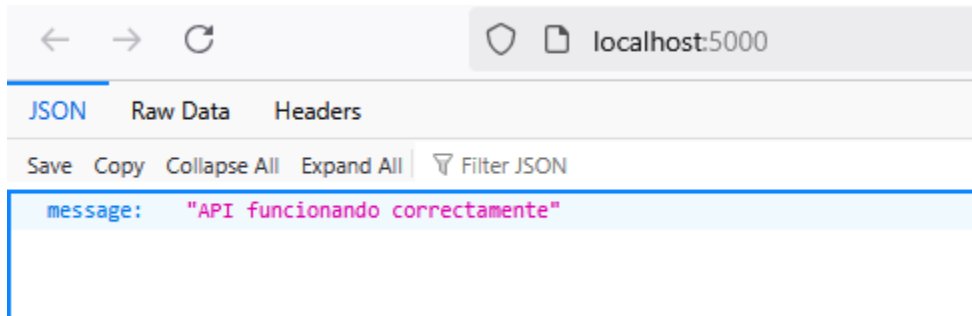


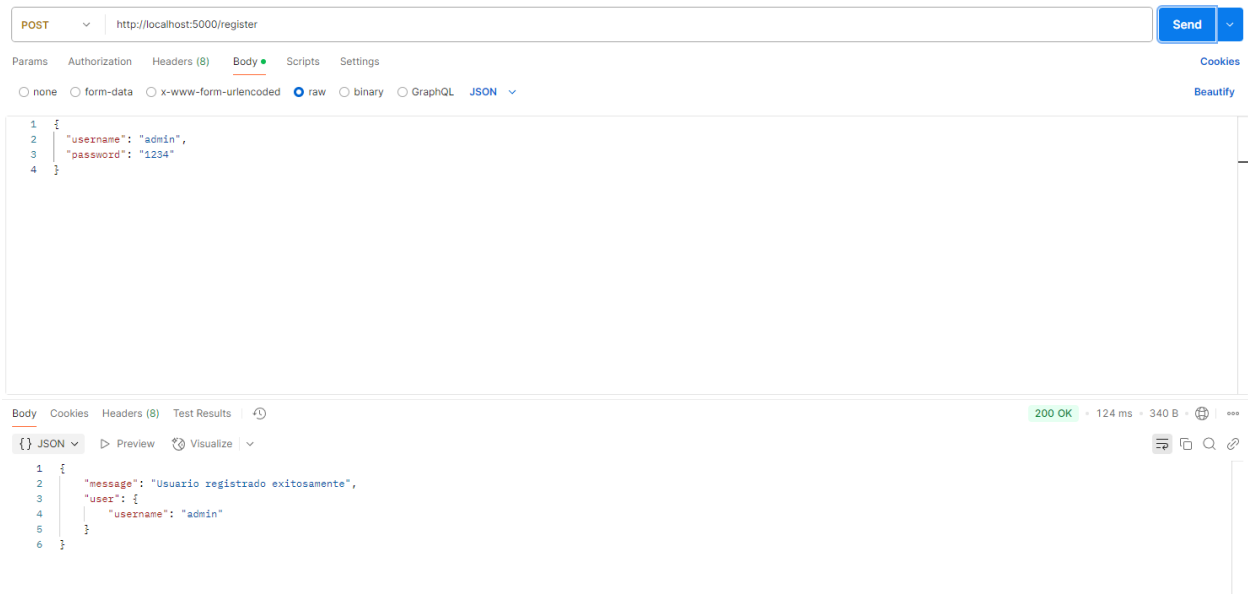
Guía de Api

Se ejecuta el siguiente commando para ver si nuestra Api funciona

```
PS D:\Users\DanoBanano\Desktop\Mi Api> node .\src\app.js
Servidor corriendo en http://localhost:5000
```



En postman se prueba el Registro de usuario



Y luego se prueba el login del usuario creado para el cual se genera un token

POST http://localhost:5000/login

Params Authorization Headers (8) Body Scripts Settings

none form-data x-www-form-urlencoded raw binary GraphQL JSON

```
1 {
2   "username": "admin",
3   "password": "1234"
4 }
```

