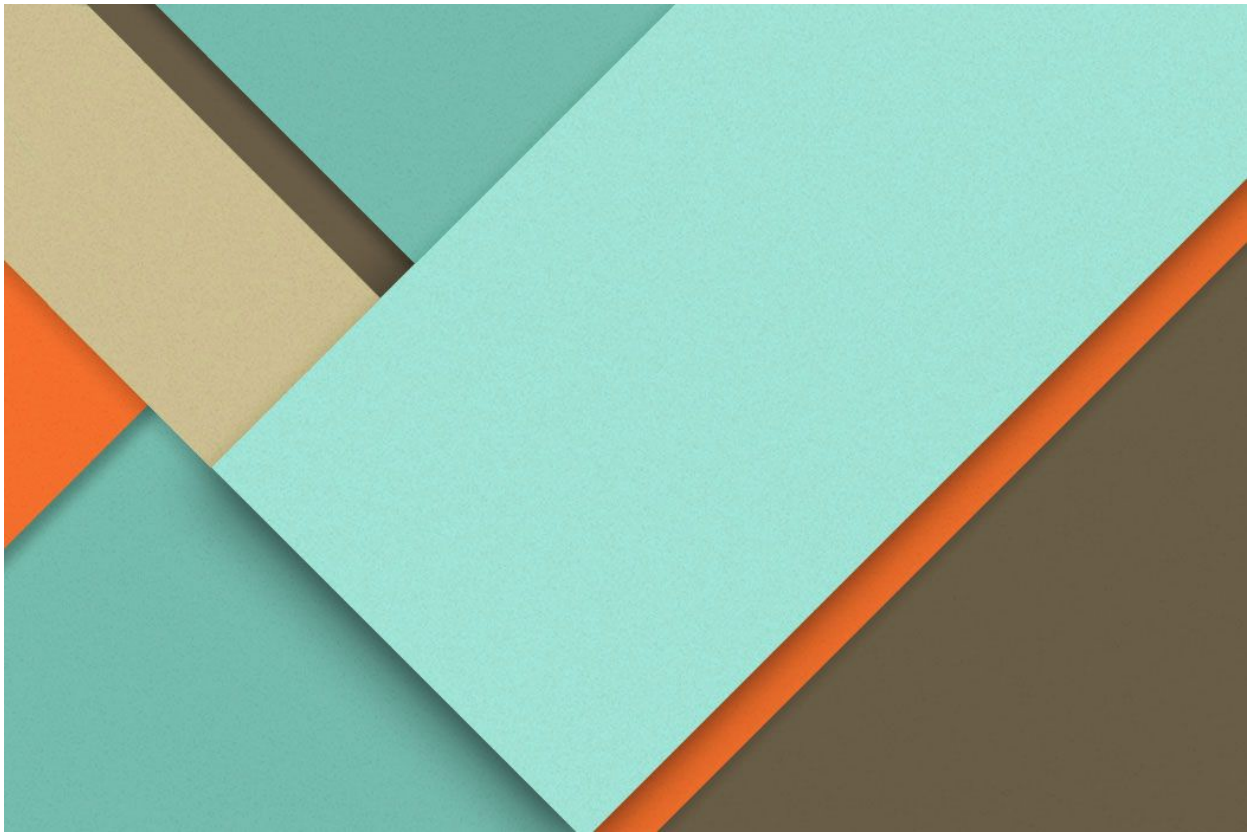

User Manual - Read Me

Linux - Android GPS

26.03.2019

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Jeffrey Choy

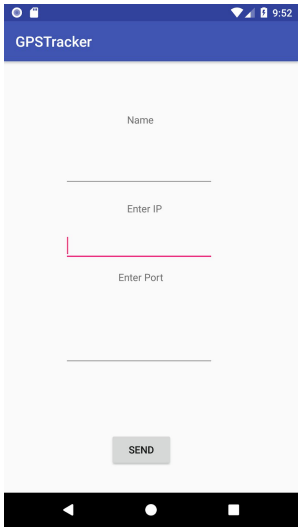
Jenny Ly

Ben Zhang

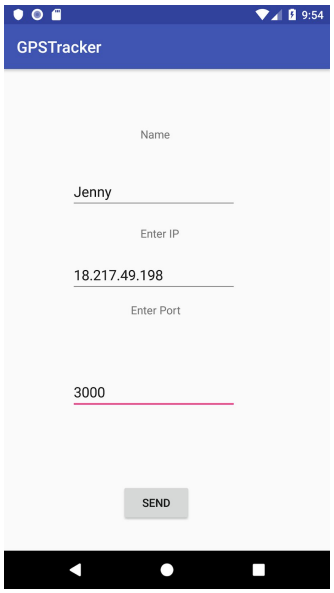
User Manual

Android Application

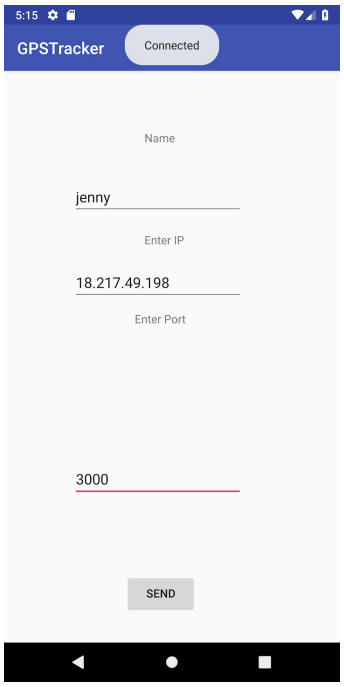
1) Either import the android package and run in emulator in android studio, or install apk and run the app on an android phone



2) Connect to the server with the **IP address: 18.217.49.198** and **Port: 3000**. Each unique username will have its own coordinates updated and hence is the primary key for the user. Once the fields are filled click the send button to begin TCP connection and continuously update your coordinates.

