

LAB3 ENGSE203

Step6 Apache

sudo cp lab2.conf web1.conf = คัดลอกไฟล์ lab2.conf

sudo nano web1.conf = เข้าไฟล์ web1.conf เพื่อแก้ไข

sudo a2ensite web1.conf = เปิดใช้งานไฟล์ web1.conf

sudo nano /etc/hosts = เข้าไปเพิ่มโดเมน

systemctl restart apache2 = รีสตาร์ท Apache2

```
jirapat@backend1-006:/etc/apache2/sites-available$ sudo cp lab2.conf web1.conf
```

```
          000-default.conf  default-ssl.conf  lab2.conf  web1.conf
```

```
jirapat@backend1-006:/etc/apache2/sites-available$
```

```
jirapat@backend1-006:/etc/apache2/sites-available$ sudo nano web1.conf
```

```
GNU nano 6.2                                     web1.conf
.VirtualHost *:80>
  ServerName web1
  ServerAlias 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>
```

```
jirapat@backend1-006:/etc/apache2/sites-available$ sudo a2ensite web1.conf
```

```
jirapat@backend1-006:/etc/apache2/sites-enabled$ ls
```

```
web1.conf
```

```
jirapat@backend1-006:/etc/apache2$ sudo nano /etc/hosts
```

```
GNU nano 6.2                               /etc/hosts
127.0.0.1 localhost
127.0.1.1 backend1-006
10.211.55.3 web1.backend1.com

# The following lines are desirable for IPv6 capable hosts
::1      ip6-localhost ip6-loopback
fe00::0  ip6-localnet
ff00::0  ip6-mcastprefix
ff02::1  ip6-allnodes
ff02::2  ip6-allrouters

jirapat@backend1-006:/etc/apache2/sites-available$ systemctl restart apache2
==== AUTHENTICATING FOR org.freedesktop.systemd1.manage-units ===
Authentication is required to restart 'apache2.service'.
Multiple identities can be used for authentication:
1. Jirapat (devuser)
2. ,,, (fifa)
3. ,,, (jirapat)
Choose identity to authenticate as (1-3): 3
Password:
==== AUTHENTICATION COMPLETE ===
```

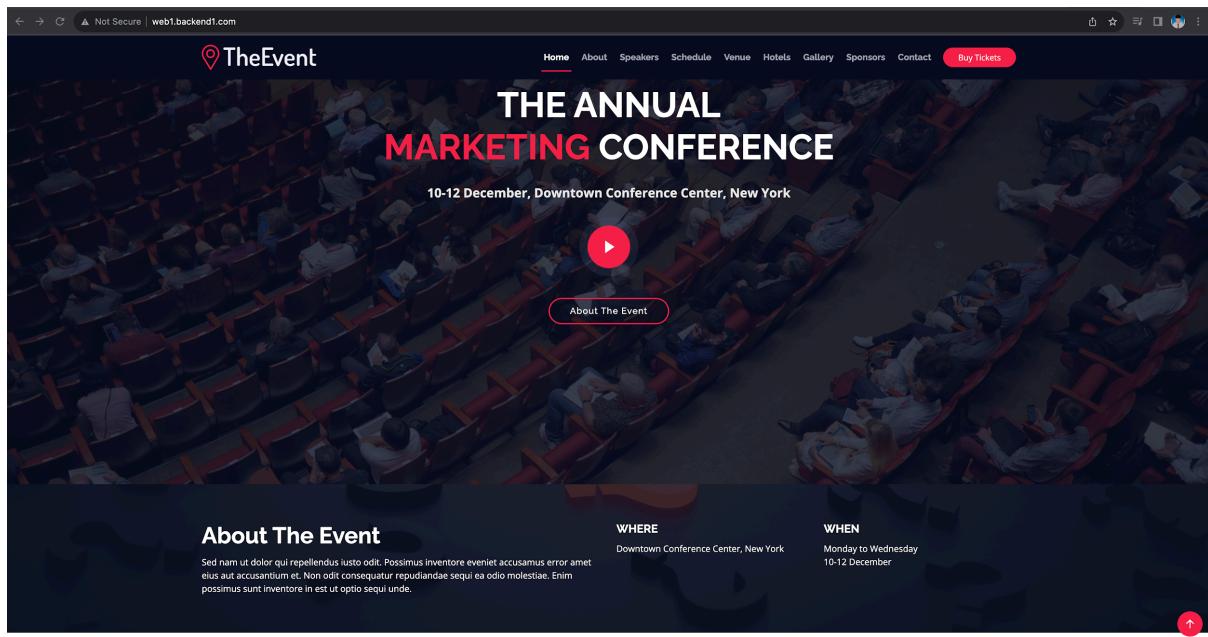
เพิ่ม hosts 10.2115.3 web1.backend1.com

```
admin — pico — sudo — 80x24
UW PICO 5.09                                File: /etc/hosts

## 
# Host Database
#
# localhost is used to configure the loopback interface
# when the system is booting. Do not change this entry.
##
127.0.0.1      localhost engse203.lab1
255.255.255.255 broadcasthost
::1            localhost10.211.55.3 myapp.se-rmutl.net
10.211.55.3 expressjs-example.se-rmutl.net
$in.se-rmutl.net weblogin.se-rmutl.net web1.backend1.com
10.211.55.5 backend_server_ip_address
10.211.55.7 web1.midterm-engse202-006.com web2.midterm-engse202-006.com

^G Get Help  ^O WriteOut  ^R Read File  ^Y Prev Pg   ^K Cut Text  ^C Cur Pos
^X Exit      ^J Justify   ^W Where is   ^V Next Pg    ^U UnCut Text ^T To Spell
```

