Instructions:

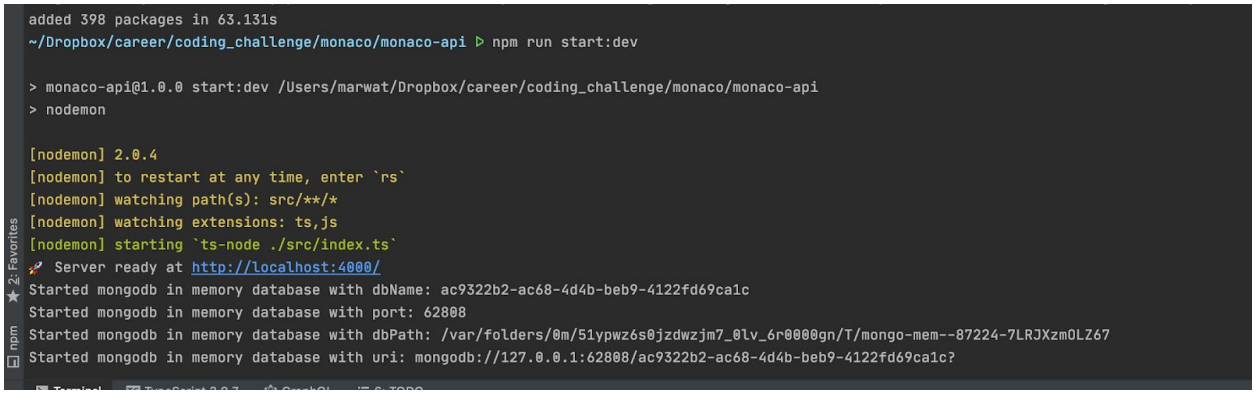
N.B. The database used in this project is mongodb - one can either use the in memory mongodb instance that is automatically provided and connected to by the api code or provide an URI to a mongodb database of choice by overriding the environment variable:

MONGO_DB_URI

Run the following commands in the root directory to start the server:

1. npm ci
2. npm run start:dev

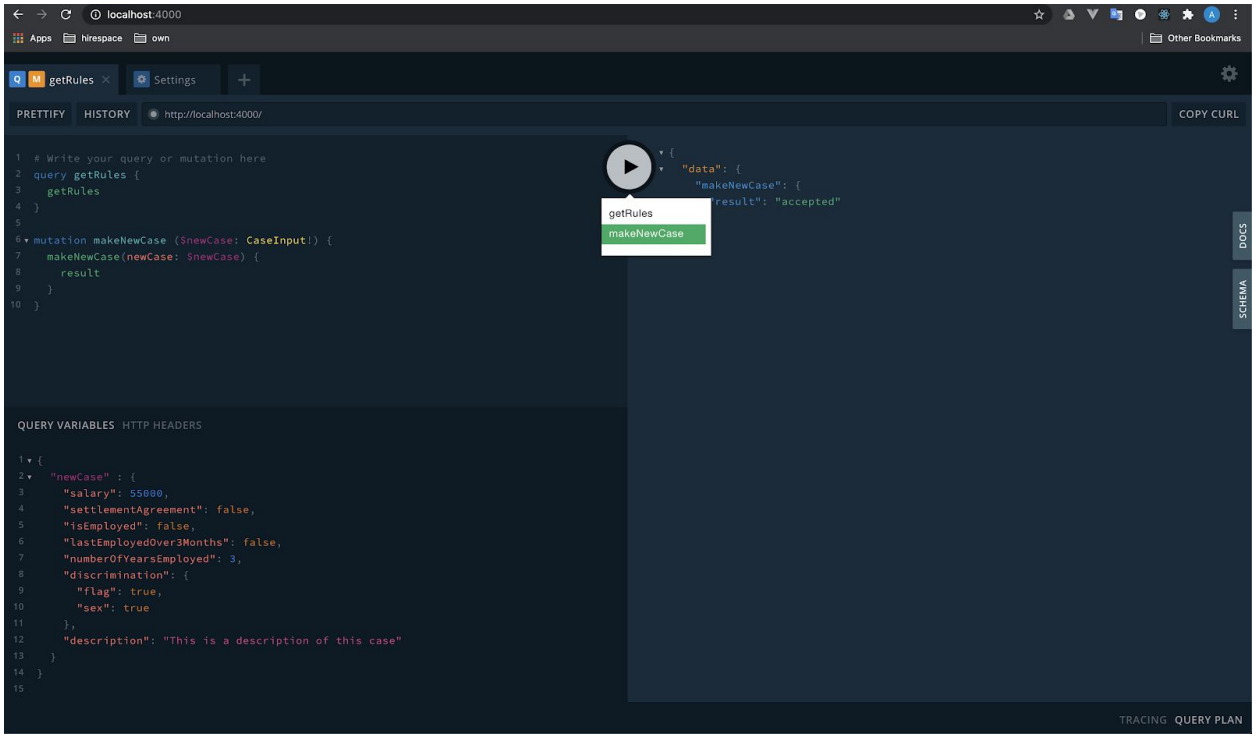
Output such as the following should appear in the console:



