SUBMISSION FOR B1 AND B2

Name: Gordon Foo
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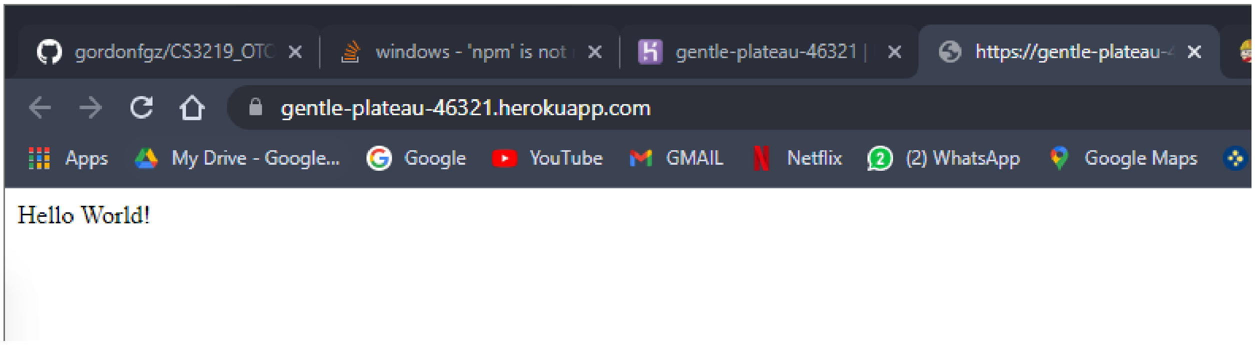
github link: https://github.com/gordonfgz/CS3219_OTOT_TASK_B.git

Running locally:
1. Open project in vscode
2. Open terminal and run npm start

Running on Heroku:
1. Make sure git is updated
2. Open terminal and run git push heroku main
   terminal will run and give the url to the web app
   going to the link shows the default Hello World

