

Lab 281

Supervisar una instancia EC2

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Objetivos

- Crear una notificación de Amazon SNS.
- Configurar una alarma de CloudWatch.
- Prueba de estrés de una instancia EC2.
- Confirme que se envió un correo electrónico de Amazon SNS.
- Crear un panel de CloudWatch.

Tarea 1:

Configurar Amazon SNS

Nuestra mision

Elegimos el servicio de DNS, y presionamos en Simple Notification Service , luego vamos a topics y damos en Create topic, y en details y ponemos el type y el name que se encuentra en la imagen.
Y ya podemos dar en 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

MyCwAlarm

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

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.

My Topic

Maximum 100 characters.

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

► **Access policy - *optional*** [Info](#)

✔ Topic MyCwAlarm created successfully.
You can create subscriptions and send messages to them from this topic.

Publish message



Personal Skills

Create subscription

Details

Topic ARN

Protocol
The type of endpoint to subscribe

Endpoint
An email address that can receive notifications from Amazon SNS.

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

► **Subscription filter policy - optional** [Info](#)
This policy filters the messages that a subscriber receives.

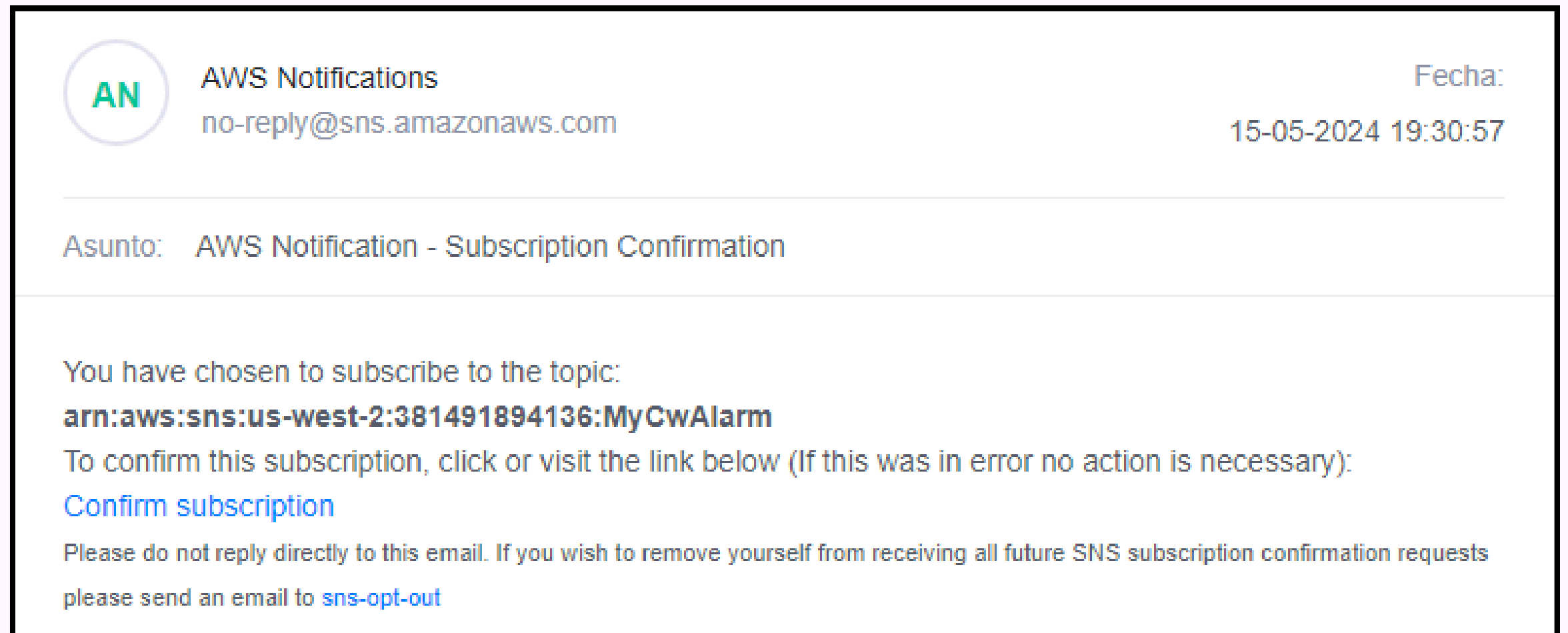
► **Redrive policy (dead-letter queue) - optional** [Info](#)
Send undeliverable messages to a dead-letter queue.

