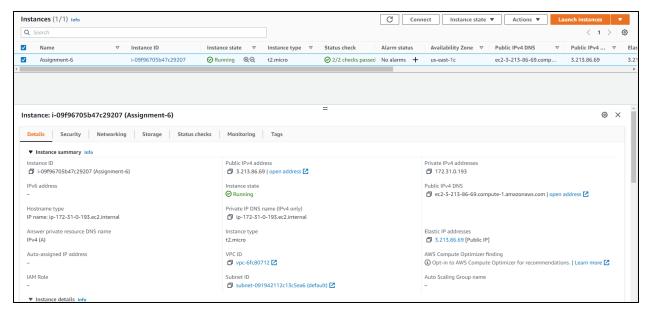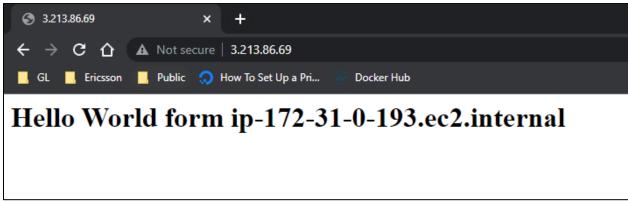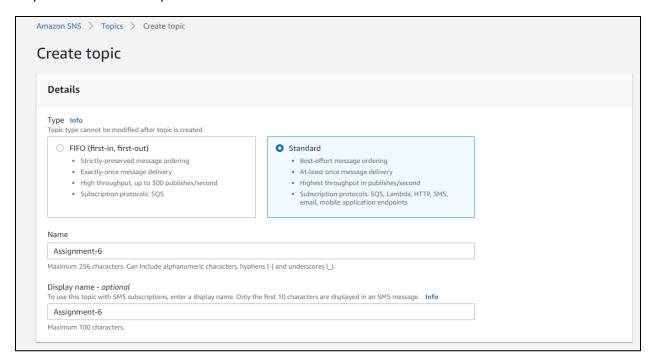Assignment 6 :: Setting Up cloud Watch with SNS to control EC2 actions

Step 1: Create an instance and ensure its in running state
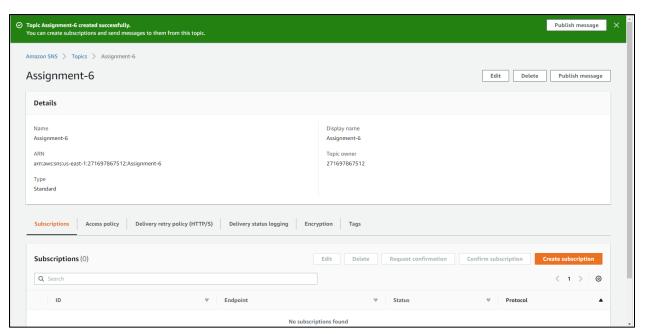
Step 2 :: Create a SNS Topic as below

Skip the rest and click "**Create Topic**"

Step 3 :: Create a subscription for this topic as below

AWS Notification - Subscription Confirmation

A Assignment-6 <no-reply@sns.amazonaws.com>
To ✓ hari.gopalakrishnan@globallogic.com

You have chosen to subscribe to the topic:
arn:aws:sns:us-east-1:271697867512:Assignment-6

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

---

aws

Simple Notification Service

Subscription confirmed!

You have successfully subscribed.

Your subscription's id is:
arn:aws:sns:us-east-1:271697867512:Assignment-6:3276390e-1f62-43a6-9b8e-bd7706708020

If it was not your intention to subscribe, click here to unsubscribe.

Subscription: 3276390e-1f62-43a6-9b8e-bd7706708020   [Edit] [Delete]

Details

ARN	Status
arn:aws:sns:us-east-1:271697867512:Assignment-6:3276390e-1f62-43a6-9b8e-bd7706708020	⊘ Confirmed
Endpoint	Protocol
hari.gopalakrishnan@globallogic.com	EMAIL
Topic	
Assignment-6	

Step 4 :: Send a sample message to verify the subscription → Select "Publish message" and follow below screens

Assignment-6

| Edit | Delete | Publish message |

Details

Name	**Display name**
Assignment-6	Assignment-6
ARN	**Topic owner**
arn:aws:sns:us-east-1:271697867512:Assignment-6	271697867512
Type	
Standard	

Message details

Topic ARN

arn:aws:sns:us-east-1:271697867512:Assignment-6

Subject - *optional*

Test Mail

Maximum 100 printable ASCII characters

Time to Live (TTL) - *optional*

This setting applies only to mobile application endpoints. The number of seconds that the push notification service has to deliver the message to the endpoint. **Info**

Message body

Message structure

🔘 **Identical payload for all delivery protocols.**
The same payload is sent to endpoints subscribed to the topic, regardless of their delivery protocol.