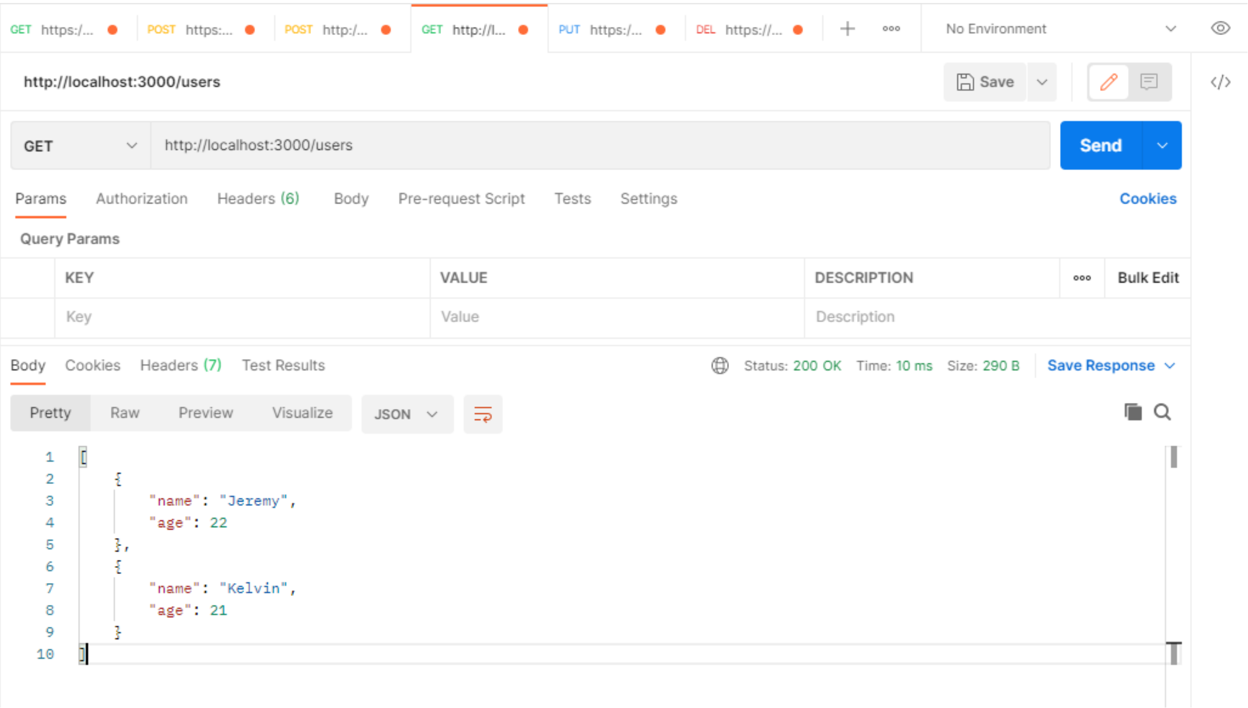


gentle-plateau-46321.herokuapp.com

```
Hello World!
```

LOCALHOST TESTING

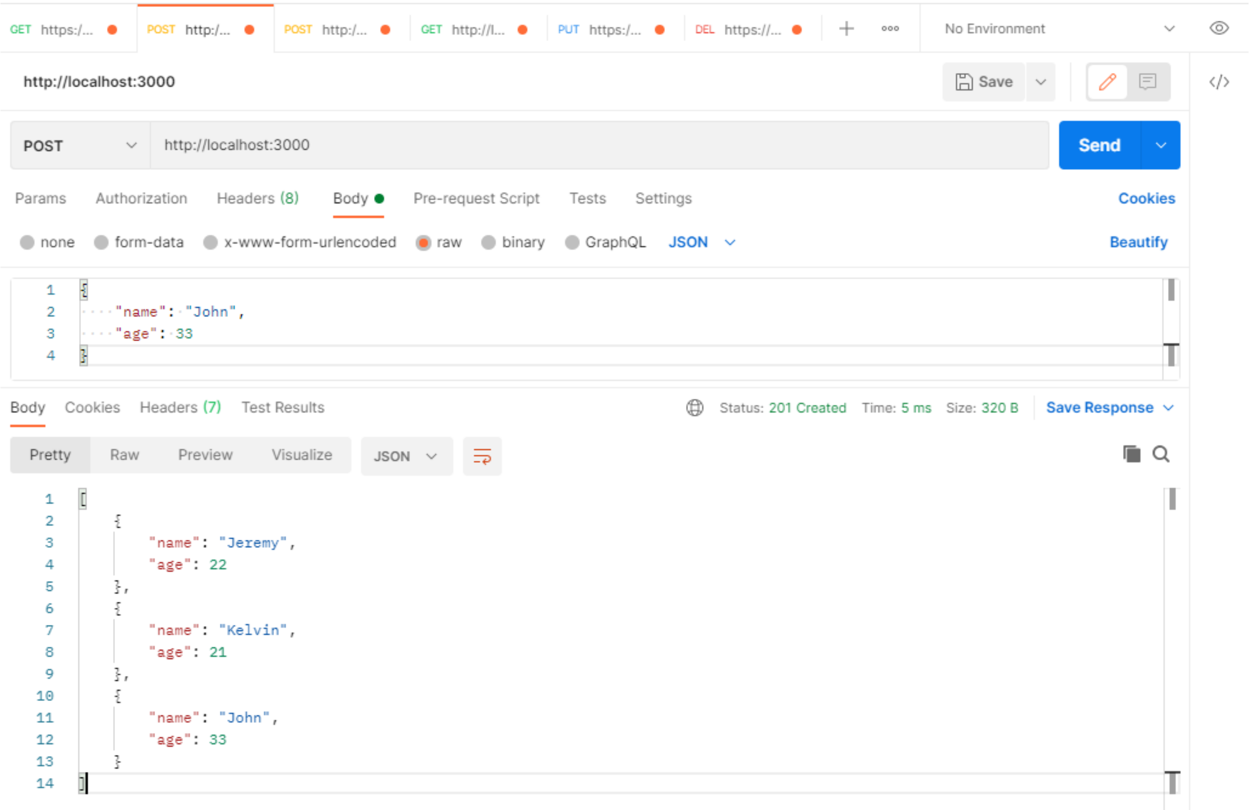
GET request results from localhost: (Get all existing users)



KEY	VALUE	DESCRIPTION
Key	Value	Description

```
[
    {
        "name": "Jeremy",
        "age": 22
    },
    {
        "name": "Kelvin",
        "age": 21
    }
]
```

POST request results from localhost: (Add a new user John)

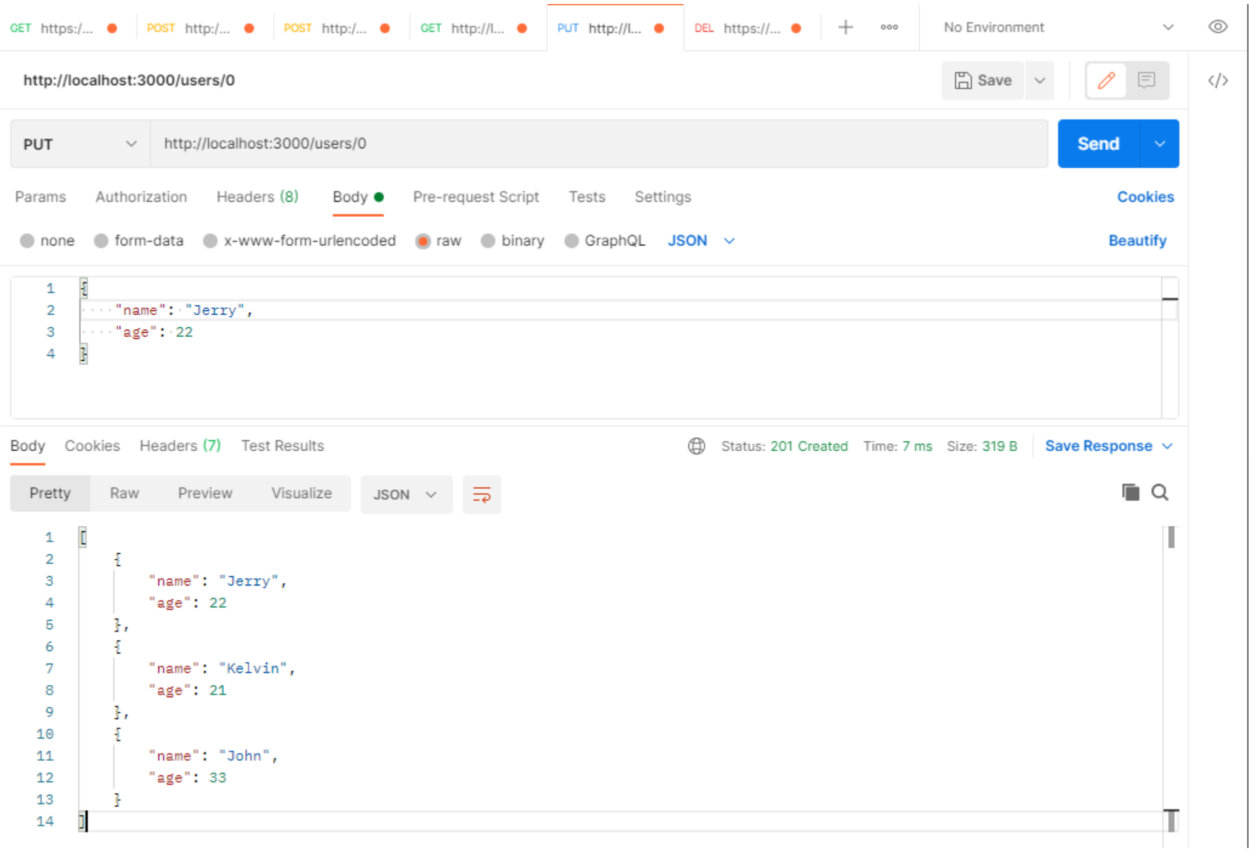


```
{
    "name": "John",
    "age": 33
}
```