ทดสอบการทำงาน web1



sudo mkdir nginx = สร้างไฟล์ที่ชื่อ nginx

sudo chown -R \$USER:\$USER /var/www/nginx = เปลี่ยน owner

cd nginx = เข้าไปในไฟล์ nginx

sudo mkdir = สร้างไฟล์ web2

sudo chmod -R 777 /var/www/nginx = เปิด permission (อนุญาติเข้าถึงไฟล์)

sudo nano nginx.conf = เข้าไปแก้ไขไฟล์

systemctl stop apache2 = ปิด apache2

systemctl start nginx.service = สตาร์ต nginx

```
sudo -S meowtest password: attempting
jirapat@backend1-006:/var/www$ sudo mkdir nginx
[sudo] password for jirapat:
jirapat@backend1-006:/var/www$ sudo chown -R $USER:$USER /var/www/nginx/
jirapat@backend1-006:/var/www$ ls
apache expressjs-example html lab2 lab3 lab4 myapp nginx
jirapat@backend1-006:/var/www$ cd nginx/
jirapat@backend1-006:/var/www/nginx$ sudo mkdir web2
jirapat@backend1-006:/var/www/nginx$ ls
web2
```

```
jirapat@backend1-006:/etc/nginx$ sudo nano nginx.conf
```

```
jirapat@backend1-006:/var/www$ sudo chmod -R 777 /var/www/nginx/
```

```
    include /etc/nginx/conf.d/*.conf;
#include /etc/nginx/sites-enabled/*;
include /etc/nginx/sites-available/*;
}
```

```
==== AUTHENTICATION COMPLETE ====
jirapat@backend1-006:~$ systemctl start nginx.service
==== AUTHENTICATING FOR org.freedesktop.systemd1.manage-units ===
Authentication is required to start 'nginx.service'.
Multiple identities can be used for authentication:
1. Jirapat (devuser)
2. ,,, (fifa)
3. ,,, (jirapat)
Choose identity to authenticate as (1-3): 3
Password:
==== AUTHENTICATION COMPLETE ====
jirapat@backend1-006:~$
```

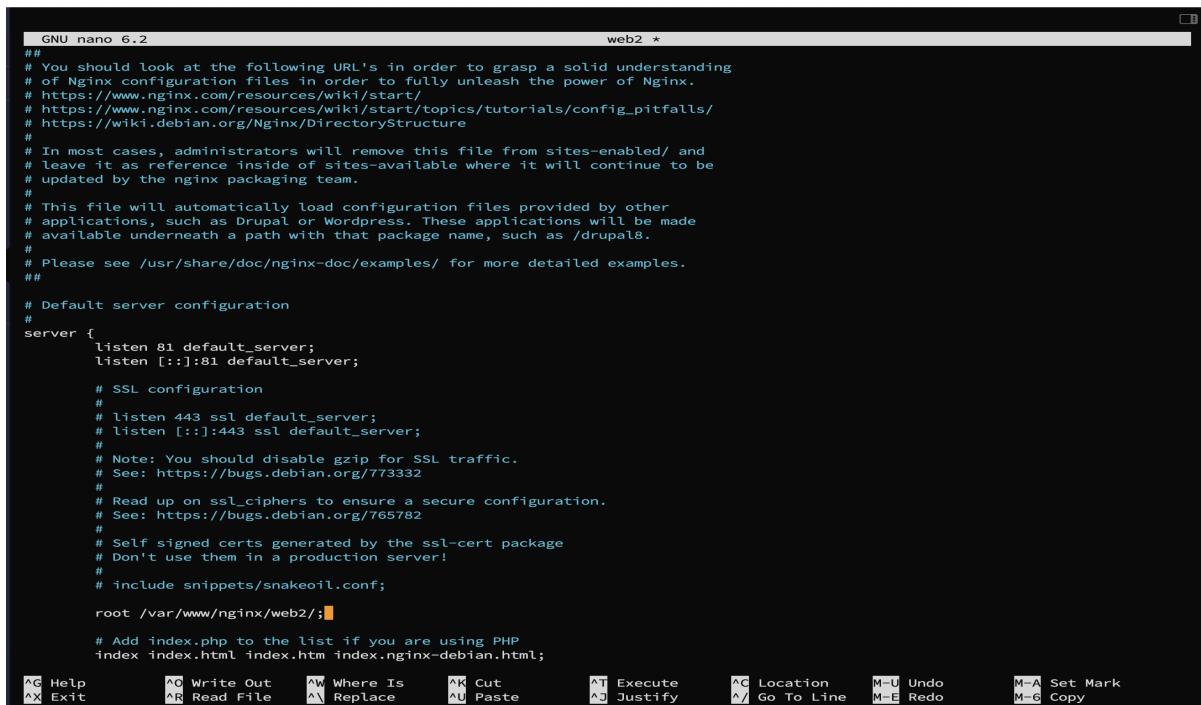
เพิ่ม hosts 10.211.55.3 web2

```
jirapat@backend1-006:/etc/nginx$ sudo nano /etc/hosts
```

10.211.55.3 web2.backend1.com

sudo nano web2 = เข้าไปแก้ไฟล์ web2

```
jirapat@backend1-006:/etc/nginx/sites-available$ sudo nano web2
```



```
GNU nano 6.2                               web2 *
##
## You should look at the following URL's in order to grasp a solid understanding
## of Nginx configuration files in order to fully unleash the power of Nginx.
## https://www.nginx.com/resources/wiki/start/
## https://www.nginx.com/resources/wiki/start/topics/tutorials/config_pitfalls/
## https://wiki.debian.org/Nginx/DirectoryStructure
##
## In most cases, administrators will remove this file from sites-enabled/ and
## leave it as reference inside of sites-available where it will continue to be
## updated by the nginx packaging team.
##
## This file will automatically load configuration files provided by other
## applications, such as Drupal or Wordpress. These applications will be made
## available underneath a path with that package name, such as /drupal8.
##
## Please see /usr/share/doc/nginx-doc/examples/ for more detailed examples.
##
```

```
# Default server configuration
#
server {
    listen 81 default_server;
    listen [::]:81 default_server;

    # SSL configuration
    #
    # listen 443 ssl default_server;
    # listen [::]:443 ssl default_server;
    #
    # Note: You should disable gzip for SSL traffic.
    # See: https://bugs.debian.org/773332
    #
    # Read up on ssl_ciphers to ensure a secure configuration.
    # See: https://bugs.debian.org/765782
    #
    # Self signed certs generated by the ssl-cert package
    # Don't use them in a production server!
    #
    # include snippets/snakeoil.conf;
}

root /var/www/nginx/web2/;

# Add index.php to the list if you are using PHP
index index.php index.html index.htm index.nginx-debian.html;
```

