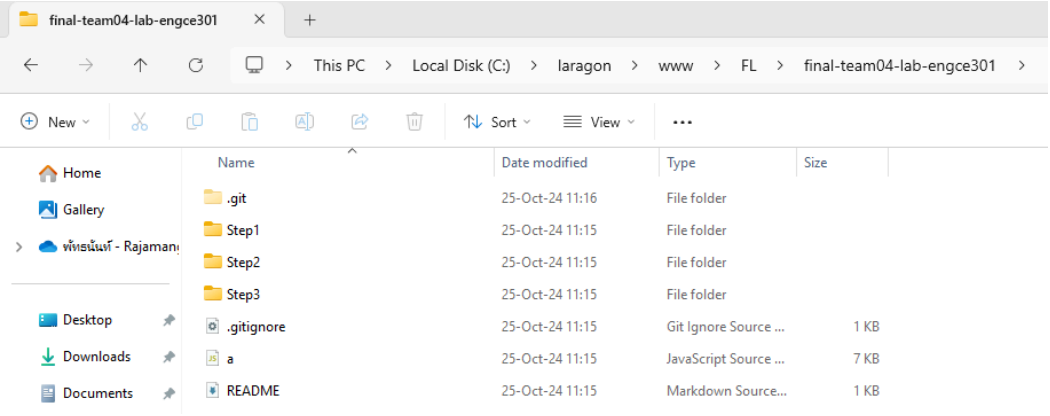
Term-Project (1-67) for ENGCE301 and ENGCE112 (งานกลุ่ม 4)



Step1

เพื่อให้ใช้คำสั่ง npm ของโปรแกรมได้ ** คำสั่งนี้จะใช้ในทุก step

```
On PowerShell:
    $env:NODE_OPTIONS = "--openssl-legacy-provider"
```

เข้าไปยัง step1/client เพื่อติดตั้ง node_modules ด้วยคำสั่ง npm i

```
PS C:\laragon\www\FL\final-team04-lab-engce301\Step1\client> npm i

up to date, audited 2010 packages in 10s

207 packages are looking for funding
  run `npm fund` for details

146 vulnerabilities (4 low, 105 moderate, 30 high, 7 critical)

To address issues that do not require attention, run:
  npm audit fix

To address all issues (including breaking changes), run:
  npm audit fix --force

Run `npm audit` for details.
PS C:\laragon\www\FL\final-team04-lab-engce301\Step1\client>
```

เข้าไปยัง step1/server เพื่อติดตั้ง node_modules ด้วยคำสั่ง npm i

```
PS C:\laragon\www\FL\final-team04-lab-engce301\Step1\server> npm i

up to date, audited 116 packages in 1s

17 packages are looking for funding
  run `npm fund` for details

6 vulnerabilities (1 low, 2 moderate, 3 high)

To address all issues, run:
  npm audit fix

Run `npm audit` for details.
PS C:\laragon\www\FL\final-team04-lab-engce301\Step1\server>
```

RUN Client และ server

Client จะใช้คำสั่ง npm start เพื่อเปิดใช้งานหน้าเว็ป โดยจะทำงานที่พอร์ต 3000

```
PS C:\laragon\www\FL\final-team04-lab-engce301\Step1\client> npm start

> client@1.0.0 start
> react-scripts start

i [wds]: Project is running at http://192.168.110.1/
i [wds]: webpack output is served from
i [wds]: Content not from webpack is served from C:\laragon\www\FL\final-team04-lab-engce301\Step1\client\public
i [wds]: 404s will fallback to /
Starting the development server...

Browserslist: caniuse-lite is outdated. Please run:
  npx update-browserslist-db@latest
  Why you should do it regularly: https://github.com/browserslist/update-db#readme
Compiled successfully!

You can now view client in the browser.

  Local:            http://localhost:3000
  On Your Network:  http://192.168.110.1:3000

Note that the development build is not optimized.
To create a production build, use npm run build.
```

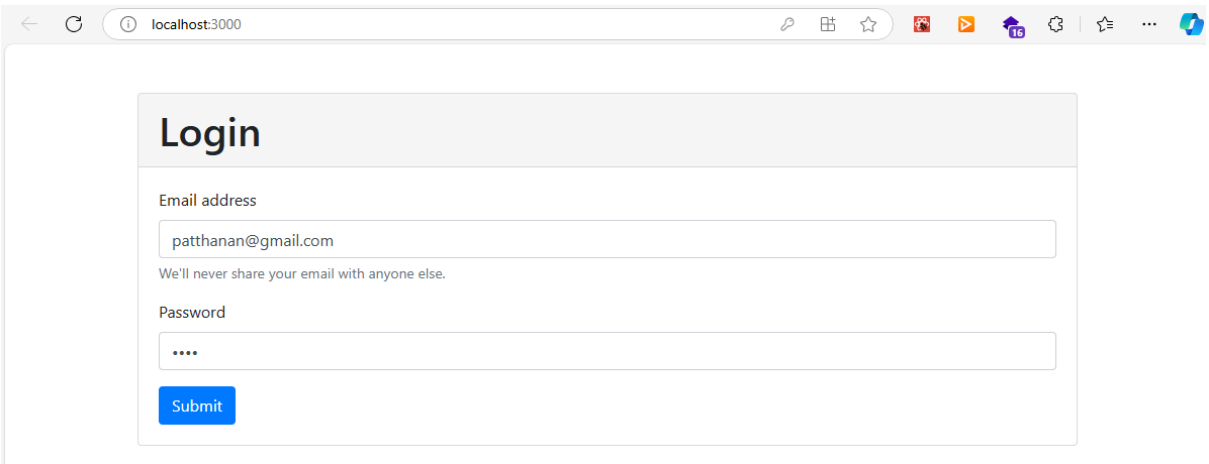
Server จะใช้คำสั่ง npm run server

เพื่อเปิดใช้งาน server แบบ nodemon ทำงานที่พอร์ต 8081 เว็ปจะมีการรีโหลดตัวเองทุกครั้งที่มีการแก้ไขไฟล์