Status: 201 Created Time: 5 ms Size: 320 B

```
[
    {
        "name": "Jeremy",
        "age": 22
    },
    {
        "name": "Kelvin",
        "age": 21
    },
    {
        "name": "John",
        "age": 33
    }
]
```

PUT request results from localhost: (Update Jeremy's name to Jerry)



http://localhost:3000/users/0

PUT http://localhost:3000/users/0

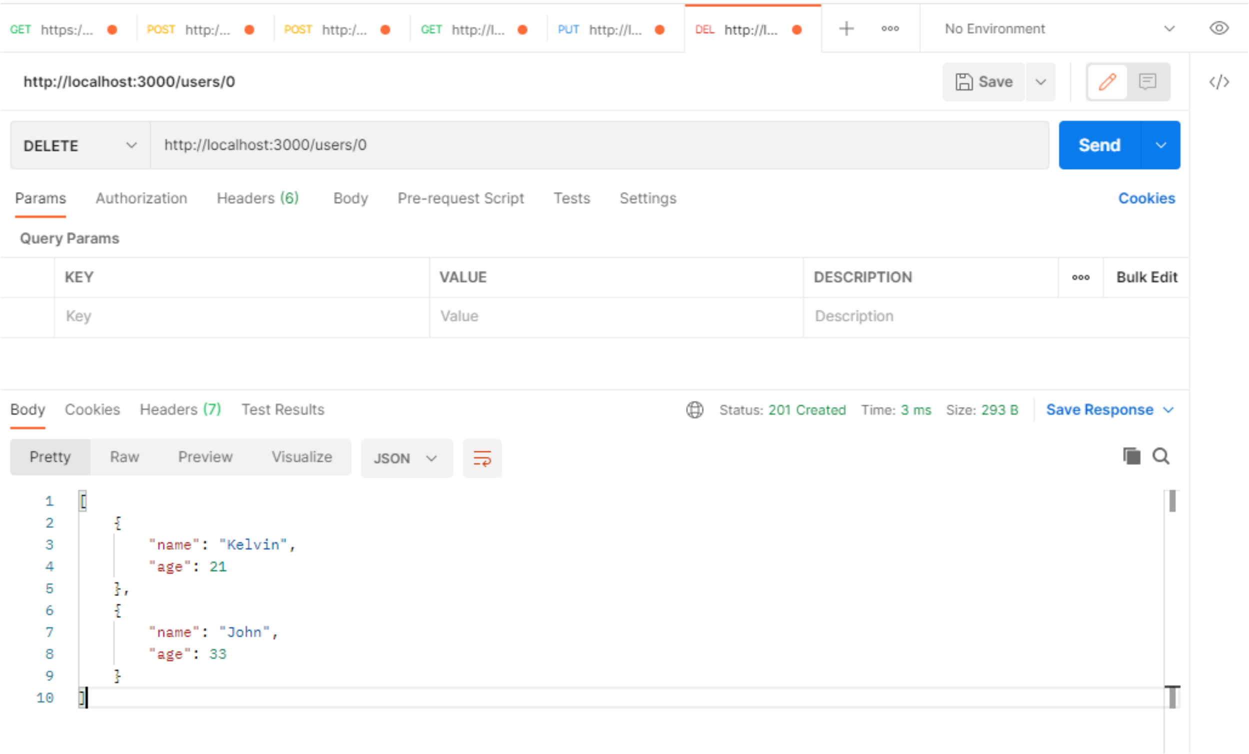
○ none ○ form-data ○ x-www-form-urlencoded ● raw ○ binary ○ GraphQL JSON

```
{
    "name": "Jerry",
    "age": 22
}
```

Status: 201 Created Time: 7 ms Size: 319 B

```
[
    {
        "name": "Jerry",
        "age": 22
    },
    {
        "name": "Kelvin",
        "age": 21
    },
    {
        "name": "John",
        "age": 33
    }
]
```

DELETE request results from localhost: (delete first user aka Jerry)