[Cancel](#) [Create subscription](#)

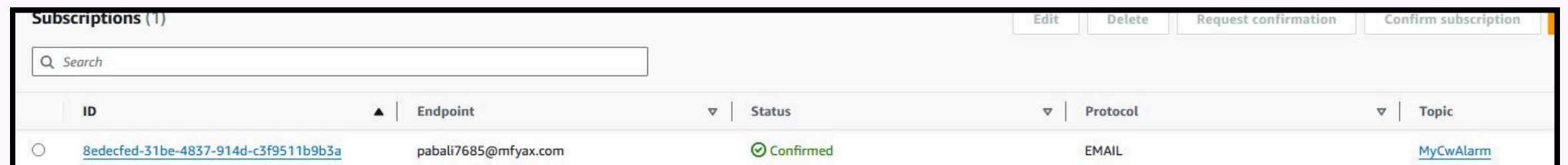
Una vez creado nuestro topic, vamos a subscriptions y en le damos a create subscription, y en Topic ARN y Protocol ponemos las opciones tal cual como están en la imagen, y en Endpoint ponemos nuestro email. Y presionamos en create subscription.

✓ Subscription to MyCwAlarm created successfully.
The ARN of the subscription is arn:aws:sns:us-west-2:381491894136:MyCwAlarm:8edecfed-31be-4837-914d-c3f9511b9b3a.

Luego vamos a nuestro correo que colocamos en el Endpoint, y deberíamos recibir un correo con la notificación de suscripción de Amazon SNS, y presionamos en confirmar suscripción



Y en la consola nos dirigimos a Subscriptions y debería aparecer confirmed en status.