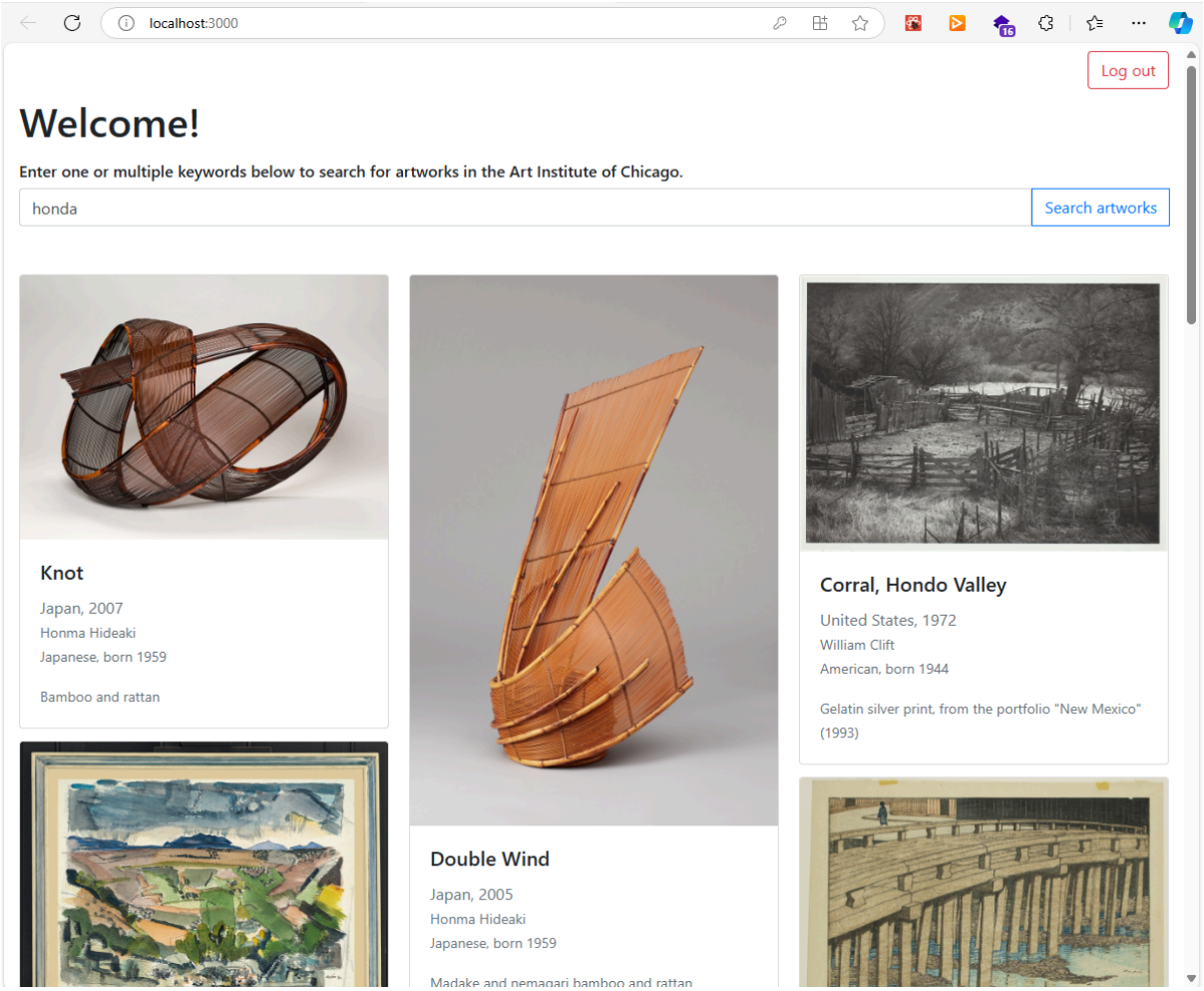
```
PS C:\laragon\www\FL\final-team04-lab-engce301\Step1\server> npm run server

> node-react@1.0.0 server
> nodemon

[nodemon] 3.1.4
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,cjs,json
[nodemon] starting `node app.js`
Server running on port:  8081
```

Result

จะมีหน้าล็อกอินขึ้นมาทำการใส่ email และ password เพื่อเข้าใช้งาน



สามารถใส่ keyword เพื่อค้นหารูปภาพได้



Step2

Cd เข้าไปยัง step 2

```
PS C:\laragon\www\FL\final-team04-lab-engce301\Step2> dir


    Directory: C:\laragon\www\FL\final-team04-lab-engce301\Step2


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
d-----         25-Oct-24     11:26                node_modules
d-----         25-Oct-24     11:15                public
d-----         25-Oct-24     13:44                server
d-----         25-Oct-24     11:15                src
-a----         25-Oct-24     11:15             90 .babelrc
-a----         25-Oct-24     11:15            333 .gitignore
-a----         25-Oct-24     11:26         363952 package-lock.json
-a----         25-Oct-24     13:48            920 package.json
-a----         25-Oct-24     11:15            805 README.md
-a----         25-Oct-24     11:15            533 webpack.config.js
```

ติดตั้ง node_modules ด้วยคำสั่ง npm i

```
PS C:\laragon\www\FL\final-team04-lab-engce301\Step2> npm i

up to date, audited 830 packages in 5s

52 packages are looking for funding
  run `npm fund` for details

40 vulnerabilities (3 low, 14 moderate, 23 high)

To address issues that do not require attention, run:
  npm audit fix

To address all issues (including breaking changes), run:
  npm audit fix --force

Run `npm audit` for details.
PS C:\laragon\www\FL\final-team04-lab-engce301\Step2>
```

