Práctica 6.1

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Índice

Despliegue con Docker

En primer lugar vamos a clonar el repositorio

```
[ec2-user@ip-172-31-36-53 ~]$ cd practica6_2/
[ec2-user@ip-172-31-36-53 practica6_2]$ git clone https://github.com/raul-profesor/DAW_practica_6.1_2024.git
Cloning into 'DAW_practica_6.1_2024'...
remote: Enumerating objects: 24, done.
remote: Counting objects: 100% (24/24), done.
remote: Compressing objects: 100% (20/20), done.
remote: Total 24 (delta 2), reused 24 (delta 2), pack-reused 0
Receiving objects: 100% (24/24), 47.15 KiB | 9.43 MiB/s, done.
Resolving deltas: 100% (2/2), done.
[ec2-user@ip-172-31-36-53 practica6_2]$
```

A continuación vamos a configurar el Dockerfile de la siguiente manera:

```
ec2-user@ip-172-31-36-53:~/practica6_2/DAW_practica_6.1_2024
  GNU nano 5.8                                                Dockerfile
FROM node:18.16.0-alpine3.17
RUN  mkdir -p /opt/app
WORKDIR  /opt/app
COPY  src/package.json src/package-lock.json .
RUN npm install
COPY src/ .
EXPOSE 3000
CMD [ "npm", "start"]
```