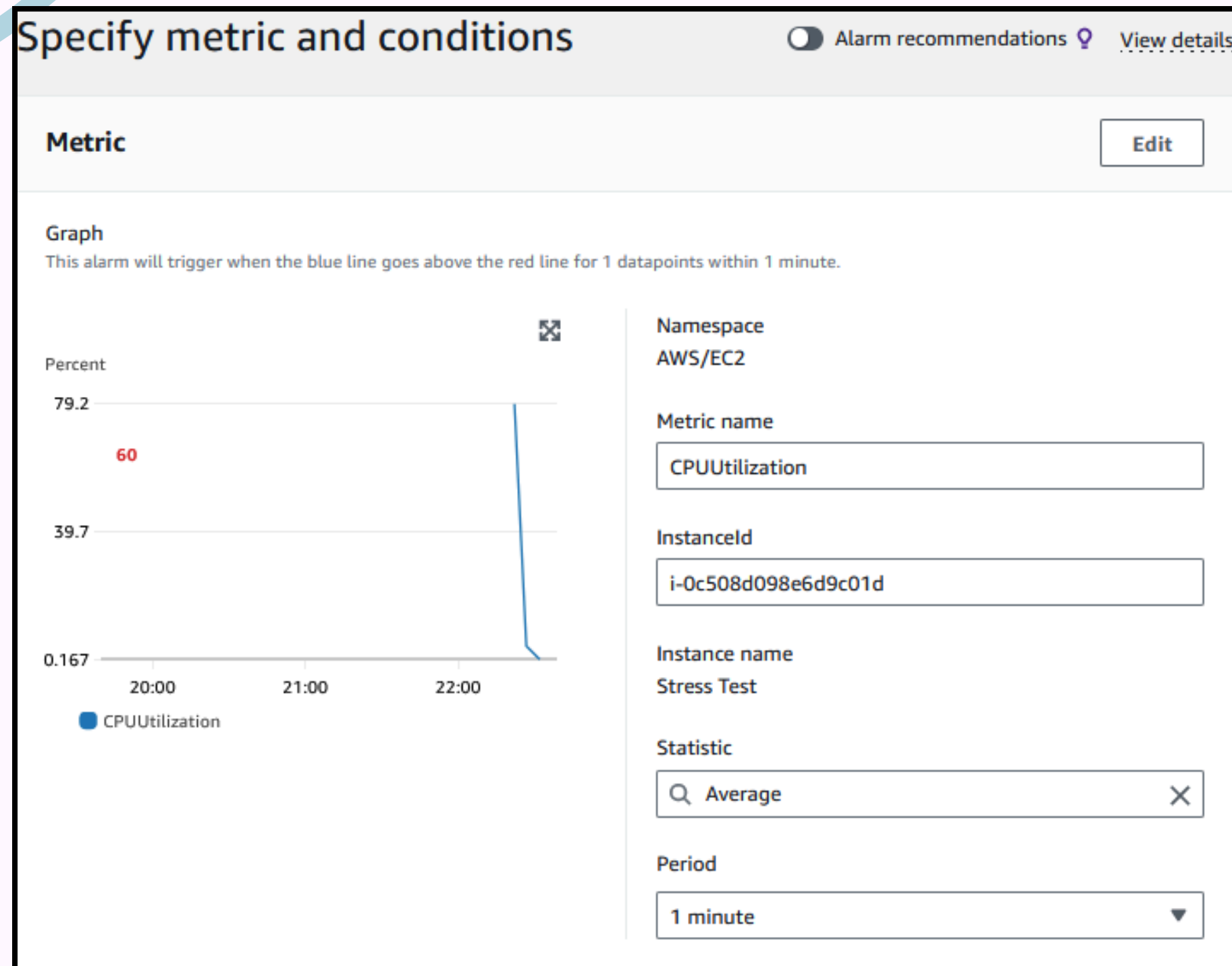


Tarea 2:

Crear una alarma de CloudWatch

Para esta tarea, nos dirigimos al buscador de la consola de AWS, e ingresamos el servicio Cloudwatch y lo seleccionamos. Una vez dentro vamos a Metrics, y presionamos en All metrics, elegimos EC2 y escogemos Per-Instance Metrics(Aquí veremos todas las métricas que se registran y la instancia EC2 específica para las métricas). Y marcamos la casilla de verificación con CPUUtilization.

Metrics (17) Info				
Oregon ▾ All > EC2 > Per-Instance Metrics				
Search for any metric, dimension, resource id or account id				
Alarm recommendations ⓘ Download alarm code (1) ▾ Create alarm Graph with SQL Graph search				
< 1 > ⚙				
Instance name 17/17 ▲	InstanceId ▾	Metric name ▾	Alarms ▾	
<input type="checkbox"/> Stress Test	i-0c508d098e6d9c01d	MetadataNoToken ⓘ	No alarms	
<input type="checkbox"/> Stress Test	i-0c508d098e6d9c01d	DiskReadOps ⓘ	No alarms	
<input type="checkbox"/> Stress Test	i-0c508d098e6d9c01d	DiskReadBytes ⓘ	No alarms	
<input checked="" type="checkbox"/> Stress Test	i-0c508d098e6d9c01d	CPUUtilization ⓘ	No alarms	
<input type="checkbox"/> Stress Test	i-0c508d098e6d9c01d	NetworkIn ⓘ	No alarms	
<input type="checkbox"/> Stress Test	i-0c508d098e6d9c01d	DiskWriteOps ⓘ	No alarms	



Procedemos a editar la métrica específica “**Cpu Utilization**” de nuestra EC2, cambiando :

- Statistic: Se mantiene igual (Average)
- Period : 10min ---> 1min
- Lo demás queda por predeterminado

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.

