

## SNS SQS CW

SNS SIMPLE NOTIFICATION SERVICE

SQS SIMPLE QUEING SERVICE

CW CLOUD WATCH IS MONITORING

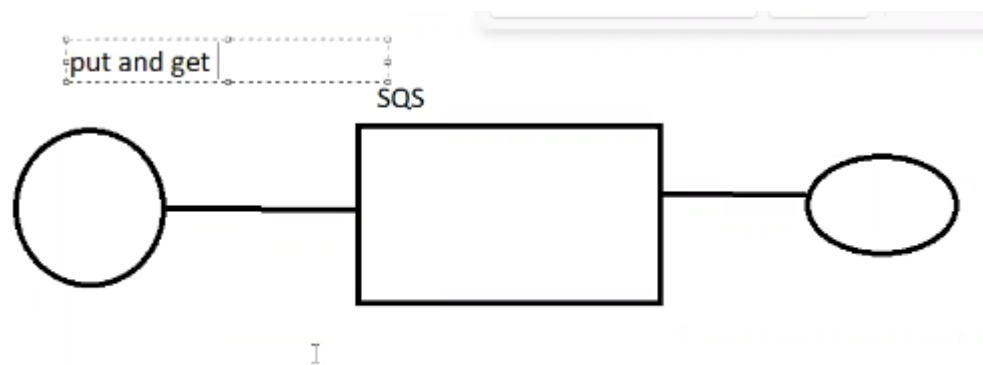
APPLICATION ENGINEERING

### COMMUNICATION

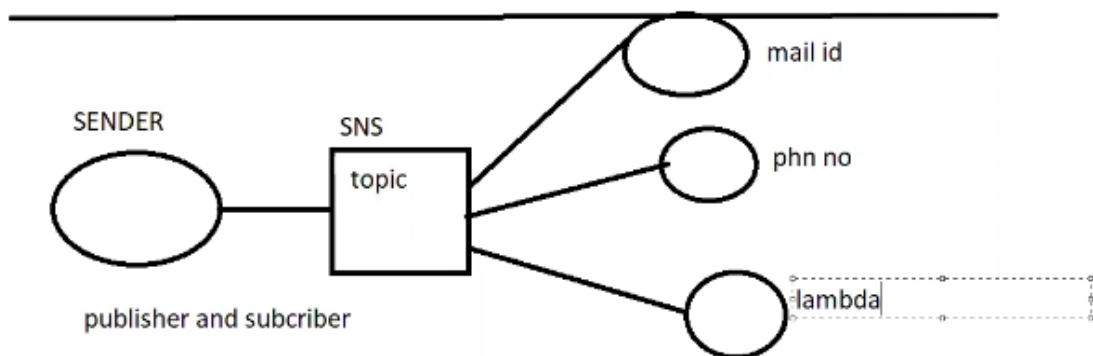
Synchronous - eg phone call sender and receiver

Asynchronous - eg text messages sender must be there receiver not

SQS



SNS



(\*) select create queue

Amazon SQS > Queues > Create queue

## Create queue

Details


Type  
Choose the queue type for your application or cloud infrastructure.

☒ Standard info  
At-least-once delivery, message ordering isn't preserved

- At-least once delivery
- Best-effort ordering

☐ FIFO info  
First-in-first-out delivery, message ordering is preserved

- First-in-first-out delivery
- Exactly-once processing

 You can't change the queue type after you create a queue.

Name

A queue name is case-sensitive and can have up to 80 characters. You can use alphanumeric characters, hyphens (-), and underscores (\_).

## (\*) configuration

### Configuration

Set the maximum message size, visibility to other consumers, and message retention. [Info](#)

#### Visibility timeout [Info](#)

Seconds

Should be between 0 seconds and 12 hours.

#### Delivery delay [Info](#)

Seconds

Should be between 0 seconds and 15 minutes.

#### Receive message wait time [Info](#)

Seconds

Should be between 0 and 20 seconds.

#### Message retention period [Info](#)

Days

Should be between 1 minute and 14 days.

#### Maximum message size [Info](#)

KB

Should be between 1 KB and 256 KB.

