Seungryoul Lee

November 21, 2018

Distributed Systems

Project 2

Group Members: Seungryoul Lee (I worked on my own for this project).

Included in the zip file: Seungryoul Lee – Project 2.pdf, pom.xml, src folder.

For this project, I built a Web Service that takes an address and respond with info of nearby restaurants (name, address, cuisines, rating). I followed the guidelines on the Project_2.pdf as well as the in-class demonstration that the TA David Domingo showed us in one of the past recitations. I accomplished all six stages for this project: starting a RESTful Web Service, Passing Some Input, Geocoding our Address, Finding Nearby Restaurants, Formatting Client Response, and Fault Tolerance.

One issue I had while doing this project was displaying the results in a clean looking JSON. I had trouble with this because my old code would just print bunch of strings of the right data, instead of the JSON format of the right data. To solve this issue, I asked the TA David Domingo after recitation on how to solve this issue and realized I should create an array list of JSON objects. By doing so, the project now outputs the correct data in the correct format!

I used Java and Spring to program this project. I created a simple RESTful Web Service like the included tutorial at https://spring.io/guides/gs/rest-service/ (the same tutorial that the TA showed us in recitation, also found in the instructions), and programmed my own code on top of this basic skeleton. To use the client, you need to have Java with JDK 8 or later and Spring installed. I used JDK 8, the Spring Tool Suite3, and the webservice was built using maven.

To start the webservice and use the client, you must run the program in Spring Tool Suite as Java Application or Spring Boot App; both options give the same result. Then you can use Postman as the tool to make HTTP request. It should be HTTP GET request, and request URL is:

*http://localhost:8080/restaurant?address=**your own address parameter***

For the screenshot of Postman below, I used the address of College Ave Gym (130 College Ave, New Brunswick, NJ 08901), so the request URL is:

http://localhost:8080/restaurant?address=130 College Ave, New Brunswick, NJ 08901

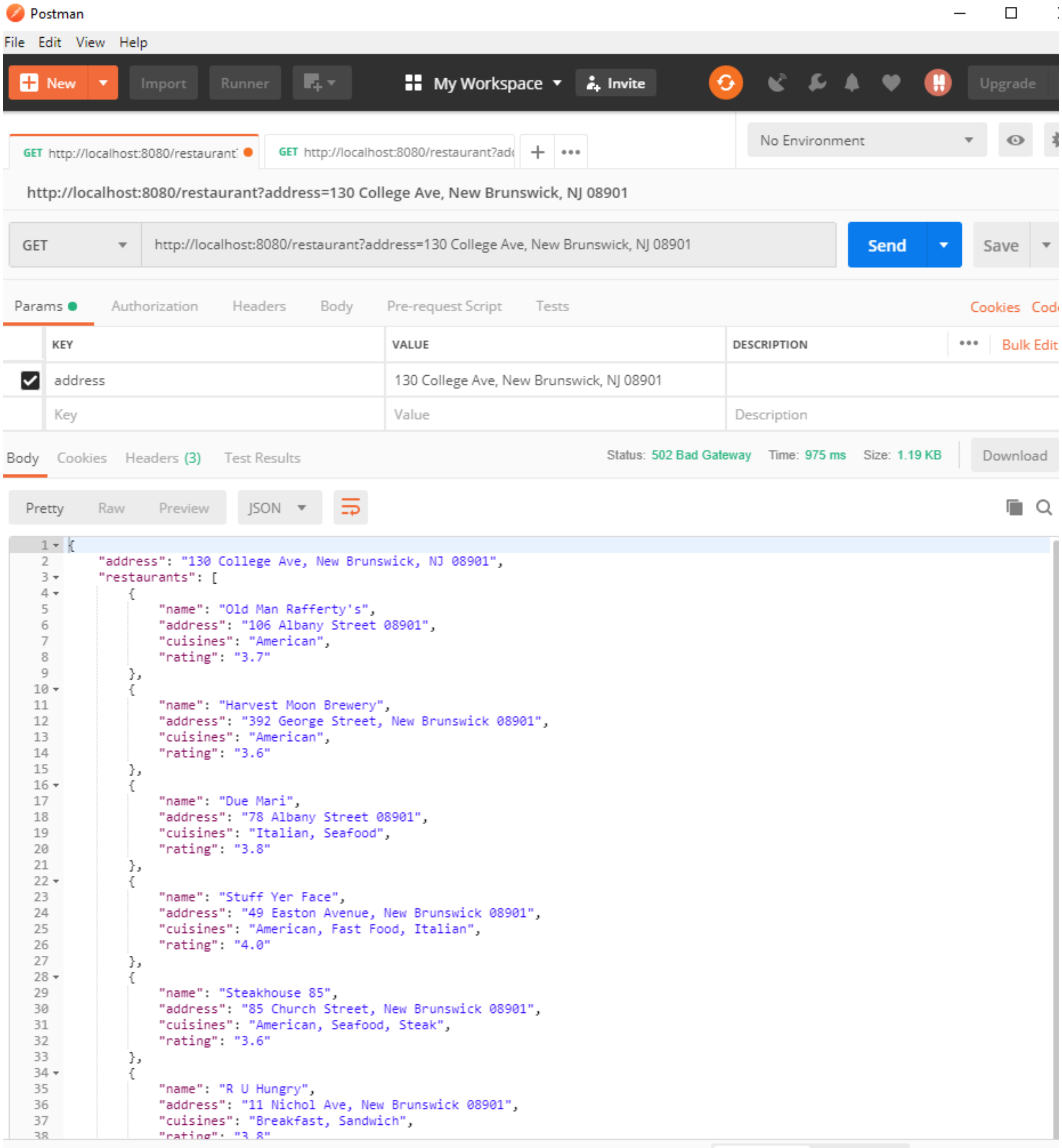
My Geocod.io API key was placed in line 35 of GreetingController.java. You can replace the highlighted section with your own API key:

```
String geocodKey = "&api_key=e305b9c29a5a3ebfef2bf6b2860c96c05c153af";
```