Must be a number

En esta parte es importante ver que el estado de alarma es activado cuando pasa de 60% de uso, y el umbral lo mantuvimos en “static”

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...

MyCwAlarm

Only topics belonging to this account are listed here. All persons and applications subscribed to the selected topic will receive notifications.

Email (endpoints)
pabali7685@mfyax.com - [View in SNS Console](#)

Add notification

Luego en Configure actions configuramos las opciones de Notification tal y como está en las imágenes de la izquierda.

Y le damos en next, y en Name and description configuramos las opciones tal y como está en las imágenes de la derecha.

Add name and description

Name and description

Alarm name

LabCPUUtilizationAlarm

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

Edit | **Preview**

CloudWatch alarm for Stress Test EC2 instance CPUUtilization

Up to 1024 characters (60/1024)

Markdown formatting is only applied when viewing your alarm in the console. The description will remain in plain text in the alarm notifications.

✔ Successfully created alarm LabCPUUtilizationAlarm.

Tarea 3:

Probar la alarma de CloudWatch

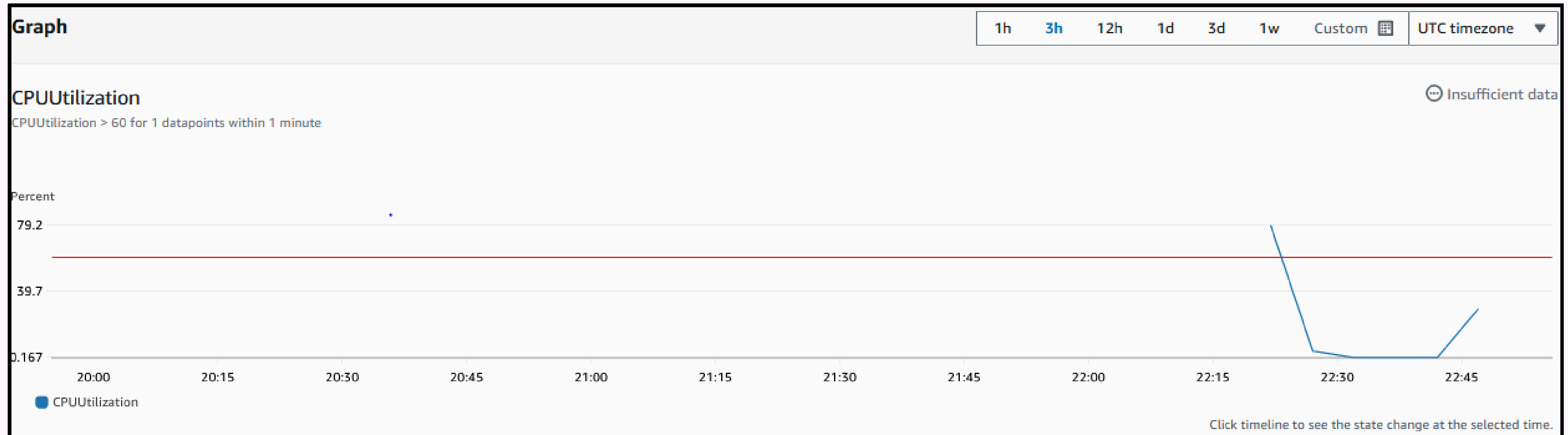
Ingresamos a una instancia de stress en nuestra EC2 con el comando en pantalla