GNOME Terminal - jirapat@backend1-006: /etc/nginx/sites-available \$

File Edit View Insert Cell Help

^G Help ^O Write Out ^W Where Is ^K Cut ^C Location M-U Undo
^X Exit ^R Read File ^\ Replace ^U Paste ^E Execute ^J Justify M-E Redo
M-A Set Mark M-G Copy

sudo ufw allow 81 = ຂົ່ງມາດີ port 81

```
jirapat@backend1-006:/etc/nginx/sites-available$ sudo ufw allow 81
Rule added
Rule added (v6)
jirapat@backend1-006:/etc/nginx/sites-available$ sudo ufw status
Status: active

To                         Action      From
--                         --          --
OpenSSH                     ALLOW       Anywhere
Apache                      ALLOW       Anywhere
Nginx Full                 ALLOW       Anywhere
3333                       ALLOW       Anywhere
3000                       ALLOW       Anywhere
3001                       ALLOW       Anywhere
3002                       ALLOW       Anywhere
3003                       ALLOW       Anywhere
3004                       ALLOW       Anywhere
4000                       ALLOW       Anywhere
81                          ALLOW       Anywhere
OpenSSH (v6)                ALLOW       Anywhere (v6)
Apache (v6)                 ALLOW       Anywhere (v6)
Nginx Full (v6)             ALLOW       Anywhere (v6)
3333 (v6)                  ALLOW       Anywhere (v6)
3000 (v6)                  ALLOW       Anywhere (v6)
3001 (v6)                  ALLOW       Anywhere (v6)
3002 (v6)                  ALLOW       Anywhere (v6)
3003 (v6)                  ALLOW       Anywhere (v6)
3004 (v6)                  ALLOW       Anywhere (v6)
4000 (v6)                  ALLOW       Anywhere (v6)
81 (v6)                     ALLOW       Anywhere (v6)

jirapat@backend1-006:/etc/nginx/sites-available$
```

sudo nano /etc/hosts = ເພີ່ມ hosts 10.211.55.3 web2.backend1.com

```
● ● ● admin — pico - sudo — 80x24
File: /etc/hosts

UW PICO 5.09

## 
# Host Database
#
# localhost is used to configure the loopback interface
# when the system is booting. Do not change this entry.
##
127.0.0.1      localhost engse203.lab1
255.255.255.255 broadcasthost
::1            localhost10.211.55.3 myapp.se-rmutil.net
10.211.55.3 expressjs-example.se-rmutil.net
$in.se-rmutil.net weblogin.se-rmutil.net web1.backend1.com web2.backend1.com
10.211.55.5 backend_server_ip_address
10.211.55.7 web1.midterm-engse202-006.com web2.midterm-engse202-006.com

^G Get Help  ^O WriteOut  ^R Read File  ^Y Prev Pg   ^K Cut Text  ^C Cur Pos
^X Exit      ^J Justify   ^W Where is  ^V Next Pg   ^U UnCut Text ^T To Spell
```

ทดสอบการทำงาน web2

The screenshot shows a web browser window with the URL 'Not Secure | web2.backend1.com:81'. The page title is 'NEWBIZ'. The main content area has a dark blue background. On the left, there is a call-to-action text: 'We provide solutions for your business!'. Below it are two buttons: 'Get Started' (blue) and 'Our Services' (white). On the right, there is a stylized illustration of three people (two men and one woman) working on a large computer screen that displays various icons like messages and charts. The top navigation bar includes links for Home, About, Services, Portfolio, Team, Drop Down, and Contact.

We provide solutions for your business!

[Get Started](#) [Our Services](#)

About Us

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

Step8 React

mkdir react1 = สร้างไฟล์ react1

react1

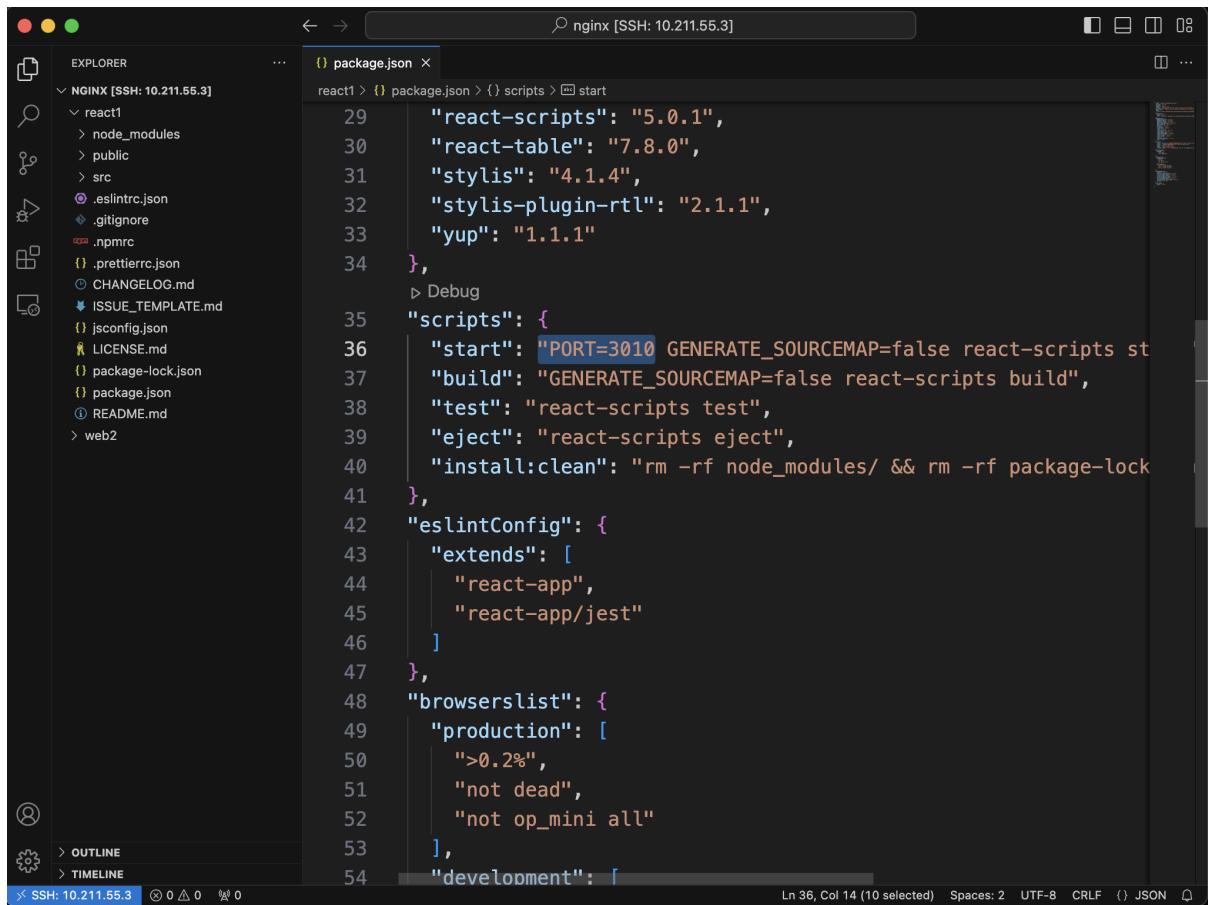
```
jirapat@backend1-006:/var/www/nginx$ mkdir react1
jirapat@backend1-006:/var/www/nginx$ ls
react1  web2
jirapat@backend1-006:/var/www/nginx$
```

chmod -R 777 /var/www/nginx/react1 = เปิด permission (อนญาติเข้าถึงไฟล์)

```
jirapat@backend1-006:/var/www/nginx$ chmod -R 777 /var/www/nginx/react1/
```

```
jirapat@backend1-006:/var/www/nginx$ ls
paper-dashboard-react-main  react1  web2
```