My Zomato API key was placed in line 55 of GreetingController.java. You can replace the highlighted section with your own API key:

```
headersZomato.add("user-key", "769cf62c61ebecb628dd28d5481f0b04");
```

Below is the screenshot of using Postman to show the nearby restaurant details by inputting the College Ave Gym address through my Web Service!



http://localhost:8080/restaurant?address=130 College Ave, New Brunswick, NJ 08901

GET http://localhost:8080/restaurant?address=130 College Ave, New Brunswick, NJ 08901

	KEY	VALUE	DESCRIPTION
☑	address	130 College Ave, New Brunswick, NJ 08901	
	Key	Value	Description

Status: 502 Bad Gateway Time: 975 ms Size: 1.19 KB

```
{
    "address": "130 College Ave, New Brunswick, NJ 08901",
    "restaurants": [
        {
            "name": "Old Man Rafferty's",
            "address": "106 Albany Street 08901",
            "cuisines": "American",
            "rating": "3.7"
        },
        {
            "name": "Harvest Moon Brewery",
            "address": "392 George Street, New Brunswick 08901",
            "cuisines": "American",
            "rating": "3.6"
        },
        {
            "name": "Due Mari",
            "address": "78 Albany Street 08901",
            "cuisines": "Italian, Seafood",
            "rating": "3.8"
        },
        {
            "name": "Stuff Yer Face",
            "address": "49 Easton Avenue, New Brunswick 08901",
            "cuisines": "American, Fast Food, Italian",
            "rating": "4.0"
        },
        {
            "name": "Steakhouse 85",
            "address": "85 Church Street, New Brunswick 08901",
            "cuisines": "American, Seafood, Steak",
            "rating": "3.6"
        },
        {
            "name": "R U Hungry",
            "address": "11 Nichol Ave, New Brunswick 08901",
            "cuisines": "Breakfast, Sandwich",
            "rating": "3.8"
```