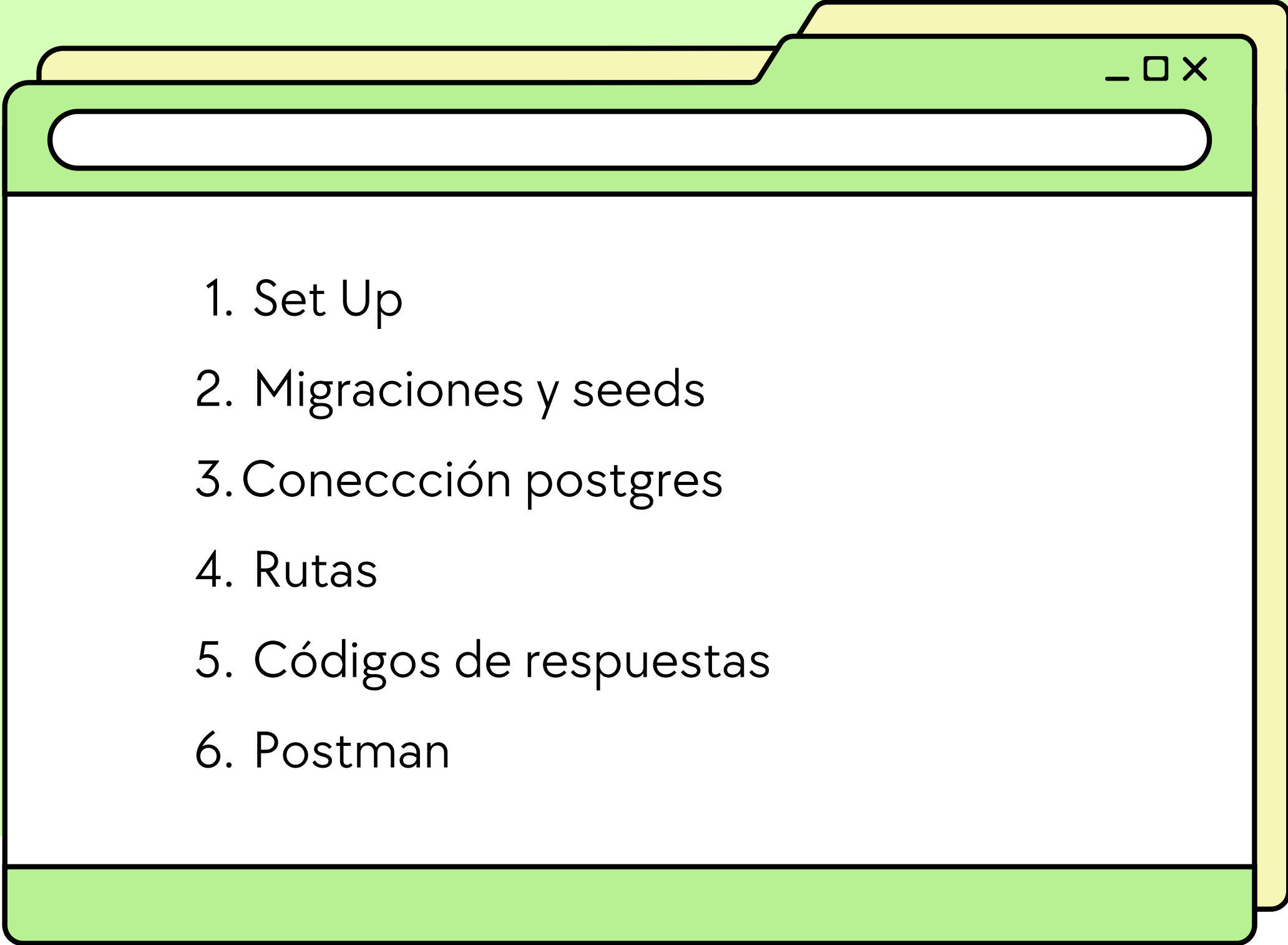


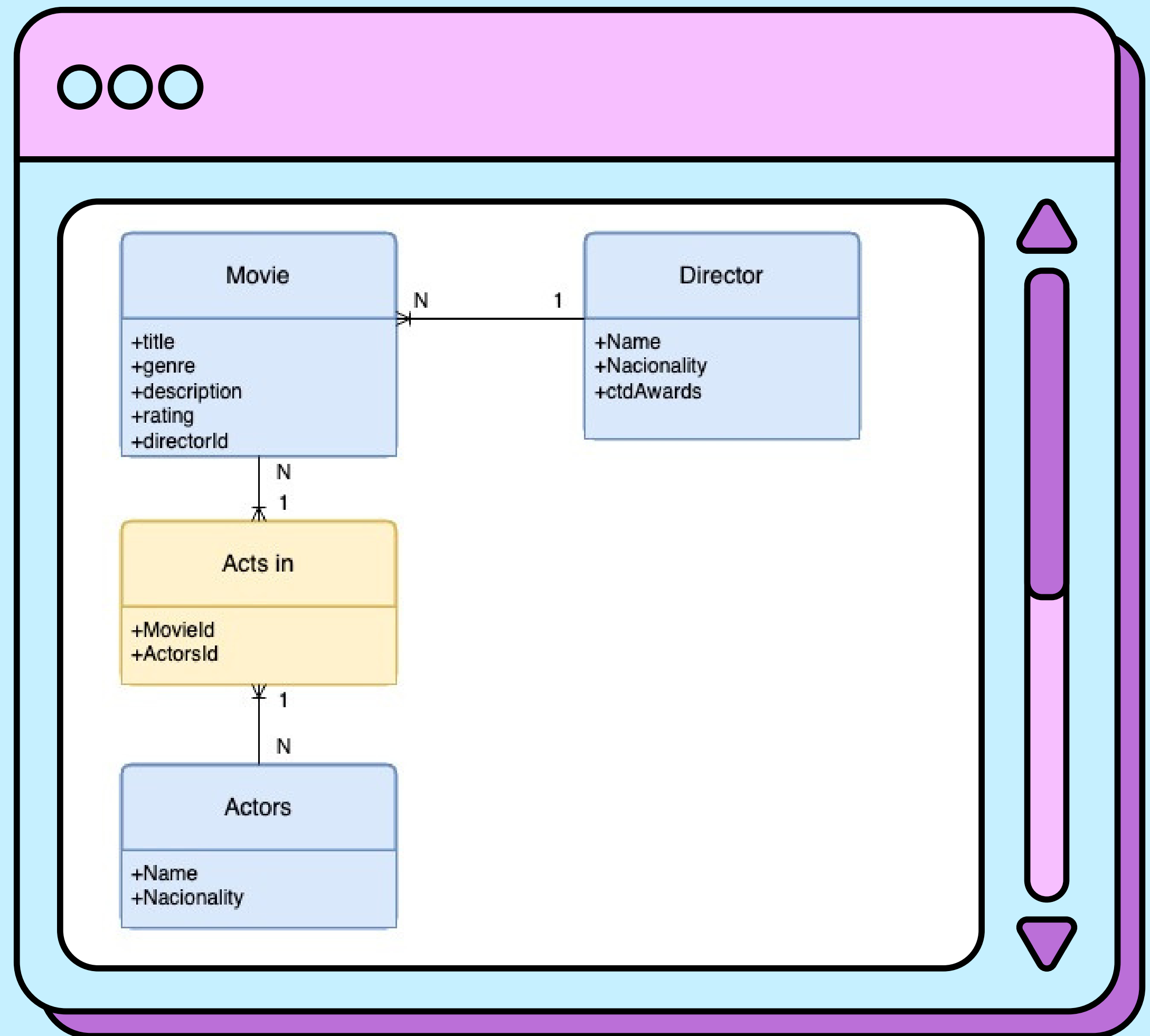
# Ayudantía Creación de una API

Benjamín Águila, Antonia Blanco, Diego Astudillo

# Temas

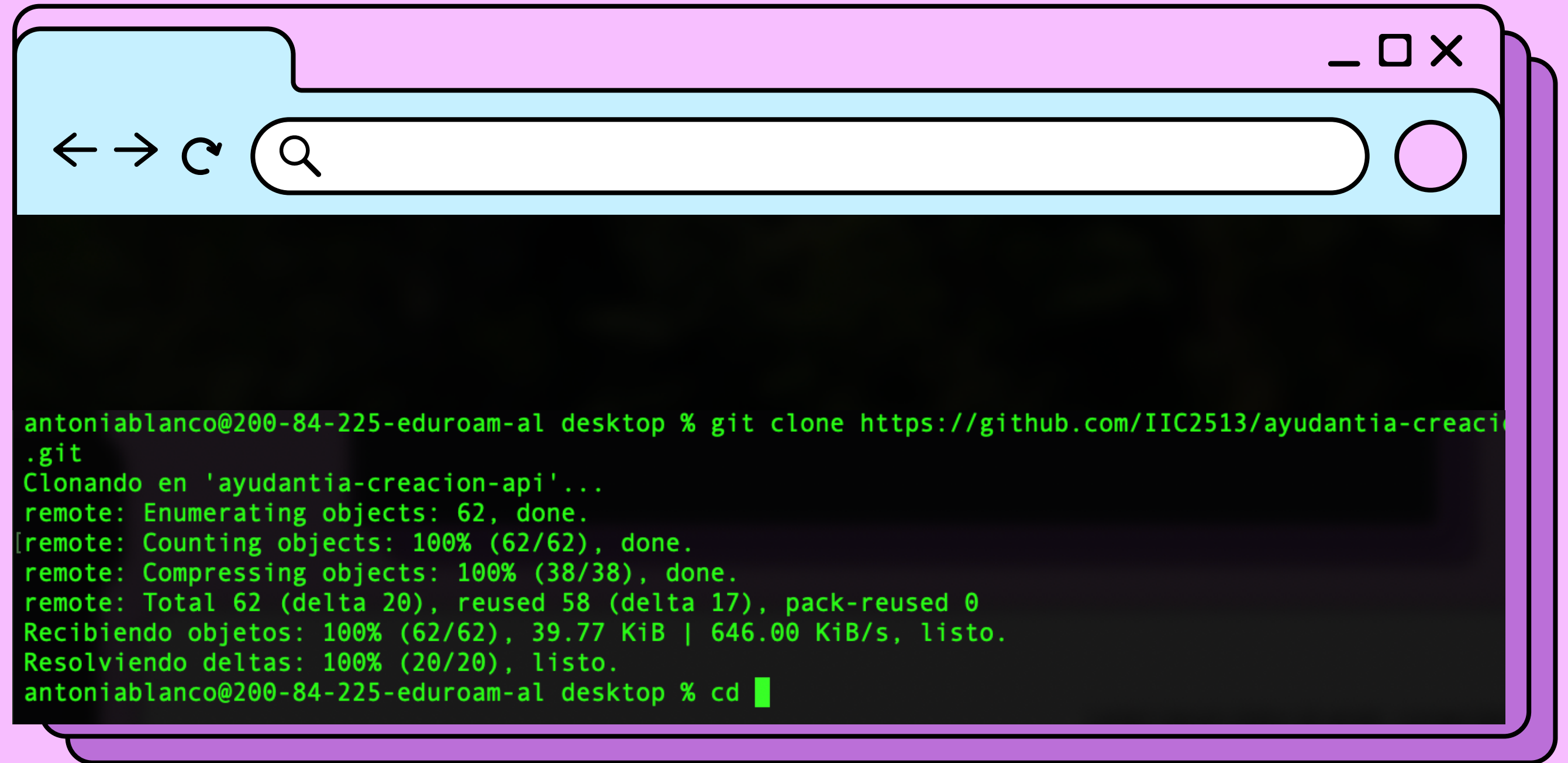
- 
1. Set Up
  2. Migraciones y seeds
  3. Coneccción postgres
  4. Rutas
  5. Códigos de respuestas
  6. Postman

# Diagrama de la bdd



# Set Up:

## Clonar repositorio



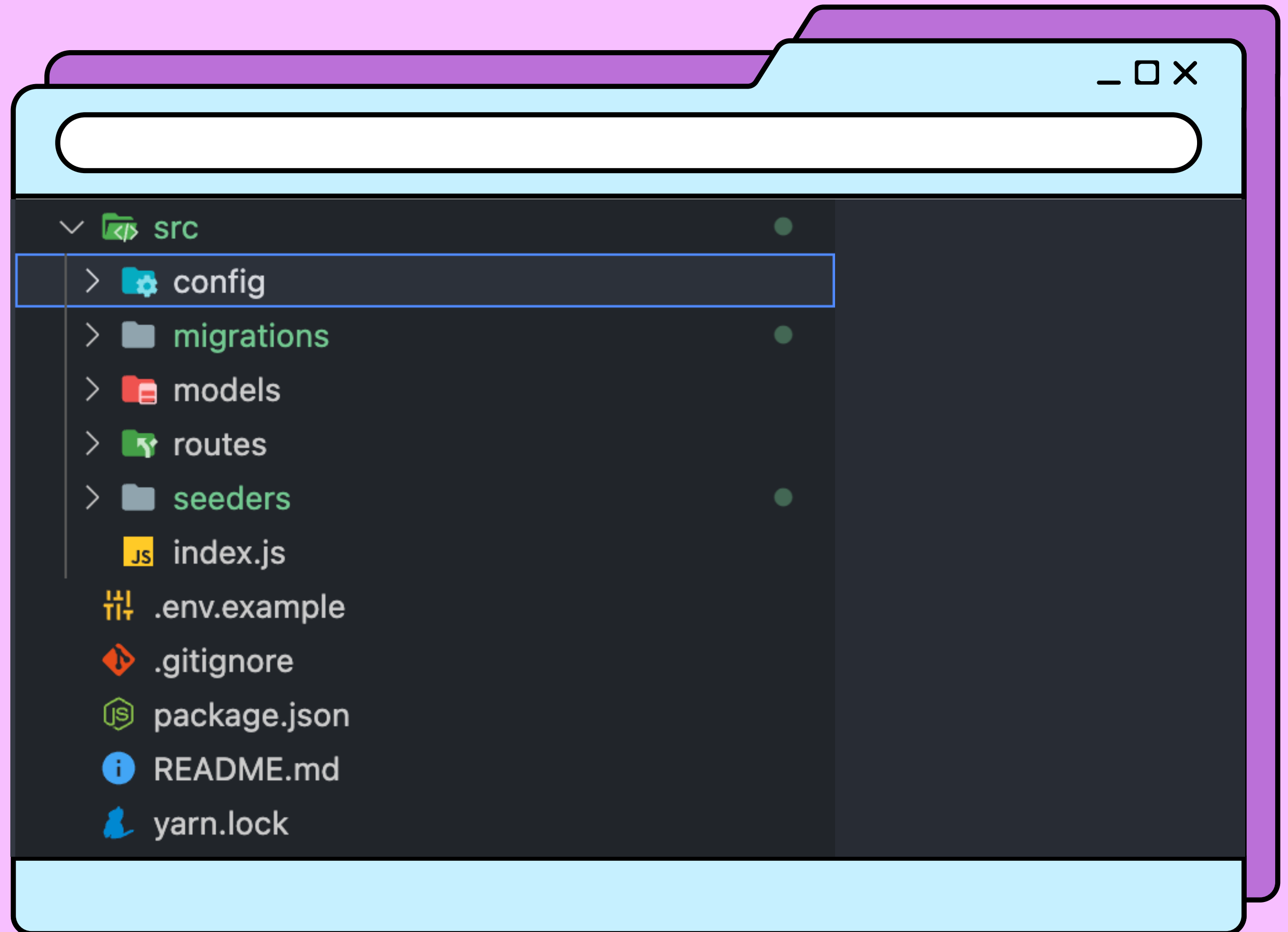
```
antoniablanca@200-84-225-eduroam-al desktop % git clone https://github.com/IIC2513/ayudantia-creacion-api.git
Clonando en 'ayudantia-creacion-api'...