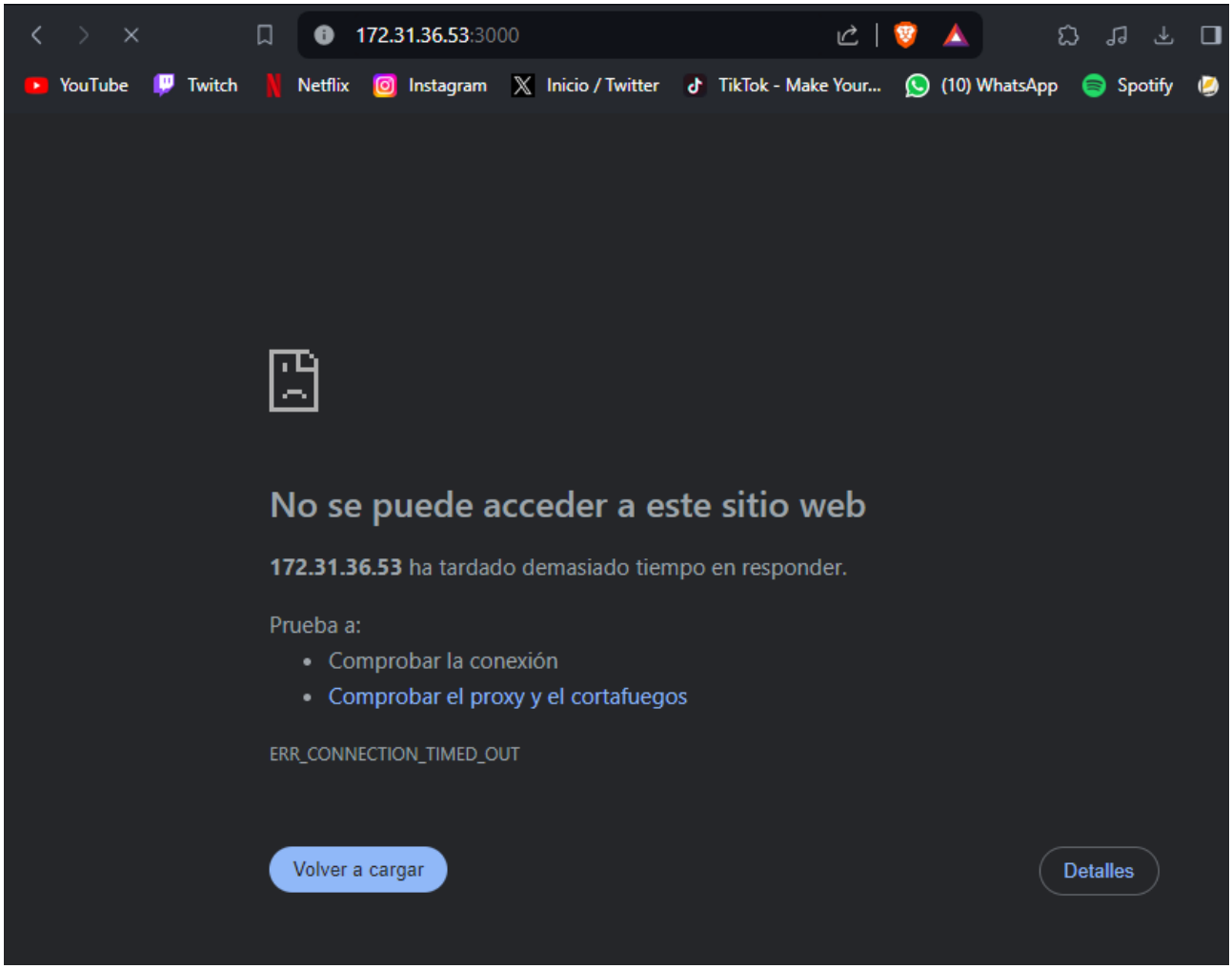
Después hacemos un build de la imagen de Docker

```
ec2-user@ip-172-31-36-53:~/practica6_2/DAW_practica_6.1_2024
ec2-user@ip-172-31-36-53 DAW_practica_6.1_2024]$ [ec2-user@ip-172-31-36-53 DAW_practica_6.1_2024]$ sudo docker build -t librodireccio
es .
+] Building 18.7s (11/11) FINISHED                                                                          docker:default
=> [internal] load build definition from Dockerfile                                                                  0.0s
=> => transferring dockerfile: 723B                                                                                  0.0s
=> [internal] load .dockerignore                                                                                     0.0s
=> => transferring context: 2B                                                                                       0.0s
=> [internal] load metadata for docker.io/library/node:18.16.0-alpine3.17                                            0.3s
=> [1/6] FROM docker.io/library/node:18.16.0-alpine3.17@sha256:b7d9556fe010b4be281a1393bc7e481d14d15504a7fae9b55a7eb1ee1eddbda  4.1s
=> => resolve docker.io/library/node:18.16.0-alpine3.17@sha256:b7d9556fe010b4be281a1393bc7e481d14d15504a7fae9b55a7eb1ee1eddbda  0.0s
=> => sha256:ef7f2328d57ce68f0d3478aa999d291fb0f514167723a7b325dac07c38e3b2ab 47.48MB / 47.48MB                       0.6s
=> => sha256:060351d95f1f6b03038fe776fa29684a15ae2bd45ebc6cc178924a5290505d27 2.34MB / 2.34MB                        0.2s
=> => sha256:b7d9556fe010b4be281a1393bc7e481d14d15504a7fae9b55a7eb1ee1eddbda0 1.43kB / 1.43kB                        0.0s
=> => sha256:3a8e866c074d57792f7bfe4328d45cd1ad6b43cd8d8fd5e67435583a36fbd340 1.16kB / 1.16kB                        0.0s
=> => sha256:2222a5c1805f22b8acd5f3e2282888eac9b04c56bd95dd0bceaf4b688d5c5234 6.73kB / 6.73kB                        0.0s
=> => sha256:4db1b89c0bd13344176ddce2d093b9da2ae58336823ffed2009a7ea4b62d2a95 3.37MB / 3.37MB                        0.1s
=> => extracting sha256:4db1b89c0bd13344176ddce2d093b9da2ae58336823ffed2009a7ea4b62d2a95                              0.5s
=> => sha256:fd341255f8302c6410d980b1d942cfb030e3272fa95015b2e6b2ea00af693ec3 449B / 449B                            0.2s
=> => extracting sha256:ef7f2328d57ce68f0d3478aa999d291fb0f514167723a7b325dac07c38e3b2ab                              3.0s
=> => extracting sha256:060351d95f1f6b03038fe776fa29684a15ae2bd45ebc6cc178924a5290505d27                              0.1s
=> => extracting sha256:fd341255f8302c6410d980b1d942cfb030e3272fa95015b2e6b2ea00af693ec3                              0.0s
=> [internal] load build context                                                                                     0.0s
=> => transferring context: 175.53kB                                                                                 0.0s
=> [2/6] RUN mkdir -p /opt/app                                                                                       0.5s
=> [3/6] WORKDIR /opt/app                                                                                            0.0s
=> [4/6] COPY src/package.json src/package-lock.json ./                                                              0.1s
=> [5/6] RUN npm install                                                                                            11.8s
=> [6/6] COPY src/ ./                                                                                                0.1s
=> exporting to image                                                                                                1.6s
=> => exporting layers                                                                                               1.6s
=> => writing image sha256:854d676e8977bfabda175c76c8c3a2aec60081e7e74afe20a6689818cb63682f                          0.0s
=> => naming to docker.io/library/librodirecciones                                                                   0.0s
ec2-user@ip-172-31-36-53 DAW_practica_6.1_2024]$
```

