PARCIAL

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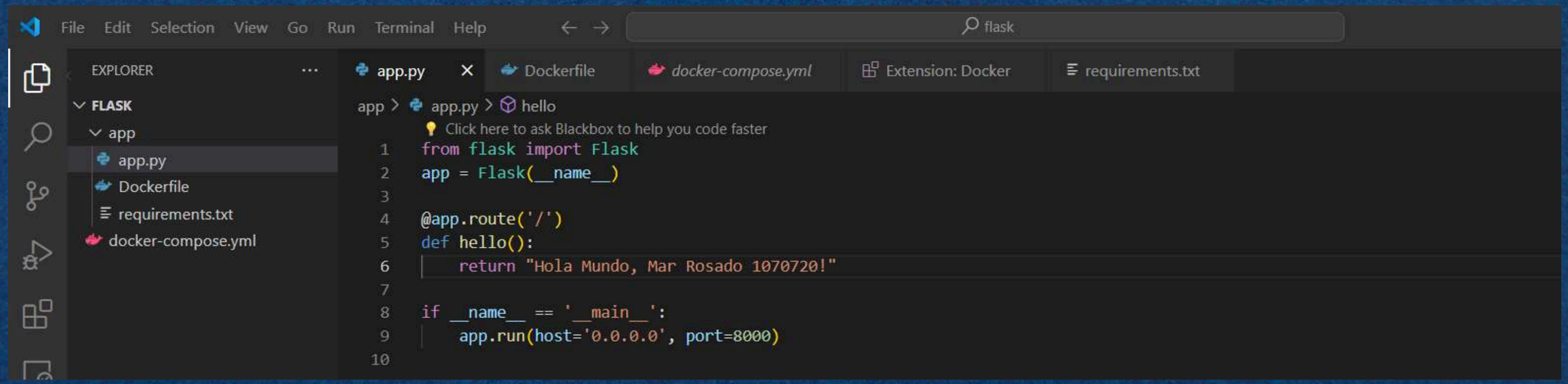
ARCHIVOS

API DE PYTHON



DOCKER

app.py | Dockerfile | docker-compose.yml

Dockerfile

Click here to ask Blackbox to help you code faster

```python
FROM python:3.10-alpine

WORKDIR /app

COPY requirements.txt .
RUN pip3 install -r requirements.txt

COPY . .

EXPOSE 8000

CMD ["python3", "app.py"]

FROM nginx

COPY index.html /usr/share/nginx/html

EXPOSE 80
CMD ["nginx", "-g", "daemon off;"]
```

View Go Run ··· flask

app.py | Dockerfile | docker-compose.yml | requirement

docker-compose.yml

Click here to ask Blackbox to help you code faster

```yaml
version: '3.3'

services:
  flask_app:
    image: awesome-flask
    ports:
      - 8000:8000
  web:
    image: nginx
    volumes:
      -./html:/usr/share/nginx/html
    ports:
      - "80:80"
```

TERRAFORM

SE TIENEN LAS CONFIGURACIONES DE LOS CONTENEDORES DE NGNIX, LA API, EL FRONT END CON UN HTML, Y LA BASE DE DATOS NO RELACIONAL DE MONGODB