## (\*) access policy

### Access policy

Define who can access your queue. [Info](#)

#### Choose method

☒ **Basic**  
Use simple criteria to define a basic access policy.

☐ **Advanced**  
Use a JSON object to define an advanced access policy.

#### Define who can send messages to the queue

☒ **Only the queue owner**  
Only the owner of the queue can send messages to the queue.

☐ **Only the specified AWS accounts, IAM users and roles**  
Only the specified AWS account IDs, IAM users and roles can send messages to the queue.

#### Define who can receive messages from the queue

☒ **Only the queue owner**  
Only the owner of the queue can receive messages from the queue.

☐ **Only the specified AWS accounts, IAM users and roles**  
Only the specified AWS account IDs, IAM users and roles can receive messages from the queue.

#### JSON (read-only)

```
{
  "Version": "2012-10-17",
  "Id": "__default_policy_ID",
  "Statement": [
    {
      "Sid": "_owner_statement",
      "Effect": "Allow",
      "Principal": {
        "AWS": "S09636718481"
      },
      "Action": [
        "SQS:*"
      ],
      "Resource": "arn:aws:sqs:ap-southeast-1:S09636718481:my_queue"
    }
  ]
}
```

Amazon SQS > Queues

Queues (1)

Search queues by profile

1 > 1

Name	Type	Created	Messages available	Messages in flight	Encryption	Content-based deduplication
myqueue	Standard	30-Apr-2023, 19:44:51 IST	0	0	Amazon SQS key (SSS-SQS)	-

(\*) send and receive messages

Amazon SQS > Queues > myqueue > Send and receive messages

Send and receive messages

Send messages to and receive messages from a queue.

Send message [info](#)

Clear content

Send message

Message body

Enter the message to send to the queue.

Enter message

Delivery delay [info](#)

0

Seconds

Should be between 0 seconds and 15 minutes.

[Message attributes](#) - [Optional info](#)

(\*) poll for messages

Receive messages [info](#)

Edit poll settings

Stop polling

Poll for messages

Messages available

1

Polling duration

30

Maximum message count

10

Polling progress

0 receives/second

0%

Messages (0)

Search messages

View details

Delete

ID

Sent

Size

Receive count

No messages. To view messages in the queue, poll for messages.

Poll for messages

Receive messages [info](#)

Edit poll settings

Stop polling

Poll for messages

Messages available

1

Polling duration

30

Maximum message count

10

Polling progress

1 receives/second

57%

Messages (1)

Search messages

View details

Delete

ID

Sent

Size

Receive count

☐

018cd572-9dfb-4573-a19e-5b252c67b301

30-Apr-2023, 19:54:25 IST

13 bytes

1

Message: 018cd572-9dfb-4573-a19e-5b252c67b301

Details

Body

Attributes

hi 10am group

Done

## SNS SIMPLE NOTIFICATION SERVICE

machine to machine

application to application

application to person

### Application-to-application (A2A)

Amazon SNS is a managed messaging service that lets you decouple publishers from subscribers. This is useful for application-to-application messaging for microservices, distributed systems, and serverless applications. [Learn more](#)

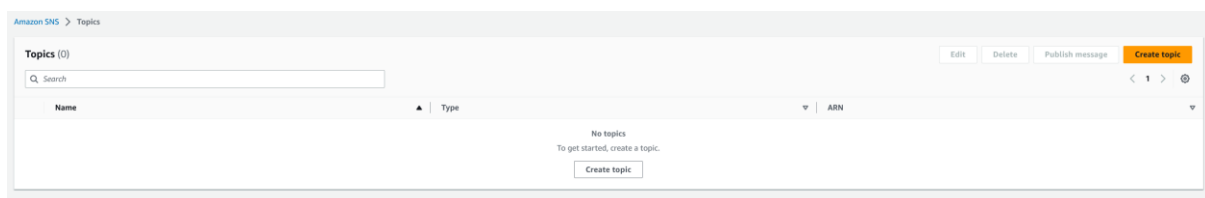


### Application-to-person (A2P)

Amazon SNS lets you send push notifications to mobile apps, text messages to mobile phone numbers, and plain-text emails to email addresses. You can fan out messages with a topic, or publish to mobile endpoints directly. [Learn more](#)