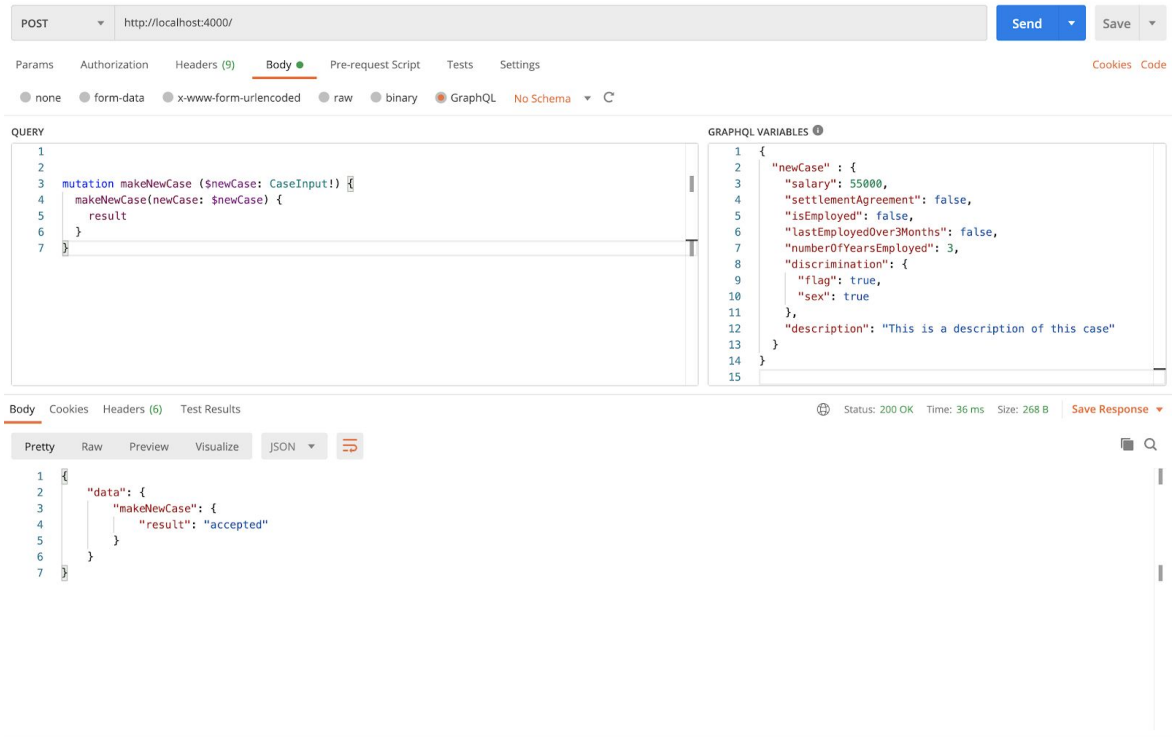
Where http://localhost:4000/ is the API endpoint, powered by GraphqQL. The details below are that of the in memory database used to store ‘case’ data.

2. To reach the API you can either click on the link in the console: http://localhost:4000/ and the GraphqQL playground should appear or you could also use tools like Postman (Post and GraphQL option in Body), curl, etc. The playground has the added benefit of giving an overview of the schema for the API and all the calls that can be made. Example snippets are provided below:

GraphQL playground directly opened by clicking on link http://localhost:4000/ :



Postman:



The queries for 1) getting rules and 2) making a new ‘case’, and also the associated variables that are used for input are stored in the test-data folder.

