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Link to GitHub repository: <https://github.com/hsiaotingluv/CS3219-OTOT-TaskB> (shared to @ruilingk and @wakululuu)

Submission for Task B1 to B4

Note for instructors: feel free to contact me on telegram @hsiaotingluv to clarify anything!

## Instructions on how to

Task B1: Run the API locally, including Postman calls used to demonstrate a working API. Be sure to include the edge cases tested or proof of error-resiliency as per the marking scheme.

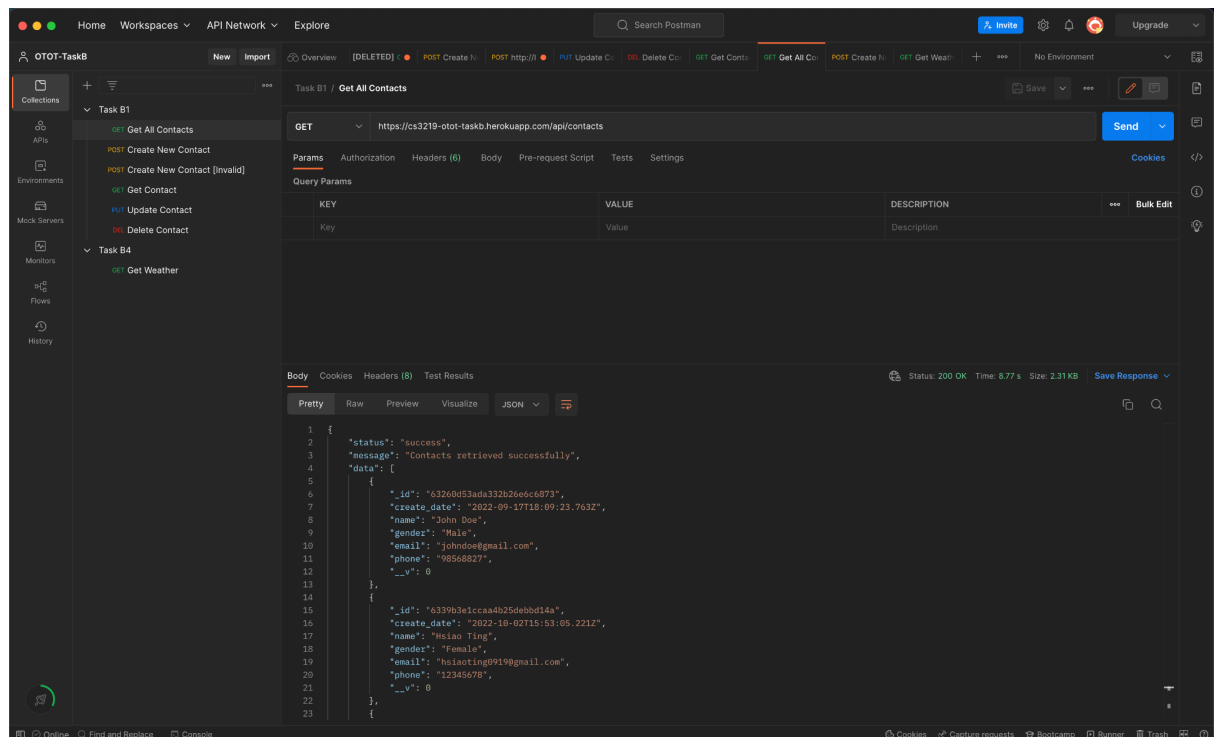
Link to Postman collection

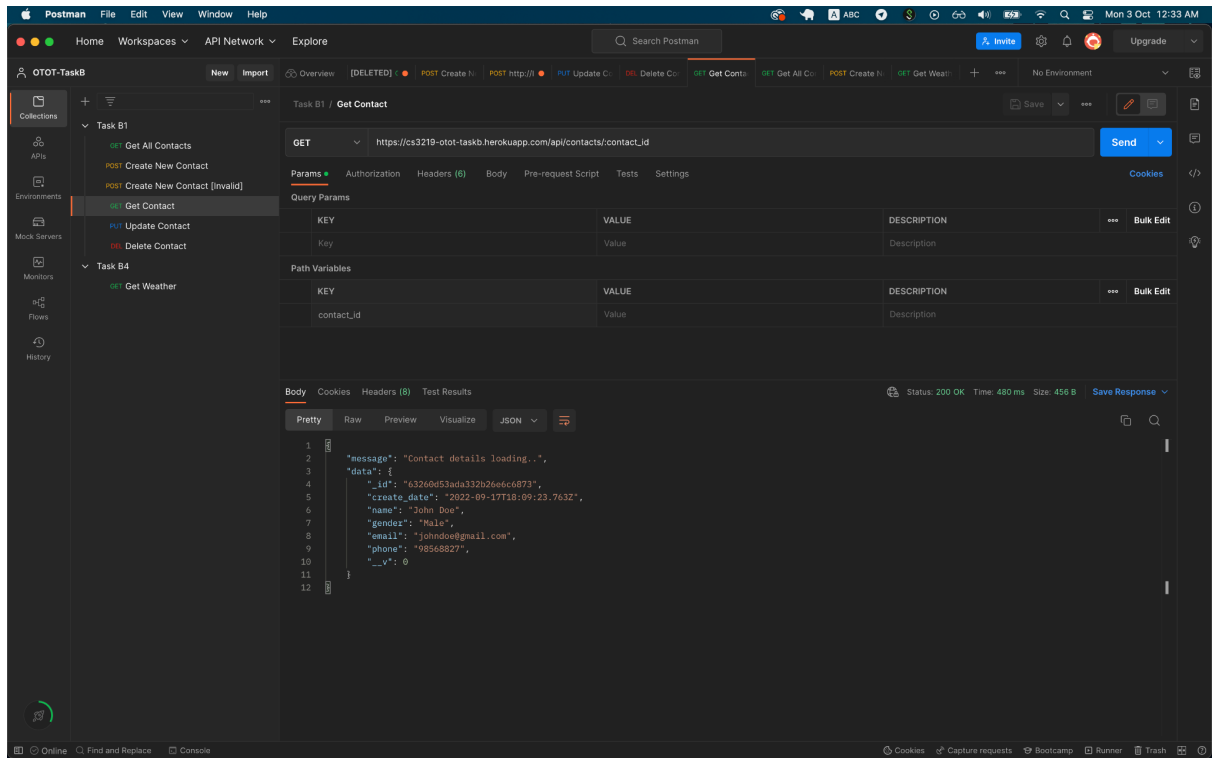
[https://app.getpostman.com/join-team?invite\\_code=c56fa438126e7a4915e6b75aa52d172b](https://app.getpostman.com/join-team?invite_code=c56fa438126e7a4915e6b75aa52d172b)