ทำการ build ไฟล์ด้วยคำสั่ง npm run dev

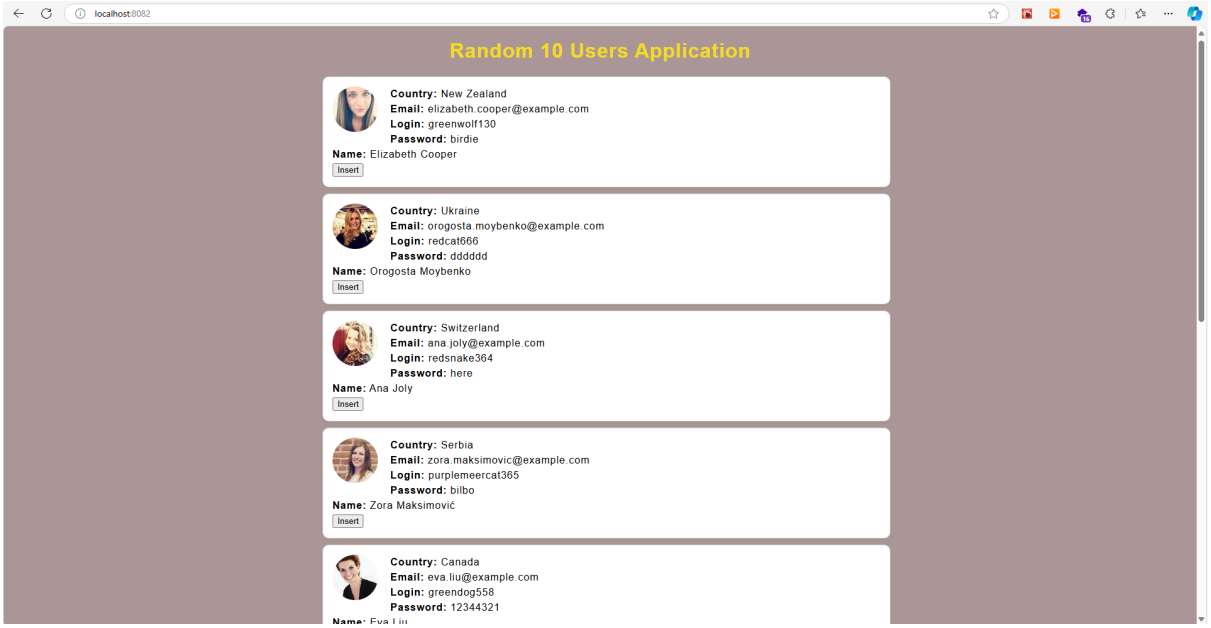
```
PS C:\laragon\www\FL\final-team04-lab-engce301\Step2> npm run build

> react_starter@1.0.0 build
> webpack

Hash: 9c3e03053ed09754794c
Version: webpack 4.47.0
Time: 1201ms
Built at: 10/25/2024 2:51:01 PM
    Asset      Size  Chunks             Chunk Names
bundle.js  1.22 MiB    main  [emitted]  main
Entrypoint main = bundle.js
[./node_modules/css-loader/dist/cjs.js!./src/css/styles.css] 1.6 KiB {main} [built]
[./src/actions/users.js] 107 bytes {main} [built]
[./src/app.js] 4.42 KiB {main} [built]
[./src/css/styles.css] 526 bytes {main} [built]
[./src/reducers/users.js] 1.52 KiB {main} [built]
[./src/store/store.js] 225 bytes {main} [built]
    + 84 hidden modules
PS C:\laragon\www\FL\final-team04-lab-engce301\Step2>
```

RUN

ใช้คำสั่ง npm run start-server แบบ nodemon ที่ port 8082

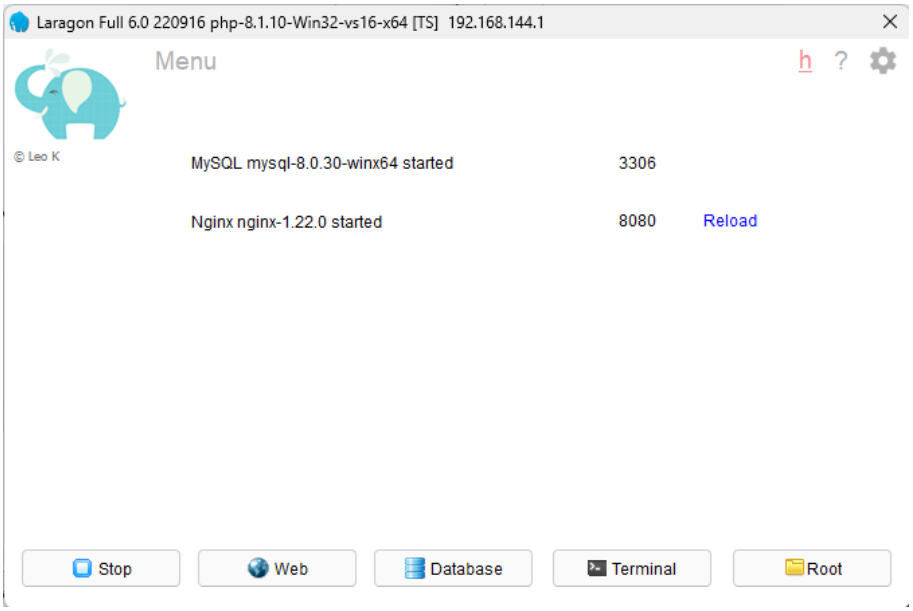
```
PS C:\laragon\www\FL\final-team04-lab-engce301\Step2> npm run start-server

> react_starter@1.0.0 start-server
> nodemon server/index.js

[nodemon] 2.0.22
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,json
[nodemon] starting `node server/index.js`
server started on port 8082
```