remote: Enumerating objects: 62, done.
[remote: Counting objects: 100% (62/62), done.
remote: Compressing objects: 100% (38/38), done.
remote: Total 62 (delta 20), reused 58 (delta 17), pack-reused 0
Recibiendo objetos: 100% (62/62), 39.77 KiB | 646.00 KiB/s, listo.
Resolviendo deltas: 100% (20/20), listo.
antoniablanca@200-84-225-eduroam-al desktop % cd
```

Clonar el repositorio en el que se encuentre el archivo utilizando el comando **git clone -link**

# Set Up:

## Estructura de los archivos

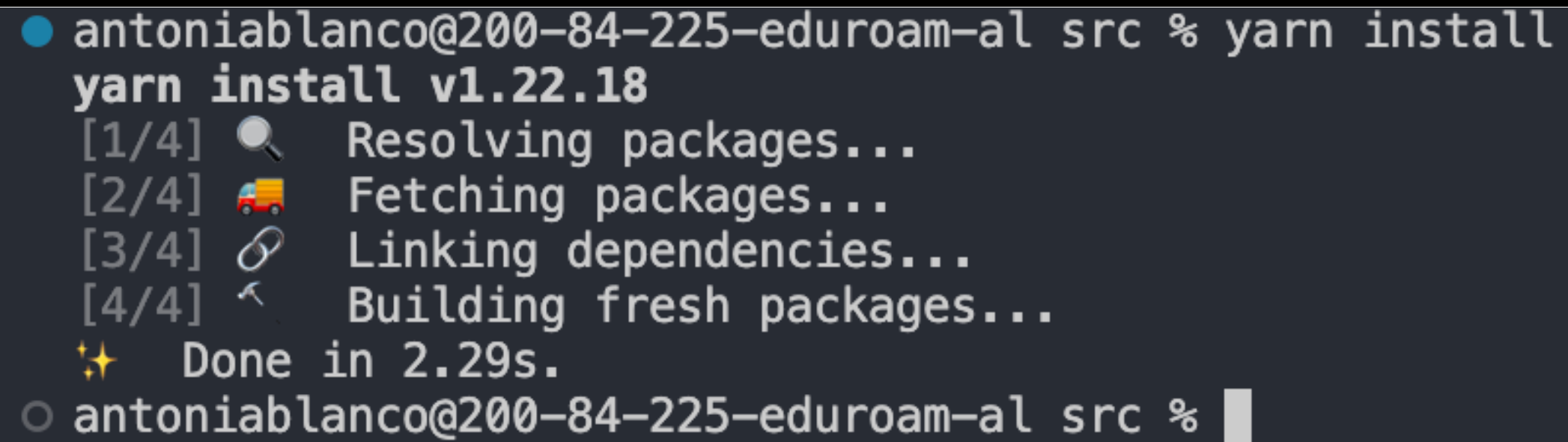
Aunque no es obligatorio se recomienda fuertemente