or

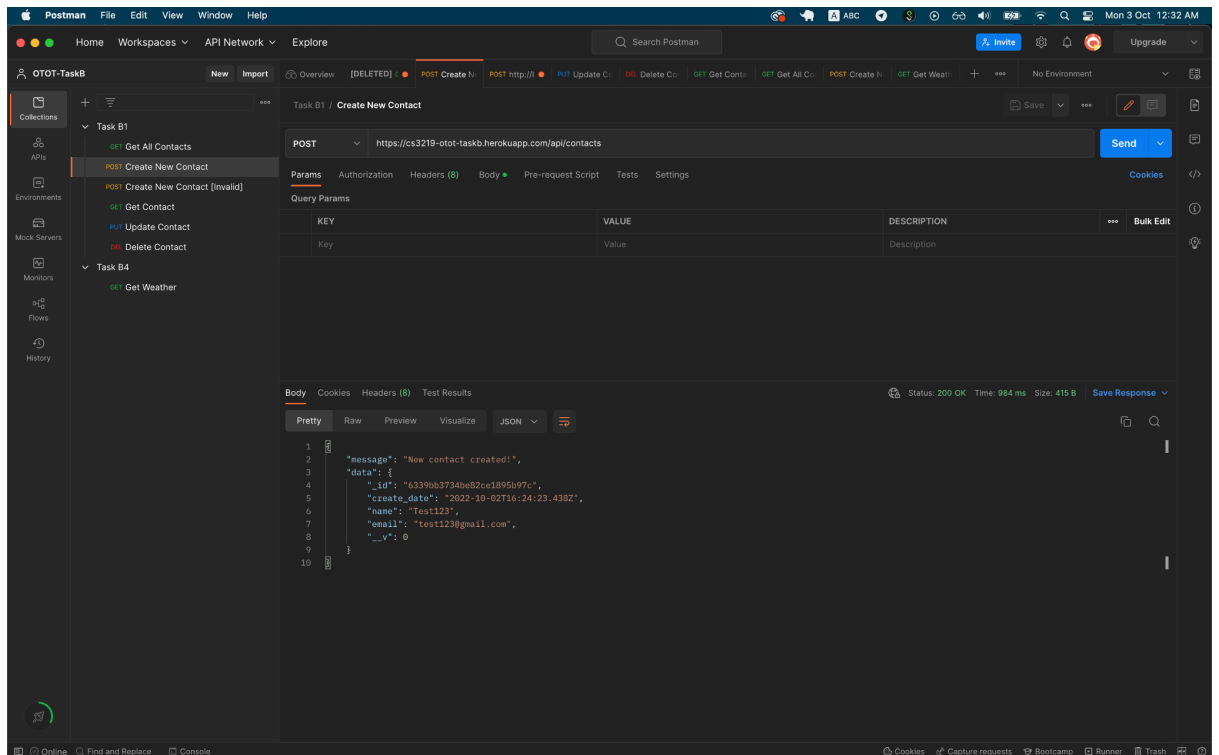
<https://warped-space-936145.postman.co/workspace/c95e921a-8165-43dd-8583-13d5f5e88f1f/collection/12012373-c2dc0a5c-9101-4abf-9961-cbea7d51c10a?action=share&creator=12012373>