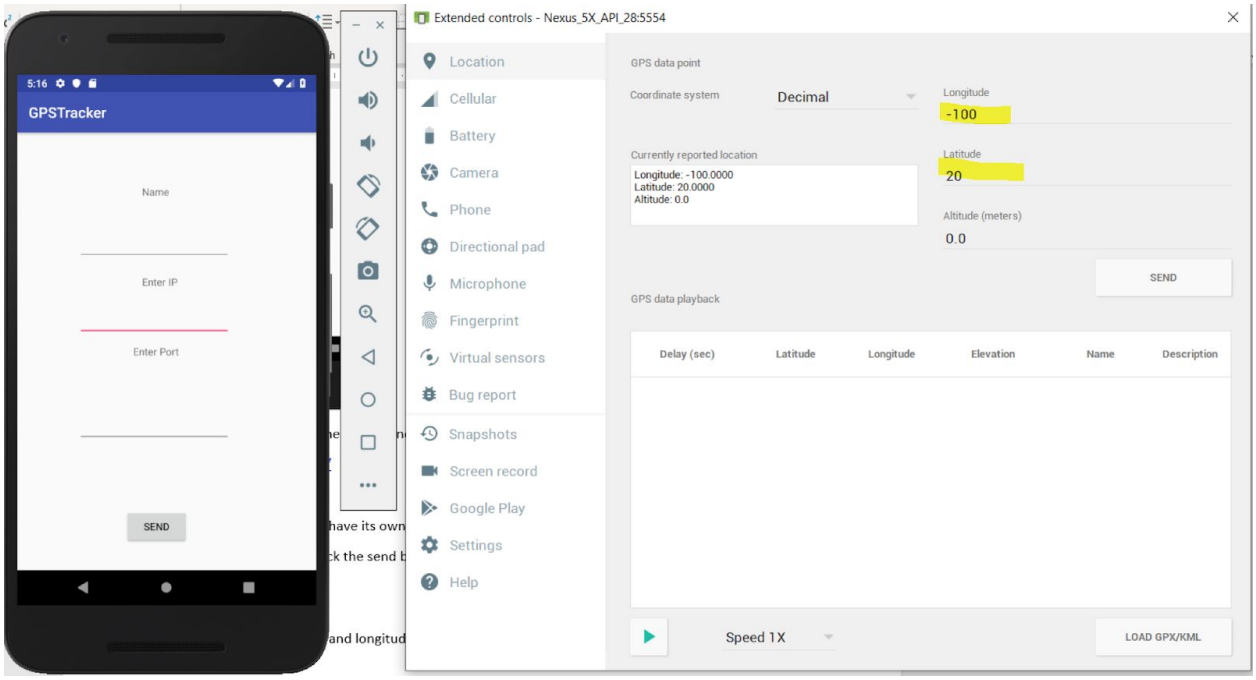


3) A confirmation message will appear to indicate the connection is successful.

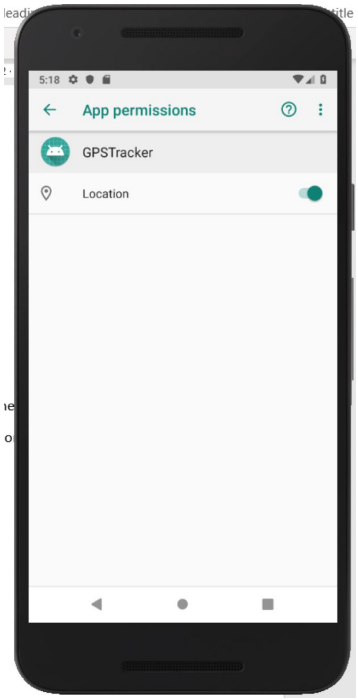


NOTE:

For emulators, the longitude and latitude must be set in the settings.



The location permission must be turned on. The location permission can be accessed by holding onto the application icon and then click on the option icon which appears.

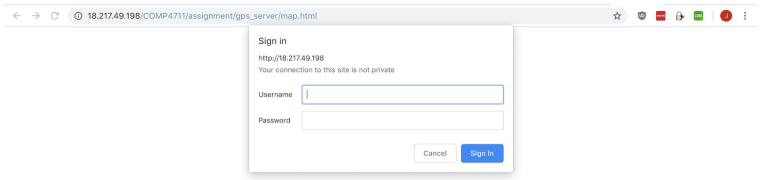


Web Application

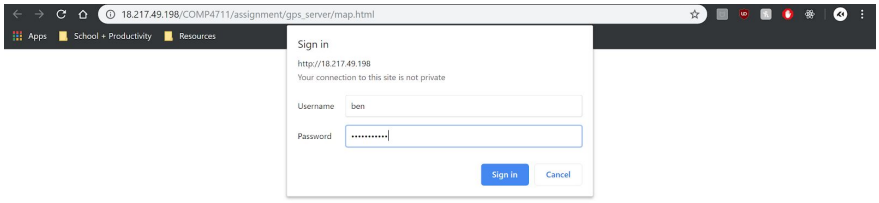
1. Access the web browser map with the following link.