app.py | Dockerfile | docker-compose.yml | main.tf

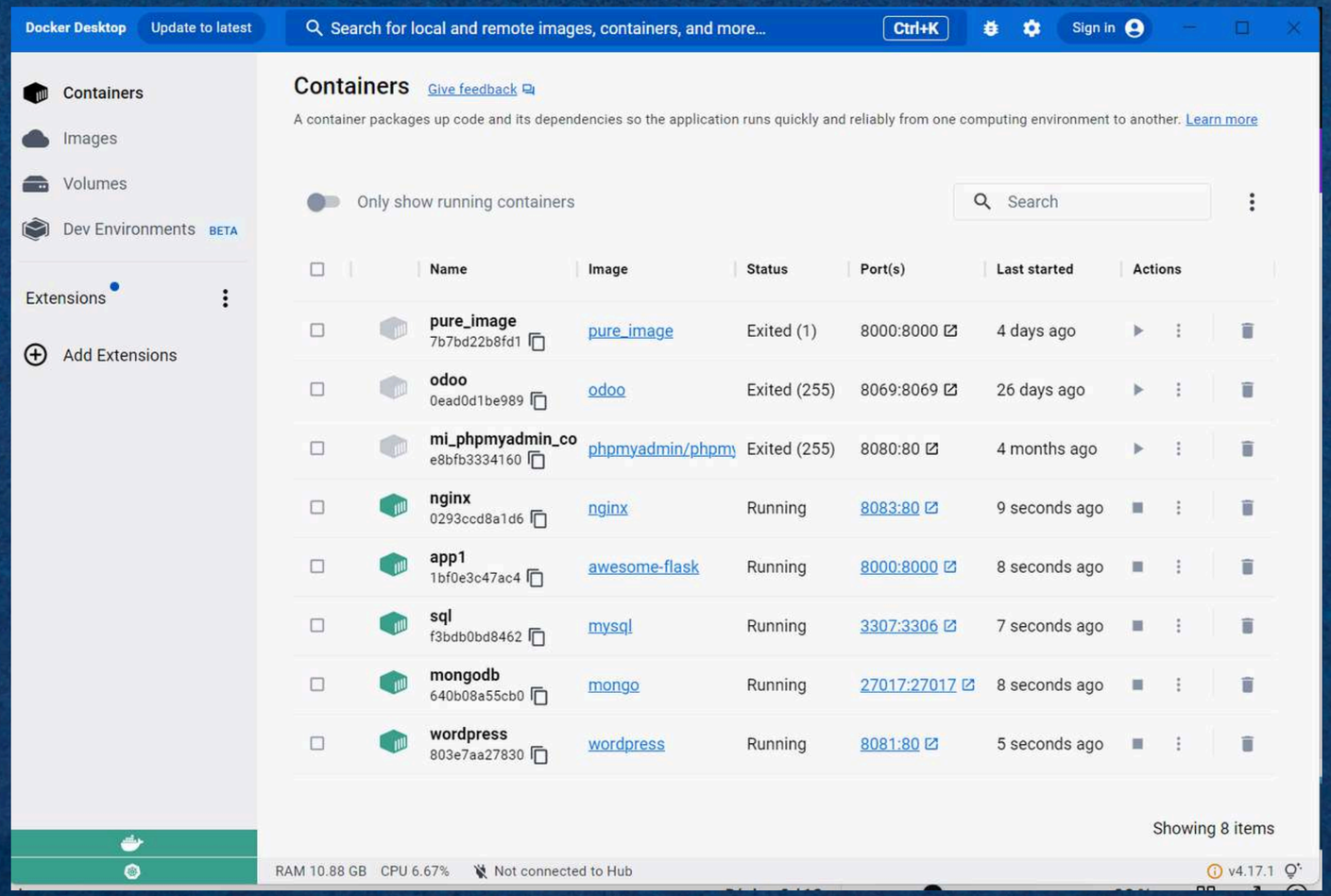
main.tf

Click here to ask Blackbox to help you code faster

```
terraform {
  required_providers {
    docker = {
      source  = "kreuzwerker/docker"
      version = "3.0.2"
    }
  }
}

# CONTENEDOR PARA API HELLO WORLD
resource "docker_container" "app1" {
  name  = "app1"
  image = "awesome-flask"

  ports {
    internal = "8000"
    external = "8000"
  }
}

# CONTENEDOR PARA BASE DE DATOS NO RELACIONAL MONGODB
resource "docker_container" "mongodb" {
  name  = "mongodb"
  image = "mongodb/mongodb-community-server:latest"
  ports {
    internal = "27017"
    external = "27017"
  }
}

# CONTENEDOR FRONT
resource "docker_volume" "html" {
  name = "html-volume"
}
```