(\*) CREATE A TOPIC



(\*) create topic

Amazon SNS > Topics > Create topic

Create topic

Details

Type [Info](#)

Topic type cannot be modified after topic is created

☒ **FIFO (first-in, first-out)**

- Strictly-preserved message ordering
- Exactly-once message delivery
- High throughput, up to 300 publishes/second
- Subscription protocols: SQS

☐ **Standard**

- Best-effort message ordering
- At-least once message delivery
- Highest throughput in publishes/second
- Subscription protocols: SQS, Lambda, HTTP, SMS, email, mobile application endpoints

Name

mytopic10am.fifo

Maximum 256 characters. Can include alphanumeric characters, hyphens (-) and underscores (\_). FIFO topic names must end with ".fifo".

Display name - optional [Info](#)

To use this topic with SMS subscriptions, enter a display name. Only the first 10 characters are displayed in an SMS message.

mytopic10am

Maximum 100 characters.

Content-based message deduplication [Info](#)

Enable default message deduplication based on message content. If unchecked, a deduplication ID must be provided for every publish request.

☐ Turn on message deduplication

▼ Access policy - optional [Info](#)

This policy defines who can access your topic. By default, only the topic owner can publish or subscribe to the topic.

Choose method

☒ **Basic**  
Use simple criteria to define a basic access policy.

☐ **Advanced**  
Use a JSON object to define an advanced access policy.

Publishers

Specify who can publish messages to the topic.

Only the topic owner

Only the owner of the topic can publish to the topic

Subscribers

Specify who can subscribe to this topic.

Everyone

Any AWS account can subscribe to the topic

JSON preview

```
{
  "Action": [
    "SNS:Publish",
    "SNS:RemovePermission",
    "SNS:SetTopicAttributes",
    "SNS:DeleteTopic",
    "SNS:ListSubscriptionsByTopic",
    "SNS:GetTopicAttributes",
    "SNS:AddPermission",
    "SNS:Subscribe"
  ],
  "Resource": "arn:aws:sns:ap-southeast-1:509636718401:mytopic10am.fifo",
  "Condition": {
    "StringEquals": {

```

Topic ARN

arn:aws:sns:ap-southeast-1:174912287653:my10Amgroup

Protocol

The type of endpoint to subscribe

Email

Endpoint

An email address that can receive notifications from Amazon SNS.

vennisav@gmail.com

After your subscription is created, you must confirm it. [Info](#)

(\*) create subscription

Amazon SNS > Subscriptions

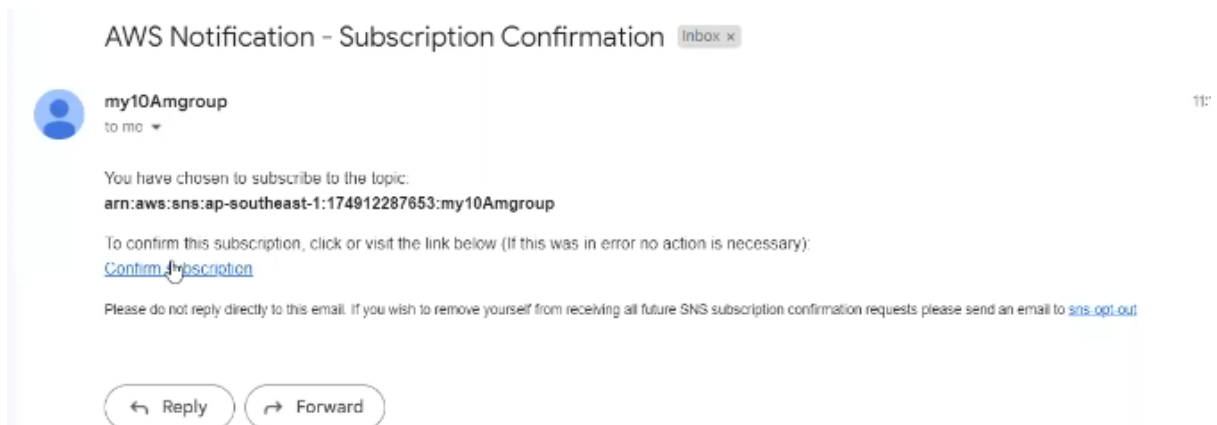
Subscriptions (3)