Remote vscode แก้ไข Port ใน package.json react1 เป็น 3010

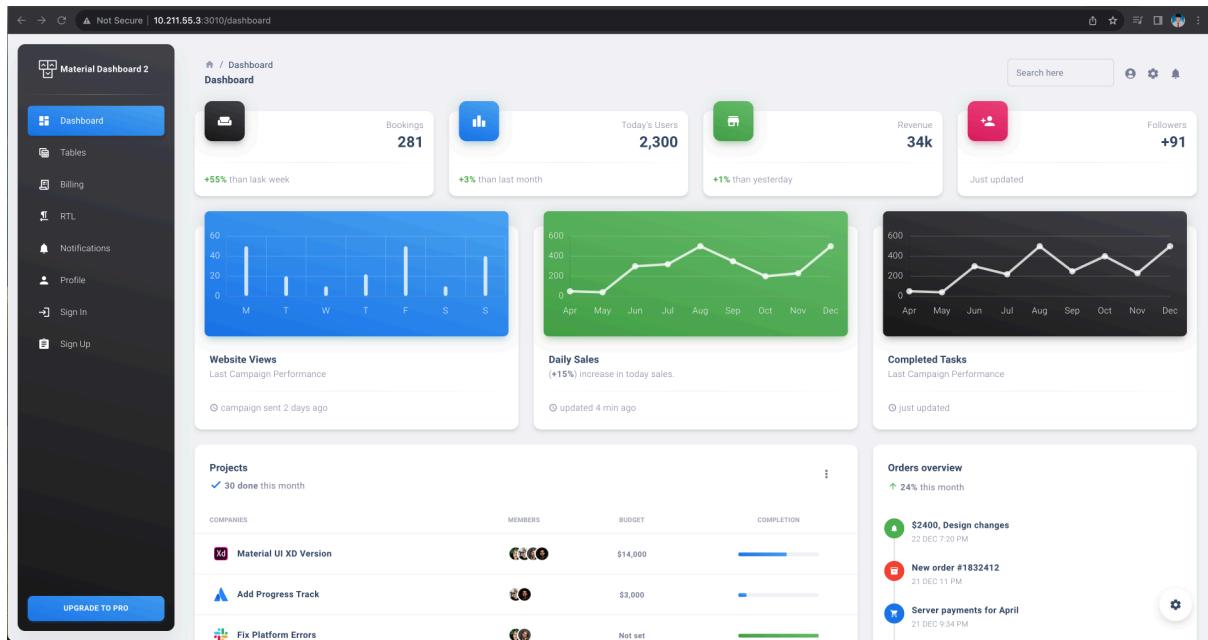


```
react1 > package.json > scripts > start
29   "react-scripts": "5.0.1",
30   "react-table": "7.8.0",
31   "stylis": "4.1.4",
32   "stylis-plugin-rtl": "2.1.1",
33   "yup": "1.1.1"
34 },
35 "scripts": {
36   "start": "PORT=3010 GENERATE_SOURCEMAP=false react-scripts start",
37   "build": "GENERATE_SOURCEMAP=false react-scripts build",
38   "test": "react-scripts test",
39   "eject": "react-scripts eject",
40   "install:clean": "rm -rf node_modules/ && rm -rf package-lock.json"
41 },
42 "eslintConfig": {
43   "extends": [
44     "react-app",
45     "react-app/jest"
46   ],
47 },
48 "browserslist": {
49   "production": [
50     ">0.2%",
51     "not dead",
52     "not op_mini all"
53   ],
54   "development": [
55     "chrome 55",
56     "firefox 52",
57     "safari 10.1",
58     "ie 11"
59   ]
60 }
```

npm install ใน /var/www/nginx/react1

npm start

ทดสอบการทำงาน react1



react2

sudo mv paper=dashboard-react-main/ react2 = เปลี่ยนชื่อไฟล์เป็น react2
sudo chmod -R 777 /var/www/nginx/react2

```
jirapat@backend1-006:~$ sudo mv paper=dashboard-react-main/ react2
jirapat@backend1-006:~$ ls
react1  react2  web2
jirapat@backend1-006:~$ sudo chmod -R 777 /var/www/nginx/react2
jirapat@backend1-006:~$ ls
react1  react2  web2
jirapat@backend1-006:~$
```

Remote vscode แก้ไข Port ใน package.json ของ react2 เป็น 3011

The screenshot shows a terminal window titled "nginx [SSH: 10.211.55.3]" in the VS Code interface. The file being edited is "package.json" located in the "react2" directory. The code editor displays the following JSON content:

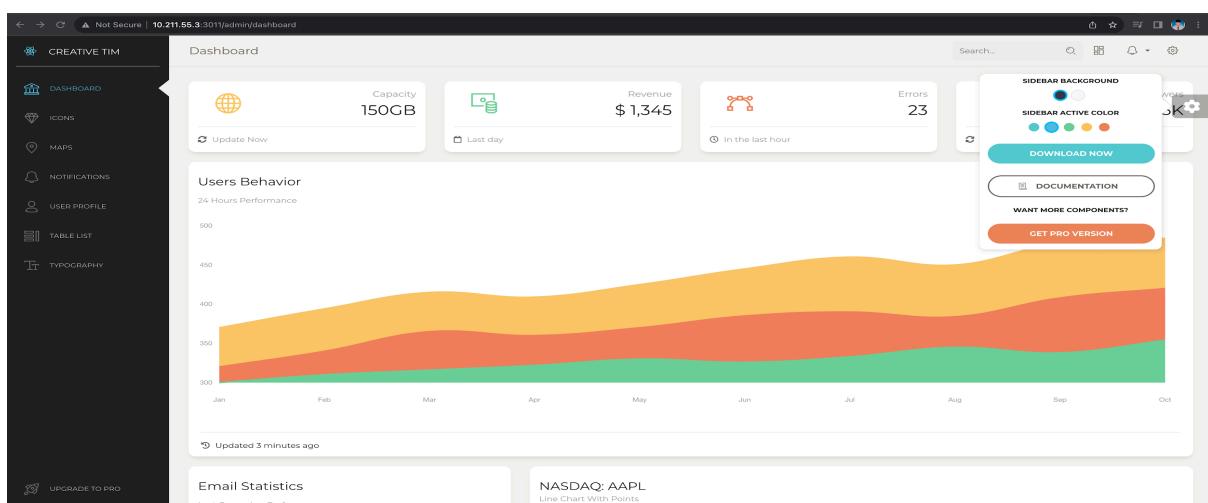
```
2  "name": "paper-dashboard-react",
3  "version": "1.3.2",
4  "private": true,
5  "dependencies": {
6    "bootstrap": "4.6.2",
7    "chart.js": "3.9.1",
8    "perfect-scrollbar": "1.5.5",
9    "react": "18.2.0",
10   "react-chartjs-2": "3.3.0",
11   "react-dom": "18.2.0",
12   "react-notification-alert": "0.0.13",
13   "react-router-dom": "6.11.1",
14   "react-scripts": "5.0.1",
15   "reactstrap": "8.10.0",
16   "sass": "1.62.1"
17 },
18 > Debug
19 "scripts": [
20   "start": "PORT=3011 react-scripts start",
21   "build": "react-scripts build",
22   "test": "react-scripts test",
23   "eject": "react-scripts eject",
24   "install:clean": "rm -rf node_modules/ && rm -rf package-lock.json",
25   "compile-sass": "node-sass src/assets/scss/paper-dashboard.scss",
26   "minify-sass": "node-sass src/assets/scss/paper-dashboard.scss --output-style compressed",
27   "map-sass": "node-sass src/assets/scss/paper-dashboard.scss --output-style map"
]
```