Y por último iniciamos el contenedor en el puerto 3000

```
[ec2-user@ip-172-31-36-53 DAW_practica_6.1_2024]$ sudo docker run -p 3000:3000 -d librodirecciones
e3499e98be175e0eb621c4a14a5465af6128afa48a0d6370812bcfa41ec91d5b
[ec2-user@ip-172-31-36-53 DAW_practica_6.1_2024]$
```

Por supuesto si nos intentamos conectar nos dará un error de conexión



Docker Compose

Primero instalamos docker-compose que desde un EC2 es un poco más complejo

```
[ec2-user@ip-172-31-36-53 ~]$ sudo curl -L https://github.com/docker/compose/releases/latest/download/docker-compose-$(
name -s)-$(uname -m) -o /usr/local/bin/docker-compose
+x /usr/local/bin/docker-compose

docker-compose version
sudo chmod +x /usr/local/bin/docker-compose

docker-compose version  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
  0     0    0     0    0     0      0      0 --:--:-- --:--:-- --:--:--     0
  0     0    0     0    0     0      0      0 --:--:-- --:--:-- --:--:--     0
100 58.5M  100 58.5M    0     0  86.8M      0 --:--:-- --:--:-- --:--:-- 86.8M
[ec2-user@ip-172-31-36-53 ~]$ sudo chmod +x /usr/local/bin/docker-compose
[ec2-user@ip-172-31-36-53 ~]$ docker-compose version
Docker Compose version v2.24.5
[ec2-user@ip-172-31-36-53 ~]$
```

Tendremos que tener nuestro .yml para describir toda la aplicación.

```
ec2-user@ip-172-31-36-53:~/practica6_2/DAW_practica_6.1_2024
 GNU nano 5.8
version: "3.9"
services:
  postgres:
    image: postgres:latest
    environment:
      POSTGRES_USER: postgres
      POSTGRES_PASSWORD: postgres
    ports:
      - '5432:5432'
    volumes:
      - addressbook-db:/var/lib/postgresql/data

  addressbook:
    build:
      context: .
    environment:
      DB_SCHEMA: postgres
      DB_USER: postgres
      DB_PASSWORD: postgres
      DB_HOST: postgres
    depends_on:
      - postgres
    ports:
      - '3000:3000'

volumes:
  addressbook-db:
```

Migramos las tablas para crearlas en nuestra base de datos.

```
[ec2-user@ip-172-31-36-53 DAW_practica_6.1_2024]$ sudo docker-compose run addressbook npm run migrate
[+] Running 15/15
 ⠿ postgres 14 layers [⠿⠿⠿⠿⠿⠿⠿⠿⠿⠿⠿⠿⠿⠿]      0B/0B      Pulled                                                    10.4s
   ⠿ c57ee5000d61 Pull complete                                                                                        0.3s
   ⠿ 81b575116500 Pull complete                                                                                        0.1s
   ⠿ e12fff61d996 Pull complete                                                                                        0.2s
   ⠿ 50a849db7317 Pull complete                                                                                        0.4s
   ⠿ 432dd17f42df Pull complete                                                                                        0.5s
   ⠿ a1f5bcbba6b6 Pull complete                                                                                        0.6s
   ⠿ 6e501216828b Pull complete                                                                                        0.6s
   ⠿ ea24c7671c3d Pull complete                                                                                        0.6s
   ⠿ b7a5cd7c9b9a Pull complete                                                                                        1.9s
   ⠿ db7d78d9f46e Pull complete                                                                                        0.7s
   ⠿ 8c786fbf8634 Pull complete                                                                                        0.7s
   ⠿ 2831031f2a0e Pull complete                                                                                        0.8s
   ⠿ 75c5b068b243 Pull complete                                                                                        0.9s
   ⠿ 9590d9e20e85 Pull complete                                                                                        1.0s
[+] Creating 3/3
 ⠿ Network daw_practica_61_2024_default          Created                                                               0.1s
 ⠿ Volume "daw_practica_61_2024_addressbook-db"  Created                                                               0.0s
 ⠿ Container daw_practica_61_2024-postgres-1     Created                                                               0.4s
[+] Running 1/1
 ⠿ Container daw_practica_61_2024-postgres-1  Started                                                                  0.9s
[+] Building 0.6s (11/11) FINISHED                                                                          docker:default
 => [addressbook internal] load build definition from Dockerfile                                                      0.1s
 => => transferring dockerfile: 723B                                                                                  0.0s
 => [addressbook internal] load .dockerignore                                                                         0.0s
```