Accedemos a una segunda instancia y escribimos el comando “top” para monitorear el uso de la CPU.

```
sh-4.2$ sudo stress --cpu 10 -v --timeout 400s
stress: info: [6422] dispatching hogs: 10 cpu, 0 io, 0 vm, 0 hdd
stress: debug: [6422] using backoff sleep of 30000us
stress: debug: [6422] setting timeout to 400s
stress: debug: [6422] --> hogcpu worker 10 [6423] forked
stress: debug: [6422] using backoff sleep of 27000us
stress: debug: [6422] setting timeout to 400s
stress: debug: [6422] --> hogcpu worker 9 [6424] forked
stress: debug: [6422] using backoff sleep of 24000us
stress: debug: [6422] setting timeout to 400s
stress: debug: [6422] --> hogcpu worker 8 [6425] forked
stress: debug: [6422] using backoff sleep of 21000us
stress: debug: [6422] setting timeout to 400s
stress: debug: [6422] --> hogcpu worker 7 [6426] forked
```

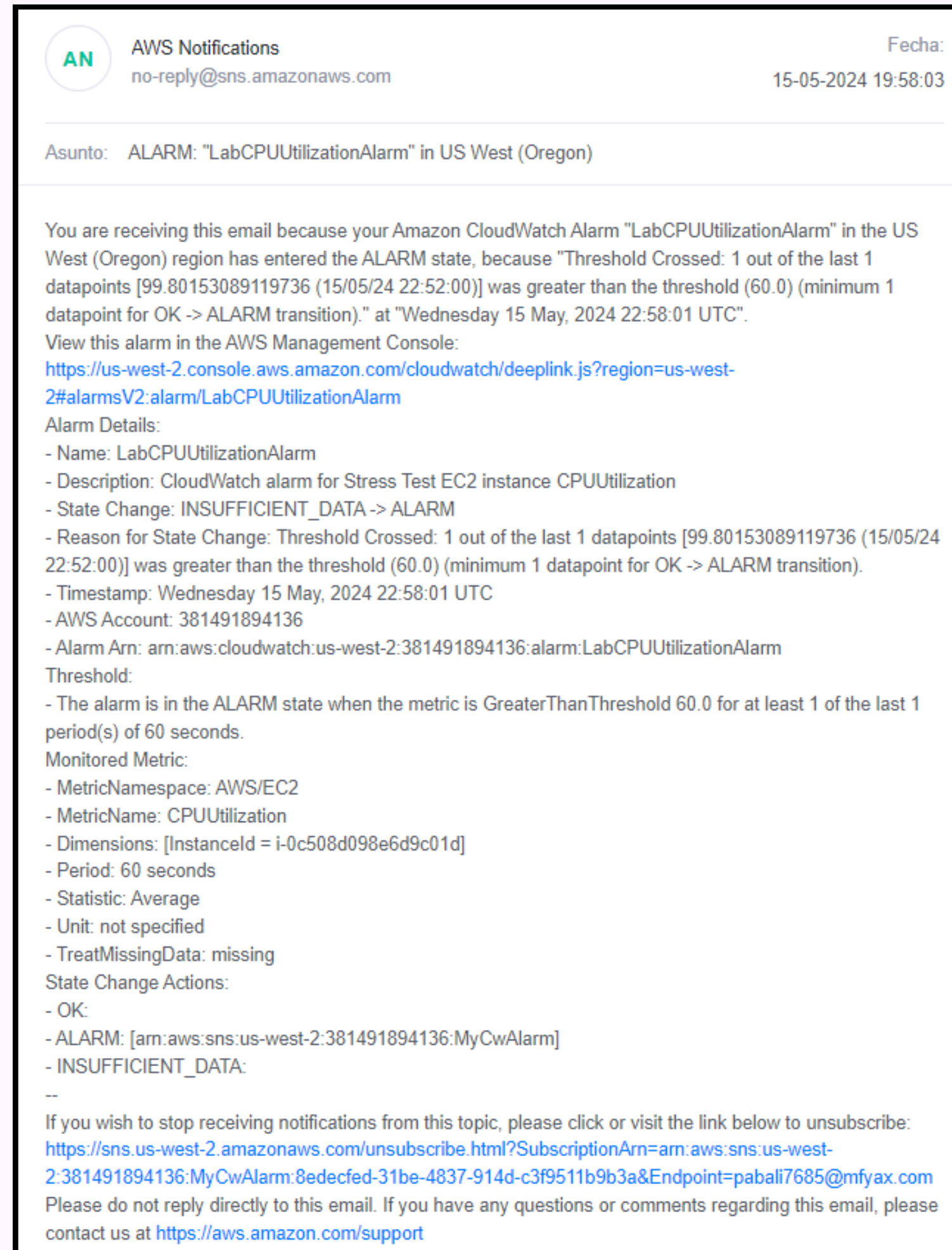
```
top - 22:52:21 up 26 min,  0 users,  load average: 11.25, 3.73, 1.33
tasks: 115 total,  22 running,  56 sleeping,   0 stopped,   0 zombie
Cpu(s):100.0 us,  0.0 sy,  0.0 ni,  0.0 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st
MiB Mem :  993492 total,  407524 free,  132548 used,  453420 buff/cache
MiB Swap:   0 total,   0 free,   0 used.  715944 avail Mem