Edit Delete Request confirmation Confirm subscription Create subscription

Search

ID	Endpoint	Status	Protocol	Topic
68036815-fd4e-4243-9...	vennisav@gmail.com	Confirmed	EMAIL	my10Amgroup
6f3824af-f7a6-4bf2-99c...	dhanushgopi78@gmail.c...	Confirmed	EMAIL	my10Amgroup
Pending confirmation	parthiraji483@gmail.com	Pending confirmation	EMAIL	my10Amgroup

(\*) confirm subscription



(\*) publish message

Amazon SNS > Topics

Topics (1)

Edit

Delete

Publish message

Create topic

Search

< 1 > ⚙

Name	Type	ARN
<div><div></div>my10amgroup</div>	Standard	arn:aws:sns:ap-southeast-1:174912287653:my1...

Publish message to topic

Message details

Topic ARN

arn:aws:sns:ap-southeast-1:509636718401:mytopic10am.fifo

Subject - optional

greetings

Maximum 100 printable ASCII characters

Message group ID [Info](#)

The mandatory token that specifies that a message belongs to a specific message group. Messages that belong to the same message group are guaranteed to be processed in a FIFO manner.

Enter message group ID

Maximum 128 characters. Can include alphanumeric characters and punctuation.

Message deduplication ID [Info](#)

The token used for deduplication of messages within the deduplication interval.

Enter message deduplication ID

Maximum 128 characters. Can include alphanumeric characters and punctuation.

Time to Live (TTL) - optional [Info](#)

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.

(\*) publish message

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

bloody

sweet

Message attributes [Info](#)

Message attributes let you provide structured metadata items (such as timestamps, geospatial data, signatures, and identifiers) for the message.

Type

Name

Value

Select attribute type

Enter attribute name

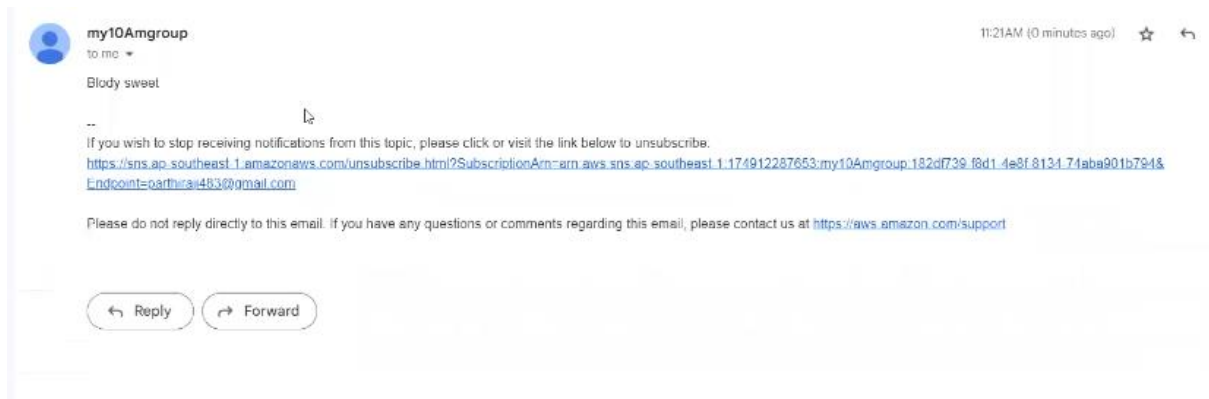
value or ["value1", "value2"]

Remove

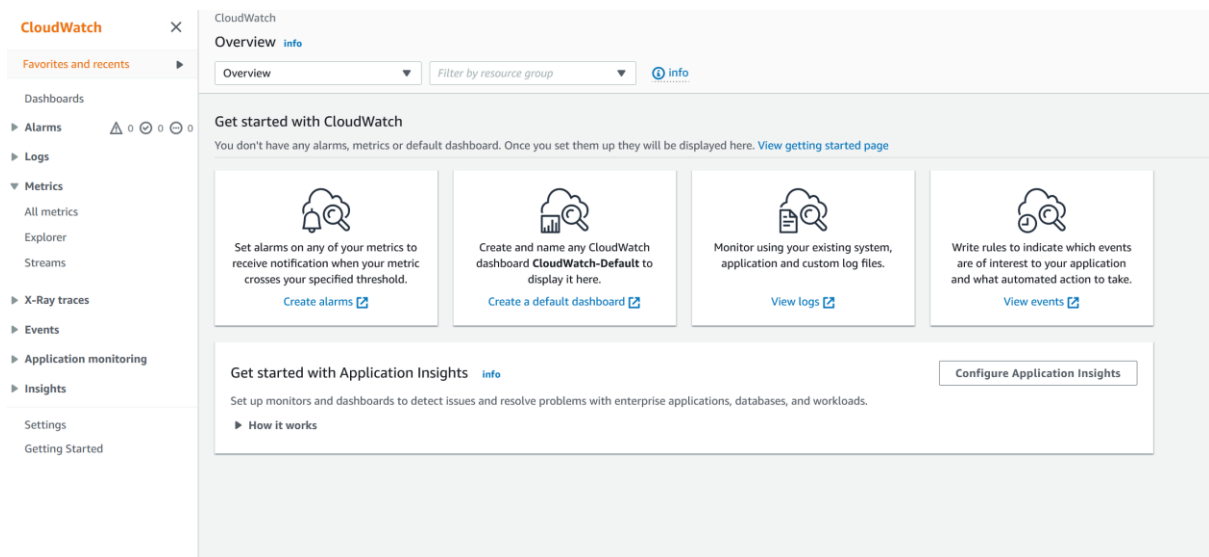
Add another attribute

Cancel

Publish message



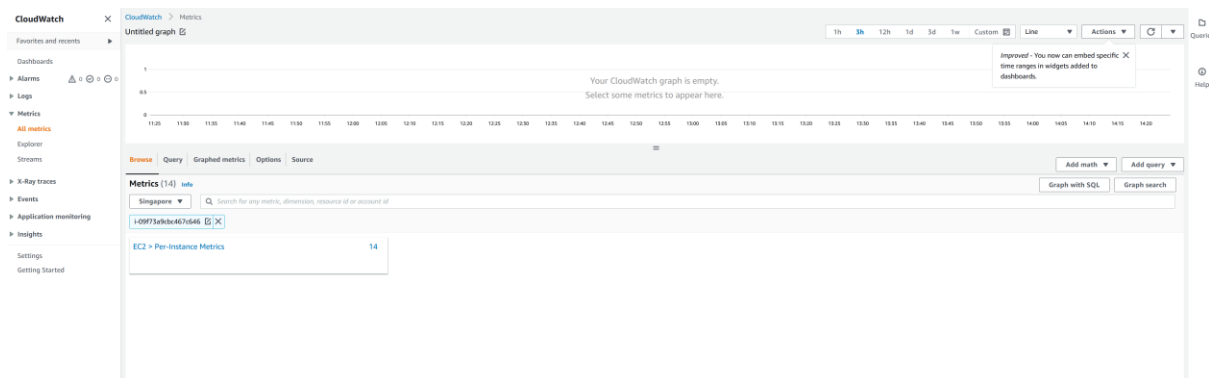
## CW CLOUD WATCH IS MONITORING



(\*) launch an ec2 instance



(\*) copy the instance id and paste it in cloud watch





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

i-09f73a9cbc467c646 🗄️ ✕

<input type="checkbox"/>	Instance name 14/14 ▲	Instanceid ▾	Metric name
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	MetadataNoToken
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	NetworkPacketsIn
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	NetworkPacketsOut
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	CPUUtilization
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	NetworkIn
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	NetworkOut
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	DiskReadBytes
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	CPUCreditUsage
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	CPUCreditBalance
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	CPUSurplusCreditBalance
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	CPUSurplusCreditsCharged
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	DiskWriteBytes
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	DiskReadOps
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	DiskWriteOps