The status bar at the bottom indicates "Ln 19, Col 25 Spaces: 2 UTF-8 LF {} JSON".

sudo ufw allow 3011 = เปิด port 3011

```
jirapat@backend1-006:/var/www/nginx$ sudo ufw allow 3011
Rule added
Rule added (v6)
jirapat@backend1-006:/var/www/nginx$
```

ทดสอบการทำงาน react2



Step9

sudo cp default backend2 = คัดลอกไฟล์ default

sudo ufw allow 4040 = อนุญาติ port 4040

```
jirapat@backend2-006:/etc/nginx/sites-available$ sudo cp default backend2  
jirapat@backend2-006:/etc/nginx/sites-available$
```

```
jirapat@backend2-006:/var/www/nginx$ sudo ufw allow 4040  
Rule added  
Rule added (v6)  
jirapat@backend2-006:/var/www/nginx$
```

สร้าง database

```
jirapat@backend2-006:/var/www/nginx/server$ sudo mysql -u root -p  
Enter password:  
Welcome to the MySQL monitor. Commands end with ; or \g.  
Your MySQL connection id is 9  
Server version: 8.0.35-0ubuntu0.22.04.1 (Ubuntu)  
  
Copyright (c) 2000, 2023, Oracle and/or its affiliates.  
  
Oracle is a registered trademark of Oracle Corporation and/or its  
affiliates. Other names may be trademarks of their respective  
owners.  
  
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.
```

```
mysql> CREATE DATABASE IF NOT EXISTS `loginsystem` DEFAULT CHARACTER SET utf8 COLLATE utf8_general_ci;  
Query OK, 1 row affected, 3 warnings (0.01 sec)
```

Database changed

```
mysql> CREATE TABLE IF NOT EXISTS `users`(  
    ->   `username` varchar(50) NOT NULL,  
    ->   `password` varchar(500) NOT NULL,  
    ->   PRIMARY KEY (`username`)  
    -> ) ENGINE=InnoDB DEFAULT CHARSET=utf8;  
Query OK, 0 rows affected, 2 warnings (0.01 sec)
```

```
mysql>
```

```
mysql> USE loginsystem;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> █
```

```
mysql> show tables;
+-----+
| Tables_in_loginsystem |
+-----+
| users                  |
+-----+
1 row in set (0.00 sec)
```

```
mysql> █
```

sudo nano backend2 = เพิ่ม server_name api.backend2.com
และแก้ไข port ให้เป็น 4040

```
jirapat@backend2-006:/etc/nginx/sites-available$ sudo nano backend2
jirapat@backend2-006:/etc/nginx/sites-available$ █
```

```
GNU nano 6.2                                     backend2
server {
    listen 80;
    listen [::]:80;
    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;
    }
}
```

restart nginx

```
jirapat@backend2-006:/etc/nginx/sites-available$ systemctl restart nginx.service
===== AUTHENTICATING FOR org.freedesktop.systemd1.manage-units ===
Authentication is required to restart 'nginx.service'.
Multiple identities can be used for authentication:
1. Jirapat (devuser)
2. ,,, (jirapat)
Choose identity to authenticate as (1-2): 2
Password:
===== AUTHENTICATION COMPLETE ===
jirapat@backend2-006:/etc/nginx/sites-available$
```

sudo nano /etc/hosts = เข้าไปเพิ่มโดเมน 10.211.55.5 api.backend2.com

```
10.211.55.5 api.backend2.com
```