Rules:

As requested the rules are separately stored in the config folder. They can be used to alter the business related logic for accepting or rejecting a case without having to make any code changes:

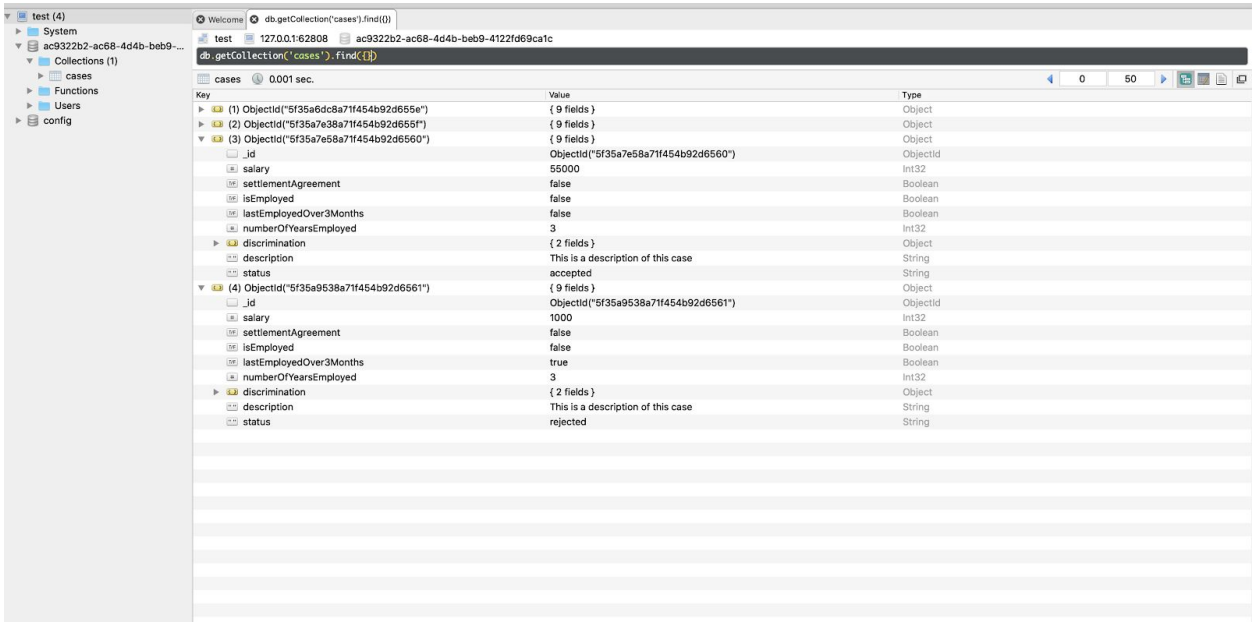
```
import {Discrimination} from '../data/types';

export const config  = {
    rules: {
        conditions: {
            any: [{
                all: [{
                    fact: 'case',
                    operator: 'greaterThan',
                    value: 100000,
                    path: '.salary'
                }, {
                    fact: 'case',
                    operator: 'greaterThan',
                    value: 2,
                    path: '.numberOfYearsEmployed'
                }]
            }, {
                all: [{
                    fact: 'case',
                    operator: 'equal',
                    value: true,
                    path: '.settlementAgreement'
                }]
            }, {
                all: [{
                    fact: 'case',
                    operator: 'greaterThan',
                    value: 30000,
                    path: '.salary'
                }, {
```

This functionality was implemented using the help of the following library:

https://github.com/CacheControl/json-rules-engine

Database:
To see the results in the mongodb database one can connect to the database using the uri output in the console and a tool such as Robo 3T :



How To Improve:

More understanding of business requirements would help on how to better design and improve this API, that said, some steps I can think of are:

1. Abstract the rule checking process into a separate module
2. Provide an interface for business users to amend the rules
3. Add better error handling
4. Expand the API to provide more information as to why a case was rejected or accepted
5. Add testing, both at a unit level and at a functional level across the whole API