### 1. GET

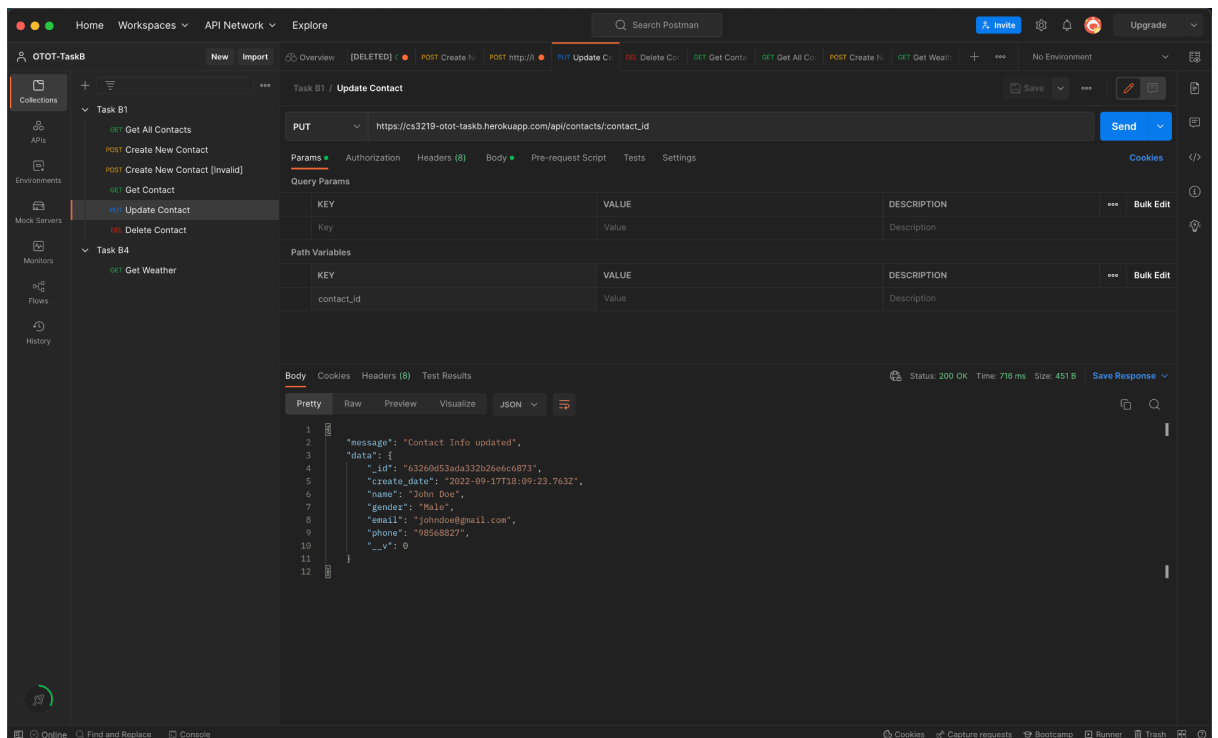




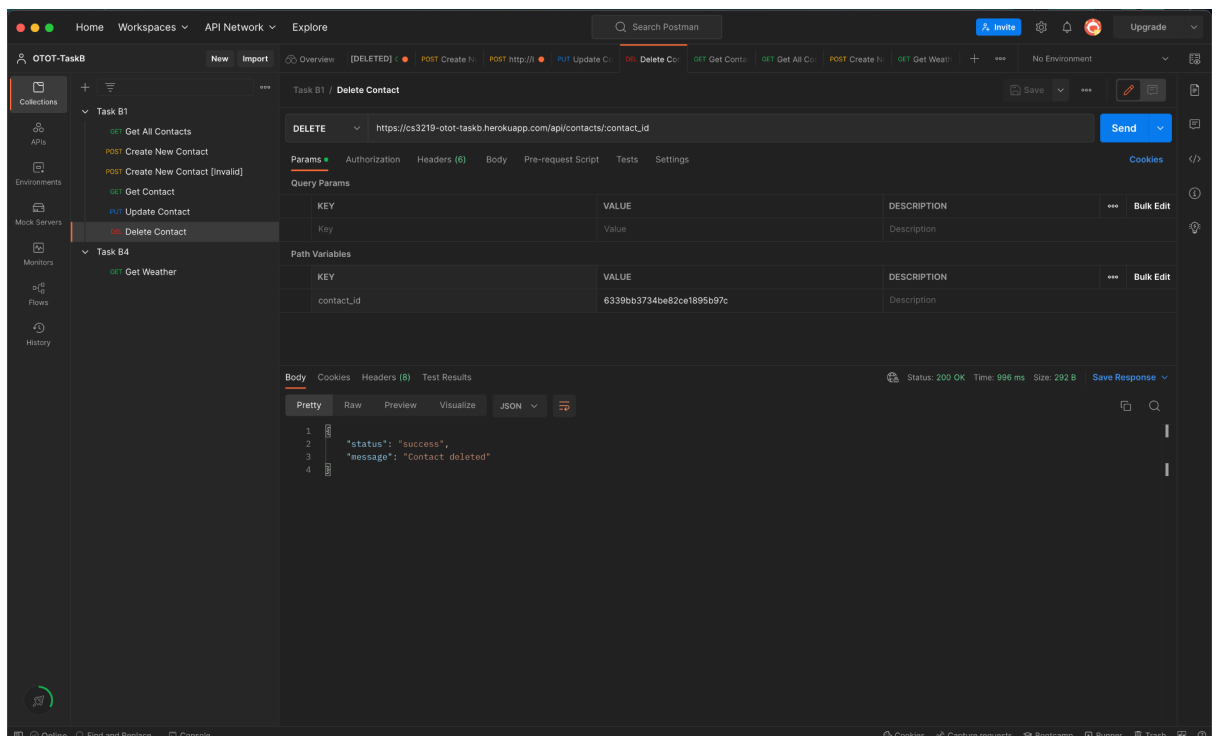
## 2. POST



### 3. PUT



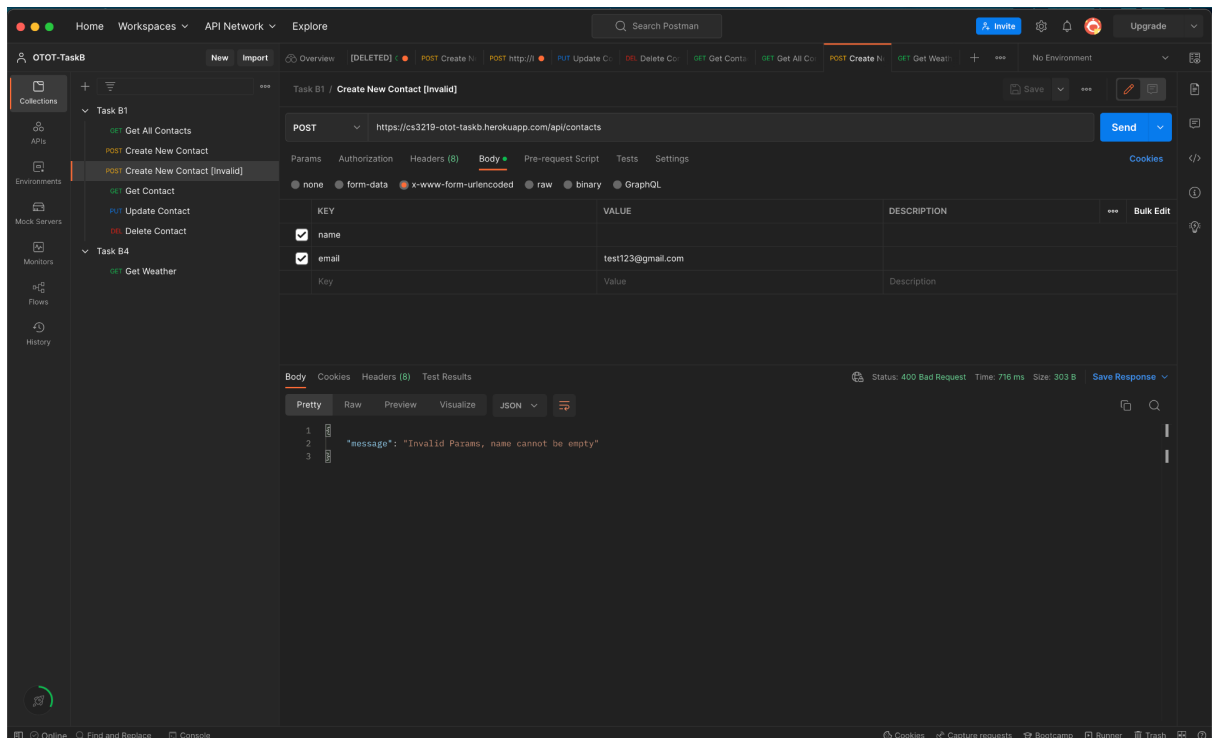