FUNCIONALIDAD

CONTENEDOR


Docker Desktop
Update to latest
Search for local and remote images, containers, and more...
Ctrl+K
Sign in
Containers
Images
Volumes
Dev Environments BETA
Extensions
Add Extensions
Containers
Give feedback
A container packages up code and its dependencies so the application runs quickly and reliably from one computing environment to another. Learn more
Only show running containers
Search
Name
Image
Status
Port(s)
Last started
Actions
pure_image 7b7bd22b8fd1 pure_image Exited (1) 8000:8000 4 days ago
odoo 0ead0d1be989 odoo Exited (255) 8069:8069 26 days ago
mi_phpmyadmin_co e8bfb3334160 phpmyadmin/phpmy Exited (255) 8080:80 4 months ago
nginx 0293ccd8a1d6 nginx Running 8083:80 9 seconds ago
app1 1bf0e3c47ac4 awesome-flask Running 8000:8000 8 seconds ago
sql f3bdb0bd8462 mysql Running 3307:3306 7 seconds ago
mongodb 640b08a55cb0 mongo Running 27017:27017 8 seconds ago
wordpress 803e7aa27830 wordpress Running 8081:80 5 seconds ago
Showing 8 items
RAM 10.88 GB CPU 6.67%
Not connected to Hub
v4.17.1