http://localhost:3000/users/0

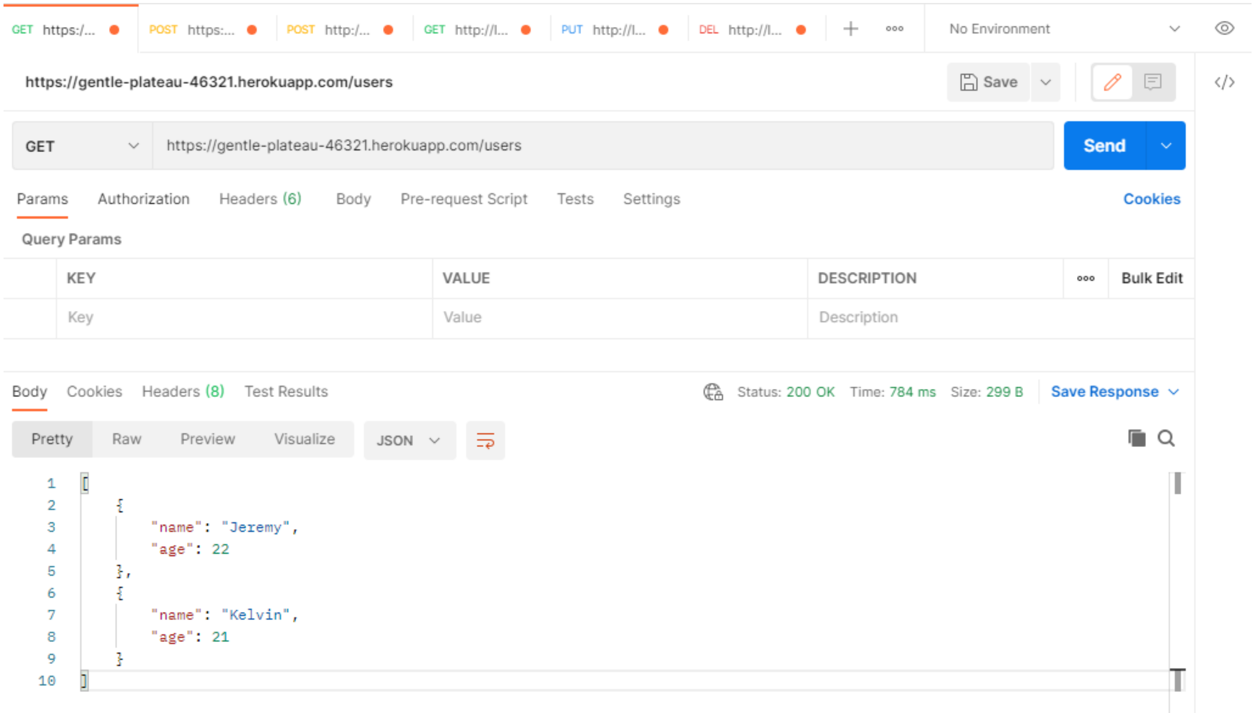
DELETE http://localhost:3000/users/0

Status: 201 Created Time: 3 ms Size: 293 B

```
[
    {
        "name": "Kelvin",
        "age": 21
    },
    {
        "name": "John",
        "age": 33
    }
]
```

DEPLOYED SERVER TESTING

GET request results from web server:



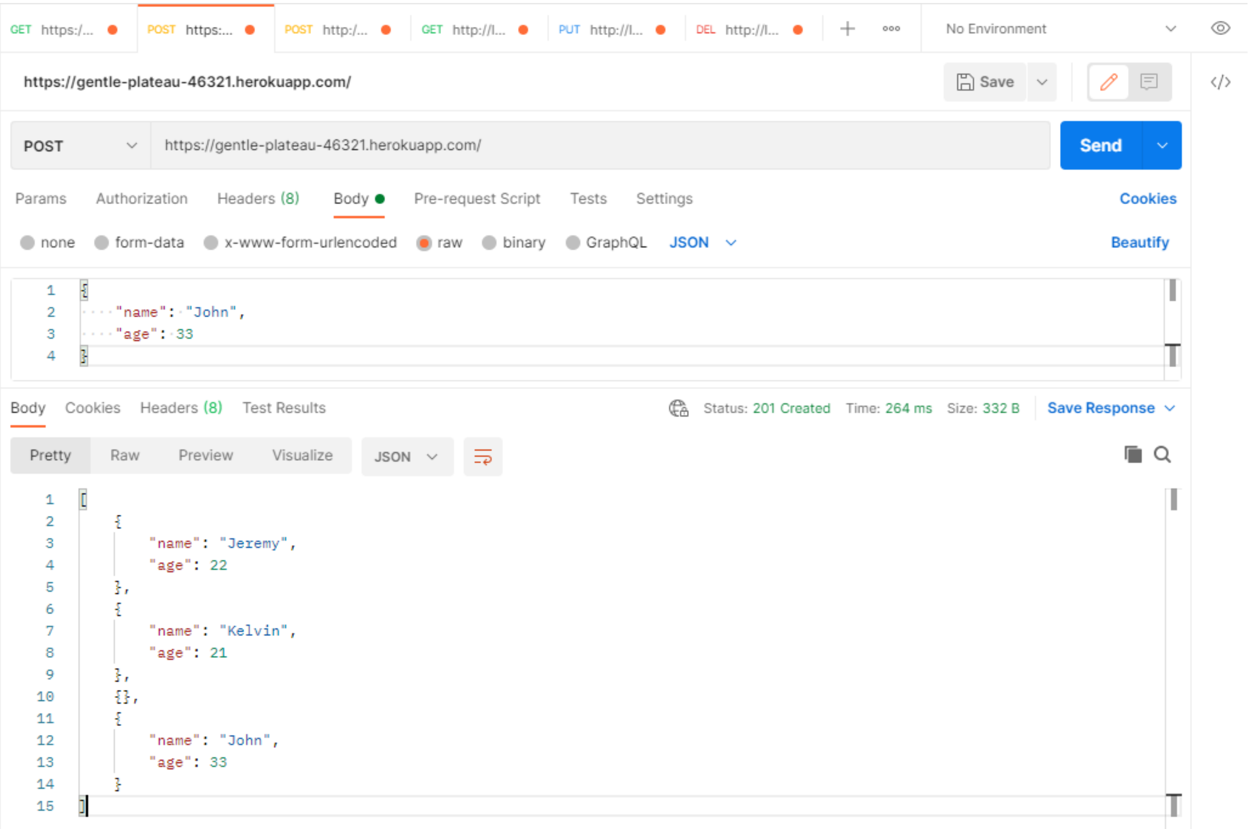
https://gentle-plateau-46321.herokuapp.com/users

GET https://gentle-plateau-46321.herokuapp.com/users

Status: 200 OK Time: 784 ms Size: 299 B

```
[
    {
        "name": "Jeremy",
        "age": 22
    },
    {
        "name": "Kelvin",
        "age": 21
    }
]
```