Body Cookies Headers (8) Test Results

200 OK 9 ms 459 B

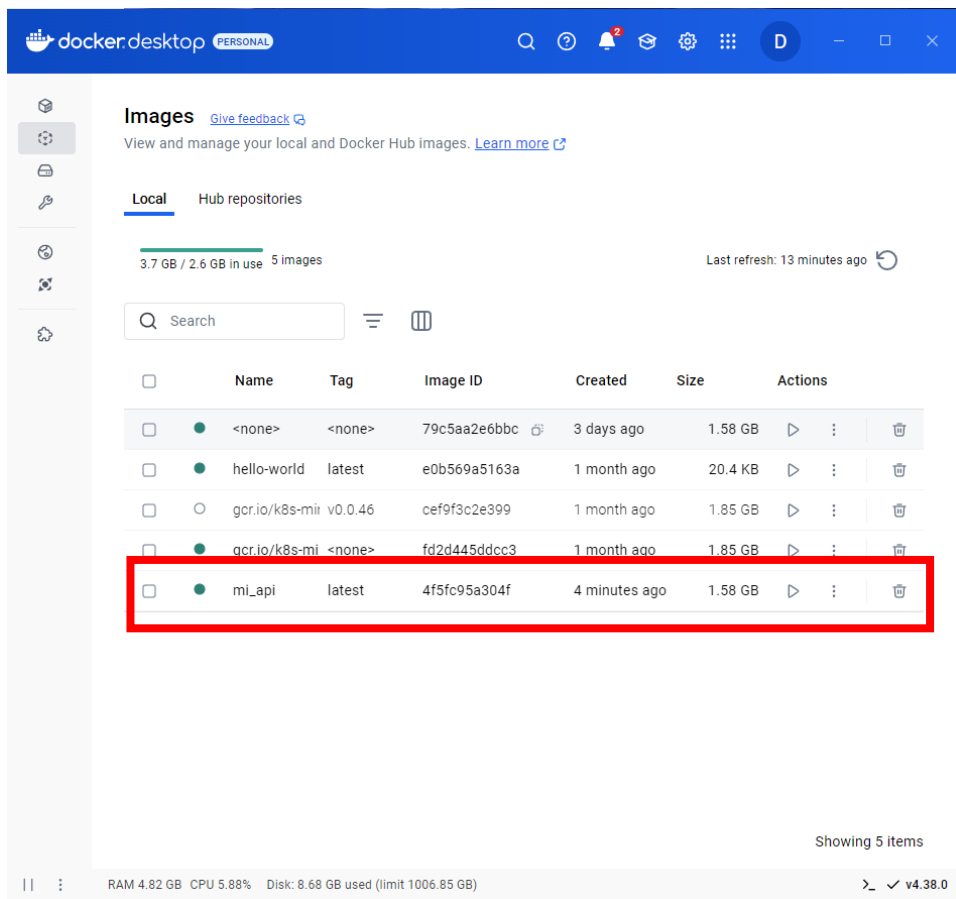
JSON Preview Visualize

```
1 {
2   "message": "Login exitoso",
3   "token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJ1c2VybmFtZSI6ImFkbWwuaWiaWF0IjoxNzQwNjE3MDA2MjJAGNDF9.34V_uXcHQ0k1jpl8LSPoU820MbBd1gBb3c9RSmY1F8k"
4 }
```

Se crea la imagen docker con el siguiente código

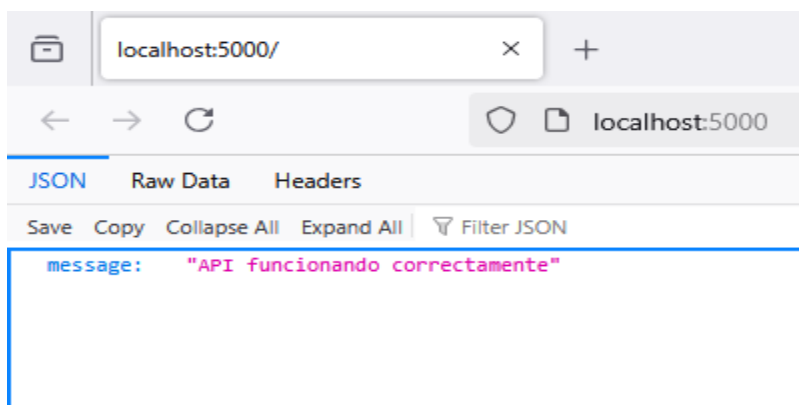
docker build -t mi_api .

```
PS D:\Users\DanoBanano\Desktop\Mi Api> docker build -t mi_api .
[+] Building 40.3s (5/10)
[+] Building 49.5s (11/11) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 173B
=> [internal] load metadata for docker.io/library/node:18
=> [auth] library/node:pull token for registry-1.docker.io
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [1/5] FROM docker.io/library/node:18@sha256:ba756f198b4b1e0114b53b23121c8ae27f7ae4d5d95ca4a0554b0649cc9c7dcf
=> => resolve docker.io/library/node:18@sha256:ba756f198b4b1e0114b53b23121c8ae27f7ae4d5d95ca4a0554b0649cc9c7dcf
=> => sha256:c8728cb69dce1bba4cb95cbaa0e0ae129482b9428acce138dcbab3176854f8d9 447B / 447B
=> => sha256:396e9c5702ad97405a8485ee635a41c2c4fd8bb6636cec4df8bde46e611f0af68 1.25MB / 1.25MB
=> => sha256:2f9475d0583b480d241fbc3e81dcc2c8328ed6cbe28553bdcf241b4ae3c3edc 45.70MB / 45.70MB
=> => sha256:f87facc2c491970afc16ec1d15bc7a2be960b00caa9467613baf0ac87d4e7bdf 3.32kB / 3.32kB
=> => sha256:447713e77b4fc3658cfba0c1e816b70ff6d9bf06563dc8cfc0459406aed33b4 211.34MB / 211.34MB
=> => sha256:1d281e50d3e435595c266df06531a7e8c2ebb0c185622c8ab2eed8d760e6576b 64.39MB / 64.39MB
=> => sha256:8031108f3cda87bb32f090262d0109c8a0db99168050967becefad502e9a681b 24.06MB / 24.06MB
=> => sha256:155ad54a8b2812a0ec559ff82c0c6f0f0dddb337a226b11879f09e15f67b69fc 48.48MB / 48.48MB
=> => extracting sha256:155ad54a8b2812a0ec559ff82c0c6f0f0dddb337a226b11879f09e15f67b69fc
=> => extracting sha256:8031108f3cda87bb32f090262d0109c8a0db99168050967becefad502e9a681b
=> => extracting sha256:1d281e50d3e435595c266df06531a7e8c2ebb0c185622c8ab2eed8d760e6576b
=> => extracting sha256:447713e77b4fc3658cfba0c1e816b70ff6d9bf06563dc8cfc0459406aed33b4
=> => extracting sha256:f87facc2c491970afc16ec1d15bc7a2be960b00caa9467613baf0ac87d4e7bdf
=> => extracting sha256:2f9475d0583b480d241fbc3e81dcc2c8328ed6cbe28553bdcf241b4ae3c3edc
=> => extracting sha256:396e9c5702ad97405a8485ee635a41c2c4fd8bb6636cec4df8bde46e611f0af68
=> => extracting sha256:c8728cb69dce1bba4cb95cbaa0e0ae129482b9428acce138dcbab3176854f8d9
=> [internal] load build context
=> => transferring context: 52.98kB
=> [2/5] WORKDIR /app
=> [3/5] COPY package.json package-lock.json ./
=> [4/5] RUN npm install
=> [5/5] COPY . .
=> exporting to image
=> => exporting layers
=> => exporting manifest sha256:6859ce9ac7ed767d645fc02ee75254b6d84ea8421a6869fb022a831d7210662a
=> => exporting config sha256:aa3d6dd96f438346688968ea7ae12c41f575f962288fe78abfffd77eda9d7e18a
=> => exporting attestation manifest sha256:b87caf8292ec6350d4e5c23802c5501f7edca5ab3da62e90841633214eced411
=> => exporting manifest list sha256:4f5fc95a304fd7c7291b87fa9581f14f1a0780e6f1d38fe9aee1a192c99394df
=> => naming to docker.io/library/mi_api:latest
=> => unpacking to docker.io/library/mi_api:latest
```