step10 POSTman Get&Post

GET

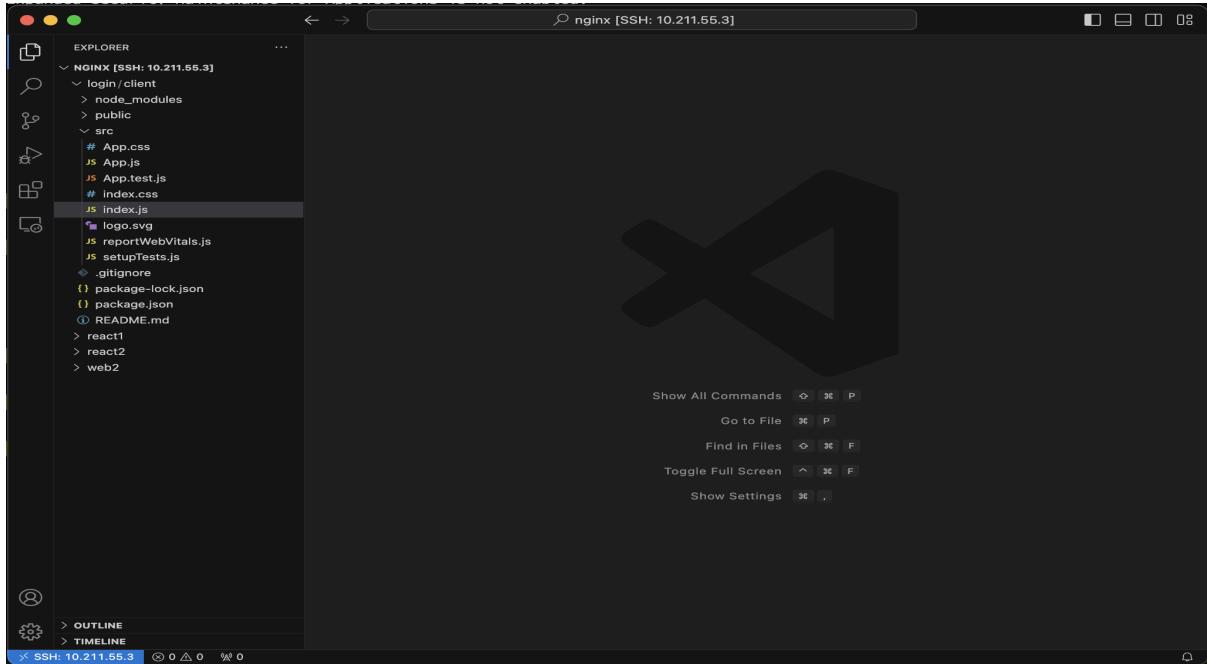
The screenshot shows the Postman application interface. In the top navigation bar, there are icons for Home, Workspaces, and Explore. A search bar is located at the top right. On the left, a sidebar titled 'History' lists previous requests: 'GET http://api.backend2.com:4040', 'POST http://api.backend2.com:4040', and 'GET http://10.211.55.3:3004'. The main workspace shows a 'GET' request to 'http://api.backend2.com:4040'. The 'Params' tab is selected. Under 'Query Params', there is a table with one row: 'Key' and 'Value'. Below the table, the 'Body' tab is selected, showing the raw HTML response from the server. The response content includes an error message: 'Sending request...' followed by an HTML page with a title 'Error' and a pre-tag containing 'Cannot POST /'. At the bottom, a status bar indicates '404 Not Found 14 ms 466 B'.

Post

The screenshot shows the Postman application interface. The layout is identical to the previous GET request, with the 'History' sidebar and a 'POST' request in the main workspace. The 'Params' tab is selected, and the 'Query Params' table is empty. The 'Body' tab is selected, showing the raw HTML response from the server. The response content includes an error message: 'Sending request...' followed by an HTML page with a title 'Error' and a pre-tag containing 'Cannot POST /'. The status bar at the bottom indicates '404 Not Found 14 ms 466 B'.

step11 client

Remote เข้า vscode



client/src/App.js แก้ port เป็น 4040

```
const [username, setUsername] = useState("");
const [password, setPassword] = useState("");
const [loginStatus, setLoginStatus] = useState("");
const register = () => {
  Axios.post("http://10.211.55.5:4040/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://10.211.55.5:4040/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);
    }
};
```

Cilent/src/App.css

The screenshot shows the VS Code interface with the title bar "nginx [SSH: 10.211.55.3]". The Explorer sidebar on the left shows a project structure under "NGINX [SSH: 10.211.55.3]" with files like App.css, App.js, App.test.js, index.css, index.js, logo.svg, reportWebVitals.js, setupTests.js, .gitignore, package-lock.json, package.json, and README.md. The "App.css" file is selected in the Explorer. The main editor area displays the following CSS code:

```
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 input {  
19   width: 250px;  
20   height: 40px;  
21 }
```

The status bar at the bottom shows "Ln 21, Col 2 Spaces: 2 UTF-8 LF CSS".

Cilent/src/index.js

The screenshot shows the VS Code interface with the title bar "nginx [SSH: 10.211.55.3]". The Explorer sidebar on the left shows a project structure under "NGINX [SSH: 10.211.55.3]" with files like App.css, App.js, App.test.js, index.css, index.js, logo.svg, reportWebVitals.js, setupTests.js, .gitignore, package-lock.json, package.json, and README.md. The "index.js" file is selected in the Explorer. The main editor area displays the following JavaScript code:

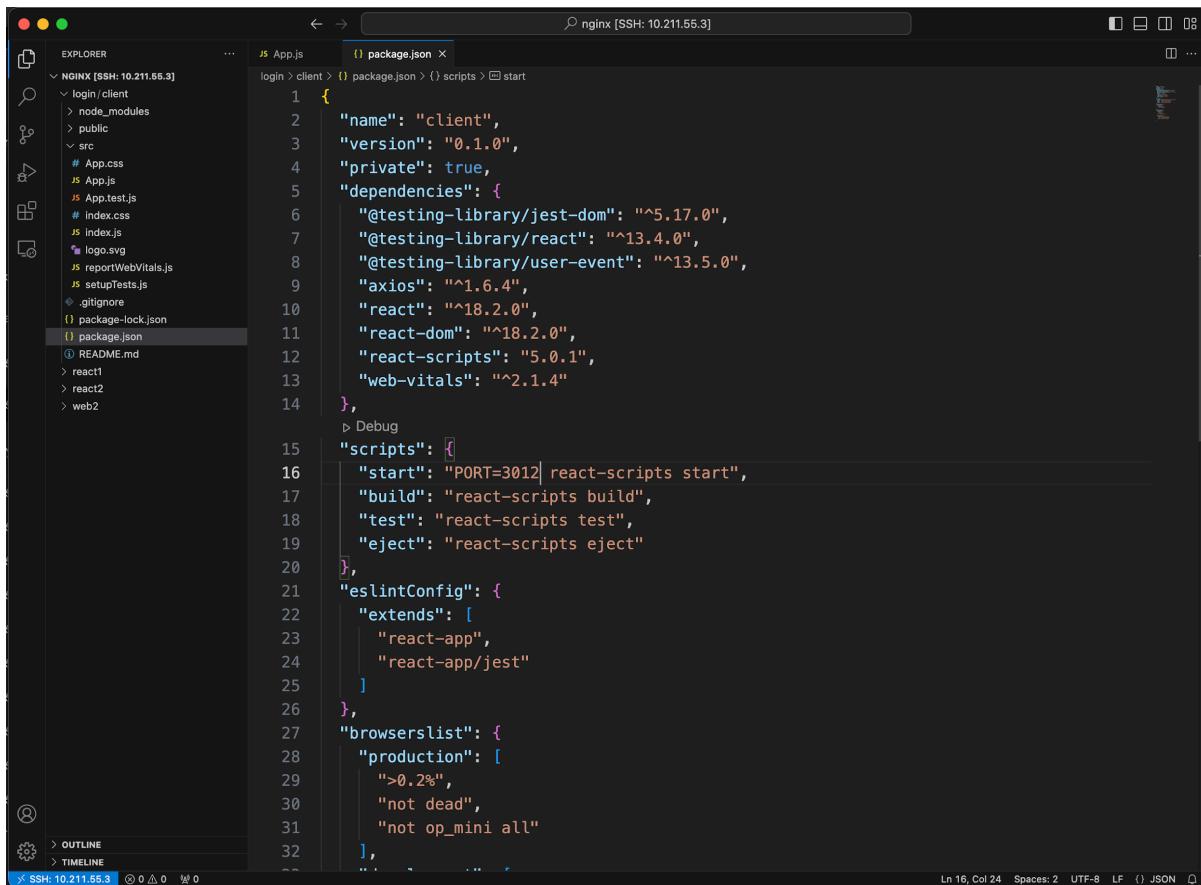
```
1 import React from 'react';  
2 import ReactDOM from 'react-dom';  
3 import './App.css';  
4 import App from './App';  
5  
6 ReactDOM.render(  
7   <React.StrictMode>  
8     <App />  
9   </React.StrictMode>,  
10   document.getElementById('root')  
11 );
```