   http://18.217.49.198/COMP4711/assignment/gps_server/map.html

2. The following landing page will appear requiring sign-in credentials.



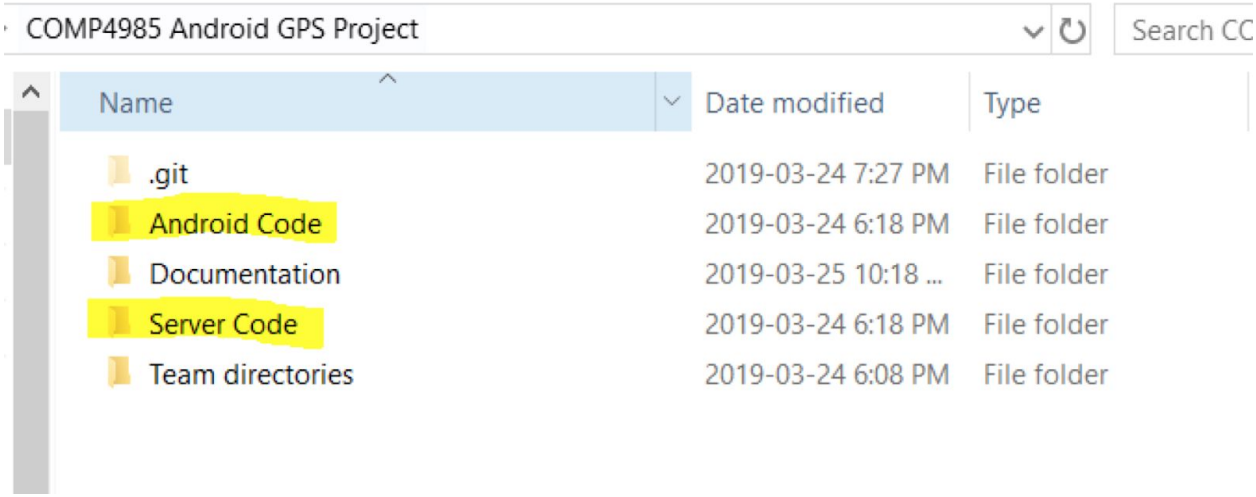
3. Sign-in with the following credentials.
   - **Username: ben**
   - **Password: k4ardth3m39**



ReadMe

Components

1. Android Application
2. Server Application + Map website



Android

In the following folder there are:

1. **Full Android Project**
    - Project can be imported to Android Studio and run on an emulator