# Set Up:

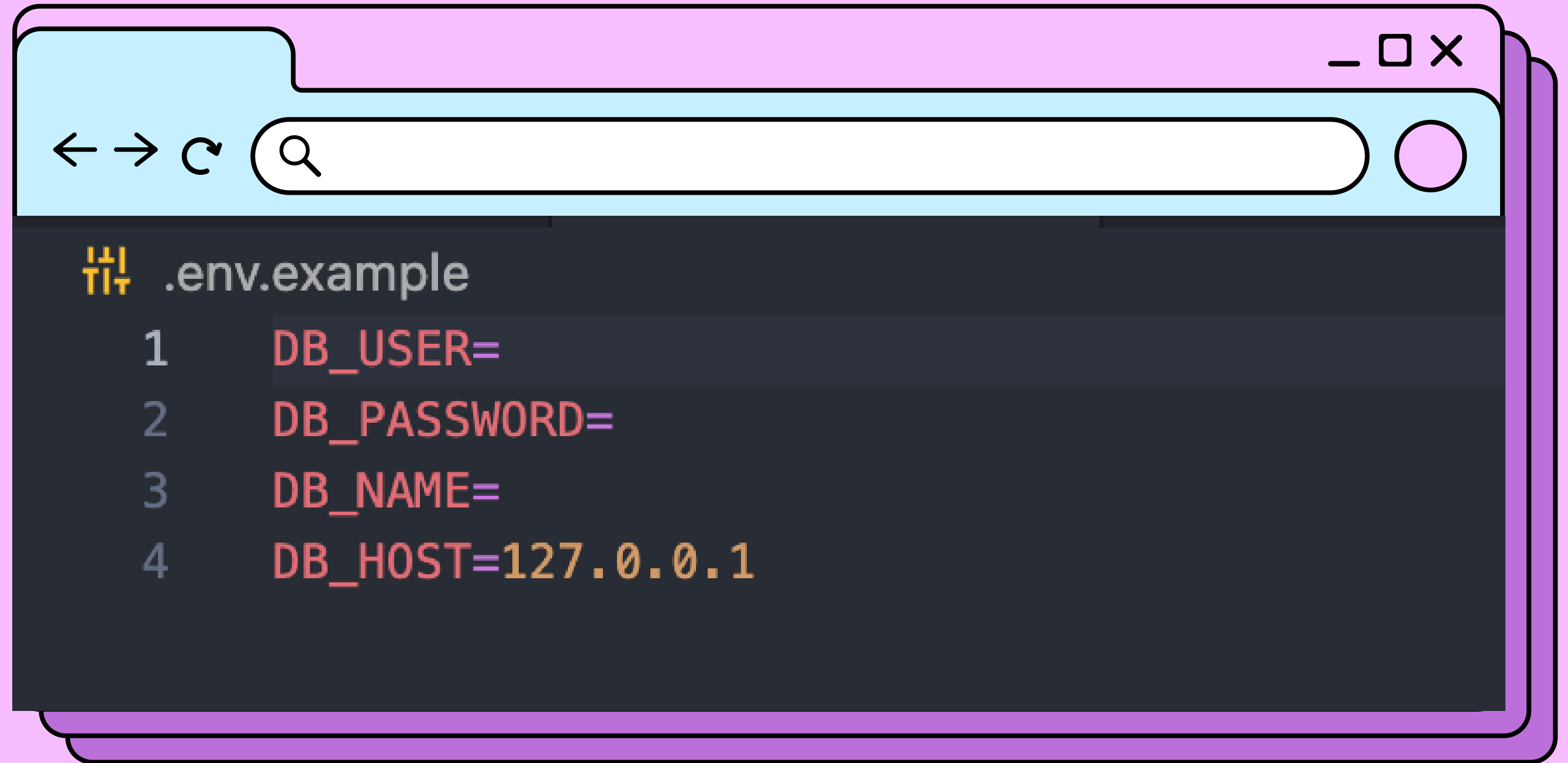
## Dependencias

Se instalan las dependencias utilizando el comando **yarn install**



```
antoniablanca@200-84-225-eduroam-al src % yarn install
yarn install v1.22.18
[1/4] 🔍 Resolving packages...
[2/4] 🚚 Fetching packages...
[3/4] 🔗 Linking dependencies...
[4/4] 🔗 Building fresh packages...
✨ Done in 2.29s.
antoniablanca@200-84-225-eduroam-al src %
```

# Set Up: Variables de entorno



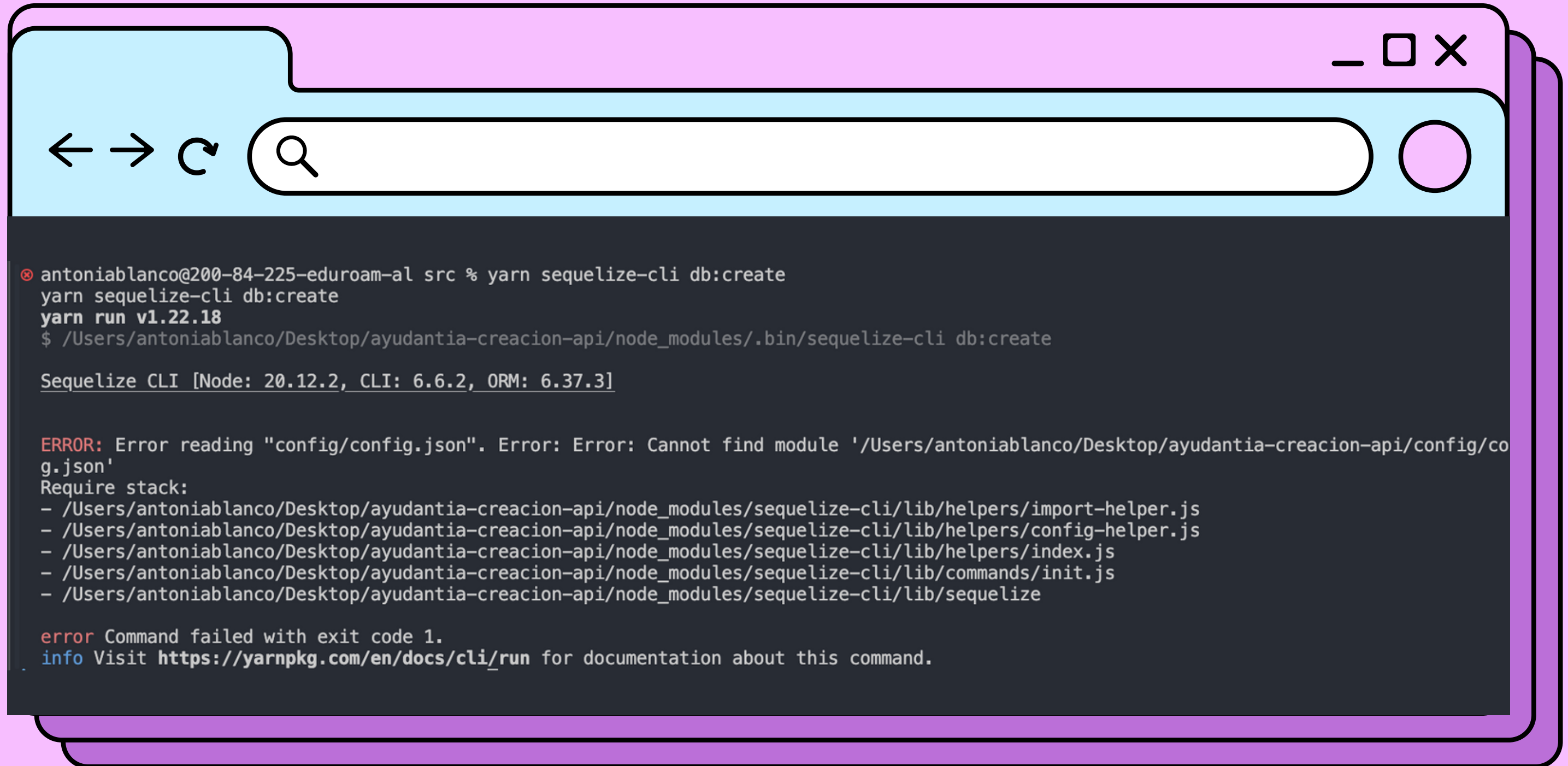
The image shows a stylized illustration of a code editor window. The window has a light blue header bar with navigation icons (back, forward, refresh) and a search bar. The main content area is dark gray and displays the contents of a file named `.env.example`. The file contains four lines of environment variables, each preceded by a line number (1-4). The variables are `DB_USER=`, `DB_PASSWORD=`, `DB_NAME=`, and `DB_HOST=127.0.0.1`. The text is color-coded: line numbers are gray, variable names are red, and values are yellow.

```
1  DB_USER=  
2  DB_PASSWORD=  
3  DB_NAME=  
4  DB_HOST=127.0.0.1
```