The status bar at the bottom shows "Ln 11, Col 3 Spaces: 2 UTF-8 LF () JavaScript".

`sudo ufw allow 3012 = ອນຢາຕີ port 3012`

```
jirapat@backend1-006:/var/www/nginx/login$ sudo ufw allow 3012
[sudo] password for jirapat:
Rule added
Rule added (v6)
jirapat@backend1-006:/var/www/nginx/login$
```

ໄປທ໌ ໄຟ້ package.json ເພີ່ມ port = 3012



```
nginx [SSH: 10.211.55.3]
  login / client
    > node_modules
    > public
    > src
      # App.css
      JS App.js
      JS App.test.js
      # index.css
      JS index.js
      logo.svg
      JS reportWebVitals.js
      JS setupTests.js
      .gitignore
      package-lock.json
      package.json
      README.md
    > react1
    > react2
    > web2

  1 {
  2   "name": "client",
  3   "version": "0.1.0",
  4   "private": true,
  5   "dependencies": {
  6     "@testing-library/jest-dom": "^5.17.0",
  7     "@testing-library/react": "^13.4.0",
  8     "@testing-library/user-event": "^13.5.0",
  9     "axios": "^1.6.4",
 10     "react": "^18.2.0",
 11     "react-dom": "^18.2.0",
 12     "react-scripts": "5.0.1",
 13     "web-vitals": "^2.1.4"
 14   },
 15   "scripts": [
 16     "start": "PORT=3012 react-scripts start",
 17     "build": "react-scripts build",
 18     "test": "react-scripts test",
 19     "eject": "react-scripts eject"
 20   ],
 21   "eslintConfig": {
 22     "extends": [
 23       "react-app",
 24       "react-app/jest"
 25     ]
 26   },
 27   "browserslist": {
 28     "production": [
 29       ">0.2%",
 30       "not dead",
 31       "not op_mini all"
 32     ],
 33     ...
 34   }
 35 }
```

`sudo cp default backend2 = ດັດລອກໄຟ້ default`

```
jirapat@backend1-006:/etc/nginx/sites-available$ sudo cp default backend2
```

sudo nano backend2 = เข้าไปแก้ sever_name และ port ให้เป็น 3012

```
jirapat@backend1-006:/etc/nginx/sites-available$ sudo nano backend2
jirapat@backend1-006:/etc/nginx/sites-available$
```

The screenshot shows a terminal window with the nano text editor open. The file being edited is named 'backend2'. The content of the file is as follows:

```
GNU nano 6.2                                         backend2 *
server {
    listen 80;
    listen [::]:80;
    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;
    }
}

# Virtual Host configuration for example.com
#
# You can move that to a different file under sites-available/ and symlink that
# to sites-enabled/ to enable it.
#
#server {
#    listen 80;
#    listen [::]:80;
#
#    server_name example.com;
#
#    root /var/www/example.com;
#    index index.html;
#
#    location / {
#        try_files $uri $uri/ =404;
#    }
#}
```

At the bottom of the terminal window, there is a menu bar with various keyboard shortcuts for nano editor commands.

Keyboard shortcuts (from left to right):

- ^G Help
- ^O Write Out
- ^W Where Is
- ^K Cut
- ^T Execute
- ^C Location
- M-U Undo
- M-A Set Mark