se corre la imagen y se verifica que funcione correctamente

```
PS D:\Users\DanoBanano\Desktop\Mi Api> docker run -p 5000:5000 mi_api
Servidor corriendo en http://localhost:5000
```



Luego se inicia el minikube

minikube start

```
PS D:\Users\DanoBanano\Desktop\Mi Api> minikube start
minikube v1.35.0 on Microsoft Windows 10 Pro 10.0.19045.5487 Build 19045.5487
Using the docker driver based on existing profile
Starting "minikube" primary control-plane node in "minikube" cluster
Pulling base image v0.0.46 ...
Restarting existing docker container for "minikube" ...
Failing to connect to https://registry.k8s.io/ from inside the minikube container
To pull new external images, you may need to configure a proxy: https://minikube.sigs.k8s.io/docs/reference/networking/proxy/
Preparing Kubernetes v1.32.0 on Docker 27.4.1 ...
Verifying Kubernetes components...
  Using image gcr.io/k8s-minikube/storage-provisioner:v5
Enabled addons: storage-provisioner, default-storageclass
Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
PS D:\Users\DanoBanano\Desktop\Mi Api> S
```

Se ejecutan los siguientes códigos para activar los archivos deployment.yaml donde se especifica el numero de replicas en este caso de 2 replicas y la imagen recién creada del contenedor, service.yaml para el balanceo de carga y hpa.yaml para el escalado horizontal

```
PS D:\Users\DanoBanano\Desktop\Mi Api> kubectl apply -f deployment.yaml
deployment.apps/api-deployment created
```

```
PS D:\Users\DanoBanano\Desktop\Mi Api> kubectl apply -f service.yaml
service/api-service created
```

```
PS D:\Users\DanoBanano\Desktop\Mi Api> kubectl apply -f hpa.yaml
horizontalpodautoscaler.autoscaling/api-hpa created
```

se ejecutan los siguientes códigos

kubectl get pods

kubectl get services

kubectl get

se ejecuta para el escalado horizontal y monitoreo

kubectl scale deployment api-deployment --replicas=5

```
PS D:\Users\DanoBanano\Desktop\Mi Api> kubectl scale deployment api-deployment --replicas=5
>>
deployment.apps/api-deployment scaled
```

Y se ejecuta el siguiente código para monitorear el autoscaling

kubect1 get hpa

```
PS D:\Users\DanoBanano\Desktop\Mi Api> kubect1 get hpa
```

NAME	REFERENCE	TARGETS	MINPODS	MAXPODS	REPLICAS	AGE
api-hpa	Deployment/api-deployment	cpu: <unknown>/50%	2	5	5	5m52s