POST request results from web server:



https://gentle-plateau-46321.herokuapp.com/

POST https://gentle-plateau-46321.herokuapp.com/

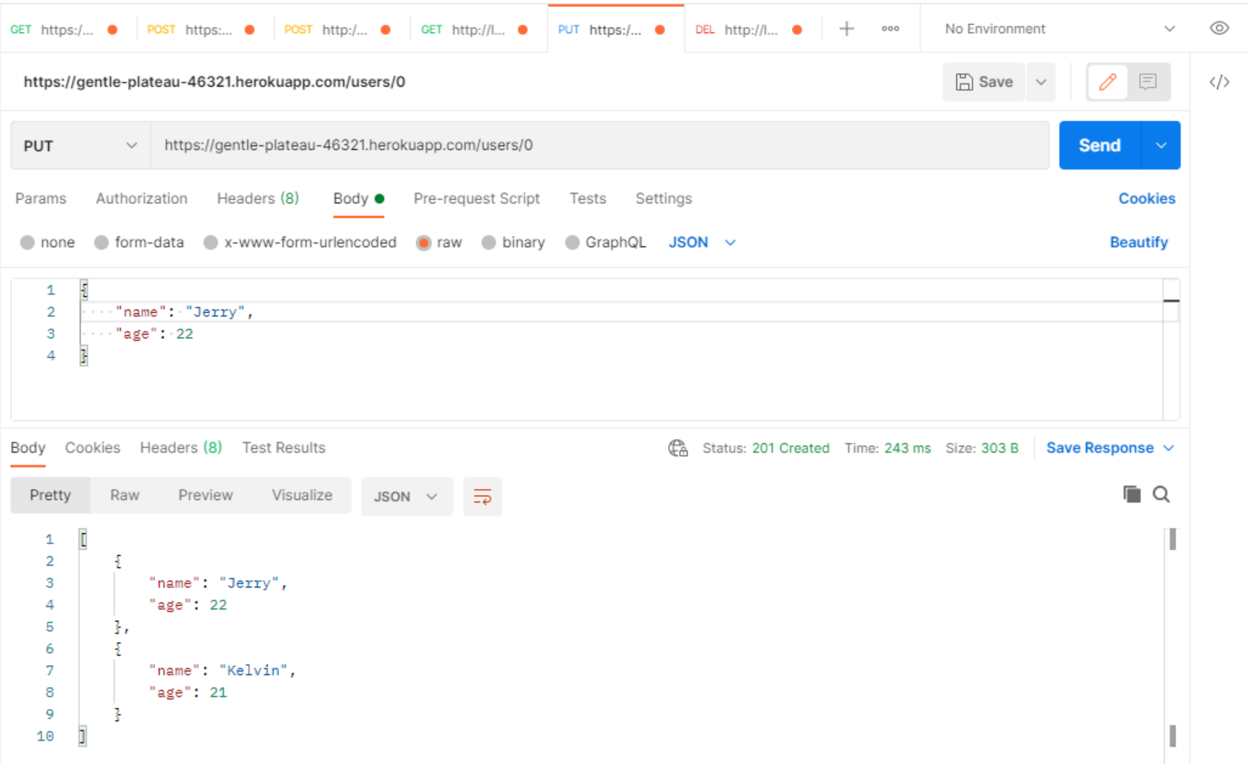
○ none ○ form-data ○ x-www-form-urlencoded ● raw ○ binary ○ GraphQL JSON

```
{
····"name":·"John",
····"age":·33
}
```

Status: 201 Created Time: 264 ms Size: 332 B

```
[
    {
        "name": "Jeremy",
        "age": 22
    },
    {
        "name": "Kelvin",
        "age": 21
    },
    {},
    {
        "name": "John",
        "age": 33
    }
]
```

PUT request results from web server:



https://gentle-plateau-46321.herokuapp.com/users/0

PUT https://gentle-plateau-46321.herokuapp.com/users/0

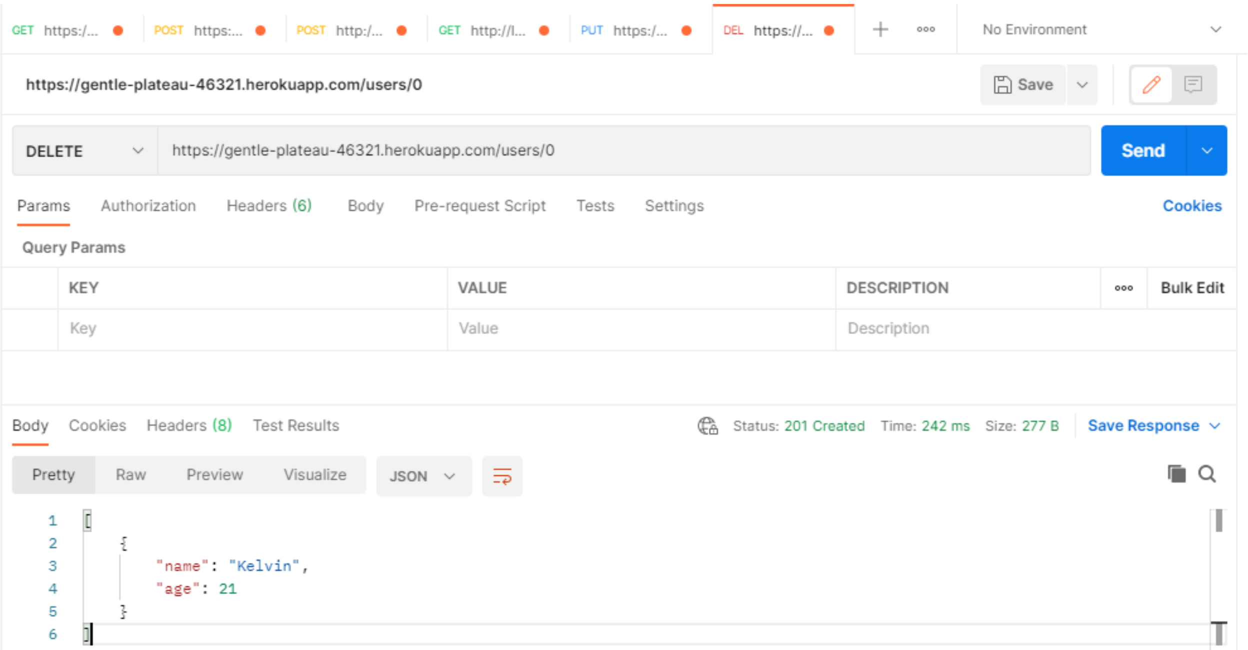
○ none ○ form-data ○ x-www-form-urlencoded ● raw ○ binary ○ GraphQL JSON

```
{
····"name":·"Jerry",
····"age":·22
}
```