^X Exit

Read File

^R

^A Replace

^U Paste

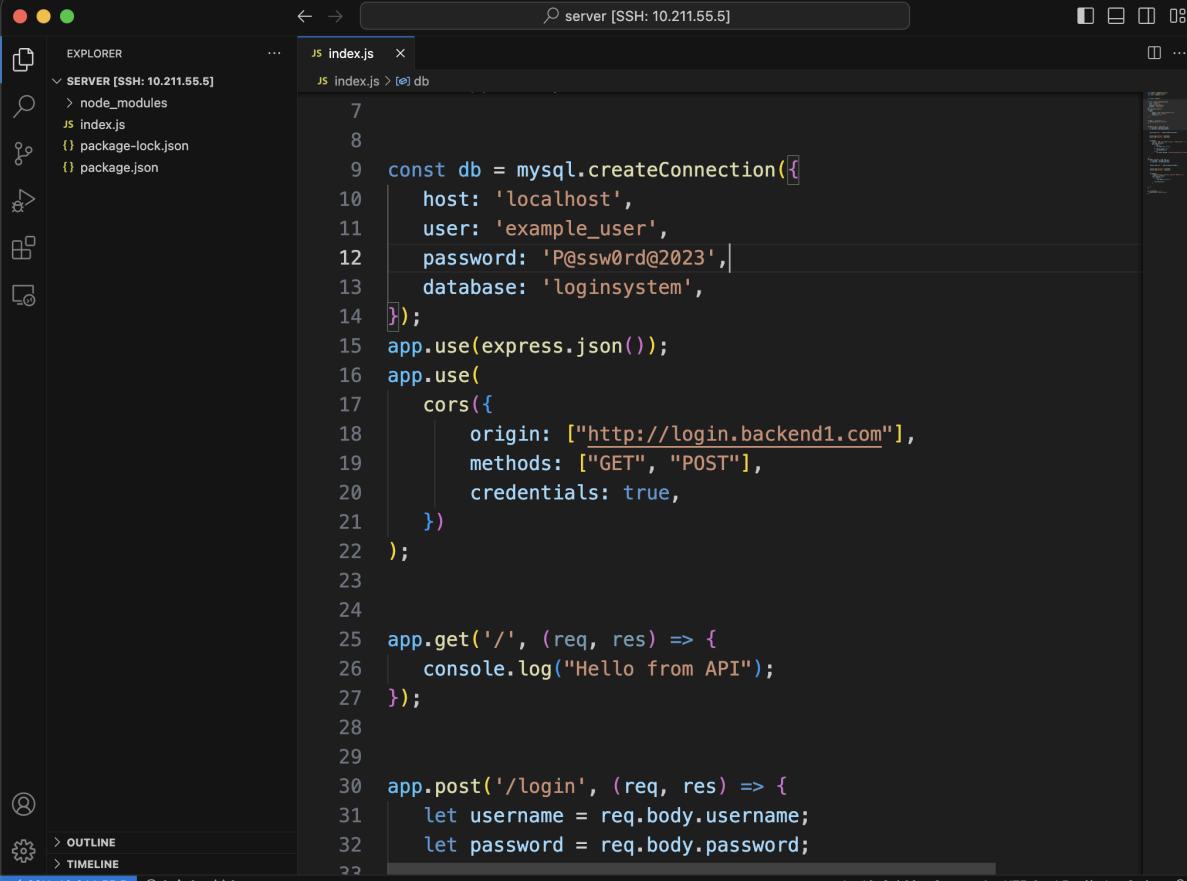
^J Justify

^/ Go To Line

M-E Redo

M-G Copy

เข้าไปแก้ไขโคเดเมนเป็น
<http://login.backend1.com>

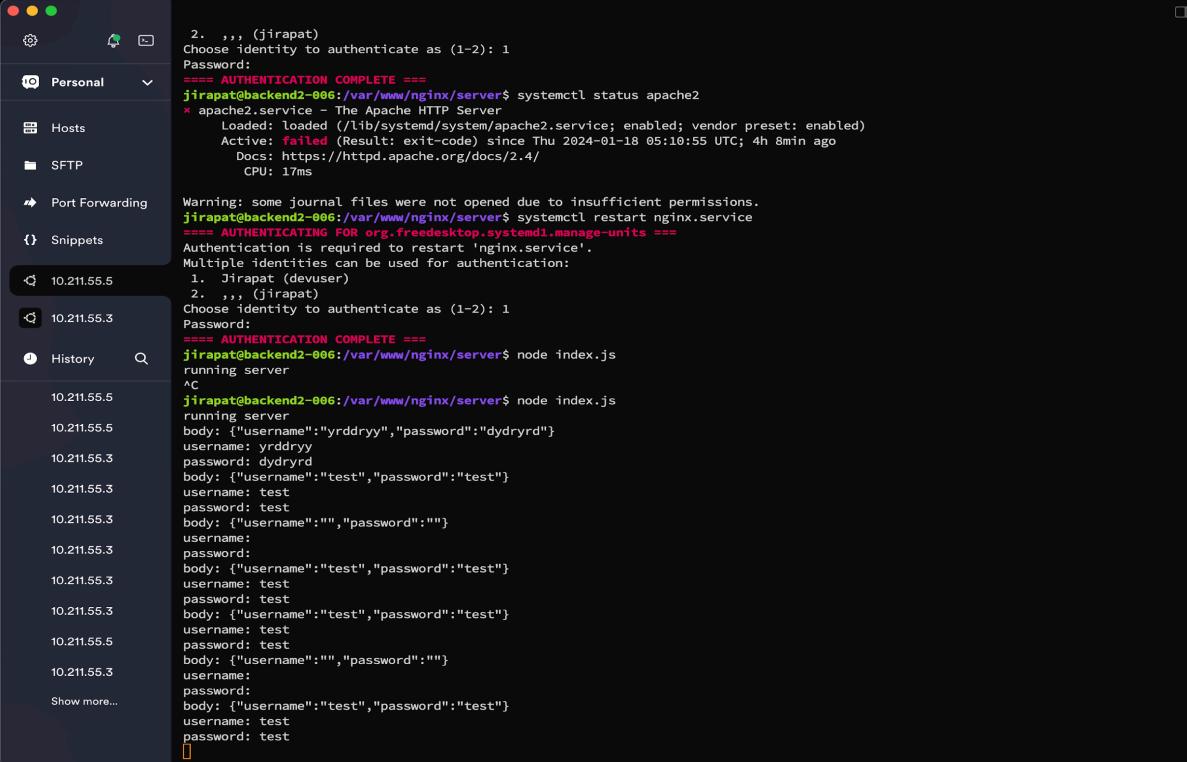


```
const db = mysql.createConnection({
  host: 'localhost',
  user: 'example_user',
  password: 'P@ssw0rd@2023',
  database: 'loginsystem',
});

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

app.get('/', (req, res) => {
  console.log("Hello from API");
});

app.post('/login', (req, res) => {
  let username = req.body.username;
  let password = req.body.password;
});
```



```
2. ,,, (jirapat)
Choose identity to authenticate as (1-2): 1
Password:
==== AUTHENTICATION COMPLETE ====
jirapat@backend2-006:/var/www/nginx/server$ systemctl status apache2
* apache2.service - The Apache HTTP Server
  Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
  Active: failed (Result: exit-code) since Thu 2024-01-18 05:10:55 UTC; 4h 8min ago
    Docs: https://httpd.apache.org/docs/2.4/
      CPU: 17ms
Warning: Some journal files were not opened due to insufficient permissions.
jirapat@backend2-006:/var/www/nginx/server$ systemctl restart nginx.service
==== AUTHENTICATING FOR org.freedesktop.systemd1.manage-units ===
Authentication is required to restart 'nginx.service'.
Multiple identities can be used for authentication:
1. Jirapat (devuser)
2. ,,, (jirapat)
Choose identity to authenticate as (1-2): 1
Password:
==== AUTHENTICATION COMPLETE ====
jirapat@backend2-006:/var/www/nginx/server$ node index.js
running server
^C
jirapat@backend2-006:/var/www/nginx/server$ node index.js
running server
body: {"username":"yrddryy", "password":"dydryrd"}
username: yrddryy
password: dydryrd
body: {"username":"test", "password":"test"}
username: test
password: test
body: {"username": "", "password": ""}
username:
password:
body: {"username": "test", "password": "test"}
username: test
password: test
body: {"username": "", "password": ""}
username:
password:
body: {"username": "test", "password": "test"}
username: test
password: test
Show more...
```

ทดสอบการทำงาน

The screenshot shows a web browser window with the following details:

- Address Bar:** Not Secure | login.backend1.com
- Registration Section:** Contains fields for "Username" and "password", and a "Register" button.
- Login Section:** Contains fields for "test" and "....", and a "Login" button.
- Message:** 'test' was logged in.

66543210006-3 จิรภัทร ทนุโวหาร