2. **APK**
    - Apk can be installed on android device and run natively

Server

In the server folder there are:

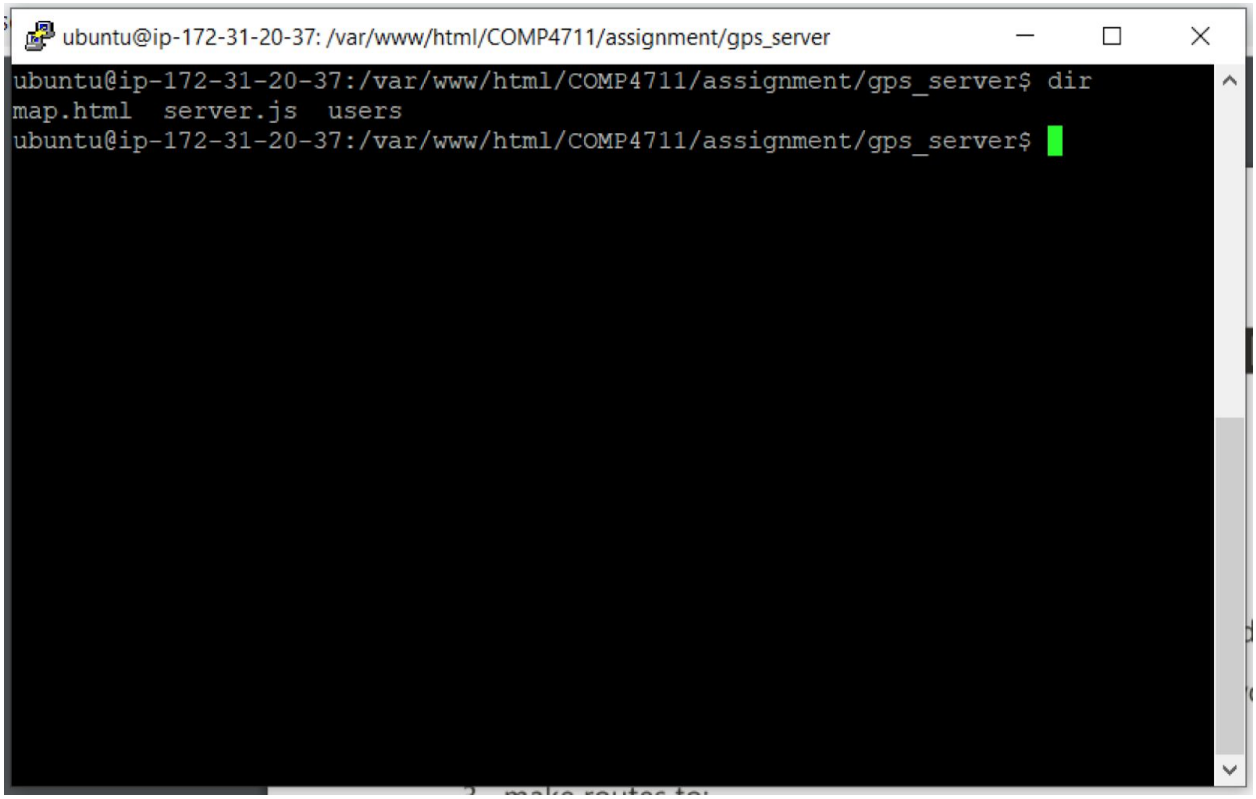
1. **Server.js** - Node JS script that runs on a server, handles both android TCP request and Map http requests. Server is started with command `**node server.js**`. Note: node is required.
2. **Map.html** - A map that requests user location for the server
3. **Users** - Saves all user coordinates received from the server as JSON objects