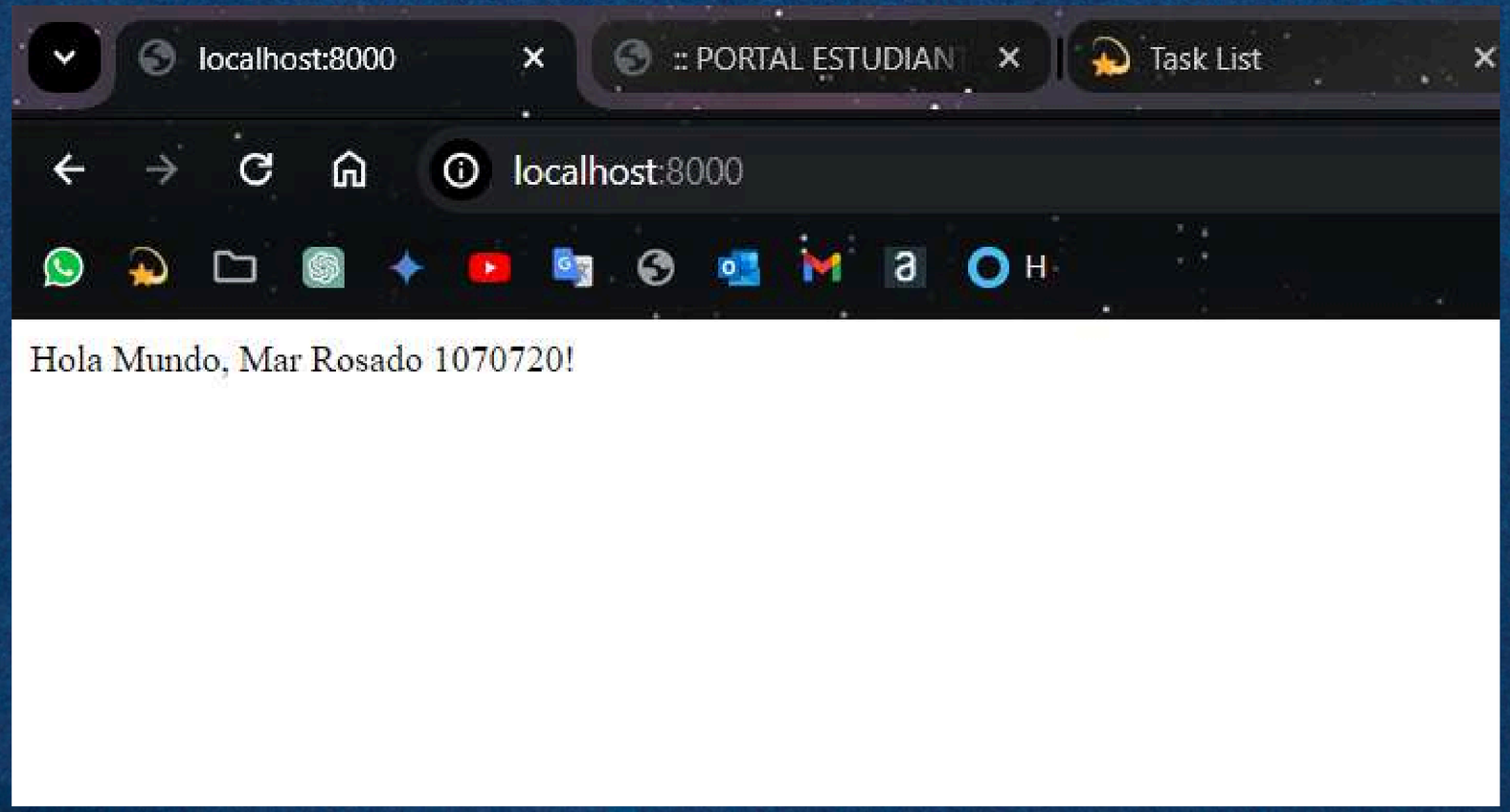
TERRAFORM

```
PS C:\Users\Mar Rosado\Desktop\flask> terraform init -upgrade

Initializing the backend...

Initializing provider plugins...
- Finding kreuzwerker/docker versions matching "3.0.2"...
- Using previously-installed kreuzwerker/docker v3.0.2

Terraform has been successfully initialized!

You may now begin working with Terraform. Try running "terraform plan" to see
any changes that are required for your infrastructure. All Terraform commands
should now work.

If you ever set or change modules or backend configuration for Terraform,
rerun this command to reinitialize your working directory. If you forget, other
commands will detect it and remind you to do so if necessary.
PS C:\Users\Mar Rosado\Desktop\flask> terraform apply

Terraform used the selected providers to generate the following
execution plan. Resource actions are indicated with the following
symbols:
  + create

Terraform will perform the following actions:
```

```
Windows PowerShell

        },
      ] -> (known after apply)
    - network_mode                         = "default" -> null
    - privileged                           = false -> null
    - publish_all_ports                    = false -> null
    ~ runtime                              = "runc" -> (known after apply)
    ~ security_opts                        = [] -> (known after apply)
    ~ shm_size                             = 64 -> (known after apply)
    + stop_signal                          = (known after apply)
    ~ stop_timeout                         = 0 -> (known after apply)
    - storage_opts                         = {} -> null
    - sysctls                              = {} -> null
    - tmpfs                                = {} -> null
      # (20 unchanged attributes hidden)

      # (1 unchanged block hidden)
  }

Plan: 3 to add, 0 to change, 3 to destroy.

Do you want to perform these actions?
  Terraform will perform the actions described above.
  Only 'yes' will be accepted to approve.

  Enter a value: yes

docker_container.app1: Destroying... [id=6ef7c5c98c6530973d7fa1e92200190bc1f7bce69b49a281ee46895d610ce4c5]
docker_container.sql: Destroying... [id=dafda28223a037feacc32bf24832480402a7ff742f8cf711452f976628173fc9]
docker_container.mongodb: Destroying... [id=4a1fec6d5a6d0972ab6ddfe5a0f207a36d04d13dc541f199cf125e430a8b10d1]
docker_container.app1: Destruction complete after 1s
docker_container.app1: Creating...
docker_container.mongodb: Destruction complete after 1s
docker_container.mongodb: Creating...
docker_container.sql: Destruction complete after 2s
docker_container.sql: Creating...
docker_container.app1: Creation complete after 2s [id=611e03c181bc4035f730125ae8437c51f1325e6d97b8fb94f4217966b1a99c2f]
docker_container.sql: Creation complete after 1s [id=c72342992cd2902d45252c4349de70fe23820b58a496bd9f0424cf6064fc1291]
docker_container.mongodb: Creation complete after 2s [id=cdad73dd7104e069c48697c7074088d6ec79c1036bd0b0ee13879deddfa19e46]

Apply complete! Resources: 3 added, 0 changed, 3 destroyed.
PS C:\Users\Mar Rosado\Desktop>
```