Result

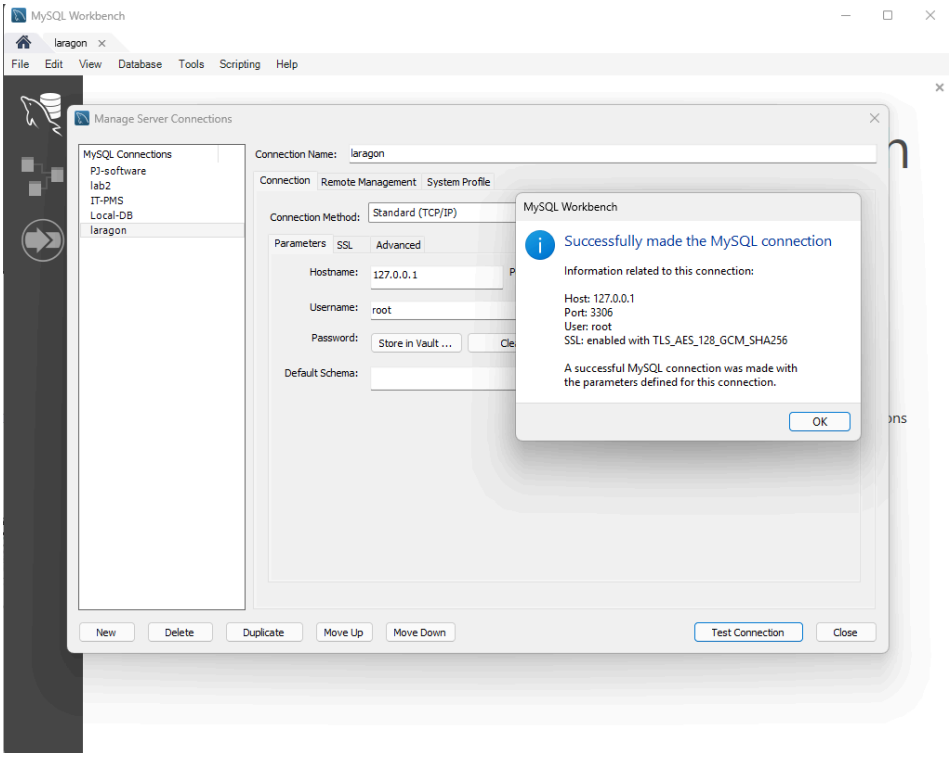


Step3

จะเป็นในส่วนของฐานข้อมูลจำต้องเปิดใช้ตัวจำลองฐานข้อมูล ในที่นี้จะใช้เป็น laragon



เชื่อมต่อฐานข้อมูลด้วย MySQL workbench 8.0 CE

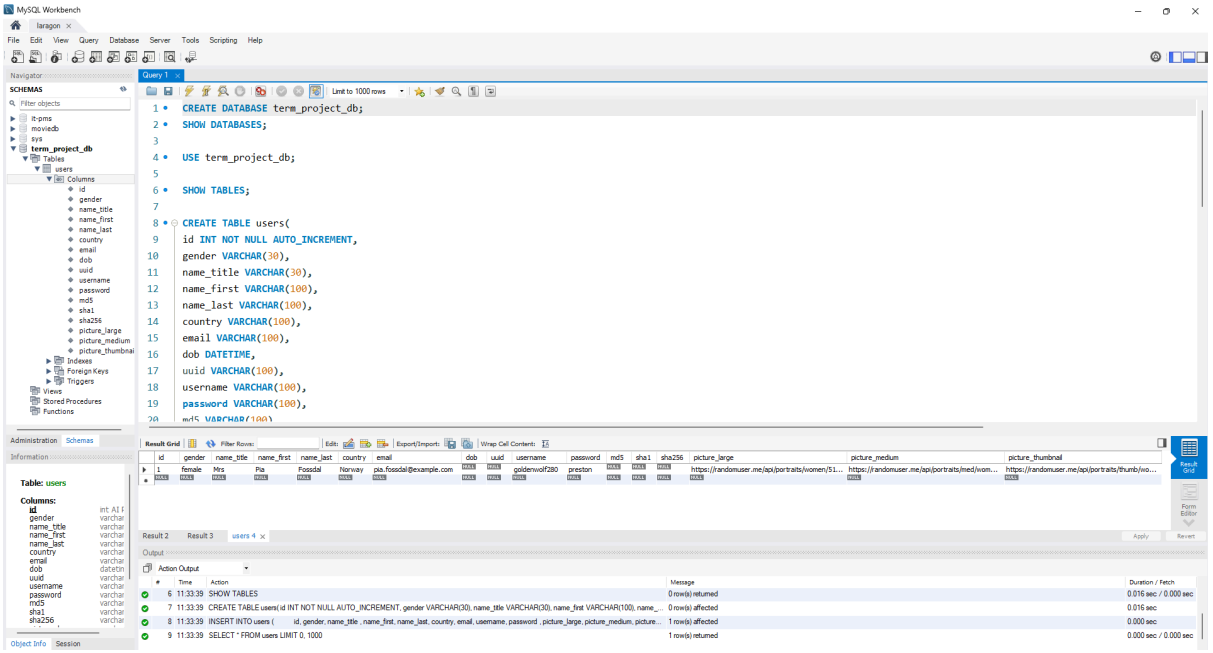


สร้างฐานข้อมูลใน MySQL ให้มีโครงสร้างดังนี้

```
CREATE DATABASE term_project_db;
SHOW DATABASES;

USE term_project_db;

SHOW TABLES;
```

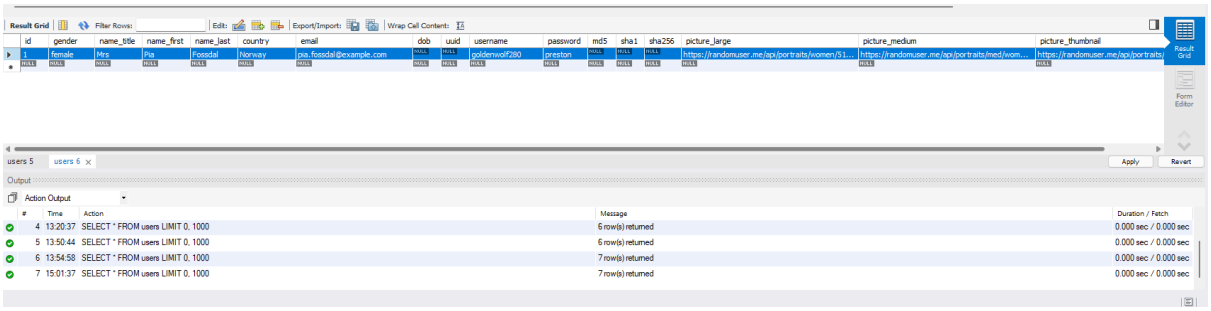
```sql
CREATE TABLE users(
id INT NOT NULL AUTO_INCREMENT,
gender VARCHAR(30),
name_title VARCHAR(30),
name_first VARCHAR(100),
name_last VARCHAR(100),
country VARCHAR(100),
email VARCHAR(100),
dob DATETIME,
uuid VARCHAR(100),
username VARCHAR(100),
password VARCHAR(100),
md5 VARCHAR(100),
sha1 VARCHAR(100),
sha256 VARCHAR(100),
picture_large VARCHAR(100),
picture_medium VARCHAR(100),
picture_thumbnail VARCHAR(100),
PRIMARY KEY(id)
);
INSERT INTO users
(           id,
              gender,
              name_title ,
              name_first,
              name_last,
              country,
              email,
              username,
              password ,
              picture_large,
              picture_medium,
              picture_thumbnail
)
 VALUES (
            1,
              'female',
              'Mrs',
              'Pia',
              'Fossdal',
              'Norway',
              'pia.fossdal@example.com',
              'goldenwolf280',
              'preston',
              'https://randomuser.me/api/portraits/women/51.jpg',
              'https://randomuser.me/api/portraits/med/women/51.jpg',
              'https://randomuser.me/api/portraits/thumb/women/51.jpg'
);

SELECT * FROM users;
```