### 4. DELETE



### 5. Invalid data & edge cases tested or proof of error-resiliency

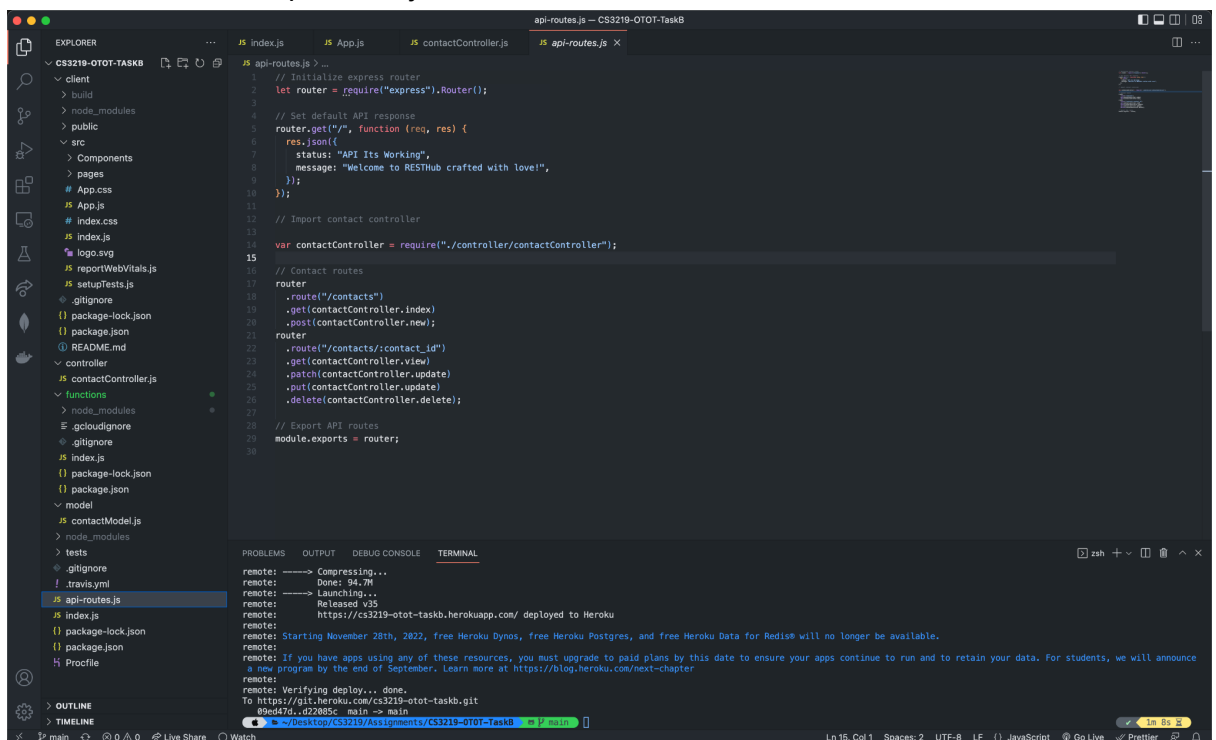
- case 1: [post] contact name cannot be empty, throw an invalid message