users	2019-03-26 9:58 A...	File folder	
map.html	2019-03-19 6:47 PM	Chrome HTML Do...	2 KB
server.js	2019-03-18 9:45 PM	JavaScript File	4 KB

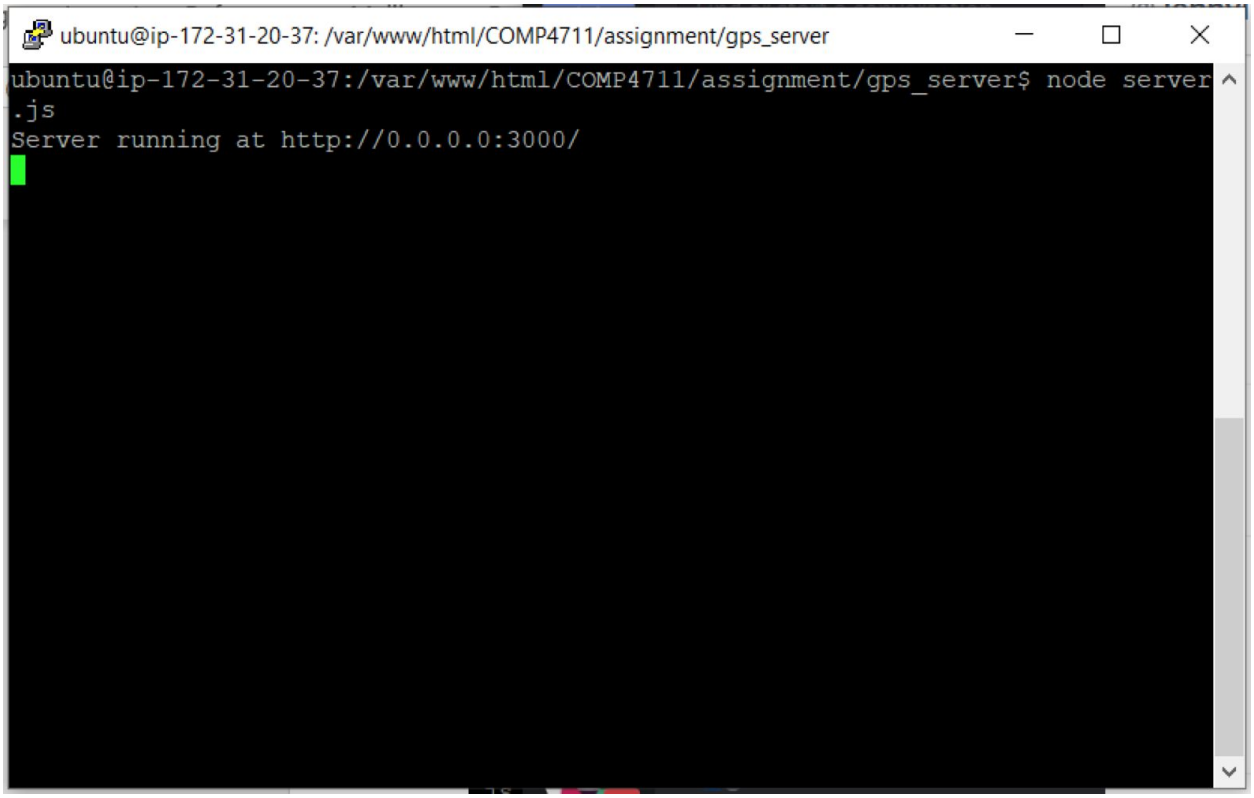
Deployment

Server Side

1. Set up a server (using AWS EC2 in this instance)
2. Install Apache to host the map.html file
