select EC2
11. Select "CPUUtilization"
12. Setup threshold metric to >65%

Configure actions

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.

Select an 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

Send a notification to...

🔍 m7a3sns   ✕

m7a3sns

m7a3sns

enhariharan@gmail.com – View in SNS Console ↗

[Add notification]

13

Add name and description

Name and description

Alarm name

m8a5_CW_cpu_utilization_alarm

Alarm description – *optional*

Alarm description

Up to 1024 characters (0/1024)

14

Cancel   [Previous]   [Next]

⊟ Alarms (2)   ⟳

🔍 Search

Any state   ▼

Any type   ▼

☐ Hide Auto Scaling alarms

⟨ **1** ⟩

15

---

m8a5_CW_cpu_utilization_alarm   (●)
Metric alarm
⊘ OK

---

m4a8_cw_alarm_billing   ( )
Metric alarm
⊘ OK

---

8. From CloudWatch console, select "In alarm" and then select "Create alarm"
9. Select metric
10. Select EC2
11. Select "CPUUtilization"
12. Setup threshold metric to >65%
13. Setup SNS notifications
14. Name the alarm, review, and create
15. Go to Alarms Console and verify that all alarms are created successfully.