- case 2: [put] if the contact name is changed to empty, will update with the previous name instead of throwing an error



## Task B1/B2.2: Access the deployed API

- Define API routes in api-routes.js



- Use API routes in the app in index.js
- To access data from deployed API, use `http://{{YOUR ROOT URL}}/api/contacts`
  - i.e. `https://cs3219-otot-taskb.herokuapp.com/api/contacts`

- Continuous Integration whenever commit is pushed to github



- Continuous Deployment using Travis and Heroku

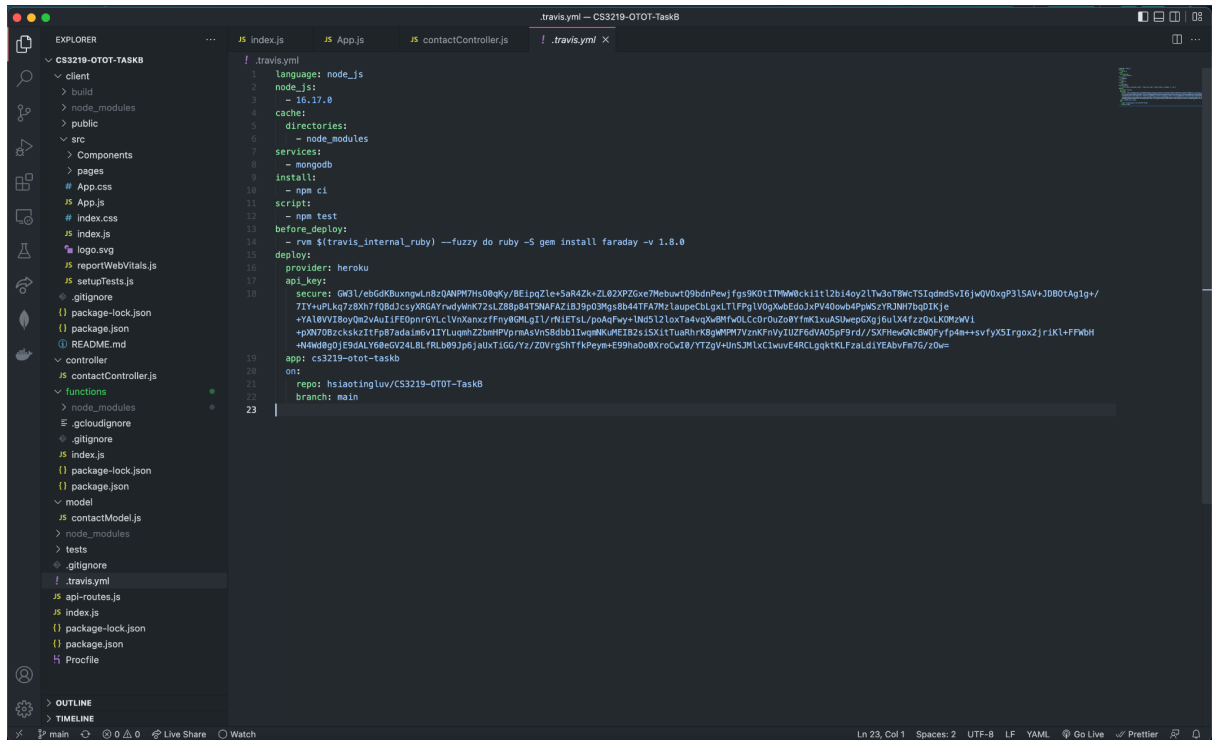
```

deploy:
  provider: heroku
  api_key:
    secure: GW3l/ebGdKBuxngwLn8z0ANPM7Hs00qKy/BEipqZle+5aR4Zk+ZL02XP2Gxe7Mebuwrt09bdnPewjfgs9K0tITMwW0cki1t12bi4oy2lTw30t8WcTSIqmdSVi6jwQV0xgP3lSAV+JDB0tAg1g+/7IY+uPLkq7z8Xh7fQ8dJcsyXRGAYrwdyWnk72sLZ88p84TSNAFAZiBJ9p03Mgs8b44TFA7MzlaupcBlGxLTlFPgLV0gXwbEdoJxPV40owb4PpW5zYRJNH7bqDIKje+YAl0VVI8oyQm2vAu1iFE0pnrGYLcVnXanxzFfNy0GMLgIL/rNiEtSL/poAqFwy+lnD5l2loXta4vqXwBMfwOLCc0r0uZo0YfmK1xuASUwepGXgj6uLX4fzzQxLK0MzWV1+pXN70BzckskzItFp87adai6v1IYLumhZ2bmHPVprMAsVnS8dbb1IwqmNKuMEIB2sISXitTuaRhrK8gWMPM7VznKFnVyIUZF6dVA05pF9rd//SXFHewQNCBQWfYfp4m++svfyX5IRgox2jr1Kl+FFWbH+N4Wd0g0JE9dALY60eGVZ4L8LfRLb09Jp6jaUxTiGG/Yz/ZOVrgShTfkPeym+E99ha00Xr0CwI0/YTZgV+UnS3JmLxC1wuvE4RCLgqktKLfZaLd1YEAbvFm7G/z0w=
  app: cs3219-otot-taskb
  on:
    repo: hsiaotingluv/CS3219-OTOT-TaskB
    branch: main
  