3. Put all 3 components under the same directory
4. Install node



5. Run command '**node server.js**' to start server



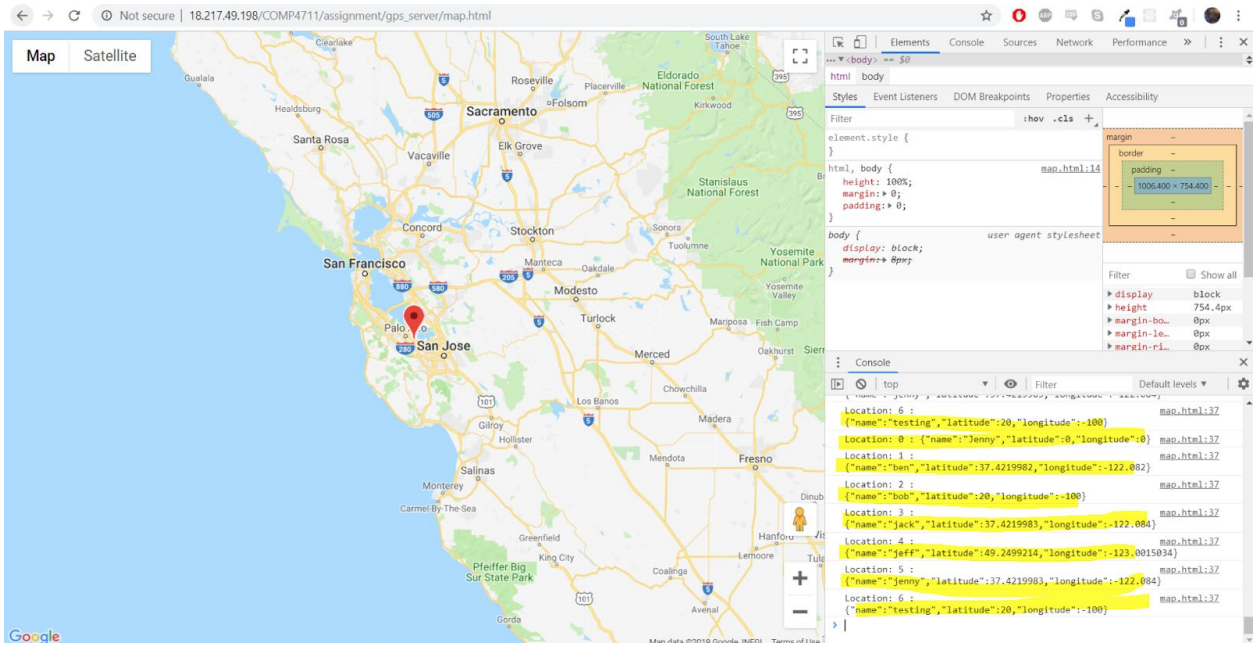
Client Side

Once the user has logged in to the android application with the correct credentials, the server will receive the user's location and name as a JSON object.