Status: 201 Created Time: 243 ms Size: 303 B

```
[
    {
        "name": "Jerry",
        "age": 22
    },
    {
        "name": "Kelvin",
        "age": 21
    }
]
```

DELETE request results from web server:



https://gentle-plateau-46321.herokuapp.com/users/0

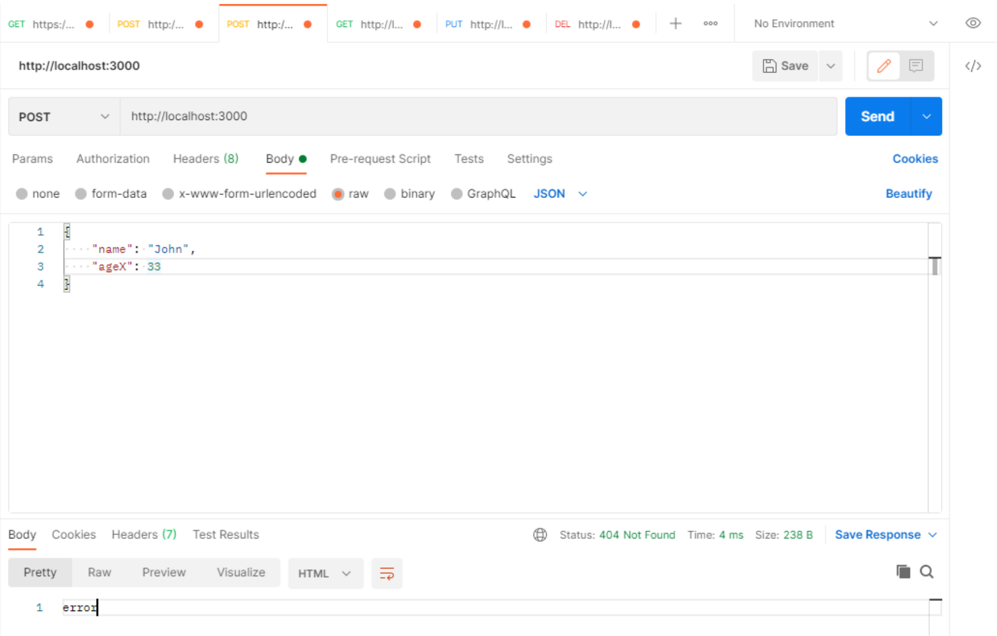
DELETE https://gentle-plateau-46321.herokuapp.com/users/0 Send

Status: 201 Created Time: 242 ms Size: 277 B

```
[
    {
        "name": "Kelvin",
        "age": 21
    }
]
```

EDGE CASE AND ERROR RESILIENCY

Trying to post a user with incorrect attributes throws an error: (ageX is not a correct attribute)



http://localhost:3000

POST http://localhost:3000 Send

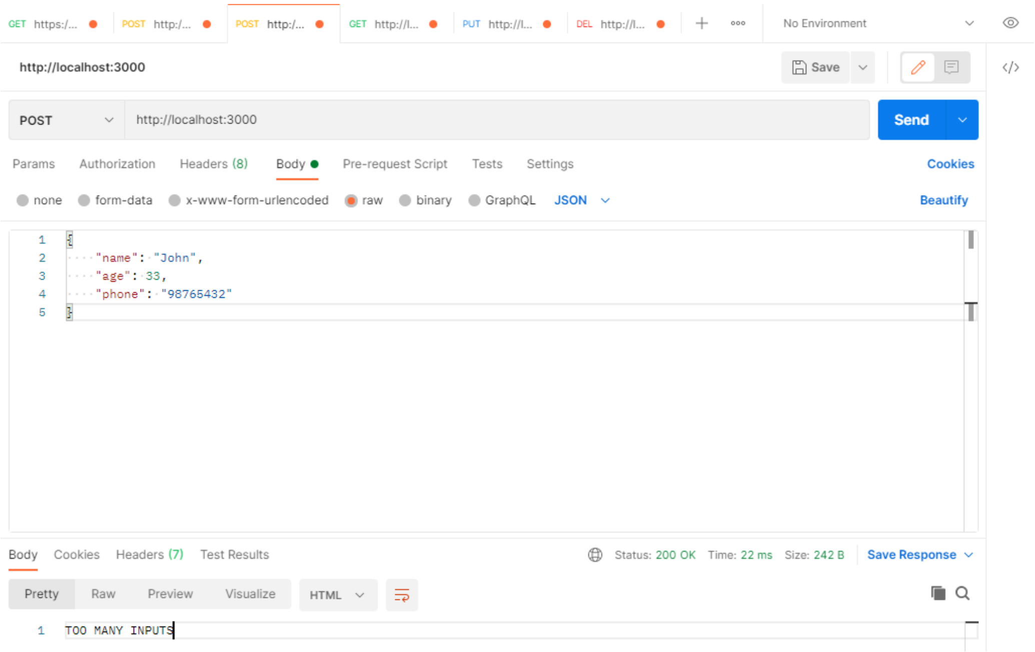
Body: ● raw JSON

```
{
    "name": "John",
    "ageX": 33
}
```