```

- run deploy on heroku on travis to automate deployment to heroku

## TaskB2.1: Run tests locally and via Travis/other CI tool

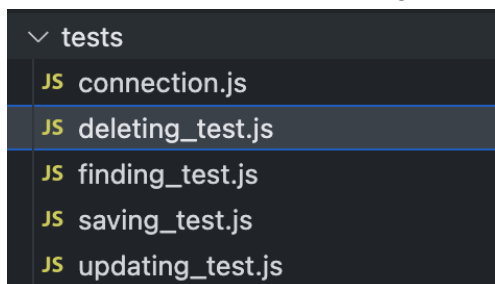
- Create .travis.yml file



The screenshot shows a VS Code editor with the file explorer on the left and the .travis.yml file open in the main editor. The file explorer shows a project structure for CS3219-OTOT-TaskB, including folders like client, build, node\_modules, public, src, Components, pages, and files like App.css, App.js, index.css, index.js, logo.svg, reportWebVitals.js, setupTests.js, .gitignore, package-lock.json, package.json, README.md, controller, contactController.js, functions, node\_modules, .gitignore, .gcloudignore, .travis.yml, api-routes.js, index.js, package-lock.json, package.json, and Procfile. The .travis.yml file is configured with the following content:

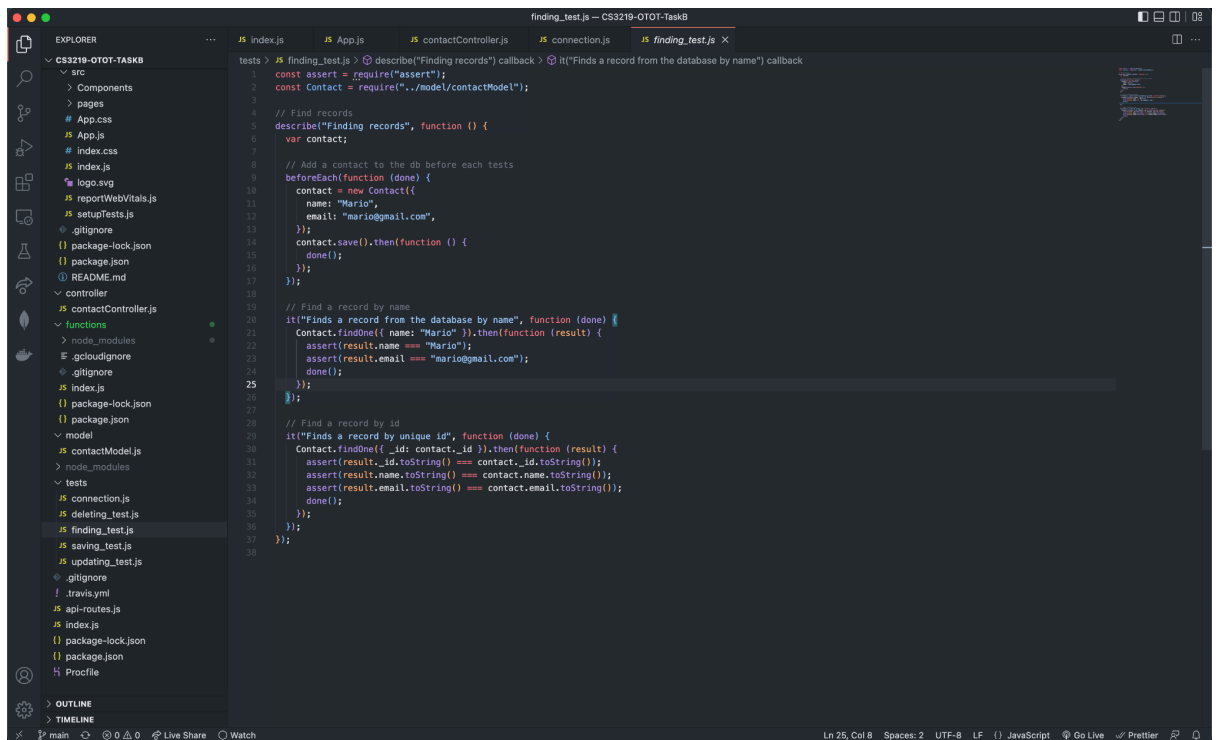
```
! .travis.yml
1 language: node_js
2 node_js:
3   - 16.17.0
4 cache:
5   directories:
6     - node_modules
7 services:
8   - mongodB
9 install:
10  - npm ci
11 script:
12  - npm test
13 before_deploy:
14  - rm $(travis_internal_ruby) --fuzzy do ruby -S gem install faraday --v 1.8.0
15 deploy:
16  provider: heroku
17  api_key:
18    secure: 0W1/ab6dKbuwqLr8r0NPP7hs0BgKy/BE1p21e+5p84Zr+ZL82VP20e7Meow109bdrPewjfgp9K0L1TMMck1t12b14y21T+3oT8McTSIdm5vI6jwQV0xpP3LSAV+J0B0tAg1g+/
19    71YvqPLkq7z8X07f0Bd1csyXBGAYrwyMnK72sL288p84T3NAFAZ1B3p03Mgs8b44TFATMclaupeChLxLTLFPglV0p9w6EdoJ3PV40mb4PpM5zYR3N07b0D1Kje
20    +YAL0VYI8oy0m2vAuIiFE0nnrGYLcLVnXanxzffny8QMLgIL/rN1ETsL/pokaFuy+1Nd512loxTa4vqWbMfwOLCcdR0uZo8Yfmc1xASUhepGxgJ6uLX4fz20xLK0M2wVl
21    +pN70Bzcksk21tP87adaIm6v1IYLqumh22bHPVp rmAsVnS8dbb11wqmWuMEI82s1SX1tTuArhRkBgMMPMTVznKfny1UZf6QVAd5pF9rd//5XFHewGNC8WOFyfp4m++svfyX51rgox2j)rJkL+FFMBH
22    +N4Wd8gJfE9dALY68eGV24BLRLB09jp6jalut1GG/Y2/Z0Vrg5HTfkPeym+E99ha0o8Xrcw18/YTZgV+Un53MLxLuvvE4RCLgqktKLFZalDIYEAbvFn7G/z0w=
23 app:
24  cs3219-otot-taskb
25 on:
26  repo: hsiatingluu/CS3219-OTOT-TaskB
27  branch: main
```

- Create separate files for testing



The screenshot shows a VS Code editor with the file explorer on the left and the tests directory open in the main editor. The file explorer shows a project structure for CS3219-OTOT-TaskB, including folders like client, build, node\_modules, public, src, Components, pages, and files like App.css, App.js, index.css, index.js, logo.svg, reportWebVitals.js, setupTests.js, .gitignore, package-lock.json, package.json, README.md, controller, contactController.js, functions, node\_modules, .gitignore, .gcloudignore, .travis.yml, api-routes.js, index.js, package-lock.json, package.json, and Procfile. The tests directory contains the following files:

- connection.js
- deleting\_test.js
- finding\_test.js
- saving\_test.js
- updating\_test.js



- To run test, run “npm test” in the root directory

```
> npm test

> cs3219-otot-taskb@1.0.0 test
> mocha --recursive --exit tests/*.js

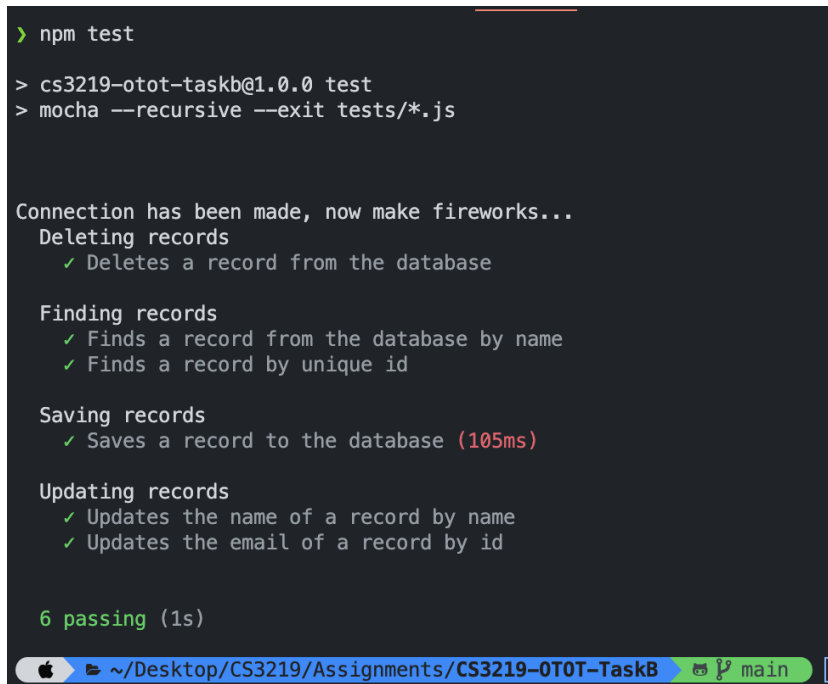
Connection has been made, now make fireworks...
Deleting records
  ✓ Deletes a record from the database

Finding records
  ✓ Finds a record from the database by name
  ✓ Finds a record by unique id

Saving records
  ✓ Saves a record to the database (105ms)

Updating records
  ✓ Updates the name of a record by name
  ✓ Updates the email of a record by id

6 passing (1s)
```

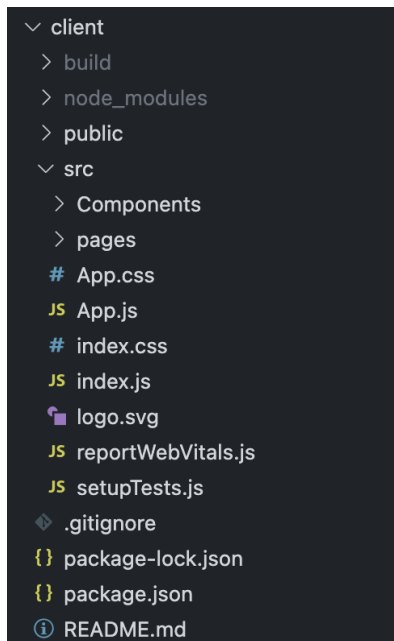


- Continuous Integration whenever commit is pushed to github

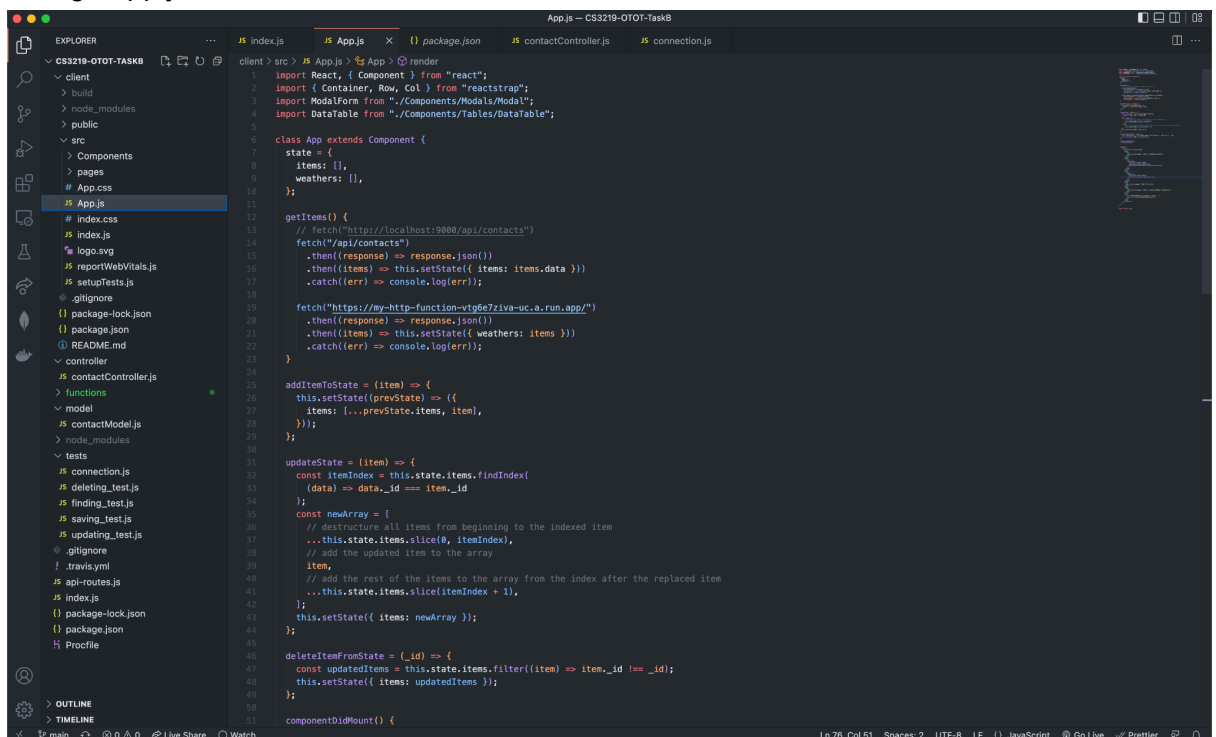


## TaskB3: Set up frontend (B3)

- run “npx create-react-app client” to set up frontend



- fetch data from backend api (i.e. fetch("/api/contacts")) and display in frontend through app.js





cs3219-otot-taskb.herokuapp.com

### Contact List

Name	Gender	Email	Phone		
John Doe	Male	john doe@gmail.com	98568827	Edit	Del
Hsiao Ting	Female	hsiaoting0919@gmail.com	12345678	Edit	Del
Bob	Male	bob@gmail.com	99917232	Edit	Del
Gary	Male	gary737@gmail.com	92994567	Edit	Del
Sandy	Female	sandy@gmail.com	89173723	Edit	Del
Maria	Female	maria@gmail.com	75730294	Edit	Del
Sarah	Female	sarah@gmail.com	92613712	Edit	Del
Josh	Male	josh183@gmail.com	86889399	Edit	Del
Ian	Male	ian836@gmail.com	85668399	Edit	Del
Timothy	Male	tim919@gmail.com	98568827	Edit	Del
Jane	Female	jane88@gmail.com	74629462	Edit	Del
Test123		test123@gmail.com		Edit	Del

Add Contact

## TaskB4: A brief explanation of what your serverless function does

- fetch weather forecasts data for the next 4 days from ["https://api.data.gov.sg/v1/environment/4-day-weather-forecast"](https://api.data.gov.sg/v1/environment/4-day-weather-forecast)

```
functions > JS index.js > functions.http("weatherGET") callback > then() callback
1  const functions = require("@google-cloud/functions-framework");
2  const axios = require("axios");
3
4  functions.http("weatherGET", (req, res) => {
5    res.set("Access-Control-Allow-Origin", "*");
6    res.set("Access-Control-Allow-Methods", "GET, POST");
7    axios
8      .get("https://api.data.gov.sg/v1/environment/4-day-weather-forecast")
9      .catch((err) => {
10        res.send(err);
11      })
12      .then((result) => {
13        res.send(result.data.items[0].forecasts.map((item) => item.forecast));
14      });
15  });
16
```

- get result from the API, loop through the list of data items and keep only the forecast data

TaskB4: Screenshots of the front-end interaction with your serverless function

## 4-Day Weather Forecasts

1. Afternoon thundery showers
2. Pre-dawn hours and early morning thundery showers
3. Pre-dawn hours and early morning thundery showers
4. Afternoon thundery showers