

ASSIGNMENT-6

EC-2 INSTANCE CREATED

The screenshot displays the AWS Management Console for the 'us-east-1' region. The 'Instances' page is active, showing a list of EC2 instances. A single instance named 'Gourab' with ID 'i-047019e2a1103f368' is listed, with a state of 'Running' and type 't2.micro'. The 'Status check' is 'Initializing' and 'Alarm status' is 'No alarms'. The left sidebar shows the 'Instances' menu with options like 'Instance Types', 'Launch Templates', and 'Spot Requests'. The bottom of the console shows the Windows taskbar with the time 11:21 AM on 6/24/2022.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status
Gourab	i-047019e2a1103f368	Running	t2.micro	Initializing	No alarms

.

SNS SERVICE

The screenshot shows the 'Details' page for an SNS topic named 'supertopic' in the 'us-east-1' region. The 'Type' is 'Standard', which is selected. The 'Name' field contains 'supertopic'. The 'Display name - optional' field also contains 'supertopic'. The console provides details about the topic type, including message ordering and delivery guarantees. The bottom of the console shows the Windows taskbar with the time 11:25 AM on 6/24/2022.

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:

Maximum 256 characters. Can include alphanumeric characters, hyphens (-) and underscores (_).

Display name - optional
To use this topic with SMS subscriptions, enter a display name. Only the first 10 characters are displayed in an SMS message. [Info](#)

Maximum 100 characters.

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ACCESS POLICY

The screenshot shows the AWS Management Console interface for configuring an SNS topic's access policy. The browser tabs include 'Inbox - gourab.routray@globallogic', 'Subscription Details | StackRoute', and 'Simple Notification Service'. The URL is 'us-east-1.console.aws.amazon.com/sns/v3/home?region=us-east-1#/create-topic'. The page title is 'Access policy - optional'. Below the title, a description states: 'This policy defines who can access your topic. By default, only the topic owner can publish or subscribe to the topic.' The 'Choose method' section has two options: 'Basic' (selected) and 'Advanced'. The 'Define who can publish messages to the topic' section has three options: 'Only the topic owner' (selected), 'Everyone', and 'Only the specified AWS accounts'. The 'Define who can subscribe to this topic' section also has three options: 'Only the topic owner' (selected), 'Everyone', and 'Only the specified AWS accounts'. A 'JSON preview' section shows the default policy JSON. The bottom of the console shows a Windows taskbar with the search bar and various application icons. The system tray shows the date and time as 11:26 AM on 6/24/2022.

Access policy - optional
This policy defines who can access your topic. By default, only the topic owner can publish or subscribe to the topic. [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 publish messages to the topic

- ☒ **Only the topic owner**
Only the owner of the topic can publish to the topic.
- ☐ **Everyone**
Anybody can publish.
- ☐ **Only the specified AWS accounts**
Only the specified AWS account IDs can publish to the topic.

Define who can subscribe to this topic

- ☒ **Only the topic owner**
Only the owner of the topic can subscribe to the topic.
- ☐ **Everyone**
Any AWS account can subscribe to the topic.

JSON preview

```
{
  "Version": "2008-10-17",
  "Id": "__default_policy_ID",
  "Statement": [
    {
      "Sid": "__default_statement_ID",
      "Effect": "Allow",
      "Principal": {
        "AWS": "*"
      },
      "Action": [
        "SNS:Publish",
        "SNS:RemovePermission"
      ]
    }
  ]
}
```

OTHER SETTINGS

The screenshot shows the AWS Management Console interface for configuring an SNS topic's encryption settings. The browser tabs include 'Inbox (1) - gourab.routray@glob...', 'Subscription Details | StackRoute', 'Simple Notification Service', and 'Inbox (196) - gourabroutray78@...'. The URL is 'us-east-1.console.aws.amazon.com/sns/v3/home?region=us-east-1#/create-topic'. The page title is 'Encryption - optional'. Below the title, a description states: 'Amazon SNS provides in-transit encryption by default. Enabling server-side encryption adds at-rest encryption to your topic.' The 'Encryption' section has two options: 'Enable encryption' (selected) and 'Disable encryption'. The 'Customer master key (CMK)' section has a text input field with the value '(Default) alias/aws/sns'. The 'Description' section shows the default key that protects my SNS data when no other key is defined. The 'Account' section shows the account ID 067170448639. The 'CMK ARN' section shows the ARN 'arn:aws:kms:us-east-1:067170448639:key/6c25026e-4a20-4a10-8e09-b0b80244e2c7'. The bottom of the console shows a Windows taskbar with the search bar and various application icons. The system tray shows the date and time as 11:30 AM on 6/24/2022.

Encryption - optional
Amazon SNS provides in-transit encryption by default. Enabling server-side encryption adds at-rest encryption to your topic.

Encryption

- ☒ **Enable encryption** [Learn more](#)
- ☐ **Disable encryption**

Customer master key (CMK)
Select a custom CMK or enter an existing CMK ARN.

Description
Default key that protects my SNS data when no other key is defined

Account
067170448639

CMK ARN
arn:aws:kms:us-east-1:067170448639:key/6c25026e-4a20-4a10-8e09-b0b80244e2c7

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TOPIC CREATED

The screenshot shows the Amazon SNS console in the us-east-1 region. A green notification banner at the top states: "Topic supertopic created successfully. You can create subscriptions and send messages to them from this topic." The left sidebar contains navigation links: Dashboard, Topics (selected), Subscriptions, Mobile, Push notifications, Text messaging (SMS), and Origination numbers. The main content area displays the details for the "supertopic":

Details	
Name	supertopic
Display name	supertopic
ARN	arn:aws:sns:us-east-1:067170448639:supertopic
Topic owner	067170448639
Type	Standard

Buttons for "Edit", "Delete", and "Publish message" are visible. The bottom of the console shows tabs for Subscriptions, Access policy, Delivery retry policy (HTTP/S), Delivery status logging, and Encryption. The Windows taskbar at the bottom shows the date as 6/24/2022 and time as 11:32 AM.

SUBSCRIPTION CREATION

The screenshot shows the "Create subscription" page in the Amazon SNS console. The breadcrumb trail is "Amazon SNS > Subscriptions > Create subscription". The form contains the following fields:

- Topic ARN:** A text box containing "arn:aws:sns:us-east-1:067170448639:supertopic".
- Protocol:** A dropdown menu with "Email" selected. The label below it says "The type of endpoint to subscribe".
- Endpoint:** A text box containing "gourabroutray78@gmail.com". The label below it says "An email address that can receive notifications from Amazon SNS."

A blue information bar at the bottom of the form states: "After your subscription is created, you must confirm it. Info". The Windows taskbar at the bottom shows the date as 6/24/2022 and time as 11:33 AM.

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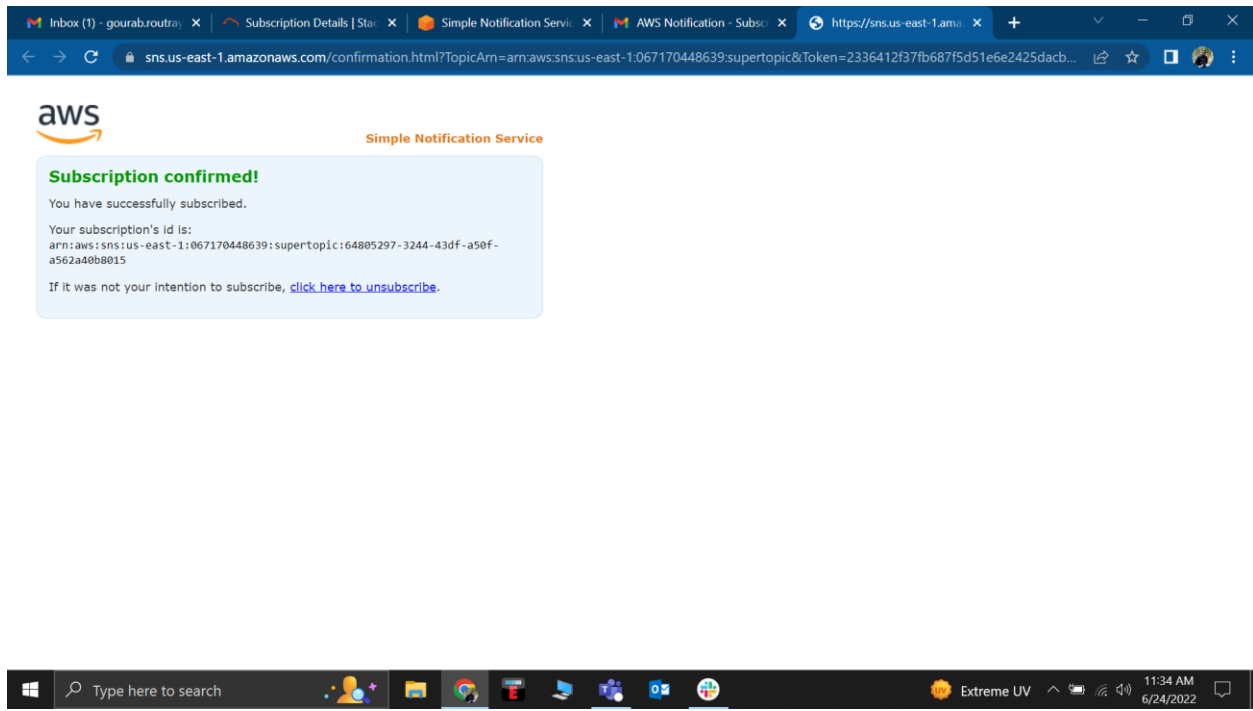
SUBSCRIPTION ADDED TO TOPIC

The screenshot shows the AWS SNS console in the us-east-1 region. A green notification banner at the top states: "Subscription to supertopic created successfully. The ARN of the subscription is arn:aws:sns:us-east-1:067170448639:supertopic:64805297-3244-43df-a50f-a562a40b8015." The left sidebar contains a navigation menu with options: Dashboard, Topics, Subscriptions (highlighted), Mobile, Push notifications, Text messaging (SMS), and Origination numbers. The main content area displays the details for the subscription "64805297-3244-43df-a50f-a562a40b8015". It includes buttons for "Edit" and "Delete". The "Details" section is divided into two columns: the left column lists the ARN, Endpoint (gourabroutray78@gmail.com), and Topic (supertopic); the right column lists the Status (Pending confirmation), Protocol, and EMAIL.

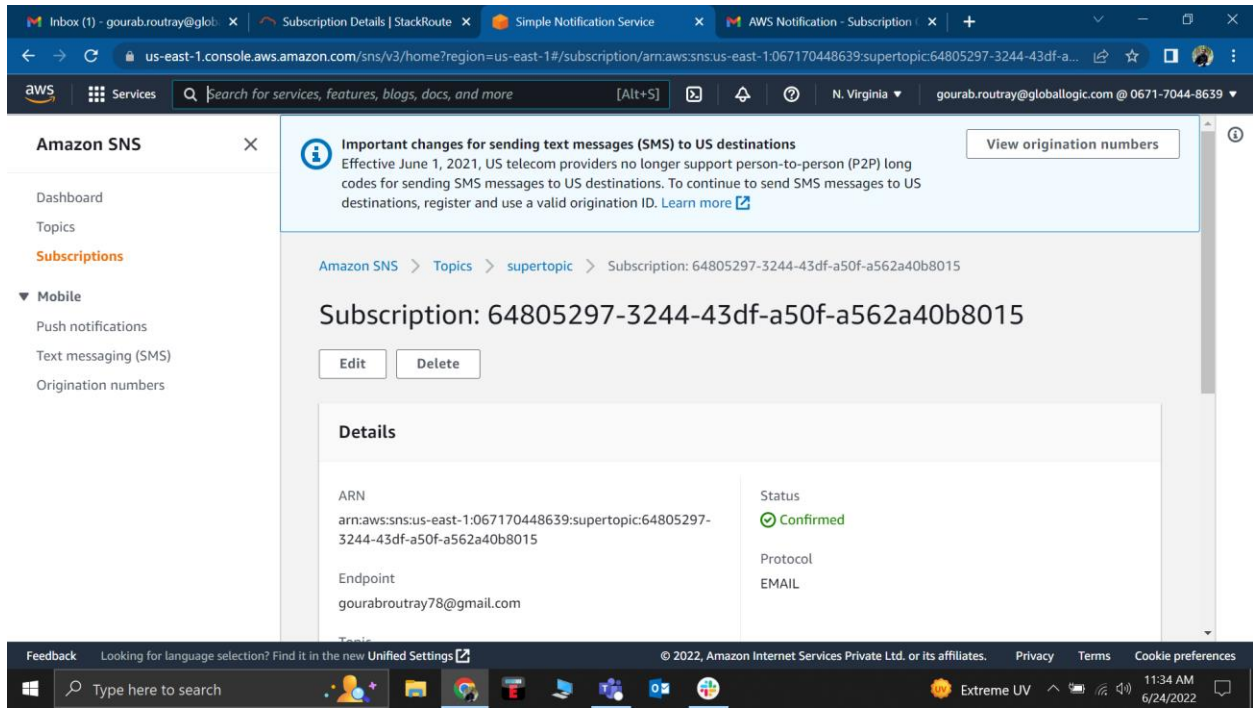
EMAIL RECEIVED FOR CONFIRMATION

The screenshot shows a Gmail inbox with the email "AWS Notification - Subscription Confirmation" selected. The email is from "supertopic <no-reply@sns.amazonaws.com>" and was received at 11:34 AM (0 minutes ago). The body of the email states: "You have chosen to subscribe to the topic: arn:aws:sns:us-east-1:067170448639:supertopic. 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](#)." The email interface includes a left sidebar with folders (Compose, Inbox with 196 emails, Starred, Snoozed, Sent, Drafts with 3 emails, and More) and a bottom action bar with "Reply" and "Forward" buttons.

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ACTIVATED AFER CONFIRMATION



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PUBLISHING MESSAGE

The screenshot shows the AWS SNS console interface for publishing a message to a topic. The browser address bar indicates the URL: `us-east-1.console.aws.amazon.com/sns/v3/home?region=us-east-1#/publish/topic/arn:aws:sns:us-east-1:067170448639:supertopic`. The page title is "Publish message to topic".

Message details

Topic ARN
arn:aws:sns:us-east-1:067170448639:supertopic

Subject - optional
Hello champ
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](#)
20

Message body

The bottom of the screenshot shows the Windows taskbar with the system clock at 11:35 AM on 6/24/2022.

The screenshot shows the AWS SNS console interface for the "supertopic" details page. A green success message banner is displayed at the top: "Message published to topic supertopic successfully. Message 'ID': da6f4948-2dd0-5457-9c19-12677b0e4356 Request 'ID': 40127b36-c4dd-56e1-9606-2019920381e0".

Amazon SNS

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

supertopic

Edit Delete Publish message

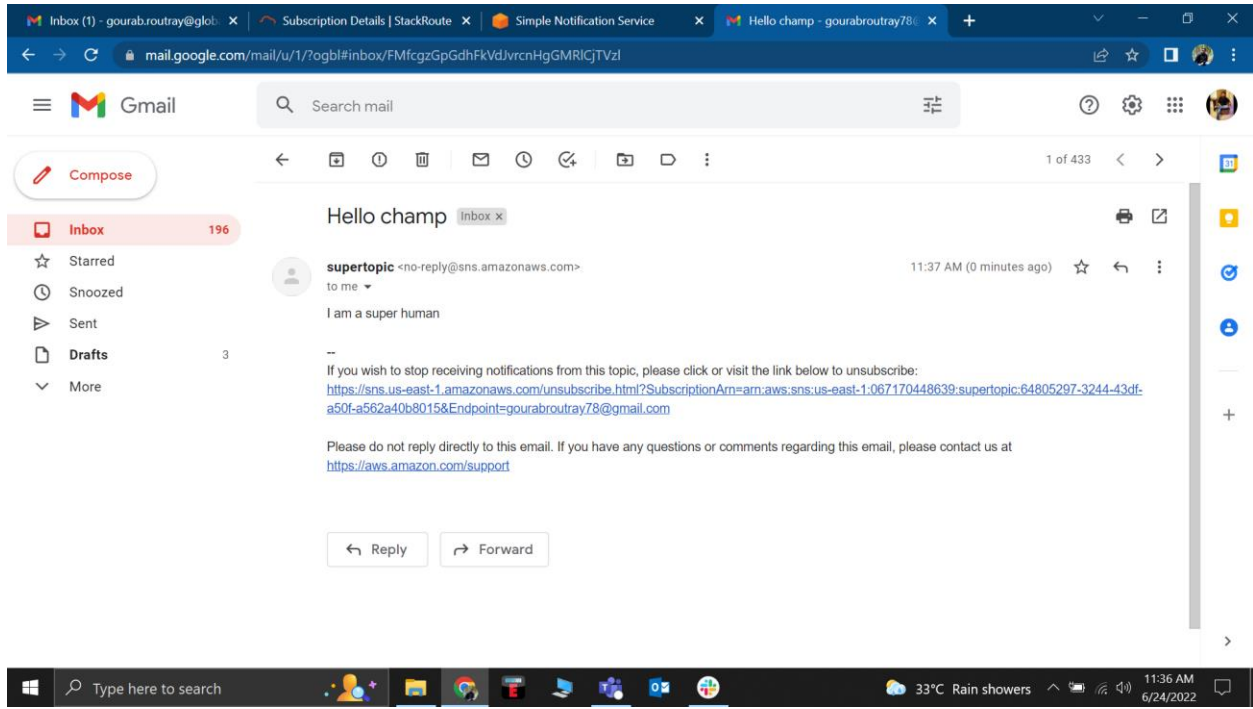
Details

Name supertopic	Display name supertopic
ARN arn:aws:sns:us-east-1:067170448639:supertopic	Topic owner 067170448639
Type Standard	

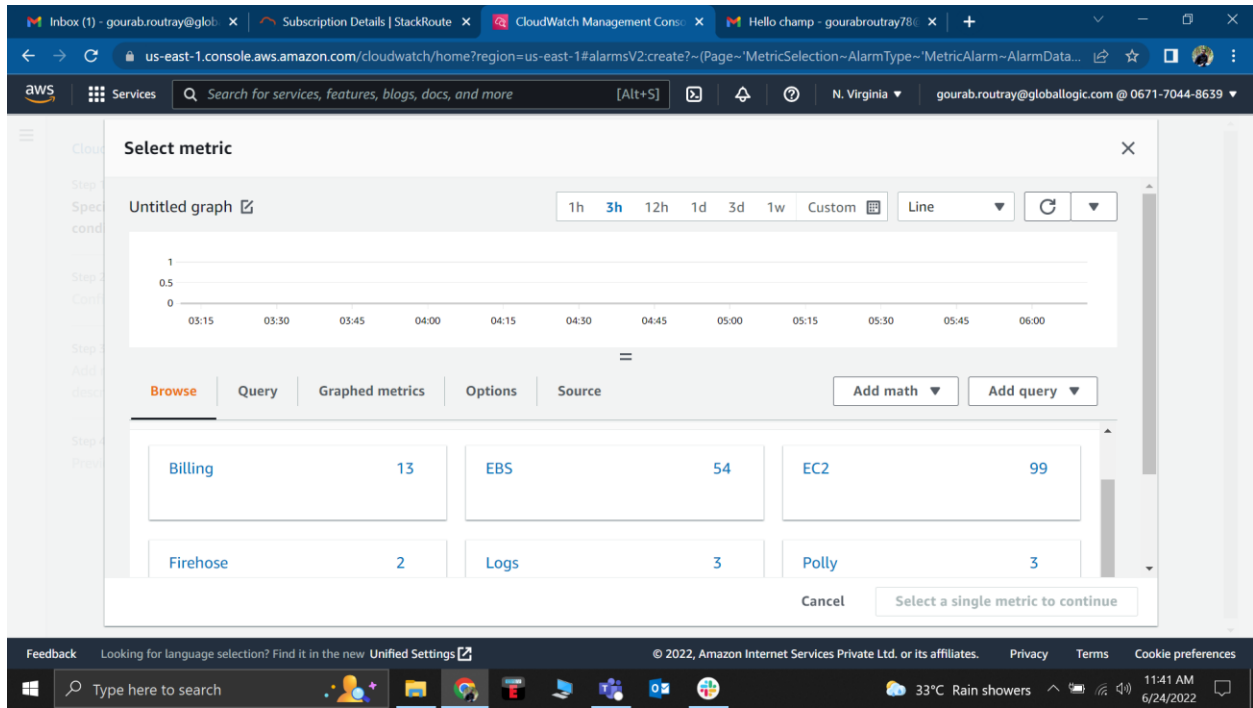
The bottom of the screenshot shows the Windows taskbar with the system clock at 11:36 AM on 6/24/2022.

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MESSAGE RECEIVED BY EMAIL



CLOUD WATCH



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ADDED EC-2 INSTANCE "CPU UTILIZATION"

The screenshot shows the AWS CloudWatch 'Select metric' dialog box. The 'Browse' tab is active, displaying a list of metrics for the 'Gourab' EC2 instance (i-047019e2a1103f368). The 'CPUUtilization' metric is selected. The 'Add math' and 'Add query' buttons are visible. The 'Select metric' button is highlighted in orange.

Instance name (99)	InstanceId	Metric name
Gourab	i-047019e2a1103f368	NetworkPacketsOut
<input checked="" type="checkbox"/> Gourab	i-047019e2a1103f368	CPUUtilization

The screenshot shows the AWS CloudWatch 'Add alarm' dialog box. The 'Graph' tab is active, displaying a line graph of CPU utilization over time. The 'Add name and description' step is highlighted. The 'Metric name' is 'CPUUtilization', the 'InstanceId' is 'i-047019e2a1103f368', and the 'Period' is '1 minute'.

Graph

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

Percent

3

2

1

03:30 04:30 05:30

■ CPUUtilization

Namespace
AWS/EC2

Metric name
CPUUtilization

InstanceId
i-047019e2a1103f368

Instance name
Gourab

Statistic
Average

Period
1 minute

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The screenshot shows the AWS CloudWatch console in the 'us-east-1' region. The 'Create Alarm' wizard is in progress, specifically the 'Define the alarm condition' step. The alarm is named 'CPUUtilization is...'. The condition is defined as 'Whenever CPUUtilization is... Greater > threshold'. The threshold value is set to '20'. The 'Additional configuration' section shows 'Datapoints to alarm' as '1 out of 1' and 'Missing data treatment' as 'Treat missing data as bad (breaching threshold)'. The console interface includes a top navigation bar with the AWS logo, a search bar, and a list of services. The bottom of the screen shows a Windows taskbar with various application icons and system status information.

Static
Use a value 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.

20

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 bad (breaching threshold)

The screenshot shows the AWS CloudWatch console in the 'us-east-1' region, continuing the 'Create Alarm' wizard to the 'Configure actions' step. The left sidebar shows the progress: Step 1 (conditions), Step 2 (Configure actions), Step 3 (Add name and description), and Step 4 (Preview and create). The 'Notification' section shows the 'Alarm state trigger' set to 'In alarm'. Below this, there is a section to 'Send a notification to the following SNS topic', where 'Select an existing SNS topic' is chosen, and 'supertopic' is entered in the search field. The 'Email (endpoints)' section shows 'gourabroutray78@gmail.com' as the contact point. The console interface and Windows taskbar are consistent with the previous screenshot.

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.

☒ 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...

supertopic

Only email lists for this account are available.

Email (endpoints)
gourabroutray78@gmail.com - View in SNS Console

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The screenshot shows the AWS CloudWatch console in the 'us-east-1' region. The 'Alarm state trigger' section is active, allowing the user to define the alarm state that will trigger an action. Three options are available: 'In alarm' (selected), 'OK', and 'Insufficient data'. The 'In alarm' option is described as 'The metric or expression is outside of the defined threshold.' Below this, the 'Take the following action...' section is visible, where the user can define what happens to the EC2 instance when the alarm is triggered. Four actions are listed: 'Recover this instance', 'Stop this instance', 'Terminate this instance', and 'Reboot this instance' (selected). The 'Reboot this instance' action is described as 'An instance reboot is equivalent to an operating system reboot. AWS will use the existing Service Linked Role (AWSServiceRoleForCloudWatchEvents) to perform this action.' A 'Remove' button is located at the top right of the 'Alarm state trigger' section. The bottom of the screen shows the Windows taskbar with the time 11:45 AM on 6/24/2022.

ALARM CREATED

The screenshot shows the AWS CloudWatch console after the alarm has been successfully created. A green banner at the top of the main content area displays the message 'Successfully created alarm EMERGENCY!!' with a 'View alarm' button. The left sidebar shows the 'CloudWatch' navigation menu with 'Alarms' selected. The main content area displays the 'Alarms (1)' page, which includes a search bar, filters for 'In alarm' and 'Any type', and a table of alarms. The table is currently empty, showing 'No alarms' and 'No alarms to display'. A 'Create alarm' button is visible at the bottom of the table. The bottom of the screen shows the Windows taskbar with the time 11:46 AM on 6/24/2022.

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The screenshot shows the AWS CloudWatch Alarms console. The left sidebar contains navigation links for Dashboards, Alarms (1), In alarm, All alarms, Billing, Logs, Metrics, X-Ray traces, Events, Application monitoring, and Insights. The main content area displays the 'Alarms (1)' section with a search bar, filters, and a table of alarms. The table shows one alarm named 'EMERGENCY!!' in the 'In alarm' state, with a last state update of 2022-06-24 11:49:05 and conditions of CPUUtilization < 20 for 1 datapoints within 1 minute.

Name	State	Last state update	Conditions
EMERGENCY!!	In alarm	2022-06-24 11:49:05	CPUUtilization < 20 for 1 datapoints within 1 minute

INSTANCE STOPPED

The screenshot shows the AWS EC2 console. The left sidebar contains navigation links for EC2 Dashboard, EC2 Global View, Events, Tags, Limits, and Instances. The main content area displays the 'Instances (1)' section with a search bar, filters, and a table of instances. The table shows one instance named 'Gourab' with an instance ID of i-047019e2a1103f368, in the 'Stopping' state, with a t2.micro instance type, 2/2 checks passed, and 1/1 in alarm.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
Gourab	i-047019e2a1103f368	Stopping	t2.micro	2/2 checks passed	1/1 in alarm	us-east-1a