Es necesario leer el Read.me para saber que variables de entorno son necesarias instalar, normalmente estas se deben ubicar en un archivo de extensión `.env`

# Set Up:

## Crear base de datos



```
antoniablanca@200-84-225-eduroam-al src % yarn sequelize-cli db:create
yarn sequelize-cli db:create
yarn run v1.22.18
$ /Users/antoniablanca/Desktop/ayudantia-creacion-api/node_modules/.bin/sequelize-cli db:create

Sequelize CLI [Node: 20.12.2, CLI: 6.6.2, ORM: 6.37.3]

ERROR: Error reading "config/config.json". Error: Error: Cannot find module '/Users/antoniablanca/Desktop/ayudantia-creacion-api/config/config.json'
Require stack:
- /Users/antoniablanca/Desktop/ayudantia-creacion-api/node_modules/sequelize-cli/lib/helpers/import-helper.js
- /Users/antoniablanca/Desktop/ayudantia-creacion-api/node_modules/sequelize-cli/lib/helpers/config-helper.js
- /Users/antoniablanca/Desktop/ayudantia-creacion-api/node_modules/sequelize-cli/lib/helpers/index.js
- /Users/antoniablanca/Desktop/ayudantia-creacion-api/node_modules/sequelize-cli/lib/commands/init.js
- /Users/antoniablanca/Desktop/ayudantia-creacion-api/node_modules/sequelize-cli/lib/sequelize

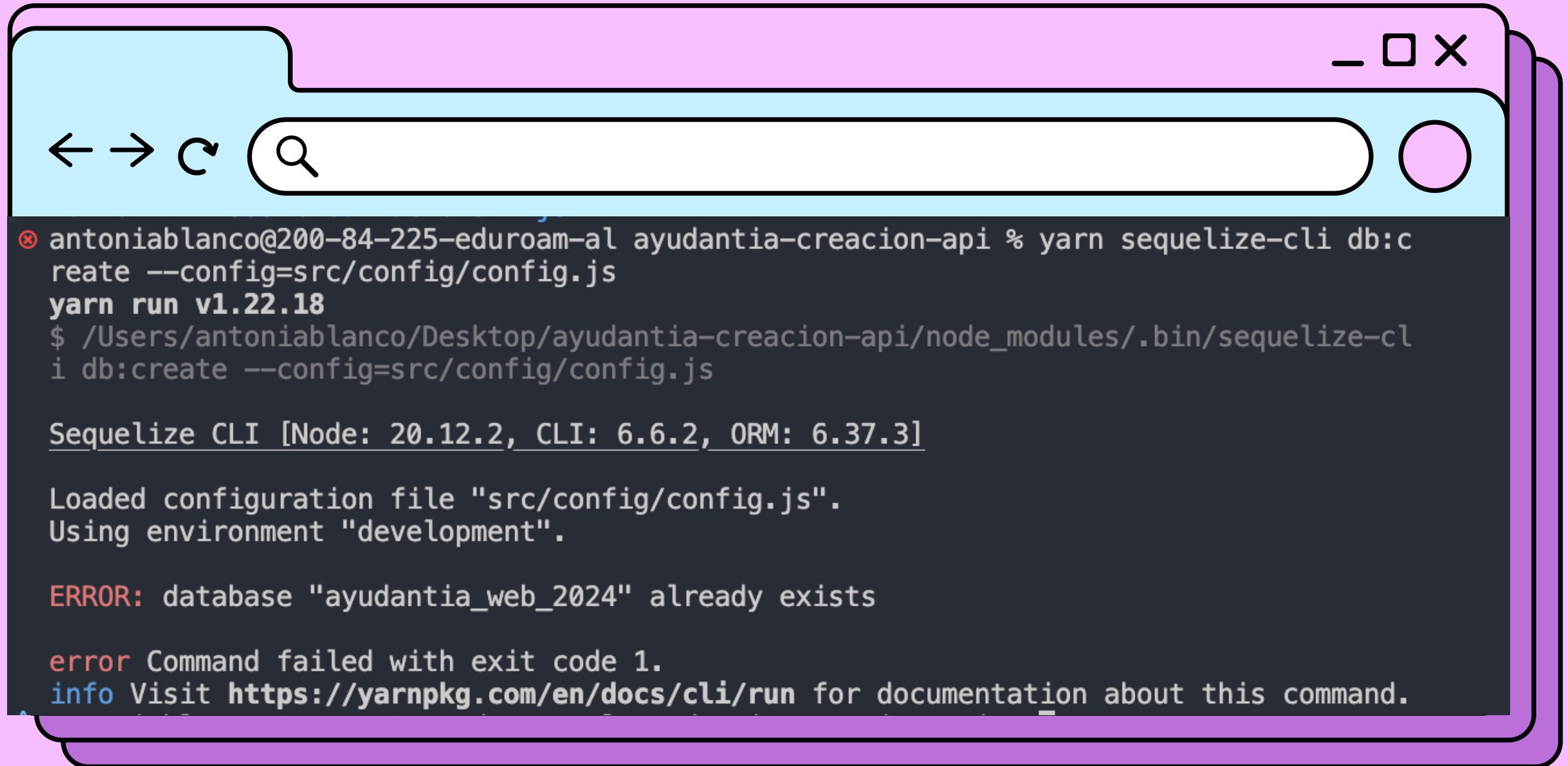
error Command failed with exit code 1.
info Visit https://yarnpkg.com/en/docs/cli/run for documentation about this command.
```

Se crea la base de datos con el comando **yarn sequelize-cli db:create**  
Ocurre un error, puesto que el archivo config.js no se encuentra en la ruta esperada



# Set Up:

## Crear base de datos

A terminal window with a light blue header bar containing navigation icons (back, forward, refresh, search) and a close button. The terminal text shows a command to create a database using Sequelize CLI, which fails because the database already exists.

```
antoniablanca@200-84-225-eduroam-al ayudantia-creacion-api % yarn sequelize-cli db:create --config=src/config/config.js
yarn run v1.22.18
$ /Users/antoniablanca/Desktop/ayudantia-creacion-api/node_modules/.bin/sequelize-cli db:create --config=src/config/config.js

Sequelize CLI [Node: 20.12.2, CLI: 6.6.2, ORM: 6.37.3]

Loaded configuration file "src/config/config.js".
Using environment "development".

ERROR: database "ayudantia_web_2024" already exists

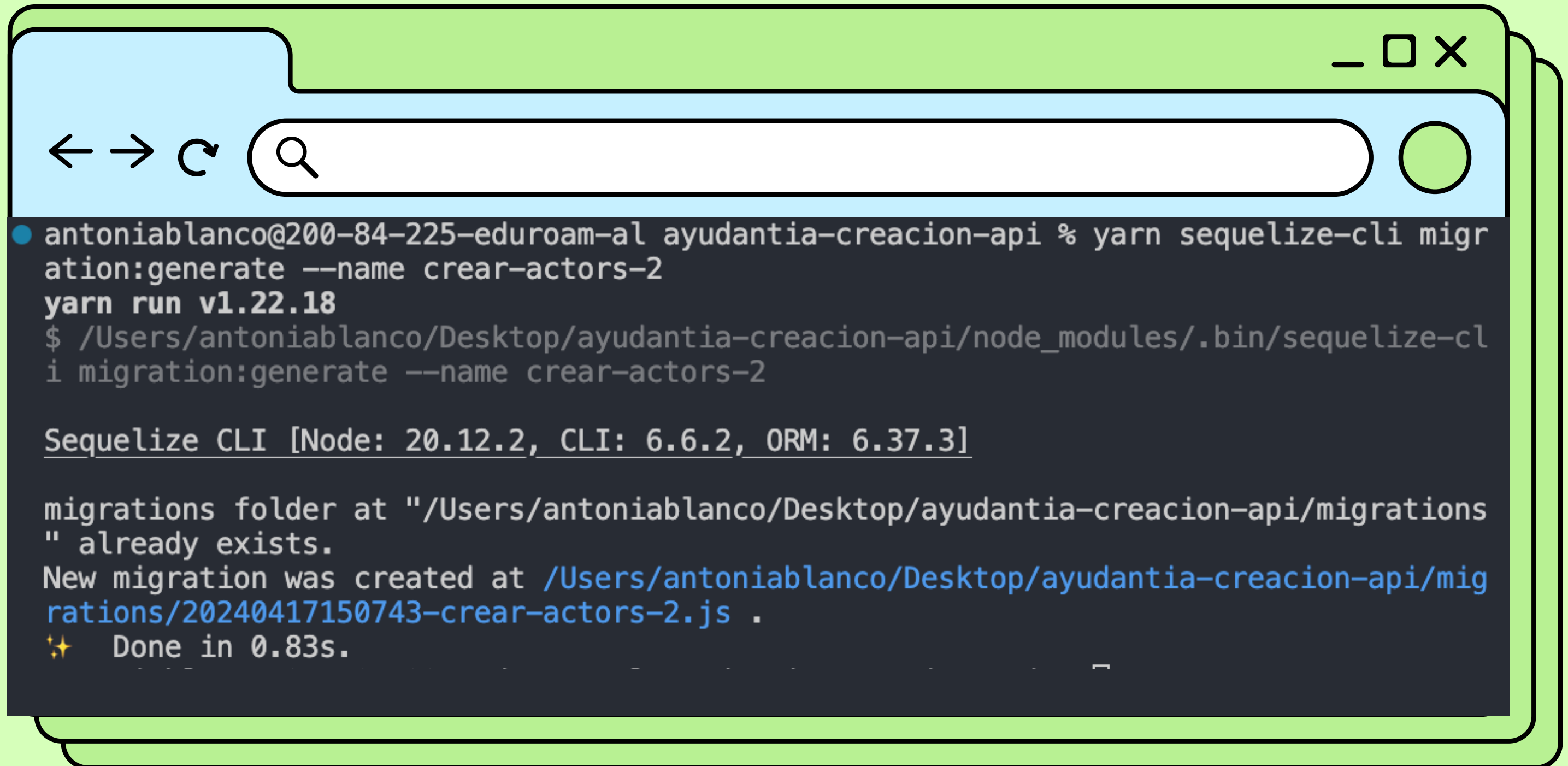
error Command failed with exit code 1.
info Visit https://yarnpkg.com/en/docs/cli/run for documentation about this command.
```

Se agrega una *flag* para especificar la ruta al archivo, ahora el comando es **yarn sequelize-cli db:create --config=src/config/config.js**

Si la base de datos ya existe aparecerá este error.

