

Ejercicio programación sobre AWS

Repositorio de GITHUB: https://github.com/paulaarnaiz-lab/Practica_AWS_PaulaArnaiz.git

Credenciales activas (AWS Academy) y variables de entorno configuradas

Se exportan AWS_ACCESS_KEY_ID, AWS_SECRET_ACCESS_KEY, AWS_SESSION_TOKEN y AWS_DEFAULT_REGION para ejecutar la práctica.

```
Anaconda PowerShell Prompt
(base) PS C:\Users\Paula\Documents\Master\Cloud2\Practica_AWS\infra> $env:AWS_ACCESS_KEY_ID="ASIAU6GDYZYW2LOOE0SY"
(base) PS C:\Users\Paula\Documents\Master\Cloud2\Practica_AWS\infra> $env:AWS_SECRET_ACCESS_KEY="GStMbama2Du6GKRMPxP7SG5dMeNG8D7ng79y5vKj"
(base) PS C:\Users\Paula\Documents\Master\Cloud2\Practica_AWS\infra> $env:AWS_SESSION_TOKEN="IqoJb3JpZ2LuX2VjEML////////wEaCXVzLXdlc3Q0tMiJGNEQCIGirrqwguI0
EIV3Yk0Jc2+nnRnRaB61KBPpYphrVh9yA1AqzDBVHNS2R/gMhyG0S+Shc7BGSxoPFK9B9X19hJcQvAgIb////////8BEAAhDDmz0TcMjKwNjY2OSIMW/tdE2gVh34hgchKoKCItpE/yIuHT/4vsa
5N1U8J3nQFstxjJdCUCx1Sx5oIUSNRnXpGgNpGyMouPytkL1Vh0Pp8dwl8UEg27p6aRGQv6yhclEwoG1oKy77Puk8BLChzh38glVxFX4EuuIRRxqqqBgsUU4obQpQTVbvLUU2k0JdL4XddvF3rywUGz
EJw8huJz6XvdeQDQgnH0oJH/UhXYFqTfSQ4T5a1E/Inui6fI0oXnoI8CqIe9j7HnZ3KZpeI8DVFH7398HxT09t0rIglknKDFYL8b+I56jUOPaPXQ6z6Zwbzetqy7YqTAXk91YATYucA9jZ2ReNi/GhXGEjCi
/Ao4yCT3qc7z98vMVzCr5bnLBjgeAWAYLkFrJECKfnjiwY3SWIDt8F/ThyrQARo2KOTvFQUBnwiNzNietbfCwsAicIL9IAZKPrtnLk5qxVpKCabbfysWFhFbmiPjN9ESquSURBPRS3MXu3mzyjs3WSwp4Cw
BB64DsCAn6/JY2DPUlNtZyRKL/hyP2xhvgsRgOfTCG6FFAiw8XqVvS6qb0sgG1RDn60hc8gkKRpnq/tgqJ50G"
(base) PS C:\Users\Paula\Documents\Master\Cloud2\Practica_AWS\infra> $env:AWS_DEFAULT_REGION="us-east-1"
(base) PS C:\Users\Paula\Documents\Master\Cloud2\Practica_AWS\infra> aws sts get-caller-identity
{
  "UserId": "AROAU6GDYZYW2LOOE0SY:user4417924=Paula_Arnaiz",
  "Account": "339712986669",
  "Arn": "arn:aws:sts::339712986669:assumed-role/voclabs/user4417924=Paula_Arnaiz"
}
```