⚪ **Custom payload for each delivery protocol.**
Different payloads are sent to endpoints subscribed to the topic, based on their delivery protocol.

Message body to send to the endpoint

```
1 Test Message
```

Test Mail

A Assignment-6 <no-reply@sns.amazonaws.com>
To ● hari.gopalakrishnan@globallogic.com

Test Message

--
If you wish to stop receiving notifications from this topic, please click or visit the link below to unsubscribe:
https://sns.us-east-1.amazonaws.com/unsubscribe.html?SubscriptionArn=arn:aws:sns:us-east-1:271697867512:Assignment-6:3276390e-1f62-43a6-9b8e-bd7706708020&Endpoint=hari.gopalakrishnan@globallogic.com

Please do not reply directly to this email. If you have any questions or comments regarding this email, please contact us at https://aws.amazon.com/support

Step 5 :: Create a Cloud Watch as below

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

Graph
Preview of the metric or metric expression and the alarm threshold.

Select metric

Cancel | **Next**

Select metric ✕

07:00 07:15 07:30 07:45 08:00 08:15 08:30 08:45 09:00 09:15 09:30 09:45

=

Browse | Query | Graphed metrics | Options | Source   Add math ▼ | Add query ▼

Metrics (1,268)   Graph with SQL | Graph search

🔍 Search for any metric, dimension or resource id

ApplicationELB	171	Auto Scaling	21	Billing	14	EBS	261
EC2	494	Firehose	2	Logs	5	NATGateway	36
Polly	3	Rekognition	6	SNS	6	Transcribe	6

Cancel | Select a single metric to continue

Select metric ✕

07:00 07:15 07:30 07:45 08:00 08:15 08:30 08:45 09:00 09:15 09:30 09:45

=

Browse | Query | Graphed metrics | Options | Source   Add math ▼ | Add query ▼

Metrics (494)   Graph with SQL | Graph search

All > EC2   🔍 Search for any metric, dimension or resource id

| By Auto Scaling Group | 17 | Per-Instance Metrics | 477 |

Cancel | Select a single metric to continue

Select metric

CPUUtilization

| 07:00 | 07:15 | 07:30 | 07:45 | 08:00 | 08:15 | 08:30 | 08:45 | 09:00 | 09:15 | 09:30 | 09:45 |

=

Browse | Query | Graphed metrics (1) | Options | Source

Add math ▼   Add query ▼

Metrics (477)

Graph with SQL   Graph search

All > EC2 > Per-Instance Metrics   🔍 Search for any metric, dimension or resource id

	Instance name (477) ▲	InstanceId ▲	Metric name ▲
☐	Assignment-6	i-09f96705b47c29207 ▼	StatusCheckFailed_Instance ▼
☐	Assignment-6	i-09f96705b47c29207 ▼	StatusCheckFailed ▼
☐	Assignment-6	i-09f96705b47c29207 ▼	NetworkPacketsIn ▼
☐	Assignment-6	i-09f96705b47c29207 ▼	NetworkPacketsOut ▼
☑	Assignment-6	i-09f96705b47c29207 ▼	CPUUtilization ▼
☐	Assignment-6	i-09f96705b47c29207 ▼	NetworkIn ▼
☐	Assignment-6	i-09f96705b47c29207 ▼	NetworkOut ▼

Cancel   **Select metric**

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 below the red line for 1 datapoints within 1 minute.

Percent

15	
10	
5	

07:30   08:30   09:30

● CPUUtilization

Namespace
AWS/EC2

Metric name
CPUUtilization

InstanceId
i-09f96705b47c29207

Instance name
Assignment-6

Statistic
🔍 Average   ✕

Period
1 minute ▼

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.

```
15
```

Must be a number

▼ Additional configuration

Datapoints to alarm
Define the number of datapoints within the evaluation period that must be breaching to cause the alarm to go to ALARM state.

```
1
```
out of
```
1
```

Missing data treatment
How to treat missing data when evaluating the alarm.

```
Treat missing data as missing          ▼
```

Cancel   **Next**

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.

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...

🔍 Assignment-6   ✕

Only email lists for this account are available.

Email (endpoints)
hari.gopalakrishnan@globallogic.com - View in SNS Console ↗

[Add notification]

Auto Scaling action

Add Auto Scaling action

EC2 action

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.

Take the following action...
Define what will happen to the EC2 instance with the Instance ID i-09f96705b47c29207 when this alarm is triggered.

- ● Recover this instance
  You can only recover certain EC2 instance types. See documentation
- ● **Stop this instance**
  You can only stop an instance if it is backed by an EBS volume. AWS will use the existing Service Linked Role (AWSServiceRoleForCloudWatchEvents) to perform this action. Show IAM policy document
- ○ **Terminate this instance**
  You will not be able to terminate this instance if termination protection is enabled. AWS will use the existing Service Linked Role (AWSServiceRoleForCloudWatchEvents) to perform this action. Show IAM policy document
- ○ **Reboot this instance**
  An instance reboot is equivalent to an operating system reboot. AWS will use the existing Service Linked Role (AWSServiceRoleForCloudWatchEvents) to perform this action. Show IAM policy document

Add EC2 action

Systems Manager action Info ↗

Systems Manager action Info ↗

This action will create an Incident or OpsItem in Systems Manager when the alarm is **In alarm** state.

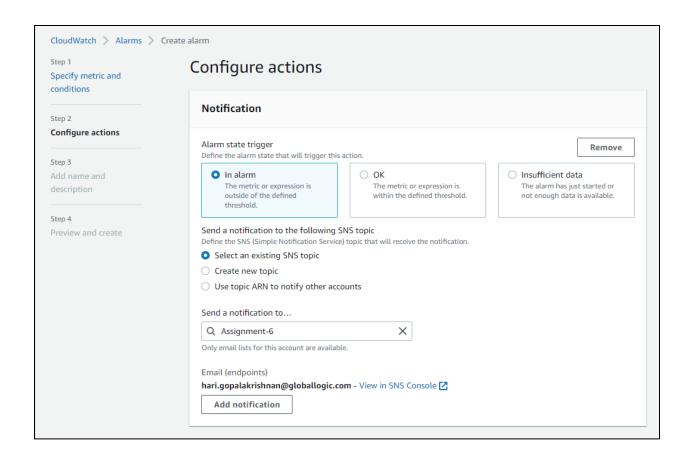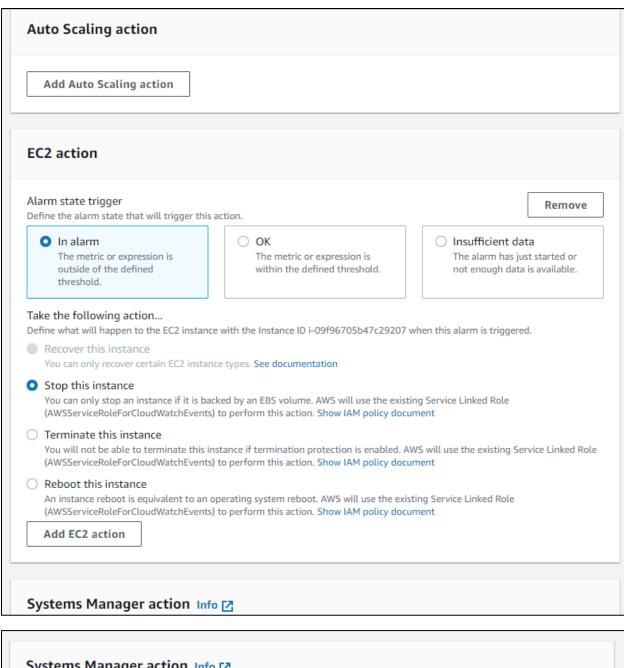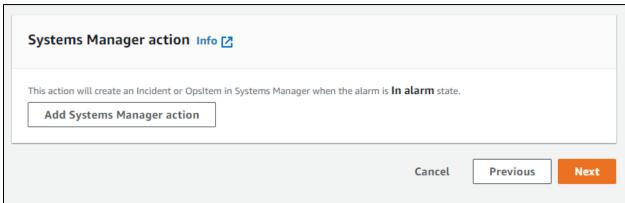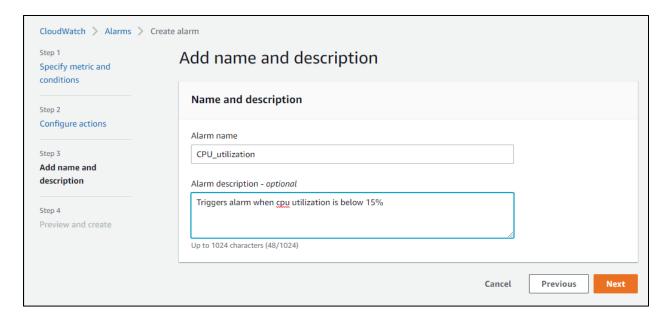**Add Systems Manager action**

Cancel   Previous   **Next**

Now preview the CloudWatch Alarm and click submit

Result ::