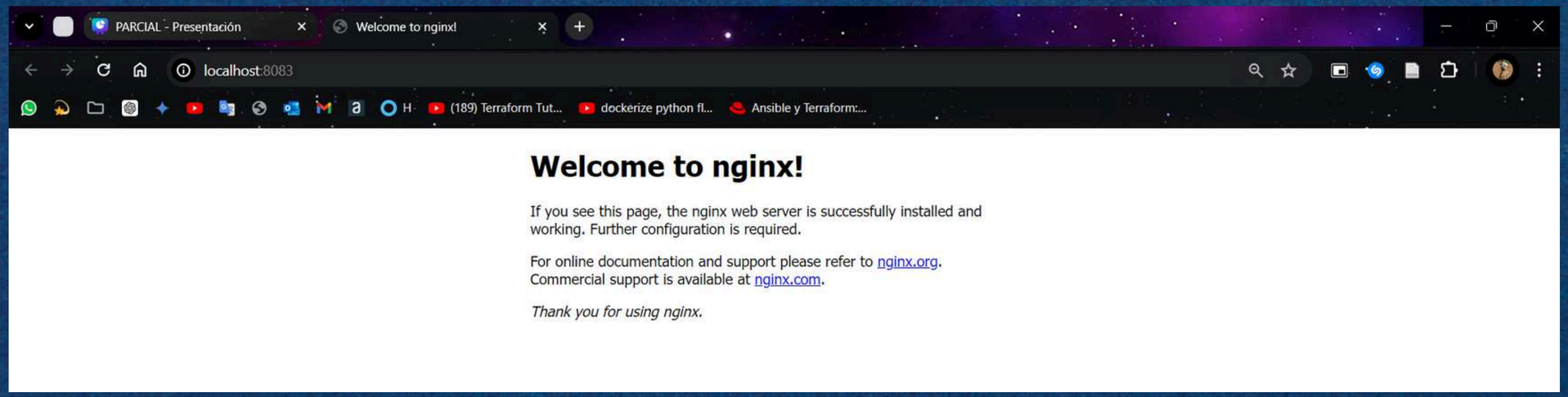
AL EJECUTAR TERRAFORM APPLY SE DESPLIEGAN LOS CONTENEDORES CON LAS BD, LAS API, NGNIX