กดปุ่ม execute



Result

จะได้ผลลัพธ์ดังนี้



Step4

สร้างไฟล์ env.js , dbconfig.js ใน Step1/server/

```
var dbconfig = {
    development: {
        //connectionLimit : 10,
        host: 'localhost',
        port: '3306',
        user: 'root',
        password: '',
        database: 'term_project_db'
    },
    production: {
        //connectionLimit : 10,
        host: 'localhost',
        port: '3306',
        user: 'root',
        password: '',
        database: 'term_project_db'
    }
};
module.exports = dbconfig;
```

```
var env = process.env.NODE_ENV || 'development';
//var env = process.env.NODE_ENV || 'production';

module.exports = env;
```

ติดตั้ง mysql ใน Step1/server/ ด้วยคำสั่ง npm install mysql

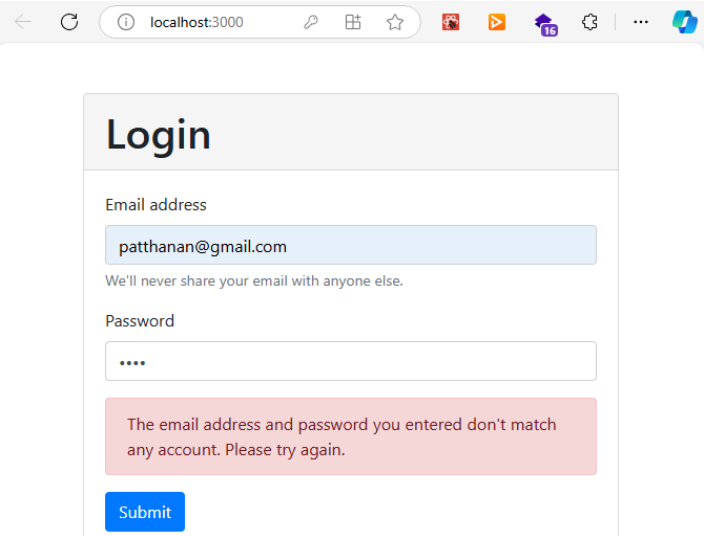
```
PS C:\laragon\www\FL\final-team04-lab-engce301\Step1\server> npm i mysql

up to date, audited 116 packages in 2s

17 packages are looking for funding
  run `npm fund` for details

6 vulnerabilities (1 low, 2 moderate, 3 high)

To address all issues, run:
  npm audit fix

Run `npm audit` for details.
PS C:\laragon\www\FL\final-team04-lab-engce301\Step1\server>
```

ปรับปรุงไฟล์ auth.js ใน Step1/server/controllers/

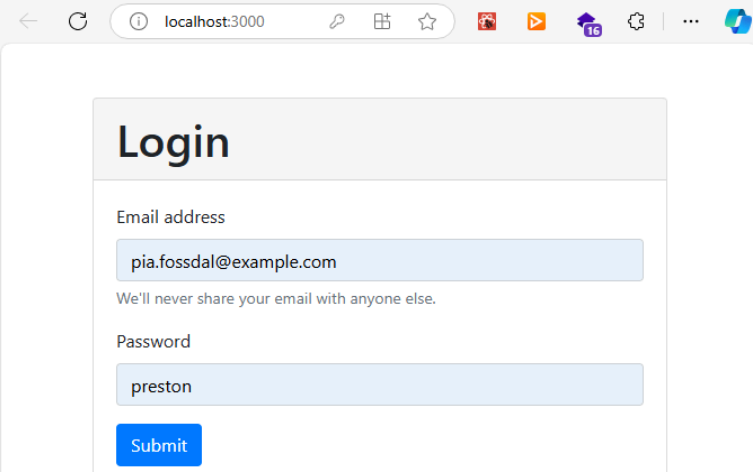
```
const { response } = require("express");

let mysql = require("mysql");
const env = require("../env.js");
const config = require("../dbconfig.js")[env];
const login = async (req, res = response) => {
  const { email, password } = req.body;
  let dbcon = mysql.createConnection(config);

  const userDetails = "SELECT * FROM users where email = '" + email + "'";
  console.log(userDetails);

  dbcon.query(userDetails, function (err, user) {
    console.log(user);

    if (user.length > 0) {
      if (password !== user[0].password) {
        return res.status(400).json({
          msg: "User / Password are incorrect",
        });
      }

      res.status(200).json({ user });
    } else {
      //  if (user.length > 0)
      return res.status(401).json({ message: "User not found !" });
```

```
    }
  });
};

module.exports = {
  login,
};
```

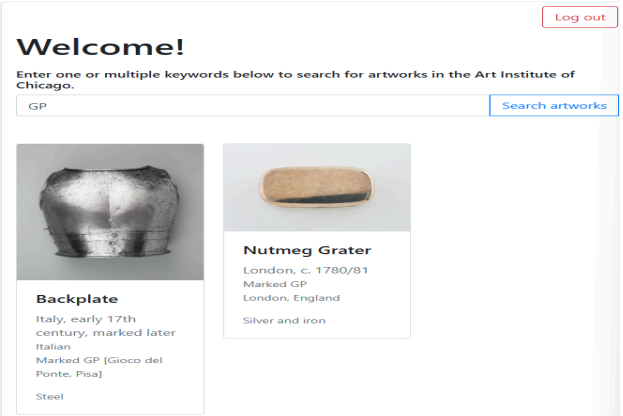
การเปลี่ยนแปลงนี้จะทำให้ไม่สามารถล็อกอินด้วย step1 ไม่ได้