(\*) cpu utilization add to graph

<input type="checkbox"/>	Instance name 14/14	Instanceid	Metric name
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	MetadataNoToken
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	NetworkPacketsIn
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	NetworkPacketsOut
<input checked="" type="checkbox"/>	windowscw	i-09f73a9cbc467c646	CPUUtilization
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	NetworkIn
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	NetworkOut
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	DiskReadBytes
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	CPUCreditUsage
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	CPUCreditBalance
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	CPUSurplusCreditBalance
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	CPUSurplusCreditsCharged
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	DiskWriteBytes
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	DiskReadOps
<input type="checkbox"/>	windowscw	i-09f73a9cbc467c646	DiskWriteOps

Add to search

Exclude from search

Remove from search

Search for this only

Remove from graph

Graph this metric only

Graph all search results

Graph with SQL query

View in Resource Health

(\*) select graphed metrics

Browse

Query

Graphed metrics (1)

Options

Source

Add dynamic label

Info

<input checked="" type="checkbox"/>	Label	Details	Statistic	Period	Y axis	Actions
<input checked="" type="checkbox"/>	<div>CPUUtilization</div>	EC2 • CPUUtilization • Instanceid: i-09f73a9cl	Average	5 minutes		<div><div></div><div></div><div></div><div></div><div></div><div></div></div>

Step 1

Specify metric and conditions

Step 2

Configure actions

Step 3

Add name and description

Step 4

Preview and create

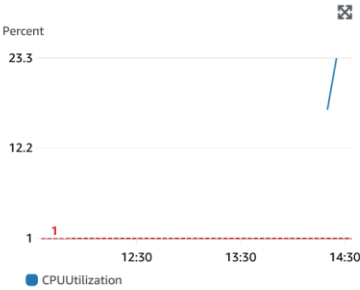
## Specify metric and conditions

### Metric

Edit

#### Graph

This alarm will trigger when the blue line goes below the red line for 1 datapoints within 1 minute.



Namespace

AWS/EC2

Metric name

CPUUtilization

Instanceld

i-09f73a9cbc467c646

Instance name

windowscw

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.

1

Must be a number

### 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...

my10Amgroup

Only email lists for this account are available.

Email (endpoints)

dhanushgopi78@gmail.com and 2 more - [View in SNS Console](#)

Add notification

## 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-09f73a9cbc467c646 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

(\*) add name and description

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

### Add name and description

**Name and description**

Alarm name  
Critical

Alarm description - optional [View formatting guidelines](#)

[Edit](#) [Preview](#)

If you see this message the is machine is stopped

Up to 1024 characters (49/1024)

ⓘ 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**

(\*) review and create alarm

**Actions**

Notification  
When in alarm, send a notification to "my10Agroup"

EC2 action  
When in alarm, stop this instance (Instance ID: i-0c8005f03e35e2e21)

Step 3: Add name and description [Edit](#)

**Name and description**

Name  
Critical

Description  
If you see this message the is machine is stopped

ⓘ 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 **Create alarm**

## Notification

1 datapoints [0.1994535519125682 (21/04/23 05:58:00)] was less than the threshold (1.0) (minimum 1 datapoint for OK → ALARM transition) - Fri, Friday 21 April, 2023.

View this alarm in the AWS Management Console.

<https://ap-southeast-1.console.aws.amazon.com/cloudwatch/deeplink.js?region=ap-southeast-1#alarmsV2:alarm/Critical>

### Alarm Details:

- Name: Critical  
- Description: If you see this message the is machine is stopped.  
- State Change: INSUFFICIENT\_DATA -> ALARM  
- Reason for State Change: Threshold Crossed: 1 out of the last 1 datapoints [0.1994535519125682 (21/04/23 05:58:00)] was less than the threshold (1.0) (minimum ALARM transition).  
- Timestamp: Friday 21 April, 2023 06:04:11 UTC  
- AWS Account: 174912287653  
- Alarm Arn: arn:aws:cloudwatch:ap-southeast-1:174912287653:alarm:Critical

### Threshold:

- The alarm is in the ALARM state when the metric is LessThanThreshold 1.0 for at least 1 of the last 1 period(s) of 60 seconds.

### Monitored Metric:

- MetricNamespace: AWS/EC2  
- MetricName: CPUUtilization  
- Dimensions: [InstanceId = i-0c8005f03e35e2e21]  
- Period: 60 seconds  
- Statistic: Average  
- Unit: not specified  
- TreatMissingData: missing