API



CON EL CONTENEDOR DE NGNIX ES POSIBLE LEVANTAR UN HOLA MUNDO DE LA API

NGINX



SE COMPRUEBA QUE EL CONTENEDOR DE NGNIX ESTá ACTIVO

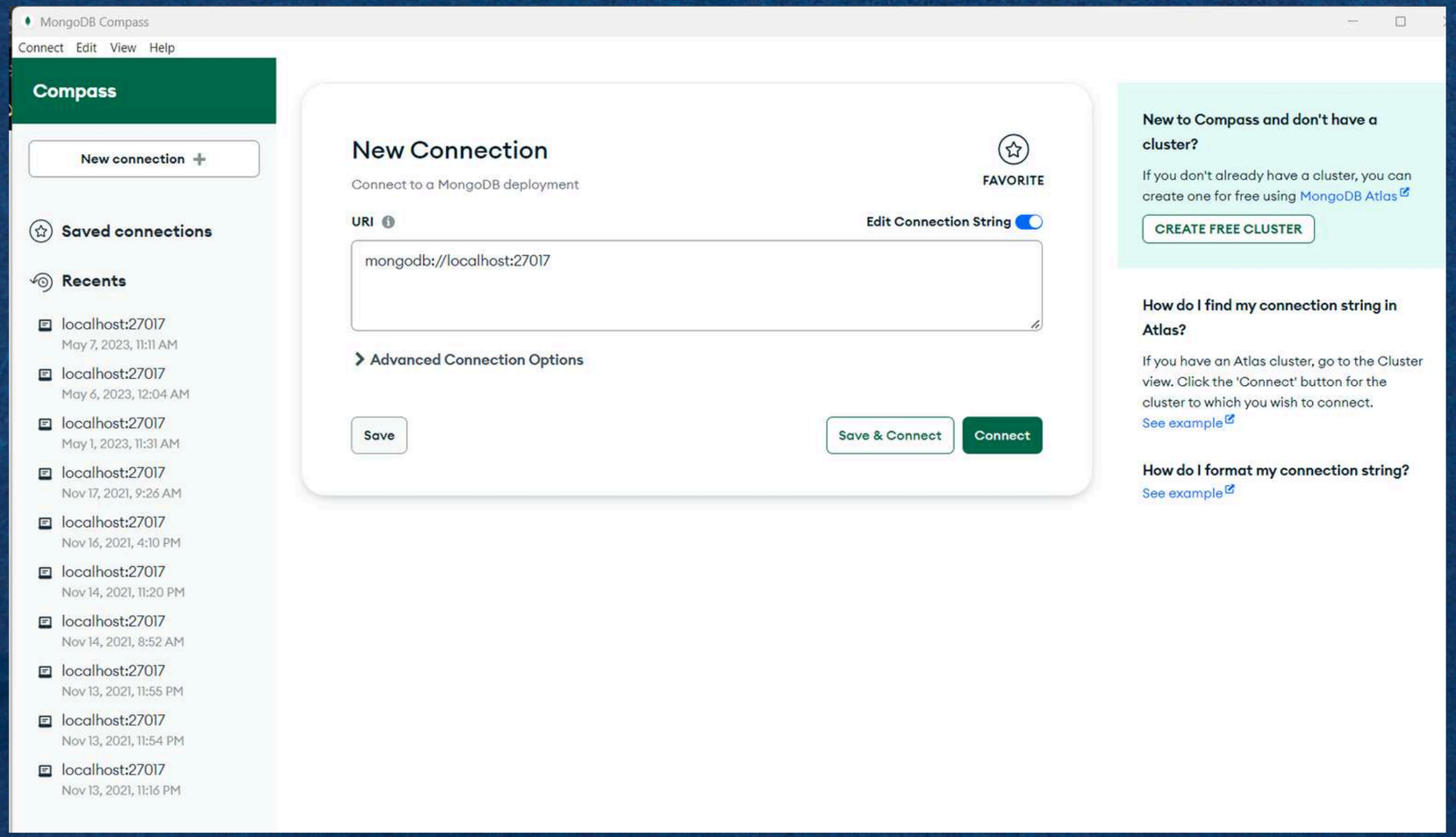
MONGO DB

```
C:\Users\Mar Rosado>mongosh --port 27017
Current Mongosh Log ID: 6643c0a1c65e8c708e46b798
Connecting to:          mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000&appName=mongosh+2.2.5
Using MongoDB:          5.0.3
Using Mongosh:          2.2.5

For mongosh info see: https://docs.mongodb.com/mongodb-shell/


To help improve our products, anonymous usage data is collected and sent to MongoDB periodically (https://www.mongodb.com/legal/privacy-policy).
You can opt-out by running the disableTelemetry() command.

------
   The server generated these startup warnings when booting
   2024-05-09T20:51:43.613-06:00: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted
------

test>
```

SE CREÓ UN CONTENEDOR DE LA BASE DE DATOS NO RELACIONAL, SE COMPRUEBA QUE ESTÁ ACTIVA Y FUNCIONANDO CON EL CONTENEDOR A TRAVES DEL PUERTO 27017

```
------
   The server generated these startup warnings when booti
   2024-05-09T20:51:43.613-06:00: Access control is not e
------

test> db.runCommand(
...     {
...         hello: 1
...     }
... )
{
  isWritablePrimary: true,
  topologyVersion: {
    processId: ObjectId('663d8bbec9ff7ba1908fa06a'),
    counter: Long('0')
  },
  maxBsonObjectSize: 16777216,
  maxMessageSizeBytes: 48000000,
  maxWriteBatchSize: 100000,
  localTime: ISODate('2024-05-14T19:52:04.333Z'),
  logicalSessionTimeoutMinutes: 30,
  connectionId: 19,
  minWireVersion: 0,
  maxWireVersion: 13,
  readOnly: false,
  ok: 1
}
test>
```

MONGO DB



CONEXIÓN DE MONGO ACTIVO DENTRO DE LA APP DE ESCRITORIO