แต่จะล็อกอินด้วย email password ที่มีอยู่ในฐานข้อมูลได้



สามารถค้นหาได้ตามปกติ



Step5

ปรับปรุงไฟล์ใน step3/server เพื่อนใช้เป็น api ของ insert และ login สร้างไฟล์ user.js ที่ respository และเพิ่มโค้ดดังนี้

```
var mysql = require("mysql");
const env = require("../env.js");
const config = require("../dbconfig.js")[env];

async function getUserSearch(username_text, password_text) {
  var Query;
  var pool = mysql.createPool(config);

  return new Promise((resolve, reject) => {
    Query = `SELECT username, password FROM users WHERE (username LIKE '%${username_text}%') AND (password LIKE
'%${password_text}%')`;

    pool.query(Query, function (error, results, fields) {
      if (error) throw error;

      console.log("results: " + results);
      console.log("results: " + JSON.stringify(results));
      console.log("results.length: " + results.length);

      if (results.length > 0) {
        pool.end();
        return resolve({
          statusCode: 200,
          returnCode: 1,
          data: results,
        });
      } else {
        pool.end();
        return resolve({
          statusCode: 404,
          returnCode: 11,
          message: "No User found",
        });
      }
    });
  });
}

async function postUser(
  p_gender,
  p_name_title,
  p_name_first,
  p_name_last,
  p_country,
  p_email,
  p_username,
  p_password,
  p_picture_large,
  p_picture_medium,
  p_picture_thumbnail
) {
  var Query;
  var pool = mysql.createPool(config);
```

```
  return new Promise((resolve, reject) => {
       var post = {
      gender: p_gender,
      name_title: p_name_title,
      name_first: p_name_first,
      name_last: p_name_last,
      country: p_country,
      email: p_email,
      username: p_username,
      password: p_password,
      picture_large: p_picture_large,
      picture_medium: p_picture_medium,
      picture_thumbnail: p_picture_thumbnail,
    };

    console.log("post is: ", post);

    Query = "INSERT INTO users SET ?";
    pool.query(Query, post, function (error, results, fields) {

      if (error) {
        console.log("error: " + JSON.stringify(error));
        pool.end();
        return resolve({
          error: true,
          statusCode: 404,
          returnCode: 0,
          errMessage: error.code + ":" + error.sqlMessage,
        });
      } else if (results.affectedRows > 0) {
        console.log("results: " + JSON.stringify(results));

        pool.end();
        return resolve({
          error: false,
          statusCode: 200,
          returnCode: 1,
          messsage: "User list was inserted",
        });
      }
    });
  });
}

module.exports.UserRepo = {
  getUserSearch: getUserSearch,
  postUser: postUser,
};
```

แก้ไขไฟล์ dbconfig.js ใน Step3/server ให้ไปยังฐานข้อมูลของเรา

```
var dbconfig = {
    development: {
        //connectionLimit : 10,
        host: 'localhost',
```

```
        port: '3306',
        user: 'root',
        password: '',
        database: 'term_project_db'
    },
    production: {
        //connectionLimit : 10,
        host: 'localhost',
        port: '3306',
        user: 'root',
        password: '',
        database: 'term_project_db'
    }
};
module.exports = dbconfig;
```

จากนั้นเรียกใช้ใน index.js

```
const Users = require('./respository/user');
```

และเพิ่ม server route ของ api login และ insert

```
server.route({
    method: 'POST',
    path: '/api/user/login',
    config: {
        payload: {
            multipart: true,
        },
        cors: {
            origin: ['*'],
            additionalHeaders: ['cache-control', 'x-requested-width'],
            credentials: true
        }
    },
    handler: async function (request, reply) {
        const {
            username_text,
            password_text,
        } = request.payload;
        console.log("request.payload: " + JSON.stringify(request.payload));
        try {
            const responsedata = await Users.UserRepo.getUserSearch(username_text, password_text);
            if (responsedata.error) {
                return responsedata;
            } else {
                return responsedata;
            }
        } catch (err) {
            server.log(["error", "home"], err);
```

```
            return err;
        }
    }
});

server.route({
    method: 'POST',
    path: '/api/user/insert',
    config: {
        payload: {
            multipart: true,
        },
        cors: {
            origin: ['*'],
            additionalHeaders: ['cache-control', 'x-requested-width'],
            credentials: true
        }
    },
    handler: async function (request, reply) {
        const {
            gender,
            name_title ,
            name_first,
            name_last,
            country,
            email,
            username,
            password ,
            picture_large,
            picture_medium,
            picture_thumbnail
        } = request.payload;
        console.log("request.payload: " + JSON.stringify(request.payload));
        try {
            const responsedata = await Users.UserRepo.postUser( gender,
                                                                name_title ,
                                                                name_first,
                                                                name_last,
                                                                country,
                                                                email,
                                                                username,
                                                                password ,
                                                                picture_large,
                                                                picture_medium,
                                                                picture_thumbnail);
            if (responsedata.error) {
                return responsedata;
            } else {
                return responsedata;
            }
        } catch (err) {
            server.log(["error", "home"], err);
            return err;
        }
    }
});
```

```
    await server.start();
    console.log('API Server running on %s', server.info.uri);

    //---------
};
```

ทำการ run api ใน step3./server ด้วยคำสั่ง npm run dev แบบ nodemon ที่พอร์ต 4000

```
S1-F   S1-B   S2-B   S3 API

PS C:\laragon\www\FL\final-team04-lab-engce301\Step3\server> npm run dev

> react-nodejs-example@1.0.0 dev
> nodemon ./index.js localhost 4000

[nodemon] 2.0.22
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,json
[nodemon] starting `node ./index.js localhost 4000`
Running Environment: development
API Server running on http://0.0.0.0:4000
```

จากนั้นทำการปรับปรุงไฟล์ index.js ที่ Step2/server เพิ่มโค้ดนี้

```
app.post("/api/user/insert", (req, res) => {
  const post_data = {
    records: [pre_post_data],
  };

  axios.post(updateCallTaskUrl, post_data).then(
    (response) => {
      if (response.data.results != null) {
        responseData = response.data.results[0];

        if (responseData.isSuccess) {
          console.log("Success : " + responseData.isSuccess);
        } else {
          console.log("Fail");
        }
      } else {
        console.log("");
      }
      console.log("--- ---------- END ------------ --- ");
    },
    (error) => {
      console.log(error);
    }
  );
});
```