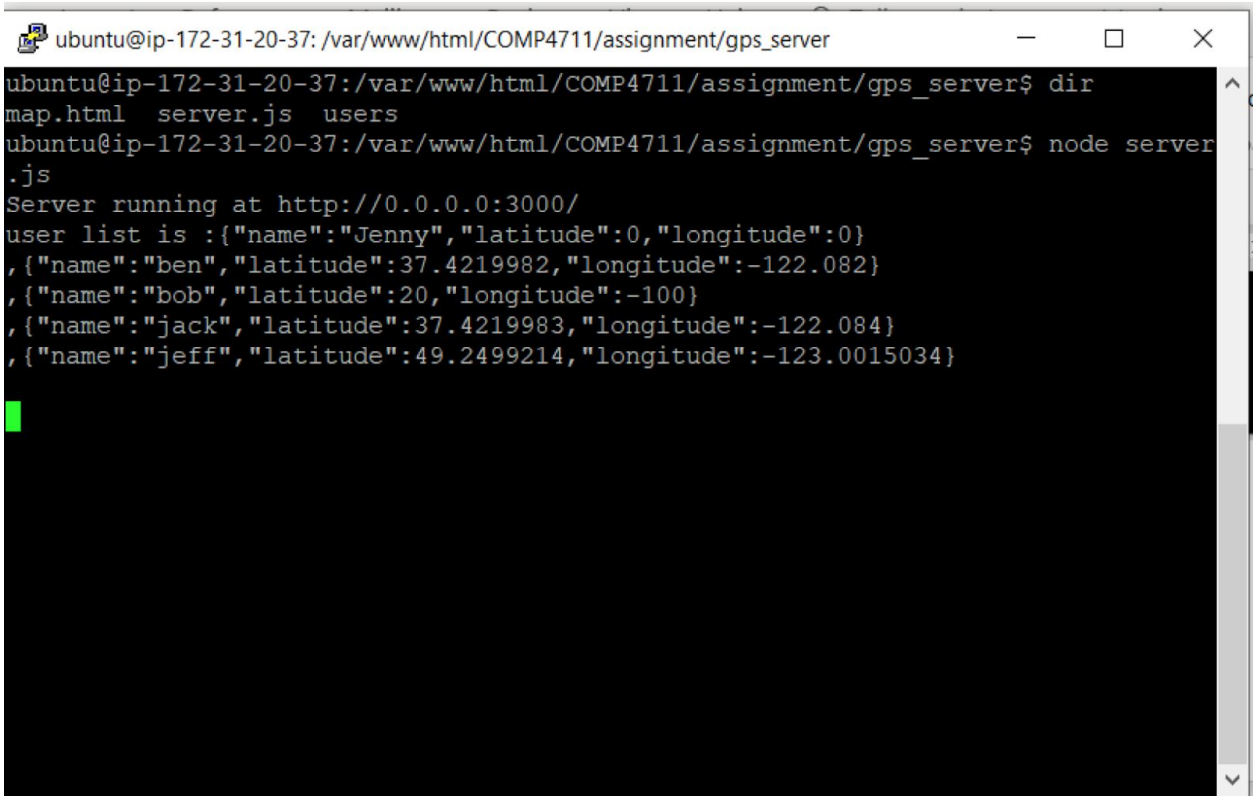
```
CONNECTED: 172.103.223.214:64400
DATA 172.103.223.214: {"name":"testing","latitude":20,"longitude":-100}

DATA 172.103.223.214: {"name":"testing","latitude":20,"longitude":-100}

DATA 172.103.223.214: {"name":"testing","latitude":20,"longitude":-100}
```

Viewing the map

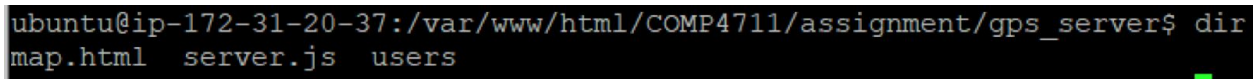
Once launched, the map will request a list of all user JSONs from the node server, it will then display them on the map.



Server's response to the map's request.



The user's coordinates can be accessed from the JSON files stored in the users folder.



The JSON contents can be directly access with any text editor: