

## LAB 3 Engse203

### Step 6 Apache and nginx Config Virtual hosts

```
rutchanont@backend1-66543210026:/etc/apache2/sites-available$ sudo mv web1.backend1.com web1.backend1.com.conf
rutchanont@backend1-66543210026:/etc/apache2/sites-available$ sudo nano web1.backend1.com.conf
rutchanont@backend1-66543210026:/etc/apache2/sites-available$ sudo a2ensite web1.backend1.com.conf
Enabling site web1.backend1.com.
To activate the new configuration, you need to run:
    systemctl reload apache2
rutchanont@backend1-66543210026:/etc/apache2/sites-available$ sudo systemctl reload apache2
```

สร้างไฟล์ config ของ apache เปิดใช้งานไซต์ แล้ว config ตามรูปด้านล่าง สำหรับ  
apache

```
GNU nano 6.2
<VirtualHost *:80>
    ServerName web1.backend1.com
    ServerAlias www.web1.backend1.com
    ServerAdmin webmaster@localhost
    DocumentRoot /var/www/apache/web1
    ErrorLog ${APACHE_LOG_DIR}/error.log
    CustomLog ${APACHE_LOG_DIR}/access.log combined
</VirtualHost>
```

สร้างไฟล์ config ของ web2 เปิดใช้งาน พอร์ต 81 แล้ว restart nginx

```
rutchanont@backend1-66543210026:/etc/nginx/sites-available$ sudo nano web2.backend1.com
rutchanont@backend1-66543210026:/etc/nginx/sites-available$ sudo ufw allow 81
Rule added
Rule added (v6)
rutchanont@backend1-66543210026:/etc/nginx/sites-available$ sudo systemctl restart nginx.service
```

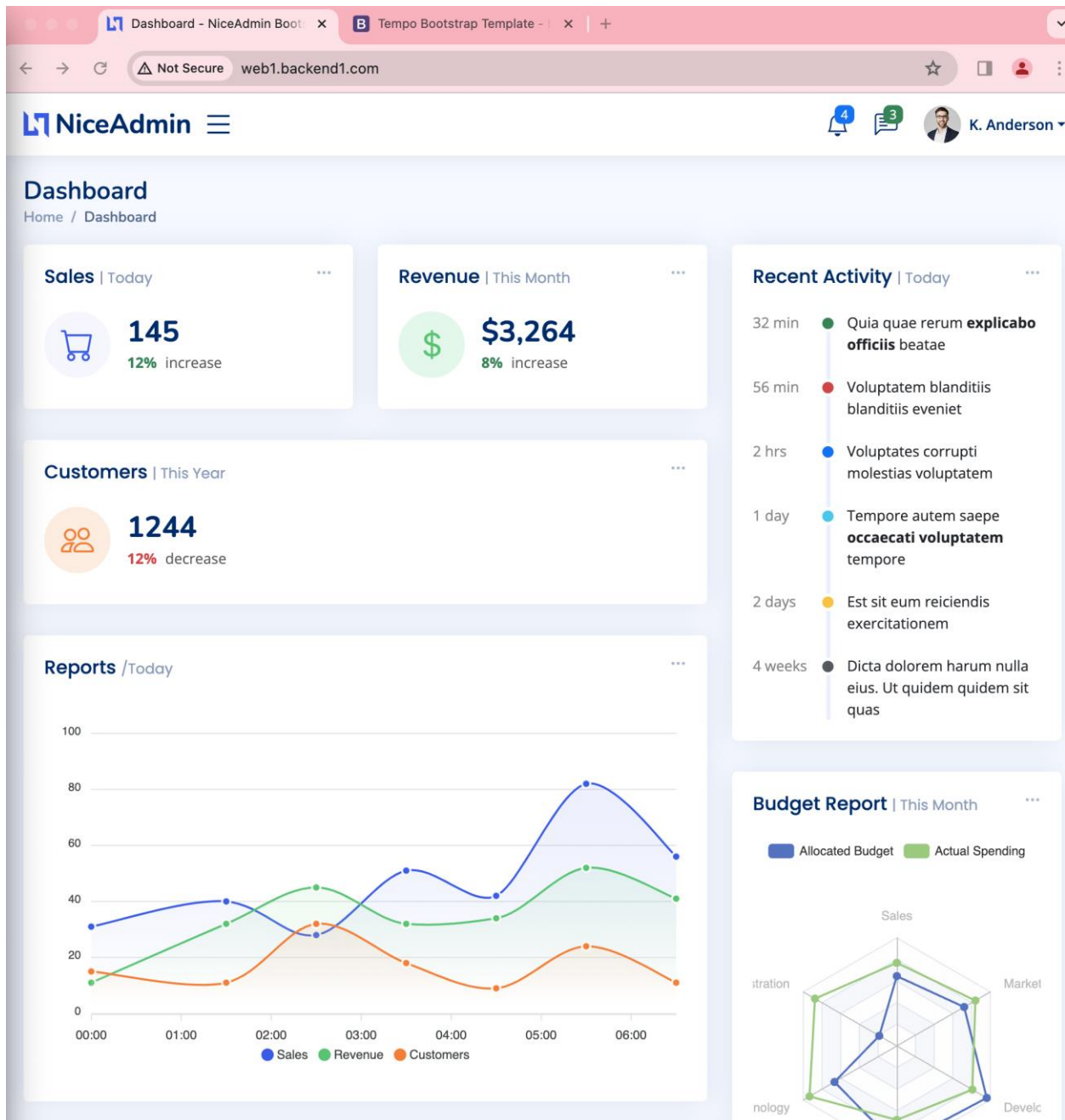
Config nginx แล้วเปลี่ยน พอร์ตเป็น 81 ตามนี้

```
server {  
    listen 81;  
    listen [::]:81;  
  
    root /var/www/nginx/web2;  
    index index.html index.htm index.nginx-debian.html;  
  
    server_name web2.backend1.com;  
  
    location / {  
        try_files $uri $uri/ =404;  
    }  
}
```

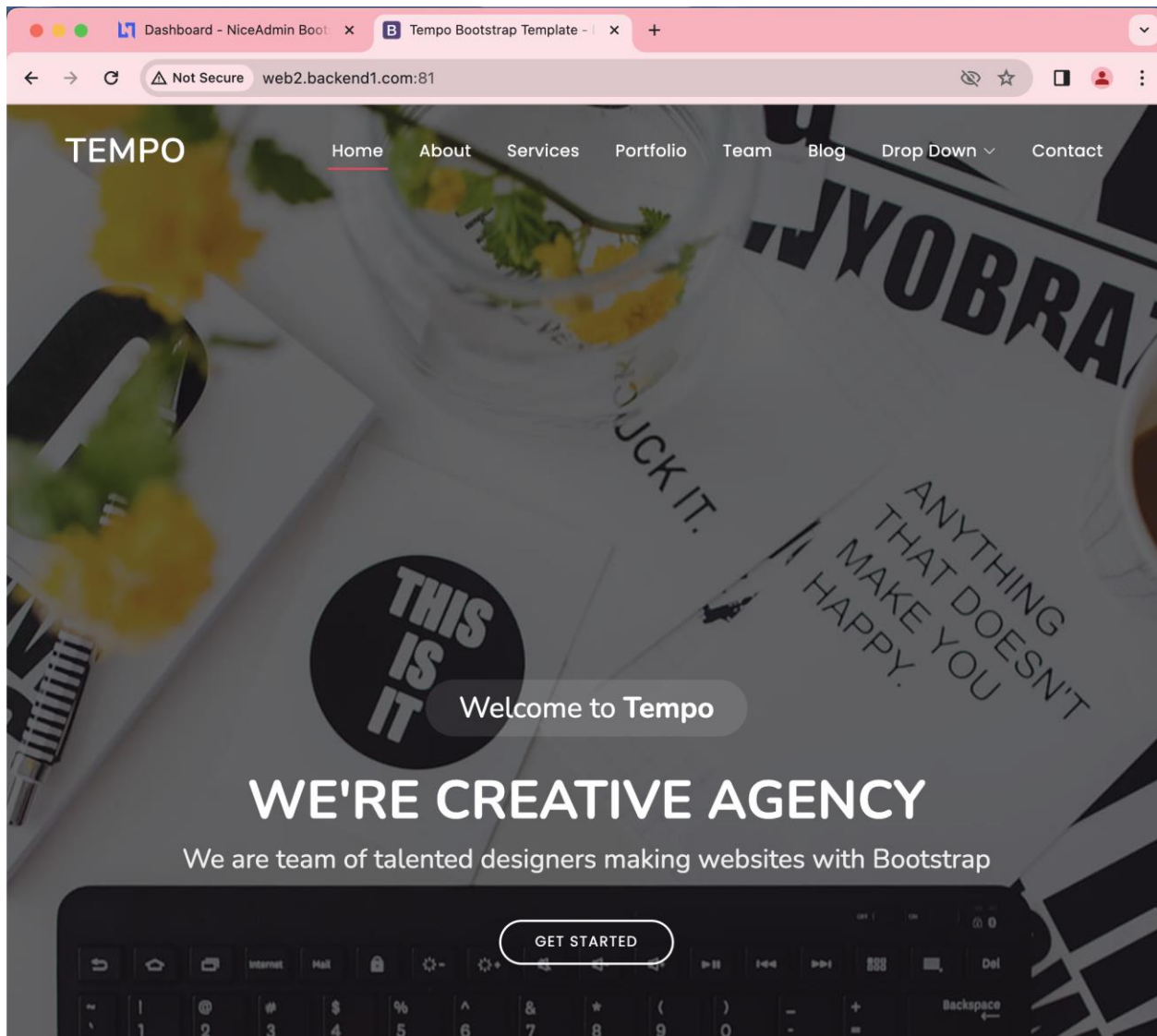
ใส่ Domain ใน Etc hosts

```
10.211.55.5    web1.backend1.com web2.backend1.com
```

# ผลลัพธ์ Apache



## ผลลัพธ์ nginx พอร์ต 81



## Step 8 Nginx React run domain

Clone template จาก github มาแล้วเปลี่ยนชื่อเป็น react1 และ react2

```
rutchanont@backend1-66543210026:/var/www/nginx$ git clone https://github.com/creativetimoofficial/material-dashboard-react
Cloning into 'material-dashboard-react'...
remote: Enumerating objects: 7429, done.
remote: Counting objects: 100% (1236/1236), done.
remote: Compressing objects: 100% (231/231), done.
remote: Total 7429 (delta 1035), reused 1005 (delta 1005), pack-reused 6193
Receiving objects: 100% (7429/7429), 65.30 MiB | 4.46 MiB/s, done.
Resolving deltas: 100% (4325/4325), done.
rutchanont@backend1-66543210026:/var/www/nginx$ mv material-dashboard-react/ react1
rutchanont@backend1-66543210026:/var/www/nginx$ cd react1/
rutchanont@backend1-66543210026:/var/www/nginx/react1$ sudo npm i
( ) : idealTree:webpack-dev-server: still placeDep ROOT schema-utils@3.3.0 OK for: @pmmmwh/react-refresh-webpack-plugin@0.5.11 want: ^3.0.0
```

```
rutchanont@backend1-66543210026:/var/www/nginx$ git clone https://github.com/soumyajit4419/Portfolio.git
Cloning into 'Portfolio'...
remote: Enumerating objects: 1211, done.
remote: Counting objects: 100% (211/211), done.
remote: Compressing objects: 100% (52/52), done.
remote: Total 1211 (delta 172), reused 159 (delta 159), pack-reused 1000
Receiving objects: 100% (1211/1211), 22.79 MiB | 7.60 MiB/s, done.
Resolving deltas: 100% (629/629), done.
rutchanont@backend1-66543210026:/var/www/nginx$ ls
Portfolio  react1  web2
rutchanont@backend1-66543210026:/var/www/nginx$ mv Portfolio/ react2
rutchanont@backend1-66543210026:/var/www/nginx$ cd react2
rutchanont@backend1-66543210026:/var/www/nginx/react2$
```

ใช้คำสั่ง Npm I ในไฟล์ react ของทั้งสอง Directory เสร็จ ลอง npm start

```
Compiled successfully!

You can now view portfolio in the browser.

Local:      http://localhost:3000
On Your Network:  http://10.211.55.5:3000

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

assets by path static/media/ 1.96 MiB
  assets by info 1.85 MiB [immutable]
    assets by path static/media/*.png 1.77 MiB 7 assets
      asset static/media/Soumyajit_Behera-BIT_MESRA.b67bc39ea73918d153fd.pdf 48.3 KiB [emitted] [immutable] [from: src/Assets/Soumyajit_Behera-BIT_MESRA.pdf] (auxiliary name: main)
      asset static/media/home-bg.dc52d5d40a40b13154b0.jpg 31.4 KiB [emitted] [immutable] [from: src/Assets/home-bg.jpg] (auxiliary name: main)
      asset static/media/pre.d4812f51c8c80976eaab.svg 1.88 KiB [emitted] [immutable] [from: src/Assets/pre.svg] (auxiliary name: main)
      asset static/media/home-main.541f8179af8209ce03ccf2178fe62dbf.svg 108 KiB [emitted] (auxiliary name: main)
      asset static/media/avatar.5852f40fbb38aa284829fa3fb7722225.svg 12.6 KiB [emitted] (auxiliary name: main)
  assets by path static/js/*.js 19.2 MiB
    asset static/js/bundle.js 19.2 MiB [emitted] (name: main) 1 related asset
    asset static/js/vendors-node_modules_tsparticles_esm_Plugins_PolygonMask_pathseg_js.chunk.js 59.4 KiB [emitted] (id hint: vendors) 1 related asset
    asset static/js/node_modules_web-vitals_dist_web-vitals_js.chunk.js 6.92 KiB [emitted] 1 related asset
  asset index.html 1.86 KiB [emitted]
  asset asset-manifest.json 1.81 KiB [emitted]
orphan modules 246 KiB [orphan] 170 modules
runtime modules 32.5 KiB 16 modules
modules by path ./node_modules/ 16.9 MiB 629 modules
modules by path ./src/ 264 KiB (javascript) 1.85 MiB (asset)
  javascript modules 259 KiB 27 modules
  asset modules 5.03 KiB (javascript) 1.85 MiB (asset) 11 modules
modules by mime type image/svg+xml 4.4 KiB
  data:image/svg+xml,%3csvg xmlns=%27.. 281 bytes [built] [code generated]
  data:image/svg+xml,%3csvg xmlns=%27.. 279 bytes [built] [code generated]
  data:image/svg+xml,%3csvg xmlns=%27.. 161 bytes [built] [code generated]
+ 13 modules
+ 6 modules
webpack 5.70.0 compiled successfully in 17810 ms
```

Compiled successfully!

You can now view **material-dashboard-2-react** in the browser.

**Local:** http://localhost:3000

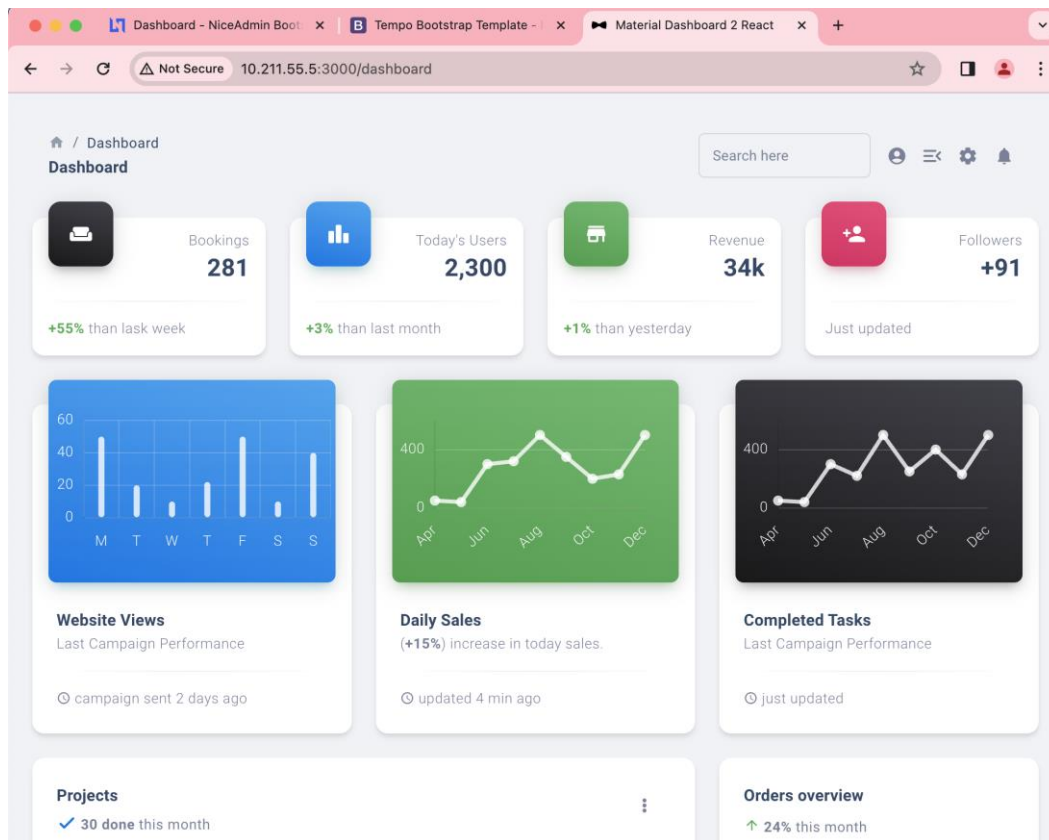
**On Your Network:** http://10.211.55.5:3000

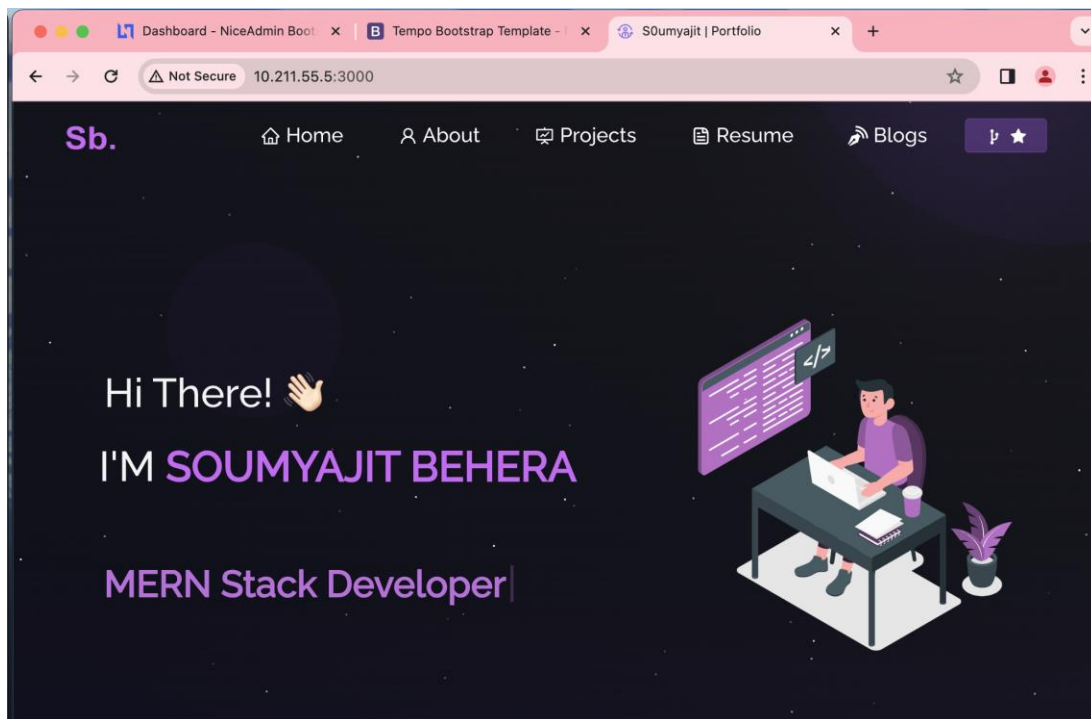
Note that the development build is not optimized.

To create a production build, use `npm run build`.

webpack compiled **successfully**

ทดสอบเข้าด้วย ip เดิมจากทาง react ของ react 1 และ react 2





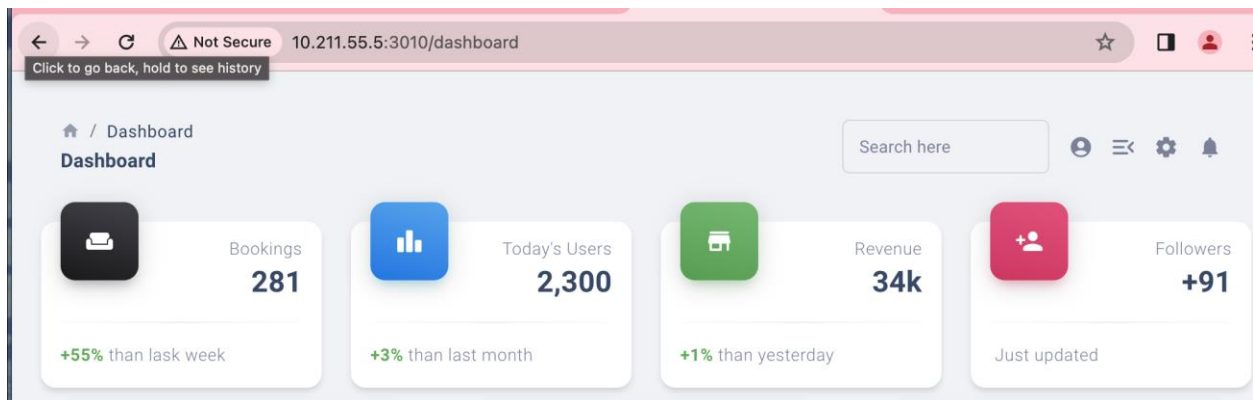
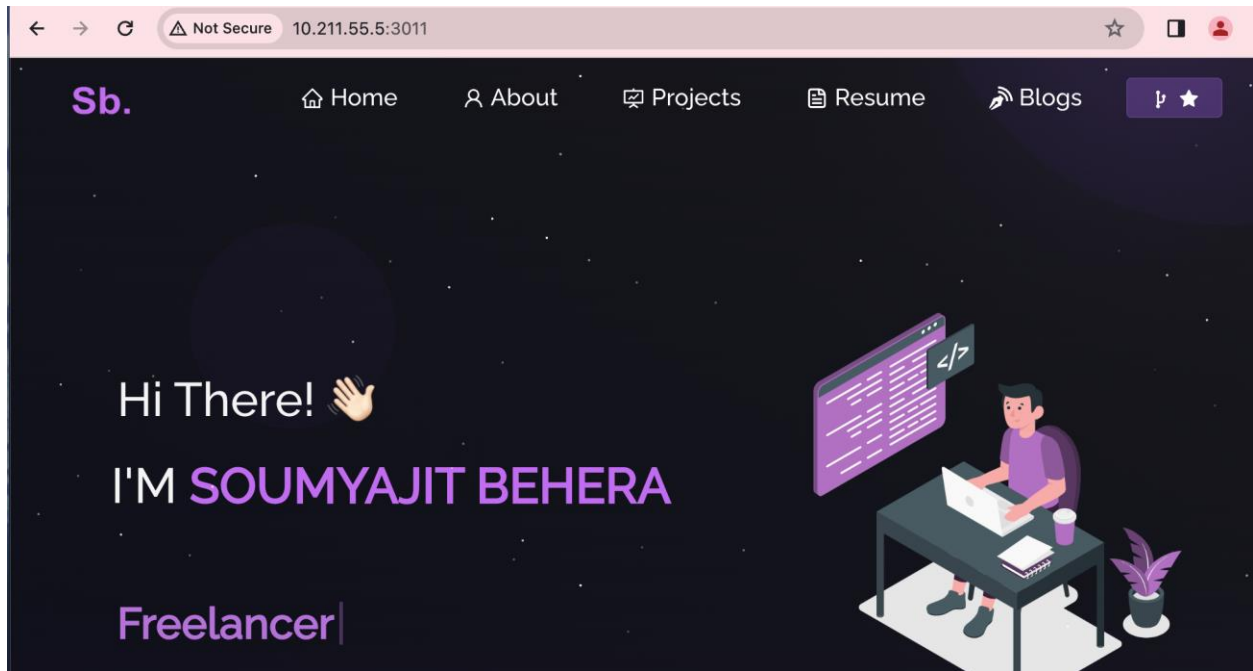
เปลี่ยน พอร์ต ใน package.json ของทั้งสอง

```
},  
"scripts": {  
  "start": "PORT=3010 GENERATE_SOURCEMAP=false react-scripts start",  
  "build": "GENERATE_SOURCEMAP=false react-scripts build",  
  "test": "react-scripts test",  
  "eject": "react-scripts eject",  
  "install:clean": "rm -rf node_modules/ && rm -rf package-lock.json && npm install && npm start"  
},
```

```
},  
"scripts": {  
  "start": "PORT=3011 react-scripts start",  
  "build": "react-scripts build",  
  "test": "react-scripts test",  
  "eject": "react-scripts eject"  
}
```



รันเว็บไซต์ผ่าน Port 3010 และ 3011



## Config domain react 1 และ react2

```
server {
    listen 81;
    listen [::]:81;
    server_name react1.backend1.com;

    location / {
        proxy_pass http://127.0.0.1:3010; # !!! - change to your app port
        proxy_http_version 1.1;
        proxy_set_header Upgrade $http_upgrade;
        proxy_set_header Connection 'upgrade';
        proxy_set_header Host $host;
        proxy_cache_bypass $http_upgrade;
    }
}
```

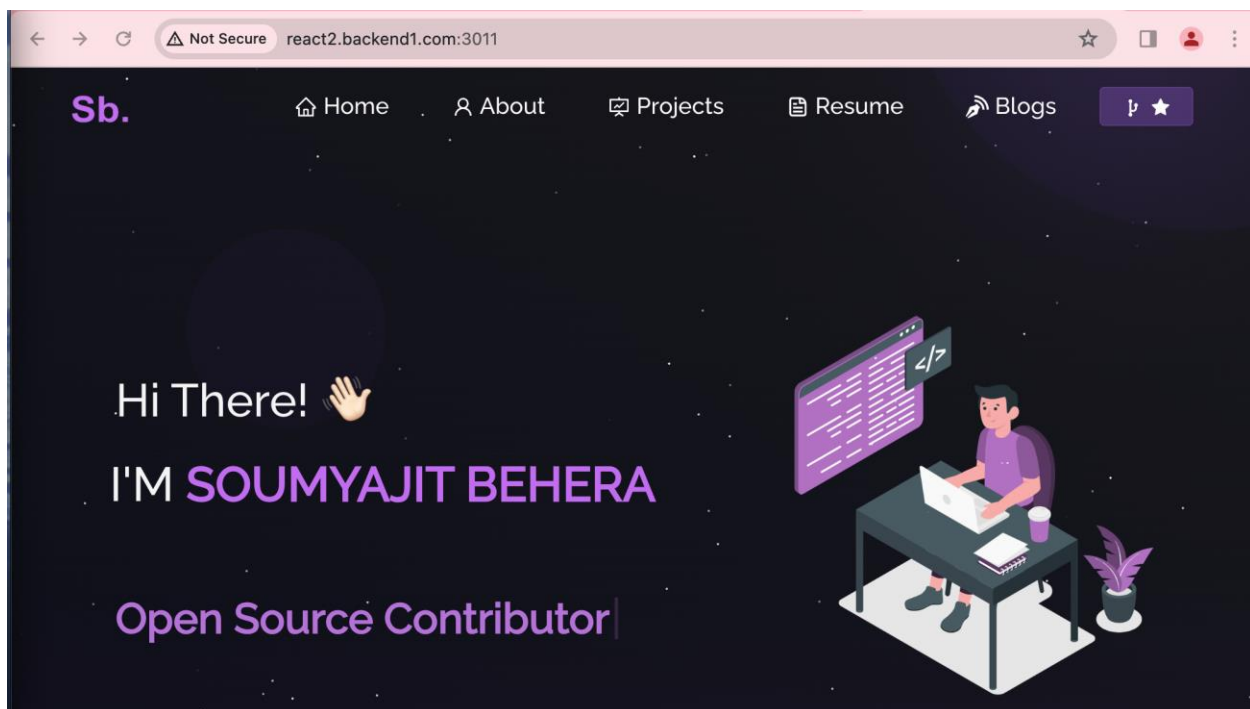
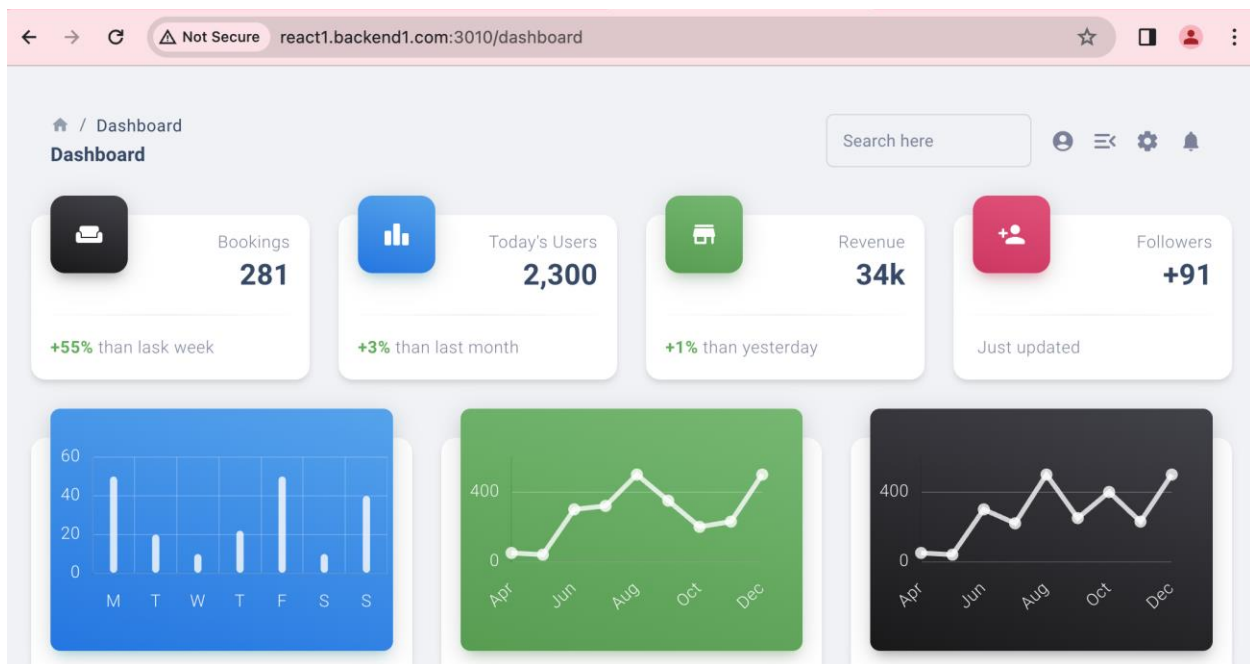
```
GNU nano 6.2 react2.ba
server {
    listen 81;
    listen [::]:81;
    server_name react2.backend1.com;

    location / {
        proxy_pass http://127.0.0.1:3011; # !!! - change to your app port
        proxy_http_version 1.1;
        proxy_set_header Upgrade $http_upgrade;
        proxy_set_header Connection 'upgrade';
        proxy_set_header Host $host;
        proxy_cache_bypass $http_upgrade;
    }
}
```

เพิ่มใน etc hosts

```
10.211.55.5    react1.backend1.com react2.backend1.com
```

## รันด้วยชื่อ Domain ทั้งสอง



```
10.211.55.5 web1.backend1.com web2.backend1.com
10.211.55.5 react1.backend1.com react2.backend1.com login.backend1
10.211.55.7 api.backend2.com
```

## สร้าง Database สำหรับ loginsystem

```
CREATE DATABASE IF NOT EXISTS `loginsystem` DEFAULT CHARACTER SET utf8 COLLATE utf8_general_ci;

USE loginsystem; // สลับมาทำงานที่ DB ที่ระบุ

CREATE TABLE IF NOT EXISTS `users` (
  `username` varchar(50) NOT NULL,
  `password` varchar(500) NOT NULL,
  PRIMARY KEY (`username`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

INSERT INTO `users` (`username`, `password`) VALUES ('test', 'test');
```

## ตรวจสอบ Databases

```
mysql> INSERT INTO `users` (`username`, `password`) VALUES ('test', 'test');
Query OK, 1 row affected (0.01 sec)

mysql> select * from users;
+-----+-----+
| username | password |
+-----+-----+
| rutchanont | 11223344 |
| test      | test     |
+-----+-----+
```

## แก้ไข index.js

```
const db = mysql.createConnection({
  host: 'localhost',
  user: 'example_user',
  password: 'P@ssw0rd@2023',
  database: 'loginsystem',
});

app.use(express.json());
app.use(
  cors({
    origin: ["http://login.backend1.com:3012"],
    methods: ["GET", "POST"],
    credentials: true,
  })
);
```

```
app.listen(4040, () => {  
  console.log("running server");  
});
```

เพิ่มใน Virtual hosts แลพเพิ่ม Domain ใน etc hosts

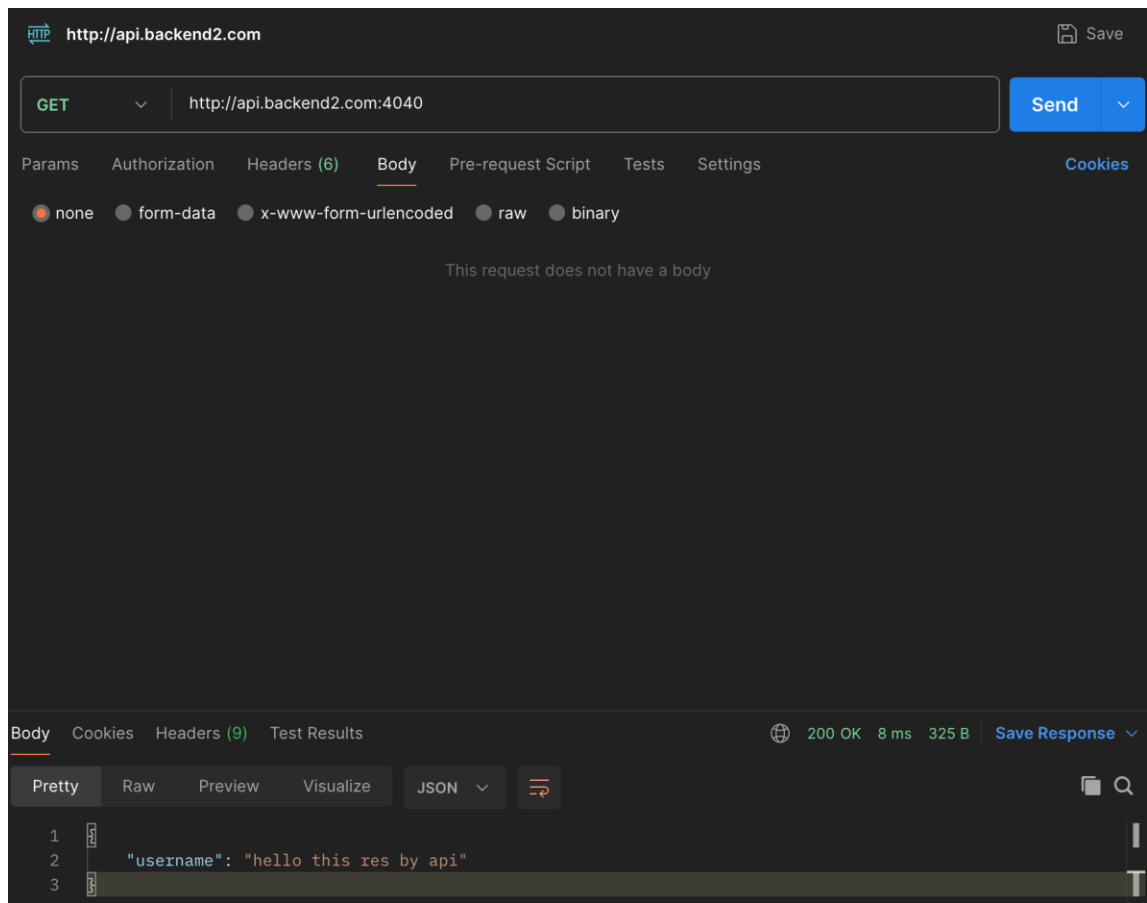
```
GNU nano 6.2 /etc/nginx/sites-available  
server {  
    listen 81;  
    listen [::]:81;  
    server_name api.backend2.com;  
  
    location / {  
        proxy_pass http://127.0.0.1:4040; # !!! - change to your app port  
        proxy_http_version 1.1;  
        proxy_set_header Upgrade $http_upgrade;  
        proxy_set_header Connection 'upgrade';  
        proxy_set_header Host $host;  
        proxy_cache_bypass $http_upgrade;  
    }  
}
```

```
10.211.55.7  
10.211.55.7 api.backend2.com
```

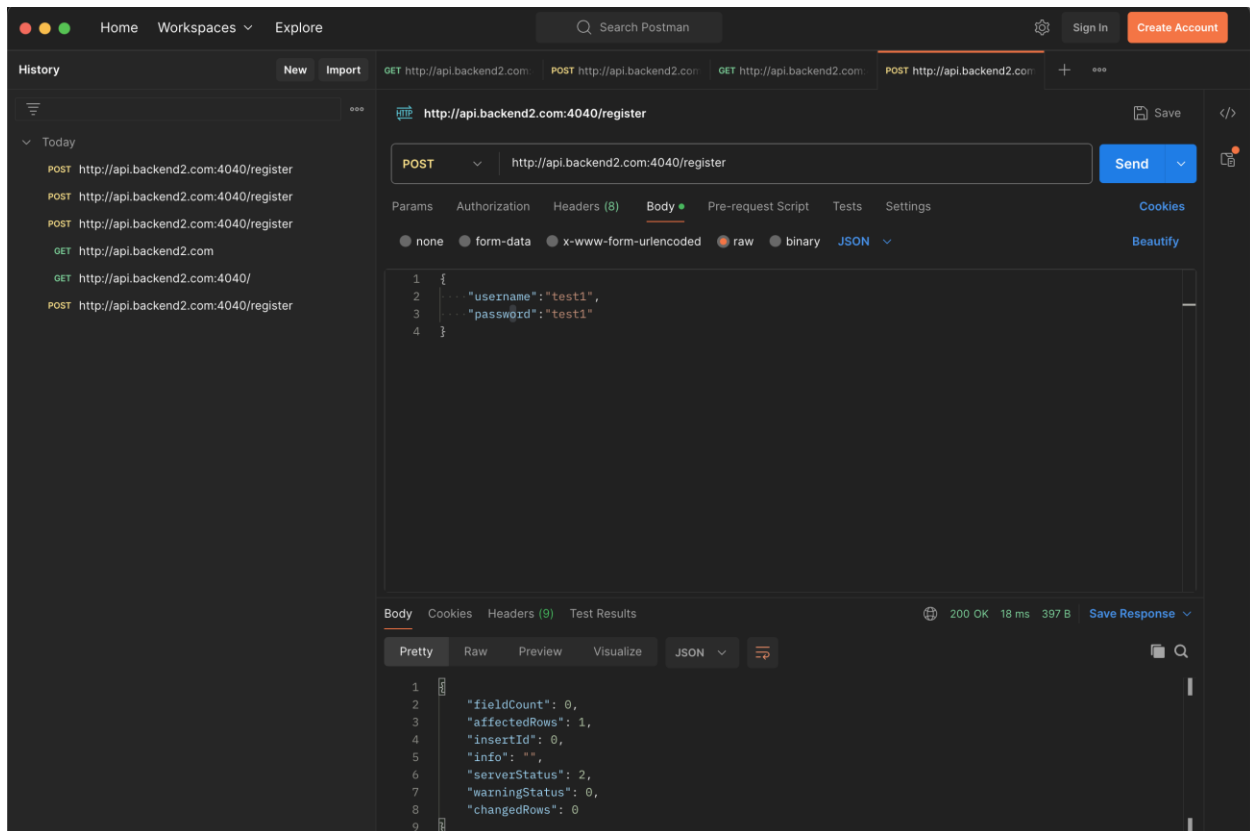
Step 10

ทดสอบยิง Api ไป api.backend2.com

Get Respond from api



POST register



```
username: test1
password: test1
```

## Step 11 Create react in backend1

สร้าง react

Npx create-react-app .

แก้ไข App.css

```
src > App.css > input
1  .app {
2    text-align: center;
3  }
4
5  .registration {
6    display: flex;
7    flex-direction: column;
8    justify-content: center;
9    align-items: center;
10 }
11
12 .login{
13   display: flex;
14   flex-direction: column;
15   justify-content: center;
16   align-items: center;
17 }
18
19 input{
20   width: 250px;
21   height: 40px;
22 }
```



## แก้ไข App.js

```
import React, { useState } from "react";
import Axios from 'axios';
import './App.css';

function App() {

  const [usernameReg, setUsernameReg] = useState("");
  const [passwordReg, setPasswordReg] = useState("");

  const [username, setUsername] = useState("");
  const [password, setPassword] = useState("");

  const [loginStatus, setLoginStatus] = useState("");

  const register = () => {
    Axios.post("http://api.backend2/register", {
      username: usernameReg,
      password: passwordReg,
    }).then((response) => {
      console.log(response);

      if (!response.data.err) {
        setLoginStatus(""+usernameReg + " was inserted.");
      } else {
        setLoginStatus(response.data.err.sqlMessage);
      }
    });
  };

  const login = () => {
    Axios.post("http://api.backend2/login", {
      username: username,
      password: password,
    }).then((response) => {
      console.log(response);
      //console.log("response.data.message: "+response.data[0].message);

      if (!response.data.message) {
        setLoginStatus(""+response.data[0].username + " was logged in.");
      } else {
        setLoginStatus(response.data.message);
      }
    });
  };
};
```

## แก้ไข index.js

```

import React from 'react';
import ReactDOM from 'react-dom';
import './App.css';
import App from './App';
import reportWebVitals from './reportWebVitals';

ReactDOM.render(
  <React.StrictMode>
    <App />
  </React.StrictMode>,
  document.getElementById('root')
);

```

ติดตั้ง Axios

```

rutchanont@backend1-66543210026:/var/www/nginx/login$ npm i --save axios
up to date, audited 1556 packages in 4s

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

8 vulnerabilities (2 moderate, 6 high)

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

Run `npm audit` for details.
rutchanont@backend1-66543210026:/var/www/nginx/login$

```

เปิดให้ใช้งานพอร์ต 3012 โดยคำสั่ง

Sudo ufw allow 3012

```

},
"scripts": {
  "start": "PORT=3012 react-scripts start",
  "build": "react-scripts build",
  "test": "react-scripts test",
  "eject": "react-scripts eject"
},

```

```

rutchanont@backend1-66543210026:/var/www/nginx/login$ sudo nano /etc/nginx/sites-available/login.backend1.com

```

```

GNU nano 0.2 /etc/nginx/sites-available/login.backend1.com
server {
    listen 81;
    listen [::]:81;
    server_name login.backend1.com;

    location / {
        proxy_pass http://127.0.0.1:3012; # !!! - change to your app port
        proxy_http_version 1.1;
        proxy_set_header Upgrade $http_upgrade;
        proxy_set_header Connection 'upgrade';
        proxy_set_header Host $host;
        proxy_cache_bypass $http_upgrade;
    }
}

```

Etc hosts ใน Mac

```

10.211.55.5    react1.backend1.com react2.backend1.com login.backend1.com

```

Npm start backend 1

Compiled successfully!

You can now view **client** in the browser.

**Local:** http://localhost:3012

**On Your Network:** http://10.211.55.5:3012

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

webpack compiled **successfully**



Run nodemon ใน Nodemon index.js

```
Last login: Wed Jan 17 10:42:26 2024 from 10.211.55.2
rutchanont@backend2-66543210026:~$ cd /var/www/nginx/server/
rutchanont@backend2-66543210026:/var/www/nginx/server$ ls
index.js  node_modules  package.json  package-lock.json
rutchanont@backend2-66543210026:/var/www/nginx/server$ nodemon index.js
[nodemon] 3.0.3
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,cjs,json
[nodemon] starting `node index.js`
running server
```

ผลลัพธ์

Normal

### Registration

Username

password

Register

### Login

Username...

Password...

Login

### Register

### Registration

Username

fu

password

112233

Register

### Login

Username...

Password...

Login

'fu' was inserted.

### Login

## Registration

Username

password

Register

## Login

rutchanont55

\*\*\*\*\*

Login

**'rutchanont55' was logged in.**