และปรับปรุง User.js ที่ Step2/src/components เพิ่มโค้ดนี้

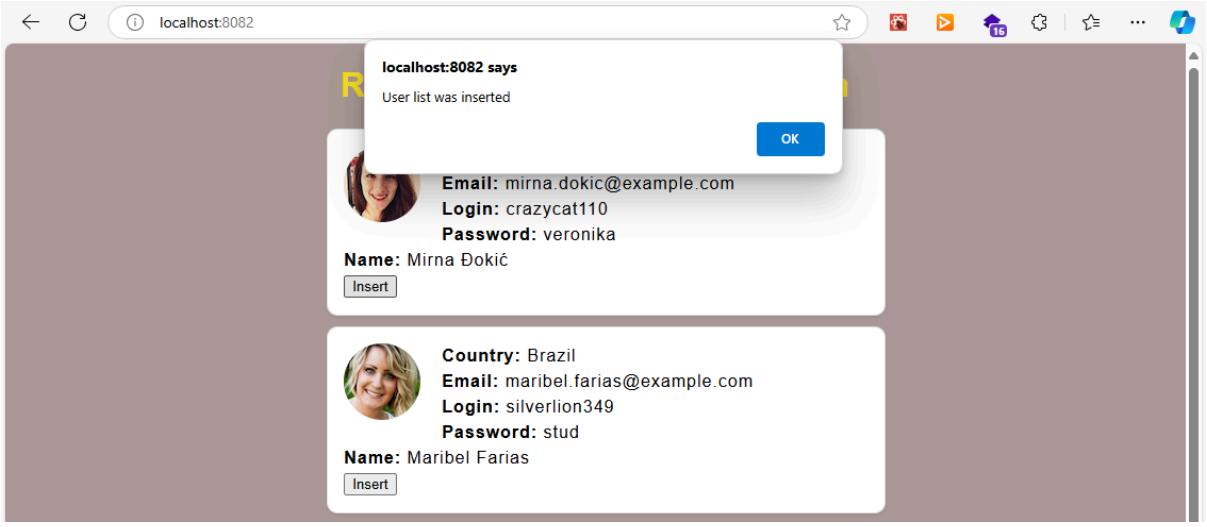
```
import React from "react";

const User = ({gender,name,location,email,picture,login,createUser,}) => {
  async function createUser() {
    const token = "1234567890";
    const body = new FormData();
```

```
    body.set("gender", gender);
    body.set("name_title", name.title);
    body.set("name_first", name.first);
    body.set("name_last", name.last);
    body.set("country", location.country);
    body.set("email", email);
    body.set("username", login.username);
    body.set("password", login.password);
    body.set("picture_large", picture.large);
    body.set("picture_medium", picture.medium);
    body.set("picture_thumbnail", picture.thumbnail);

    const response = await fetch(`http://localhost:4000/api/user/insert`, {
      method: "POST",
      headers: {
        Authorization: `Bearer ${token}`, // notice the Bearer before your token
      },
      body,
    });
    alert("User list was inserted");
  }

  return (
    <div className="random-user">
      <div className="user-image">
        <img src={picture.medium} alt={name.first} />
      </div>
      <div>
        <strong>Country:</strong> {location.country}
      </div>
      <div>
        <strong>Email:</strong> {email}
      </div>
      <div>
        <strong>Login:</strong> {login.username}
      </div>
      <div>
        <strong>Password:</strong> {login.password}
      </div>
      <div>
        <strong>Name:</strong> {name.first} {name.last}
      </div>
      <button
        type="button"
        onClick={(e) => createUser()}
        className="btn btn-danger"
      >
        Insert
      </button>
    </div>
  );
};

export default User;
```

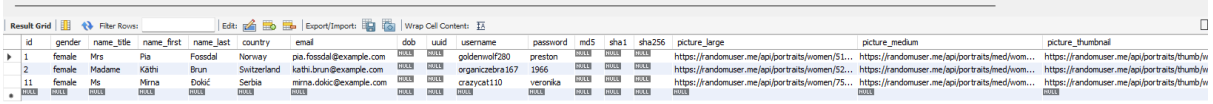
จากนั้นทำการ npm run build เพื่อให้หน้าเว็ปเปลี่ยนแปลง และ npm run start-server ที่พอร์ต 8082

```
PS C:\laragon\www\FL\final-team04-lab-engce301\Step2> npm run build

> react_starter@1.0.0 build
> webpack

Hash: fd2d8feb3b802dfe25e3
Version: webpack 4.47.0
Time: 1140ms
Built at: 10/25/2024 4:24:05 PM
    Asset       Size  Chunks             Chunk Names
bundle.js  1.22 MiB    main  [emitted]  main
Entrypoint main = bundle.js
[./node_modules/css-loader/dist/cjs.js!./src/css/styles.css] 1.6 KiB {main} [built]
[./src/actions/users.js] 107 bytes {main} [built]
[./src/app.js] 4.42 KiB {main} [built]
[./src/css/styles.css] 526 bytes {main} [built]
[./src/reducers/users.js] 1.52 KiB {main} [built]
[./src/store/store.js] 225 bytes {main} [built]
    + 84 hidden modules
PS C:\laragon\www\FL\final-team04-lab-engce301\Step2> npm run start-server

> react_starter@1.0.0 start-server
> nodemon server/index.js

[nodemon] 2.0.22
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,json
[nodemon] starting `node server/index.js`
server started on port 8082
```

ทดสอบเพิ่มผู้ใช้ 1 คน กดที่ปุ่ม Insert



ใช้คำสั่ง SELECT * FROM users; จากฐานข้อมูลจะมี user เพิ่มขึ้นมา



id	gender	name_title	name_first	name_last	country	email	dob	uuid	username	password	md5	sha1	sha256	picture_large	picture_medium	picture_thumbnail
1	female	Mrs	Pia	Fossdal	Norway	pia.fossdal@example.com	NULL	NULL	goldenwolf280	preston	NULL	NULL	NULL	https://randomuser.me/api/portraits/women/51...	https://randomuser.me/api/portraits/med/wom...	https://randomuser.me/api/portraits/thumb/w
2	female	Madame	Käthi	Brun	Switzerland	kathi.brun@example.com	NULL	NULL	organiczebra167	1966	NULL	NULL	NULL	https://randomuser.me/api/portraits/women/52...	https://randomuser.me/api/portraits/med/wom...	https://randomuser.me/api/portraits/thumb/w
11	female	Ms	Mirna	Đokić	Serbia	mirna.dokic@example.com	NULL	NULL	crazycat110	veronika	NULL	NULL	NULL	https://randomuser.me/api/portraits/women/75...	https://randomuser.me/api/portraits/med/wom...	https://randomuser.me/api/portraits/thumb/w
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