# Migraciones:

Crear una  
nueva  
migración



```
antoniablanca@200-84-225-eduroam-al ayudantia-creacion-api % yarn sequelize-cli migration:generate --name crear-actors-2
yarn run v1.22.18
$ /Users/antoniablanca/Desktop/ayudantia-creacion-api/node_modules/.bin/sequelize-cli migration:generate --name crear-actors-2

Sequelize CLI [Node: 20.12.2, CLI: 6.6.2, ORM: 6.37.3]

migrations folder at "/Users/antoniablanca/Desktop/ayudantia-creacion-api/migrations" already exists.
New migration was created at /Users/antoniablanca/Desktop/ayudantia-creacion-api/migrations/20240417150743-crear-actors-2.js .
✨ Done in 0.83s.
```

Se crea un nuevo archivo vacío para una migración con el comando **yarn sequelize-cli migration:generate --name NOMBRE**

# Migraciones:

## Escribir código migraciones

Se escribe el código de la nueva migración



```
migrations > JS 20240416233327-create-actor.js > ...
1  'use strict';
2  ⚡
3  /** @type {import('sequelize-cli').Migration} */
4  module.exports = {
5    async up (queryInterface, Sequelize) {
6      await queryInterface.createTable('Actors', {
7        id: {
8          allowNull: false,
9          autoIncrement: true,
10         primaryKey: true,
11         type: Sequelize.INTEGER
12       },
13       name: {
14         type: Sequelize.STRING,
15         allowNull: false
16       },
17       nationality: {
18         type: Sequelize.STRING,
19         allowNull: false
20       },
21       createdAt: {
22         allowNull: false,
23         type: Sequelize.DATE
24       },
25       updatedAt: {
26         allowNull: false,
27         type: Sequelize.DATE
28       }
29     });
30   },
31
32   async down (queryInterface, Sequelize) {
33     await queryInterface.dropTable('Actors');
34   }
35 };
36
```

# Migraciones:

## Escribir código modelo

Se escribe el código de la nueva migración en el archivo de modelo

```
src > models > JS movie.js > ...
1  'use strict';
2  const {
3    Model
4  } = require('sequelize');
5  module.exports = (sequelize, DataTypes) => {
6    class Movie extends Model {
7      static associate(models) {
8        Movie.belongsTo(models.Director, {
9          foreignKey: 'directorId',
10         as: 'director'
11       });
12        Movie.belongsToMany(models.Actor, { through: 'ActIn', foreignKey: 'movieId' });
13      }
14    }
15    Movie.init({
16      title: DataTypes.STRING,
17      genre: DataTypes.STRING,
18      description: DataTypes.STRING,
19      rating: DataTypes.FLOAT,
20      directorId: DataTypes.INTEGER
21    }, {
22      sequelize,
23      modelName: 'Movie',
24    });
25    return Movie;
26  };
```

# Asociaciones

One-To-One

HasOne y  
BelongsTo

One-To-Many


HasMany y  
BelongsTo  
(Ver el ejemplo  
Movie-Director)

Many-To-Many

BelongsToMany  
(Necesario crear  
una tabla  
intermedia, ver el  
ejemplo ActIn del  
archivo)

# Migraciones:

Saber el  
estado de  
las  
migraciones



```
antoniablanca@200-84-225-eduroam-al ayudantia-creacion-api % yarn sequelize-cli db:migrate:status --config=src/config/config.js
yarn run v1.22.18
$ /Users/antoniablanca/Desktop/ayudantia-creacion-api/node_modules/.bin/sequelize-cli db:migrate:status --config=src/config/config.js

Sequelize CLI [Node: 20.12.2, CLI: 6.6.2, ORM: 6.37.3]

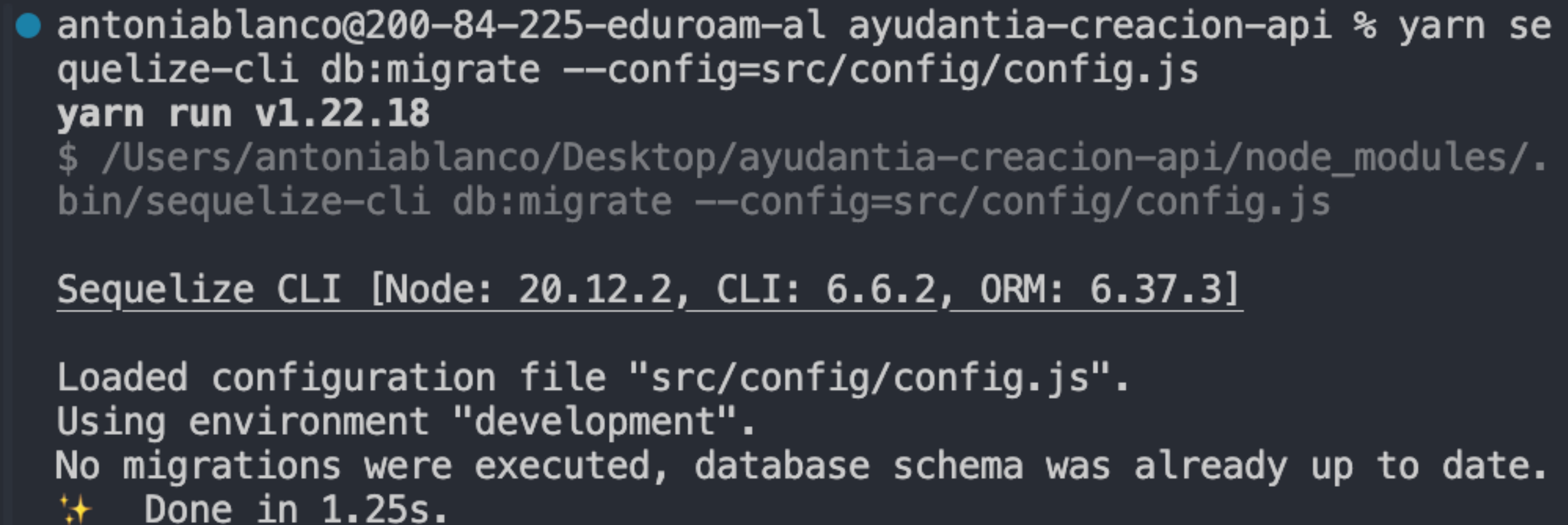
Loaded configuration file "src/config/config.js".
Using environment "development".
up 20240416203735-create-movie.js
up 20240416233323-create-director.js
up 20240416233324-update-movie.js
up 20240416233327-create-actor.js
up 20240416233556-create-actIn.js
✨ Done in 0.93s.
```

Se puede saber el estado de las migraciones, es decir si es necesario ejecutarlas o no, con el comando **yarn sequelize-cli db:migrate:status**