Deploy: recursos creados y endpoints generados

Ejecución de deploy.py creando buckets (uploads/web), tabla DynamoDB con streams, topic SNS, lambdas y API Gateway; se muestra la URL de la web y el endpoint /items.

```
(base) PS C:\Users\Paula\Documents\Master\Cloud2\Practica_AWS\infra> python .\deploy.py
Region: us-east-1
Suffix: practicainventario
Account: 339712986669
Lambda Role: arn:aws:iam::339712986669:role/LabRole

=== DEPLOY OK ===
Uploads bucket: inventory-uploads-practicainventario
Web bucket: inventory-web-practicainventario
DDB table: Inventory
DDB stream: arn:aws:dynamodb:us-east-1:339712986669:table/Inventory/stream/2026-01-19T13:30:41.786
SNS topic: arn:aws:sns:us-east-1:339712986669:inventory-low-stock-practicainventario
Stream-Lambda mapping UUID: 9f937f60-5af0-4b99-8b9e-799122bb1417
API endpoint: https://qolmcuclub.execute-api.us-east-1.amazonaws.com
Test API: https://qolmcuclub.execute-api.us-east-1.amazonaws.com/items
Test store: https://qolmcuclub.execute-api.us-east-1.amazonaws.com/items/Berlin

Abre la web (caduca en 1h).
https://inventory-web-practicainventario.s3.amazonaws.com/index.html?AWSAccessKeyID=ASIAU6GDYZYW2LOOE0SY&Signature=Z7DYX3p7dWEa4H0N9EQ%2BEd8ryQw%3D&X-Amz-sec
urity-token=IqoJb3JpZ2LuX2VjEML////////wEaCXVzLXdlc3Q0tMiJGNEQCIGirrqwguI0EIV3Yk0Jc2+nnRnRaB61KBPpYphrVh9yA1AqzDBVHNS2R/gMhyG0S+Shc7BGSxoPFK9B9X19hJcQvAgIb////////8BEAAhDDmz0TcMjKwNjY2OSIMW/tdE2gVh34hgchKoKCItpE/yIuHT/4vsa
5N1U8J3nQFstxjJdCUCx1Sx5oIUSNRnXpGgNpGyMouPytkL1Vh0Pp8dwl8UEg27p6aRGQv6yhclEwoG1oKy77Puk8BLChzh38glVxFX4EuuIRRxqqqBgsUU4obQpQTVbvLUU2k0JdL4XddvF3rywUGzEJw8huJz6XvdeQDQgnH0oJH/UhXYFqTfSQ4T5a1E/Inui6fI0oXnoI8CqIe9j7HnZ3KZpeI8DVFH7398HxT09t0rIglknKDFYL8b+I56jUOPaPXQ6z6Zwbzetqy7YqTAXk91YATYucA9jZ2ReNi%2FGHGEjCi%2FAo4yCT3qc7z
98vgMVzCr5bnLBjgeAWAYLkFrJECKfnjiwY3SWIDt8F%2FThyrQARo2KOTvFQUBnwiNzNietbfCwsAicIL9IAZKPrtnLk5qxVpKCabbfysWFhFbmiPjN9ESquSURBPRS3MXu3mzyjs3WSwp4CwBB64DsCAn6
%2FJY2DPUlNtZyRKL%2FhyP2xhvgsRgOfTCG6FFAiw8XqVvS6qb0sgG1RDn60hc8gkKRpnq%2FtgqJ50G&Expires=1768859764&api=https://qolmcuclub.execute-api.us-east-1.amazonaws.
com

SNS email subscription:
- Mira tu email y CONFIRMA la suscripción.

Siguiendo paso: subir un CSV a uploads bucket para poblar DynamoDB.
(base) PS C:\Users\Paula\Documents\Master\Cloud2\Practica_AWS\infra> |
```

Confirmación de suscripción SNS por email

Email de AWS SNS solicitando confirmación de suscripción al topic inventory-low-stock-....



AWS Notifications <no-reply@sns.amazonaws.com>

19:25 (hace 0 minutos)

para mí ▾

You have chosen to subscribe to the topic:

arn:aws:sns:us-east-1:339712986669:inventory-low-stock-practicainventario

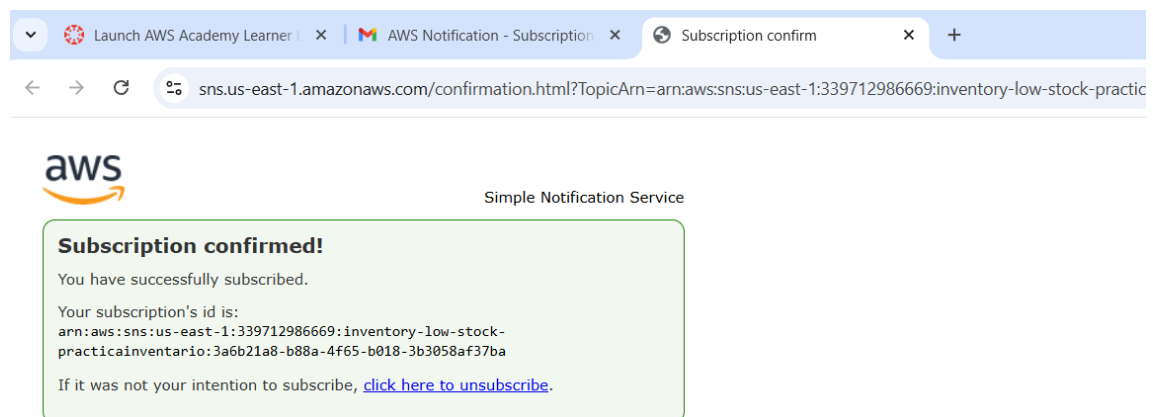
To confirm this subscription, click or visit the link below (If this was in error no action is necessary):

[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](#)

Suscripción SNS confirmada

Página de AWS SNS mostrando “Subscription confirmed!” y el SubscriptionArn asociado al topic.



Subida de CSV a S3 (uploads bucket)

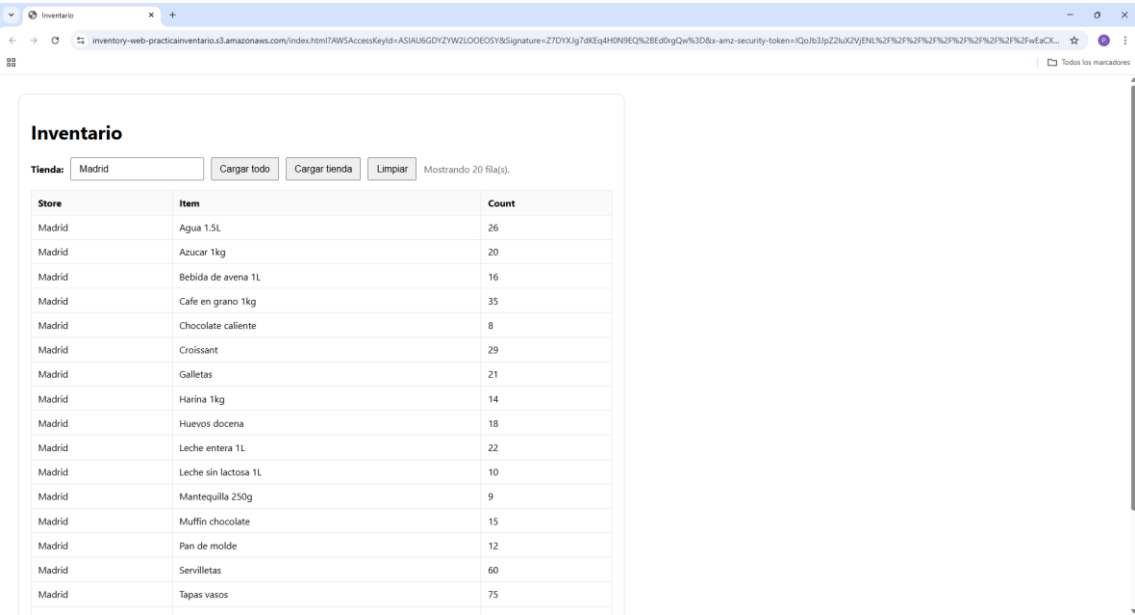
Carga del fichero inventario.csv al bucket de subidas inventory-uploads-practicainventario (trigger de ingesta para poblar DynamoDB).

```
(base) PS C:\Users\Paula\Documents\Master\Cloud2\Practica_AWS> aws s3 cp .\inventario.csv s3://inventory-uploads-practicainventario/  
upload: .\inventario.csv to s3://inventory-uploads-practicainventario/inventario.csv  
(base) PS C:\Users\Paula\Documents\Master\Cloud2\Practica_AWS>
```

Respuesta API – GET /items (todo el inventario)

Respuesta de la API Gateway GET /items devolviendo el inventario completo en formato JSON.

Web estática (S3) consumiendo la API y mostrando el inventario filtrado por tienda ‘Madrid’ (botón ‘Cargar tienda’).



Store	Item	Count
Madrid	Agua 1.5L	26
Madrid	Azucar 1kg	20
Madrid	Bebida de avena 1L	16
Madrid	Cafe en grano 1kg	35
Madrid	Chocolate caliente	8
Madrid	Croissant	29
Madrid	Galletas	21
Madrid	Harina 1kg	14
Madrid	Huevos docena	18
Madrid	Leche entera 1L	22
Madrid	Leche sin lactosa 1L	10
Madrid	Mantequilla 250g	9
Madrid	Muffin chocolate	15
Madrid	Pan de molde	12
Madrid	Servilletas	60
Madrid	Tapas vasos	75

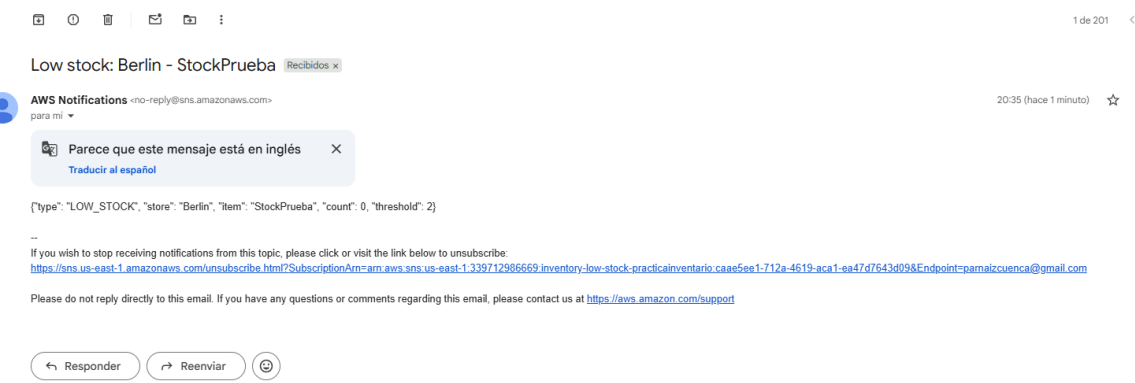
Forzar stock bajo (comando update-item)

Actualización manual en DynamoDB para forzar stock bajo (Count=0) y disparar el flujo DynamoDB Streams → Lambda → SNS.

```
(base) PS C:\Users\Paula\Documents\Master\Cloud2\Practica_AWS> aws dynamodb update-item --cli-input-json fileb://item-low.json
```

Email recibido de SNS (Low stock)

Notificación recibida por email desde SNS (‘Low stock’) tras detectar stock por debajo del umbral configurado.



Teardown

El script teardown.py elimina los recursos creados (API Gateway, Lambdas, mapeo de streams, SNS, DynamoDB y buckets S3).

```
(base) PS C:\Users\Paula\Documents\Master\Cloud2\Practica_AWS\infra> python .\teardown.py
== TEARDOWN ==
Deleted API: 793t28gco4
Deleted Lambda: load_inventory_practicainventario
Deleted Lambda: get_inventory_api_practicainventario
Deleted mapping: 98767326-fb1e-4d3d-b992-bb58b51c9737
Deleted Lambda: notify_low_stock_practicainventario
Deleted SNS topic: arn:aws:sns:us-east-1:339712986669:inventory-low-stock-practicainventario
Deleted DynamoDB table: Inventory
Deleted bucket: inventory-uploads-practicainventario
Deleted bucket: inventory-web-practicainventario
== DONE ==
```