Status: 404 Not Found Time: 4 ms Size: 238 B

```
error
```

Trying to post a user with additional attributes also throws an error:



http://localhost:3000

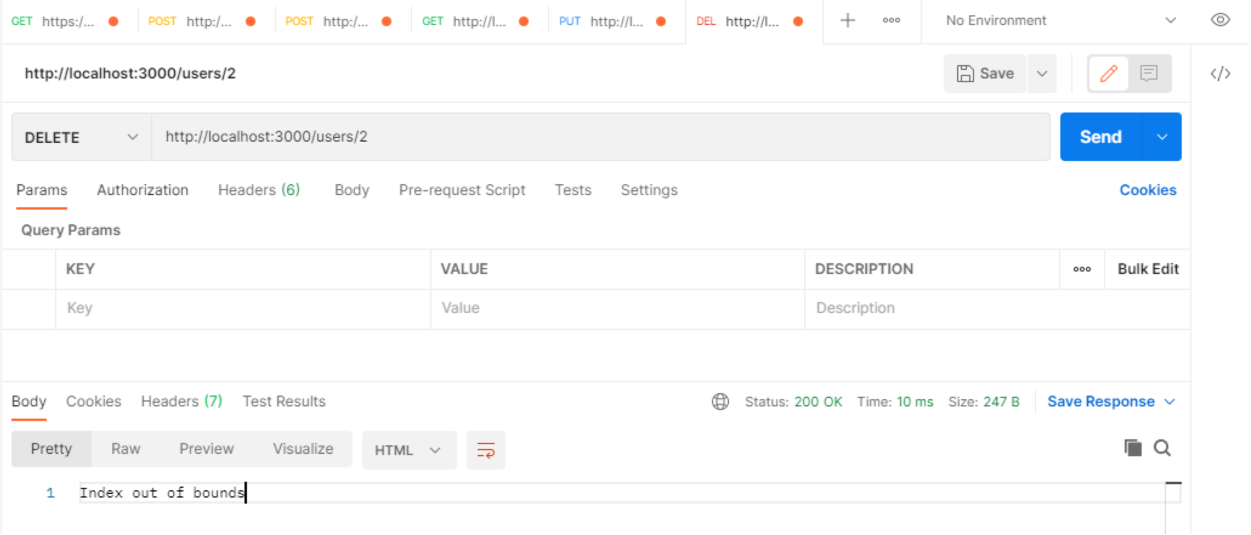
POST http://localhost:3000

```
{
    "name": "John",
    "age": 33,
    "phone": "98765432"
}
```

Status: 200 OK Time: 22 ms Size: 242 B

```
TOO MANY INPUTS
```

Trying to delete a user at index that is invalid: (there are only 2 users so index 2 is not valid)