<u>ในส่วนของ Login ด้วย API ใช้ปรับปรุงดังนี้</u>

ปรับปรุงไฟล์/index.js ที่ Step1/client/src/api ของ function login ดังนี้

```
export async function login({ email, password }) {
  const token = "1234567890";

  return await fetch("/api/auth/login", {
    method: "POST",
    body: JSON.stringify({ email, password }),
    headers: {
      "Content-Type": "application/json",
      Authorization: `Bearer ${token}`,
    },
  })
    .then((response) => {
      if (!response.ok) {
        throw new Error("HTTP status " + response.status);
      }

      return response.json();
    })
    .catch((err) => {
      console.log(err);
    });
}
```

ปรับปรุงไฟล์/index.js ที่ Step1/client/src/components/login ของ function login ดังนี้

```
function Login({ onLoginSuccessful }) {
  const [email, setEmail] = useState("");
  const [password, setPassword] = useState("");
  const [hasError, setHasError] = useState(false);

  const onEmailChange = (event) => setEmail(event.target.value);
  const onPasswordChange = (event) => setPassword(event.target.value);

  const onSubmit = async (event) => {
    event.preventDefault();
    setHasError(false);
    const loginResult = await login({ email, password });
    if (!loginResult) setHasError(true);
    else {
      const { name, token } = loginResult;
      // Save user IDs on local storage
      localStorage.setItem("name", name);
      localStorage.setItem("token", token);
      onLoginSuccessful();
    }
  };
```

ปรับ proxy ของ Client ที่ Step1/client/package.json ไปยัง port API

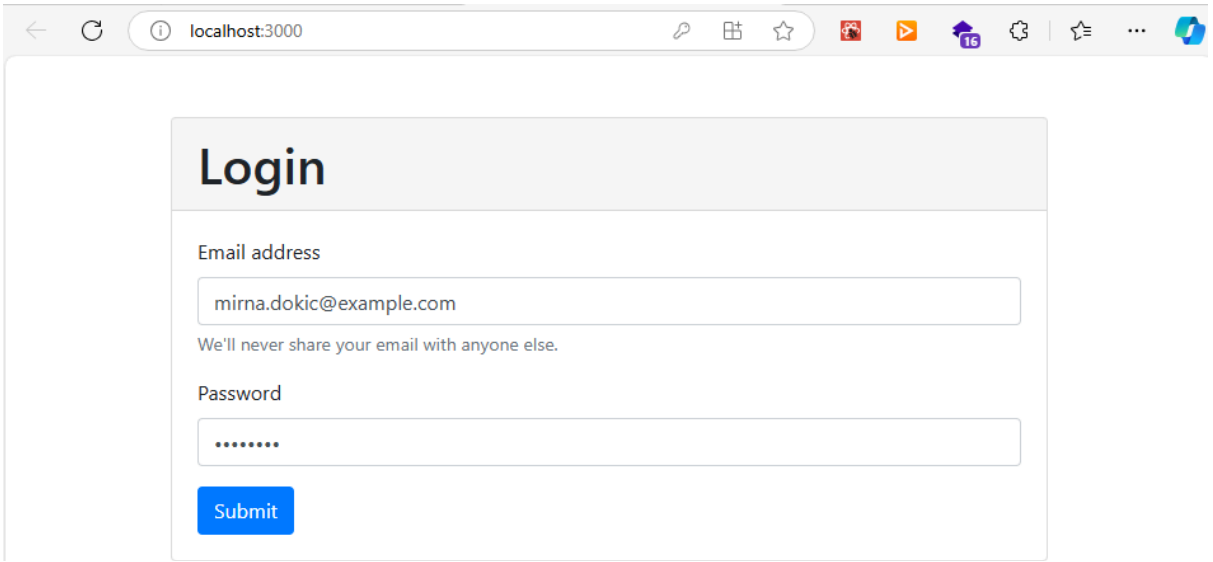
```
"proxy": "http://localhost:4000",
```

รัน Client ด้วย npm start

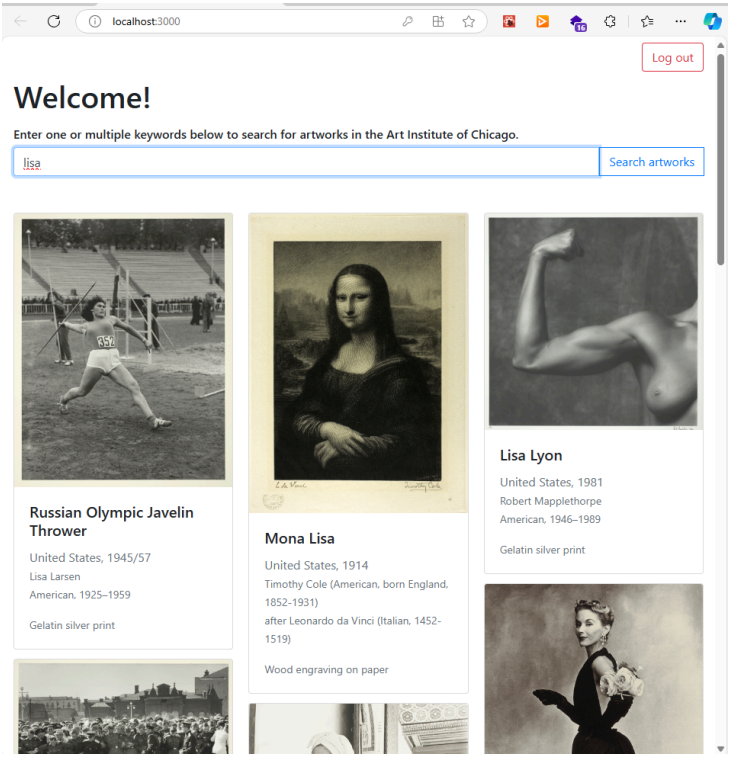
```
i [wds]: Project is running at http://192.168.110.1/
Starting the development server...
Compiled successfully!
localhost:3000
  On Your Network:  http://192.168.110.1:3000

Note that the development build is not optimized.
To create a production build, use npm run build.
```

<u>ทดสอบ login</u>

ทดลองเข้าสู่ระบบจาก user ที่เพิ่มเข้ามาจาก step2



สามารถค้นหาได้ตามปกติ



Step6

https://github.com/ItsPatthanan/final-team04-lab-engce301.git