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
6423	root	20	0	7580	92	0	R	5.0	0.0	0:09.77	stress
6424	root	20	0	7580	92	0	R	5.0	0.0	0:09.77	stress
6425	root	20	0	7580	92	0	R	5.0	0.0	0:09.77	stress
6426	root	20	0	7580	92	0	R	5.0	0.0	0:09.77	stress
6427	root	20	0	7580	92	0	R	5.0	0.0	0:09.77	stress
6428	root	20	0	7580	92	0	R	5.0	0.0	0:09.77	stress
6429	root	20	0	7580	92	0	R	5.0	0.0	0:09.77	stress
6430	root	20	0	7580	92	0	R	5.0	0.0	0:09.77	stress
6431	root	20	0	7580	92	0	R	5.0	0.0	0:09.77	stress
6432	root	20	0	7580	92	0	R	5.0	0.0	0:09.77	stress



**Básicamente, en este gráfico se actualiza cada minuto.
Cuando supera el límite del 60%, entra en estado de alarma, tal como
configuramos previamente.**

Luego de esto,
accedemos a la bandeja
de entrada del correo
electrónico empleado
para configurar la
suscripción de Amazon
SNS. Allí,
encontraremos un
nuevo mensaje de
notificación enviado
por AWS Notifications.



Tarea 4:

Crear un panel de CloudWatch

Ahora para terminar vamos denuevo a CloudWatch, y una vez dentro vamos Dashboards, luego a la derecha le damos en create dashboards y escribimos el nombre y le damos a create dashboards. Luego seleccionamos line y le damos a next, y nos llevará a Metrics, y ahi presionamos EC2 y le damos a Per-Instance Metrics. Y marcamos la casilla de verificación CPUUtilization, y le damos a Create widget y luego en Save dashboard.

Create new dashboard

Dashboard name

Valid characters in dashboard names include "0-9A-Za-z-_".

Cancel Create dashboard

Add widget

Data sources types - new

- ☒ Cloudwatch
- ☐ Other content types
- ☐ Create data sources

Widget Configuration

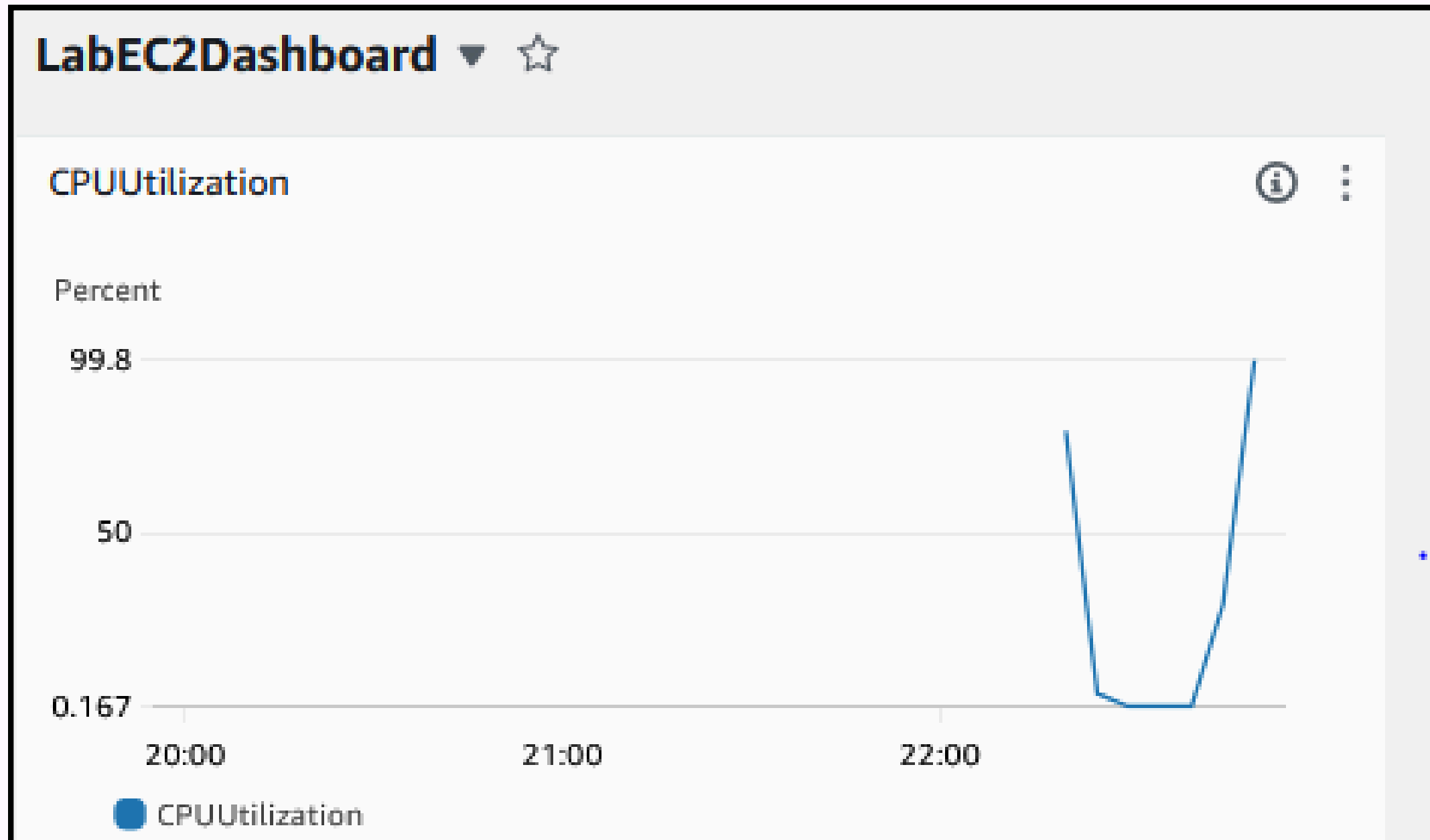
Data type


Metrics Logs Alarms

Widget type

- ☒ **Line**
Compare metrics over time
- ☐ **Data table**
Compare metrics values over time in a table
- ☐ **Number**
Instantly see the latest value for a metric
- ☐ **Gauge**
See the latest value of a metric within a range
- ☐ **Stacked area**
Compare the total over time
- ☐ **Bar**
Compare categories of data
- ☐ **Pie**
Show percentage or proportional data
- ☐ **Explorer**
A single widget with multiple tag-based graphs

Cancel Next





Actions ▾

Save

+

Conclusiones

- Creó una notificación de Amazon SNS
- Configurado una alarma de Cloudwatch
- Prueba de estrés en una instancia EC2
- Confirmado que se envió un correo electrónico de Amazon SNS
- Creó un panel de CloudWatch



*¡Muchas
gracias!*