http://localhost:3000/users/2

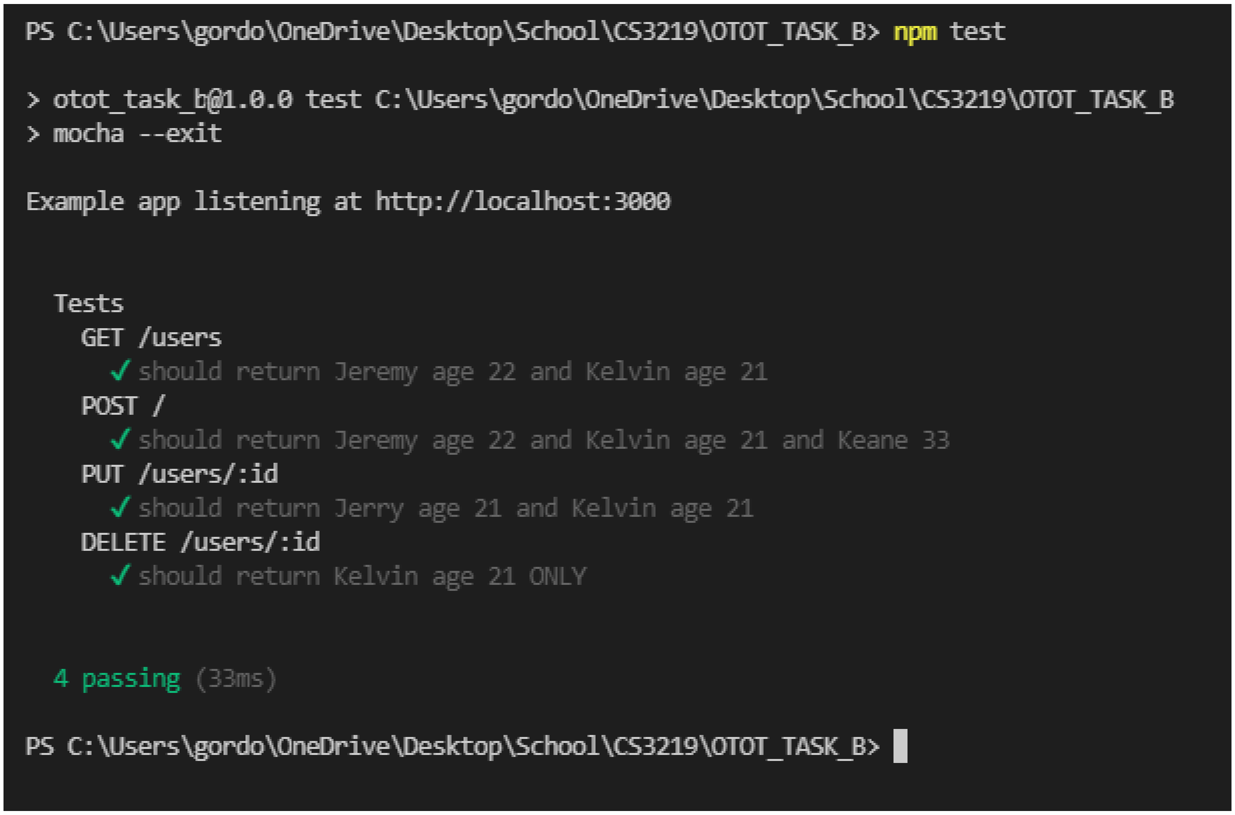
DELETE http://localhost:3000/users/2

KEY	VALUE	DESCRIPTION
Key	Value	Description

Status: 200 OK Time: 10 ms Size: 247 B

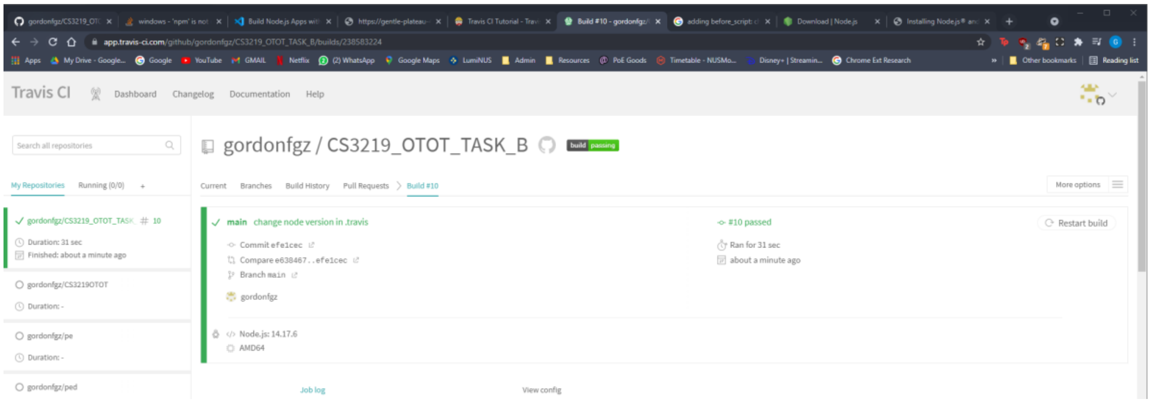
```
Index out of bounds
```

TESTING USING MOCHA AND CHAI



```
PS C:\Users\gordo\OneDrive\Desktop\School\CS3219\OTOT_TASK_B> npm test

> otot_task_b@1.0.0 test C:\Users\gordo\OneDrive\Desktop\School\CS3219\OTOT_TASK_B
> mocha --exit

Example app listening at http://localhost:3000


  Tests
    GET /users
      ✓ should return Jeremy age 22 and Kelvin age 21
    POST /
      ✓ should return Jeremy age 22 and Kelvin age 21 and Keane 33
    PUT /users/:id
      ✓ should return Jerry age 21 and Kelvin age 21
    DELETE /users/:id
      ✓ should return Kelvin age 21 ONLY


  4 passing (33ms)

PS C:\Users\gordo\OneDrive\Desktop\School\CS3219\OTOT_TASK_B> 
```

Using Travis to automate testing and building



gordonfgz / CS3219_OTOT_TASK_B build passing

✓ gordonfgz/CS3219_OTOT_TASK # 10
Duration: 31 sec
Finished: about a minute ago

gordonfgz/CS3219OTOT
Duration: -

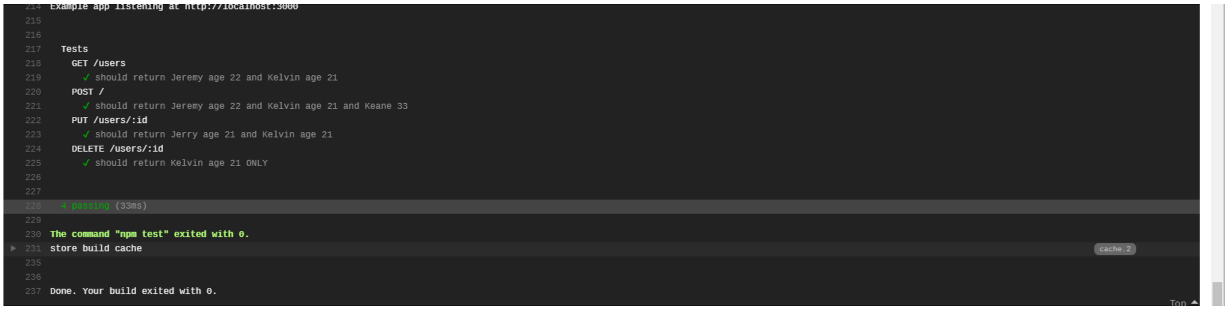
gordonfgz/pe
Duration: -

gordonfgz/ped

✓ main change node version in .travis
Commit efe1cec
Compare e638467..efe1cec
Branch main
gordonfgz

#10 passed
Ran for 31 sec
about a minute ago

Node.js: 14.17.6
AMD64



```
Example app listening at http://localhost:3000


  Tests
    GET /users
      ✓ should return Jeremy age 22 and Kelvin age 21
    POST /
      ✓ should return Jeremy age 22 and Kelvin age 21 and Keane 33
    PUT /users/:id
      ✓ should return Jerry age 21 and Kelvin age 21
    DELETE /users/:id
      ✓ should return Kelvin age 21 ONLY


  4 passing (33ms)

The command "npm test" exited with 0.
store build cache                                                    cache.2


Done. Your build exited with 0.
```

Note:
The code has since been changed after completing task B4. However, the change is very minor. There is an addition of an Id field in the array of users. I have since updated the test.js in light of the change. However, since nothing conceptually/fundamentally changed (What I did in postman is the same as what I did in the testcases anyway), I kept the above screenshots as they are still able to show that the different requests work and the error handling considerations are the same.

Special thanks to:
https://www.digitalocean.com/community/tutorials/test-a-node-restful-api-with-mocha-and-chai
https://stackoverflow.com/questions/24364361/permission-denied-when-running-npm-test-via-mocha-on-travis-ci/30141673