Y a continuación construimos el contenedor.

```
[ec2-user@ip-172-31-29-56 DAW_practica_6.1_2024]$ sudo docker-compose up --build -d
[+] Building 0.2s (11/11) FINISHED                                                                          docker:default
 => [addressbook internal] load build definition from Dockerfile                                                      0.0s
 => => transferring dockerfile: 275B                                                                                  0.0s
 => [addressbook internal] load .dockerignore                                                                         0.0s
 => => transferring context: 2B                                                                                       0.0s
 => [addressbook internal] load metadata for docker.io/library/node:18.16.0-alpine3.17                                0.1s
 => [addressbook 1/6] FROM docker.io/library/node:18.16.0-alpine3.17@sha256:b7d9556fe010b4be281a1393bc7e481d14d15504a7fae9b55a7  0.0s
 => [addressbook internal] load build context                                                                         0.0s
 => => transferring context: 1.50kB                                                                                   0.0s
 => CACHED [addressbook 2/6] RUN  mkdir -p /opt/app                                                                   0.0s
 => CACHED [addressbook 3/6] WORKDIR /opt/app                                                                         0.0s
 => CACHED [addressbook 4/6] COPY src/package.json src/package-lock.json .                                            0.0s
 => CACHED [addressbook 5/6] RUN npm install                                                                          0.0s
 => CACHED [addressbook 6/6] COPY src/ .                                                                              0.0s
 => [addressbook] exporting to image                                                                                  0.0s
 => => exporting layers                                                                                               0.0s
 => => writing image sha256:f71ce2b80720692d0838ca1053800d2620e8aa2ea4ddad198acfb5698414a7ac                          0.0s
 => => naming to docker.io/library/daw_practica_61_2024-addressbook                                                   0.0s
[+] Running 2/2
 ⠿ Container daw_practica_61_2024-postgres-1     Running                                                              0.0s
 ⠿ Container daw_practica_61_2024-addressbook-1  Started                                                              0.5s
[ec2-user@ip-172-31-29-56 DAW_practica_6.1_2024]$ sudo docker-compose down
[+] Running 3/3
 ⠿ Container daw_practica_61_2024-addressbook-1  Removed                                                              0.8s
 ⠿ Container daw_practica_61_2024-postgres-1     Removed                                                              0.3s
 ⠿ Network daw_practica_61_2024_default          Removed                                                              0.3s
[ec2-user@ip-172-31-29-56 DAW_practica_6.1_2024]$ sudo docker-compose up
[+] Running 3/2
 ⠿ Network daw_practica_61_2024_default          Created                                                              0.1s
 ⠿ Container daw_practica_61_2024-postgres-1     Created                                                              0.1s
 ⠿ Container daw_practica_61_2024-addressbook-1  Created                                                              0.0s
Attaching to addressbook-1, postgres-1
postgres-1     |
postgres-1     | PostgreSQL Database directory appears to contain a database; Skipping initialization
postgres-1     |
postgres-1     | 2024-02-11 18:00:41.440 UTC [1] LOG:  starting PostgreSQL 16.1 (Debian 16.1-1.pgdg120+1) on x86_64-pc-linux-gnu, comp
iled by gcc (Debian 12.2.0-14) 12.2.0, 64-bit
postgres-1     | 2024-02-11 18:00:41.448 UTC [1] LOG:  listening on IPv4 address "0.0.0.0", port 5432
postgres-1     | 2024-02-11 18:00:41.448 UTC [1] LOG:  listening on IPv6 address "::", port 5432
postgres-1     | 2024-02-11 18:00:41.451 UTC [1] LOG:  listening on Unix socket "/var/run/postgresql/.s.PGSQL.5432"
postgres-1     | 2024-02-11 18:00:41.463 UTC [28] LOG:  database system was shut down at 2024-02-11 18:00:37 UTC
postgres-1     | 2024-02-11 18:00:41.469 UTC [1] LOG:  database system is ready to accept connections
addressbook-1  |
addressbook-1  | > addressbook@1.0.0 start
addressbook-1  | > node ./bin/www
addressbook-1  |
```