# Migraciones:

## Ejecutar las migraciones



```
antoniablanca@200-84-225-eduroam-al ayudantia-creacion-api % yarn sequelize-cli db:migrate --config=src/config/config.js
yarn run v1.22.18
$ /Users/antoniablanca/Desktop/ayudantia-creacion-api/node_modules/.bin/sequelize-cli db:migrate --config=src/config/config.js

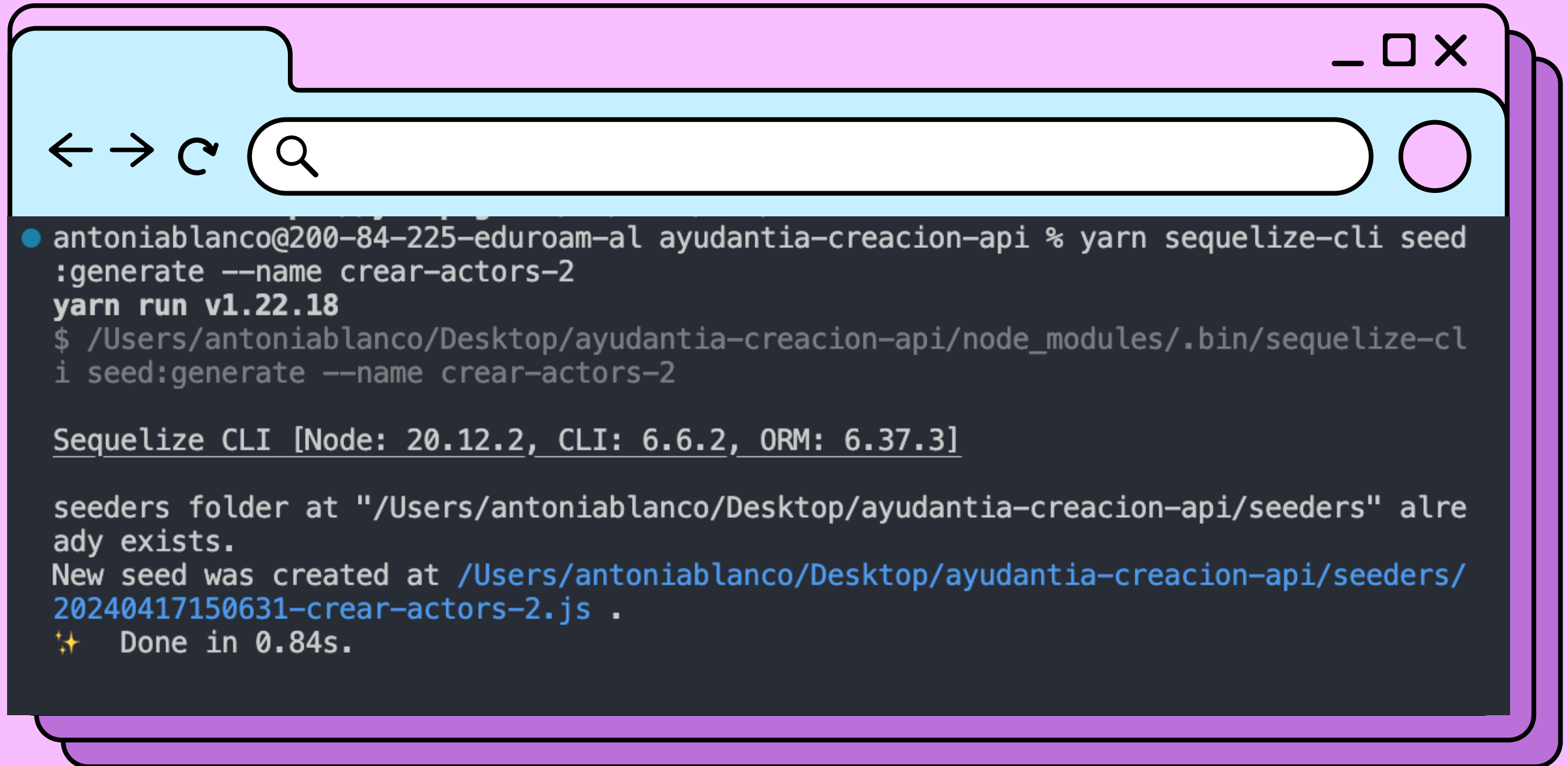
Sequelize CLI [Node: 20.12.2, CLI: 6.6.2, ORM: 6.37.3]

Loaded configuration file "src/config/config.js".
Using environment "development".
No migrations were executed, database schema was already up to date.
✨ Done in 1.25s.
```

Se ejecutan las migraciones con el comando **yarn sequelize-cli db:migrate**

# Seed:

## Crear una nueva seed



```
antoniablanca@200-84-225-eduroam-al ayudantia-creacion-api % yarn sequelize-cli seed
:generate --name crear-actors-2
yarn run v1.22.18
$ /Users/antoniablanca/Desktop/ayudantia-creacion-api/node_modules/.bin/sequelize-cl
i seed:generate --name crear-actors-2

Sequelize CLI [Node: 20.12.2, CLI: 6.6.2, ORM: 6.37.3]

seeders folder at "/Users/antoniablanca/Desktop/ayudantia-creacion-api/seeders" alre
ady exists.
New seed was created at /Users/antoniablanca/Desktop/ayudantia-creacion-api/seeders/
20240417150631-crear-actors-2.js .
✨ Done in 0.84s.
```

Se crea un nuevo archivo vacío para una seed con el comando **yarn sequelize-cli seed:generate --name NOMBRE**



# Seed:

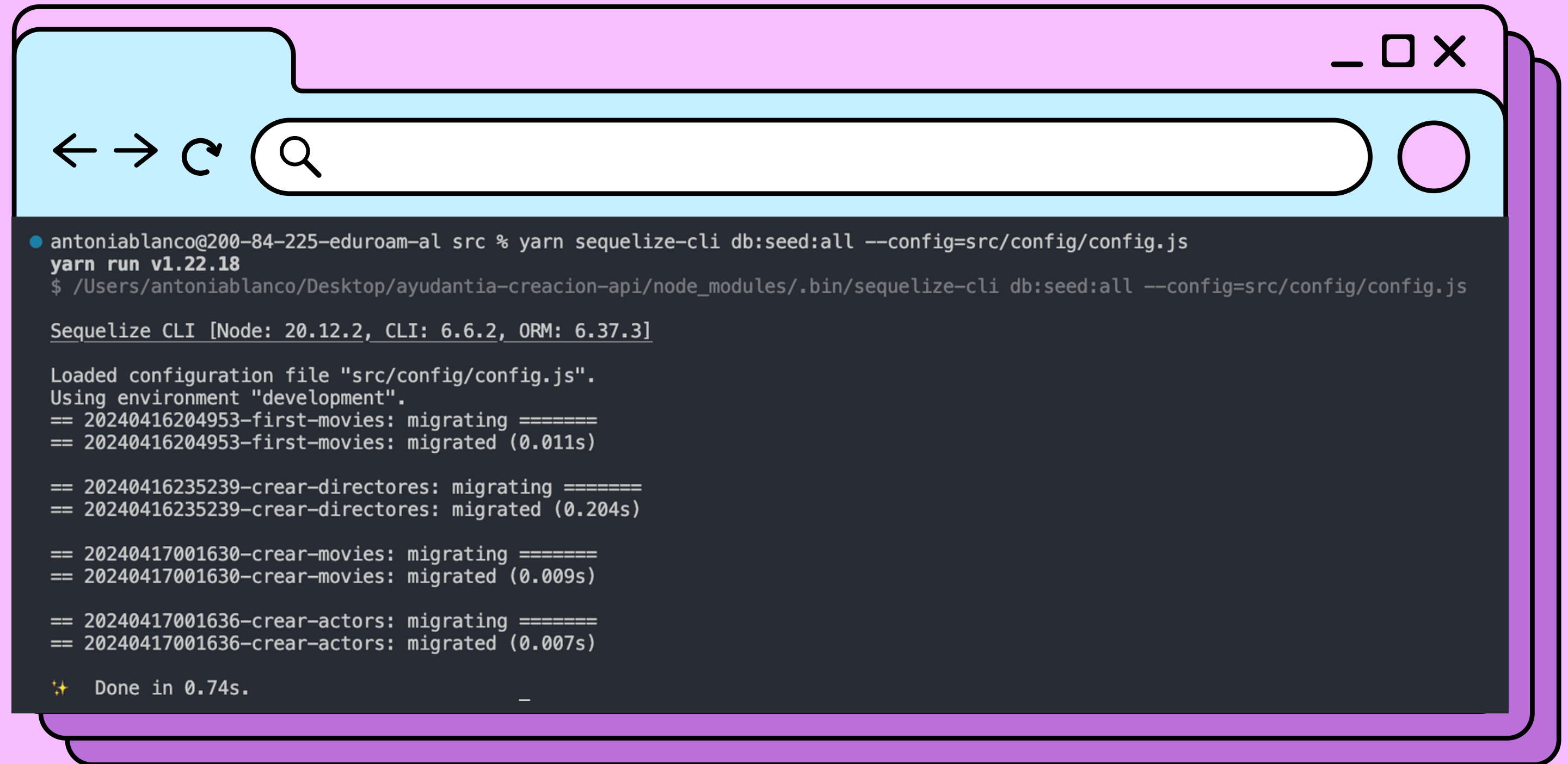
## Escribir código seed

Se escribe el código  
de la nueva seed



```
seeders > JS 20240416235239-crear-directores.js > ...
1 'use strict';
2 const faker = require('@faker-js/faker');
3 const currentDate = new Date();
4
5 /** @type {import('sequelize-cli').Migration} */
6 module.exports = {
7   async up (queryInterface, Sequelize) {
8     const directorsData = [];
9
10    // Genera 50 registros de directores
11    for (let i = 0; i < 50; i++) {
12      directorsData.push({
13        name: faker.name.findName(),
14        nationality: faker.address.country(),
15        ctdAwards: faker.random.number(20),
16        createdAt: currentDate,
17        updatedAt: currentDate
18      });
19    }
20
21    // Inserta los registros en la base de datos
22    await queryInterface.bulkInsert('Directors', directorsData);
23  },
24
25  async down (queryInterface, Sequelize) {
26    await queryInterface.bulkDelete('Directors', null, {});
27  }
28 };
29
```