Ahora podemos correr un test para ver que funciona correctamente.

```
[ec2-user@ip-172-31-29-56 DAW_practica_6.1_2024]$ sudo docker-compose run addressbook npm test
[+] Creating 1/0
 ⠿ Container daw_practica_61_2024-postgres-1  Running                                                                0.0s

> addressbook@1.0.0 test
> jest

  console.log
    Executing (default): DROP TABLE IF EXISTS "People" CASCADE;

      at Sequelize.log (node_modules/sequelize/src/sequelize.js:1280:15)

  console.log
    Executing (default): SELECT DISTINCT tc.constraint_name as constraint_name, tc.constraint_schema as constraint_schema, tc.constrai
nt_catalog as constraint_catalog, tc.table_name as table_name,tc.table_schema as table_schema,tc.table_catalog as table_catalog,tc.ini
tially_deferred as initially_deferred,tc.is_deferrable as is_deferrable,kcu.column_name as column_name,ccu.table_schema  AS referenced
table_schema,ccu.table_catalog  AS referenced_table_catalog,ccu.table_name  AS referenced_table_name,ccu.column_name AS referenced_co
lumn_name FROM information_schema.table_constraints AS tc JOIN information_schema.key_column_usage AS kcu ON tc.constraint_name = kcu.
constraint_name JOIN information_schema.constraint_column_usage AS ccu ON ccu.constraint_name = tc.constraint_name WHERE constraint_ty
pe = 'FOREIGN KEY' AND tc.table_name = 'People' AND tc.table_catalog = 'postgres'

      at Sequelize.log (node_modules/sequelize/src/sequelize.js:1280:15)

  console.log
    Executing (default): DROP TABLE IF EXISTS "People" CASCADE;

      at Sequelize.log (node_modules/sequelize/src/sequelize.js:1280:15)

  console.log
    Executing (default): DROP TABLE IF EXISTS "People" CASCADE;

      at Sequelize.log (node_modules/sequelize/src/sequelize.js:1280:15)

  console.log
    Executing (default): DROP TABLE IF EXISTS "People" CASCADE;

      at Sequelize.log (node_modules/sequelize/src/sequelize.js:1280:15)

  console.log
    Executing (default): CREATE TABLE IF NOT EXISTS "People" ("id"   SERIAL , "firstName" VARCHAR(255) NOT NULL, "lastName" VARCHAR(25
5), "createdAt" TIMESTAMP WITH TIME ZONE NOT NULL, "updatedAt" TIMESTAMP WITH TIME ZONE NOT NULL, PRIMARY KEY ("id"));
```

Tarea

GET /persons/all muestra todas las personas en el libro de direcciones

```
[ec2-user@ip-172-31-29-56 DAW_practica_6.1_2024]$ curl -X GET http://localhost:3000/persons/all
[{"id":1,"firstName":"Raúl","lastName":"Profesor","createdAt":"2024-02-11T18:03:52.781Z","updatedAt":"2024-02-11T18:03:52.781Z"}][ec2-user@ip-172-31-29-56 DAW_practica_6.1_
```

GET /persons/1 muestra la persona con el id 1

```
ec2-user@ip-172-31-29-56:~/DAW_practica_6.1_2024
[ec2-user@ip-172-31-29-56 DAW_practica_6.1_2024]$ curl -X GET http://localhost:3000/persons/1
{"id":1,"firstName":"Raúl","lastName":"Profesor","createdAt":"2024-02-11T18:03:52.781Z","updatedAt":"2024-02-11T18:03:52.781Z"}
```

PUT /persons/ añade una persona al libro de direcciones

```
[ec2-user@ip-172-31-29-56 DAW_practica_6.1_2024]$ curl -X PUT http://localhost:3000/persons -H 'Content-Type: application/jso
id": 2, "firstName": "Miguel", "lastName": "Pozo"}'
{"firstName":"Miguel","lastName":"Pozo","id":2,"updatedAt":"2024-02-11T18:09:08.201Z","createdAt":"2024-02-11T18:09:08.201Z"}
[ec2-user@ip-172-31-29-56 DAW_practica_6.1_2024]$ curl -X GET http://localhost:3000/persons/2
{"id":2,"firstName":"Miguel","lastName":"Pozo","createdAt":"2024-02-11T18:09:08.201Z","updatedAt":"2024-02-11T18:09:08.201Z"}
@ip-172-31-29-56 DAW_practica_6.1_2024]$
```

DELETE /persons/1 elimina a la persona con el id 1

```
ec2-user@ip-172-31-29-56:~/DAW_practica_6.1_2024
[ec2-user@ip-172-31-29-56 DAW_practica_6.1_2024]$ curl -X DELETE http://localhost:3000/persons/1
[ec2-user@ip-172-31-29-56 DAW_practica_6.1_2024]$ curl -X GET http://localhost:3000/persons/1
null[ec2-user@ip-172-31-29-56 DAW_practica_6.1_2024]$
```