Seed:  
Ejecutar  
todas las  
seed



```
antoniablanca@200-84-225-eduroam-al src % yarn sequelize-cli db:seed:all --config=src/config/config.js
yarn run v1.22.18
$ /Users/antoniablanca/Desktop/ayudantia-creacion-api/node_modules/.bin/sequelize-cli db:seed:all --config=src/config/config.js

Sequelize CLI [Node: 20.12.2, CLI: 6.6.2, ORM: 6.37.3]

Loaded configuration file "src/config/config.js".
Using environment "development".
== 20240416204953-first-movies: migrating =====
== 20240416204953-first-movies: migrated (0.011s)

== 20240416235239-crear-directores: migrating =====
== 20240416235239-crear-directores: migrated (0.204s)

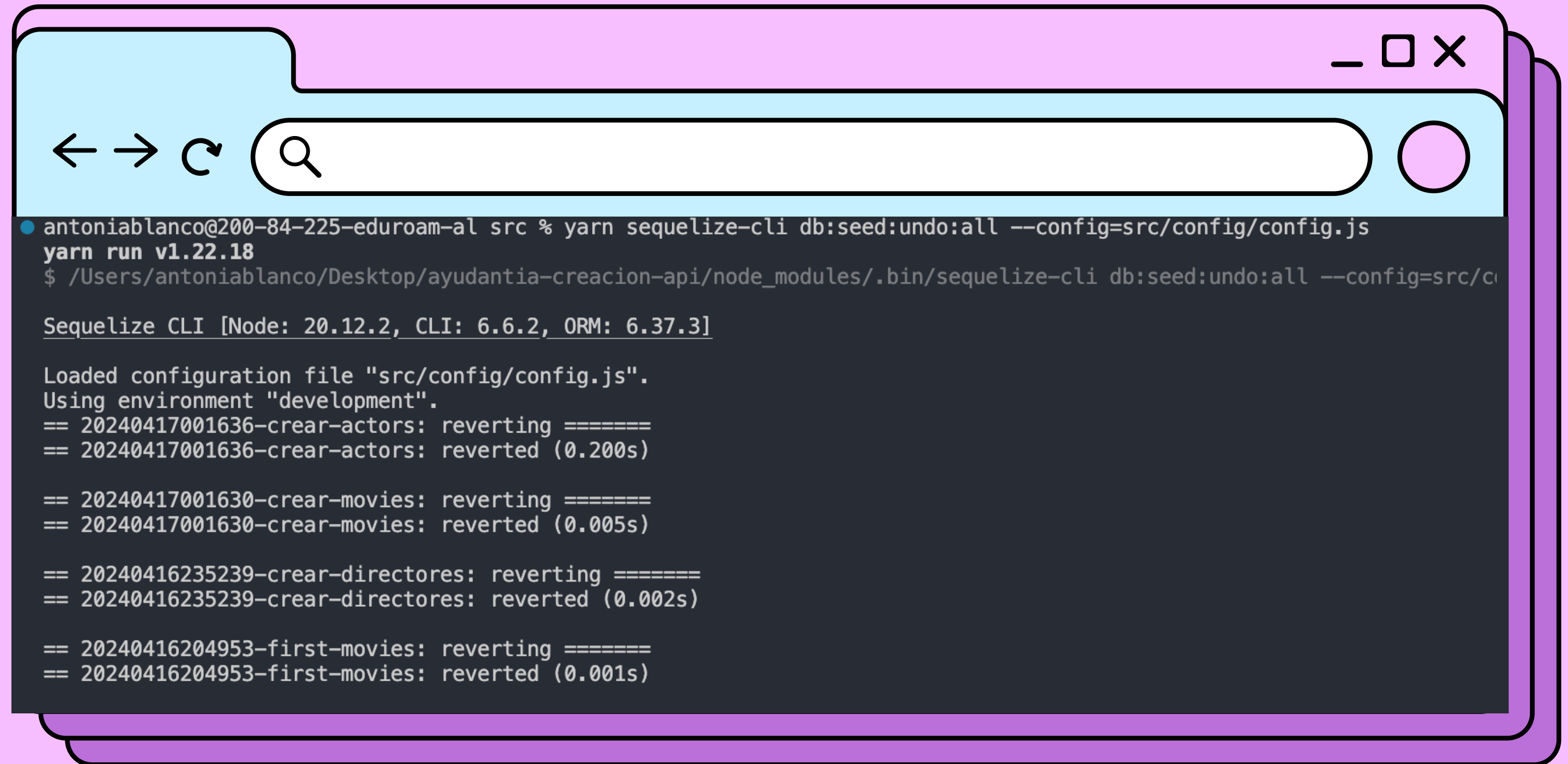
== 20240417001630-crear-movies: migrating =====
== 20240417001630-crear-movies: migrated (0.009s)

== 20240417001636-crear-actors: migrating =====
== 20240417001636-crear-actors: migrated (0.007s)

✨ Done in 0.74s.
```

Se ejecutan todas las seed comando **yarn sequelize-cli db:seed:all**

Seed:  
Eliminar  
todas las  
seed



```
antoniablanca@200-84-225-eduroam-al src % yarn sequelize-cli db:seed:undo:all --config=src/config/config.js
yarn run v1.22.18
$ /Users/antoniablanca/Desktop/ayudantia-creacion-api/node_modules/.bin/sequelize-cli db:seed:undo:all --config=src/c

Sequelize CLI [Node: 20.12.2, CLI: 6.6.2, ORM: 6.37.3]

Loaded configuration file "src/config/config.js".
Using environment "development".
== 20240417001636-crear-actors: reverting =====
== 20240417001636-crear-actors: reverted (0.200s)

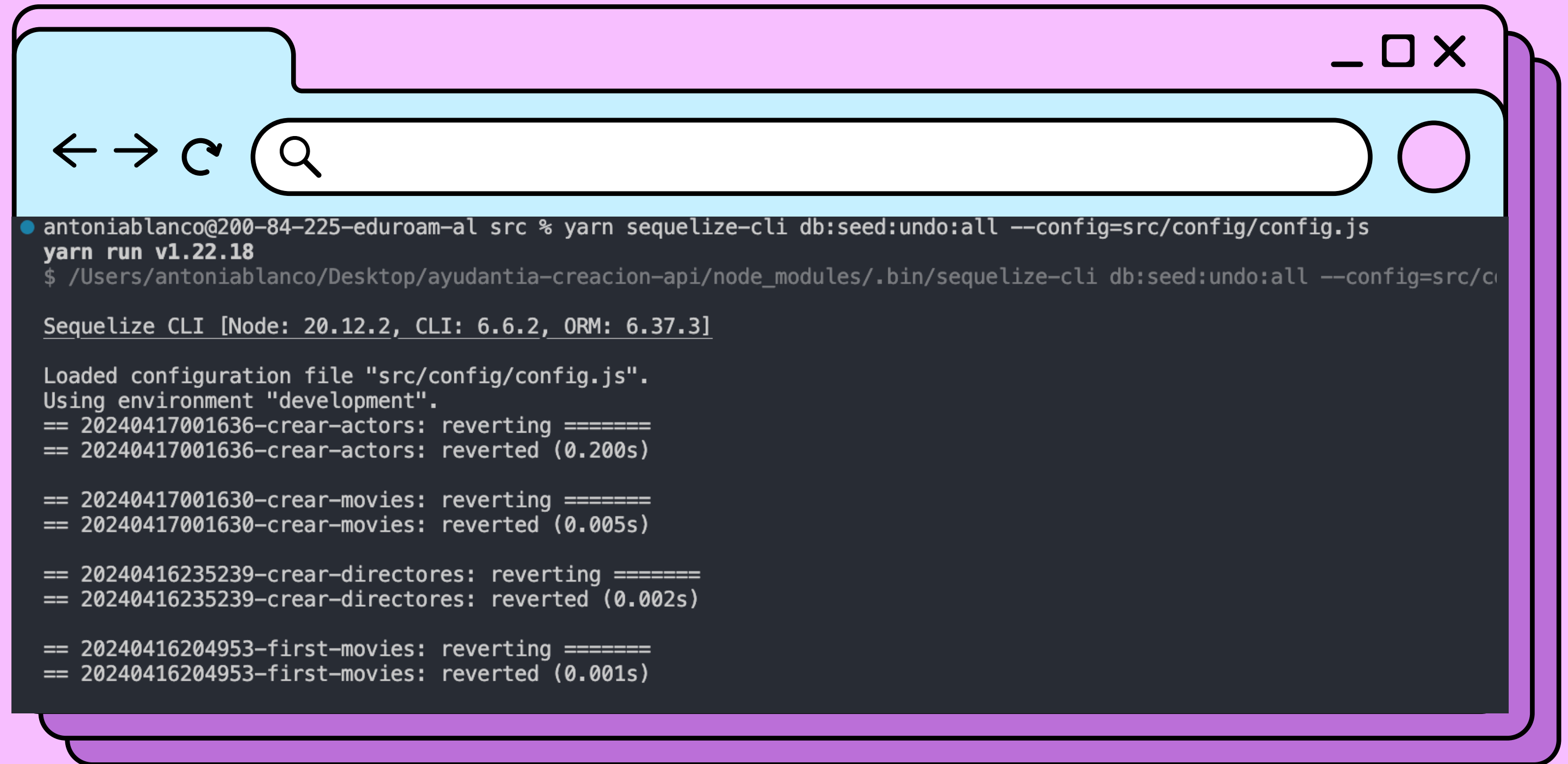
== 20240417001630-crear-movies: reverting =====
== 20240417001630-crear-movies: reverted (0.005s)

== 20240416235239-crear-directores: reverting =====
== 20240416235239-crear-directores: reverted (0.002s)

== 20240416204953-first-movies: reverting =====
== 20240416204953-first-movies: reverted (0.001s)
```

Se pueden revertir todas las seed con el comando **yarn sequelize-cli db:seed:undo:all**

Seed:  
Eliminar  
todas las  
seed



```
antoniablanca@200-84-225-eduroam-al src % yarn sequelize-cli db:seed:undo:all --config=src/config/config.js
yarn run v1.22.18
$ /Users/antoniablanca/Desktop/ayudantia-creacion-api/node_modules/.bin/sequelize-cli db:seed:undo:all --config=src/c

Sequelize CLI [Node: 20.12.2, CLI: 6.6.2, ORM: 6.37.3]

Loaded configuration file "src/config/config.js".
Using environment "development".
== 20240417001636-crear-actors: reverting =====
== 20240417001636-crear-actors: reverted (0.200s)

== 20240417001630-crear-movies: reverting =====
== 20240417001630-crear-movies: reverted (0.005s)

== 20240416235239-crear-directores: reverting =====
== 20240416235239-crear-directores: reverted (0.002s)

== 20240416204953-first-movies: reverting =====
== 20240416204953-first-movies: reverted (0.001s)
```

Se pueden revertir todas las seed con el comando **yarn sequelize-cli db:seed:undo:all**

# Conección Postgres

Entrar al  
servidor de  
postgres

**psql postgres**



# Conección Postgres

Vizualizar y  
entrar a la bdd  
utilizada

```
postgres=# \l
               List of databases
   Name          |  Owner   | Encoding | Collate | Ctype |           Acces
-----+-----+-----+-----+-----+-----
ayudantia_web_2024 | root_antonia | UTF8     | C       | C     |
capstone          | root_antonia | UTF8     | C       | C     |
postgres          | antoniablanc | UTF8     | C       | C     |
template0         | antoniablanc | UTF8     | C       | C     | =c/antoniablanc
+-----+-----+-----+-----+-----+-----
o=CTc/antoniablanc
template1         | antoniablanc | UTF8     | C       | C     | =c/antoniablanc
+-----+-----+-----+-----+-----+-----
o=CTc/antoniablanc
(5 rows)

postgres=# \c ayudantia_web_2024
You are now connected to database "ayudantia_web_2024" as user "antoniablanc".
```

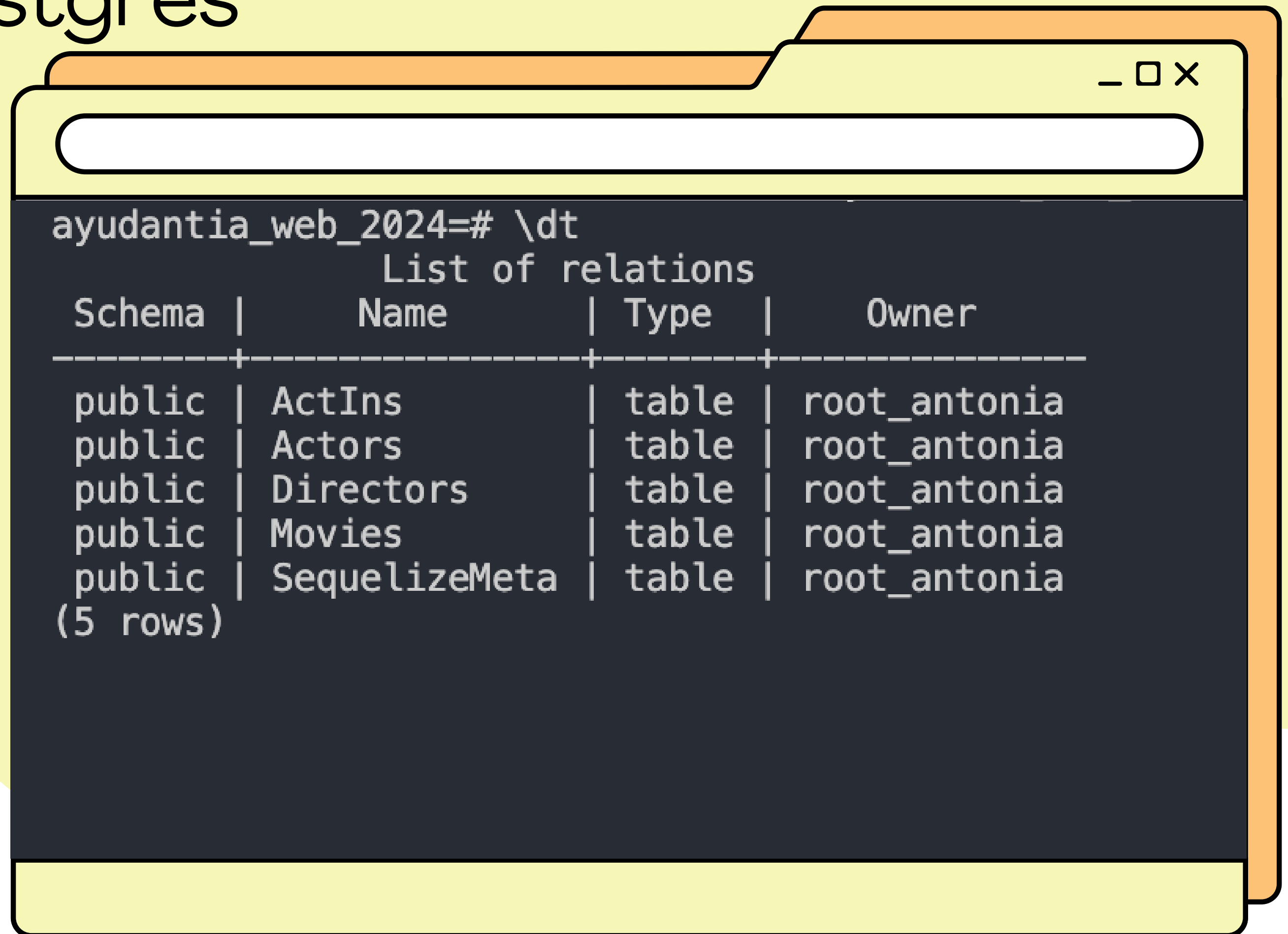
`\l`  
`\c --nombre_bdd`



# Conección Postgres

Vizualizar las  
tablas

`\dt`

A terminal window with a dark blue background and a yellow border. The window title bar is yellow with a black border and contains a search bar and window control buttons. The terminal shows the command 'ayudantia\_web\_2024=# \dt' and its output, which is a table of database relations. The output table has four columns: Schema, Name, Type, and Owner. It lists five tables in the public schema, all owned by root\_antonio. The text '(5 rows)' is shown at the bottom of the table.

Schema	Name	Type	Owner
public	ActIns	table	root_antonio
public	Actors	table	root_antonio
public	Directors	table	root_antonio
public	Movies	table	root_antonio
public	SequelizeMeta	table	root_antonio

(5 rows)

# Conección Postgres

Vizualizar una  
tabla

`\d "--NOMBRE"`

```
ayudantia_web_2024=# \d "Actors"
```

```
Table "public.Actors"
  Column      |          Type          | Collation | Nullable | 
-----+-----+-----+-----+-----
 id            | integer                |           | not null | 
 rs_id_seq"::regclass)
 name          | character varying(255) |           | not null | 
 nacionality   | character varying(255) |           | not null | 
 createdAt     | timestamp with time zone |           | not null | 
 updatedAt     | timestamp with time zone |           | not null |
```

Indexes:

```
"Actors_pkey" PRIMARY KEY, btree (id)
```

Referenced by:

```
TABLE ""ActIns"" CONSTRAINT "ActIns_actorId_fkey" FOREIGN KEY ("actorId") R
EFERENCES "Actors"(id) ON UPDATE CASCADE ON DELETE CASCADE
```



# Conección Postgres

Obtener los  
datos de una  
tabla

```
ayudantia_web_2024=# select * from "Actors";
```

id	name	nacionalidad	createdAt	updatedAt
1	Carroll Mraz	Gibraltar	2024-04-17 09:59:06.389-04	2024-04-17 09:59:06.389-04
2	Dr. Martin Considine	Nepal	2024-04-17 09:59:06.389-04	2024-04-17 09:59:06.389-04
3	Christina Hartmann	Bangladesh	2024-04-17 09:59:06.389-04	2024-04-17 09:59:06.389-04
4	Eunice Fahey	Tunisia	2024-04-17 09:59:06.389-04	2024-04-17 09:59:06.389-04
5	Chris Jacobi	Palau	2024-04-17 09:59:06.389-04	2024-04-17 09:59:06.389-04

**select \* from “--  
nombre”**

# Conección Postgres

Reiniciar el  
contador de los  
id de una tabla

**ALTER SEQUENCE “--  
NOMBRE” RESTART  
WITH 1:**

