

lab3

สร้างdirectory lab3

```
sudo mkdir -p /var/www/lab3
```

```
sudo chown -R $USER:$USER /var/www/expressjs-example
```

```
devuser@server:~$ cd /var/www/  
devuser@server:/var/www$ ls  
expressjs-example  html  myapp  
devuser@server:/var/www$ sudo mkdir Lab3  
devuser@server:/var/www$ ls  
expressjs-example  html  Lab3  myapp  
devuser@server:/var/www$ ls -l  
total 16  
drwxr-xr-x 3 devuser devuser 4096 Dec 20 04:14 expressjs-example  
drwxr-xr-x 2 root     root    4096 Dec 17 07:33 html  
drwxr-xr-x 2 root     root    4096 Dec 20 04:38 Lab3  
drwxr-xr-x 2 devuser devuser 4096 Dec 20 04:34 myapp
```

ติดตั้ง reactjs

```
npx create-react-app my-react-app
```

```
devuser@server:/var/www/Lab3/my-react-app$ ls  
node_modules  package.json  package-lock.json  public  README.md  src  
devuser@server:/var/www/Lab3/my-react-app$ sudo nano package.json
```

ติดตั้ง pm2

```
devuser@server:/etc/nginx/sites-available$ sudo npm install pm2 -g  
[sudo] password for devuser:  
npm WARN deprecated uuid@3.4.0: Please upgrade to version 7 or higher. Older versions may use Math.random() in certain circumstances, which is known to be problematic. See https://v8.dev/blog/math-random for details.  
  
added 157 packages in 5s  
  
13 packages are looking for funding  
run `npm fund` for details
```

เข้าไปแก้ไขไฟล์ package.json ในdirectory my-react-app

```
sudo nano package.json
```

```
GNU nano 6.2 package.json *  
{  
  "name": "my-react-app",  
  "version": "0.1.0",  
  "private": true,  
  "dependencies": {  
    "@testing-library/jest-dom": "^5.17.0",  
    "@testing-library/react": "^13.4.0",  
    "@testing-library/user-event": "^13.5.0",  
    "react": "^18.2.0",  
    "react-dom": "^18.2.0",  
    "react-scripts": "5.0.1",  
    "web-vitals": "^2.1.4"  
  },  
  "scripts": {  
    "start": "PORT=3001 react-scripts start",  
    "build": "react-scripts build",  
    "test": "react-scripts test",  
    "eject": "react-scripts eject"  
  },  
  "eslintConfig": {  
    "extends": [  
      "react-app",  
      "react-app/jest"  
    ]  
  },  
  "browserslist": {  
    "production": [  
      ">0.2%",  
      "not dead",  
      "not op_mini all"  
    ],  
    "development": [  
      "Last 1 chrome version",  
      "Last 1 firefox version",  
      "Last 1 safari version"  
    ]  
  }  
}
```

เปิดfirewallให้ port 3001 และ 3002

```
devuser@server:/var/www/Lab3/my-react-app$ sudo ufw allow 3002
Rule added
Rule added (v6)
```

```
devuser@server:/var/www/Lab3/my-react-app$ sudo ufw allow 3001
Rule added
Rule added (v6)
```

npm start (run server)

```
Compiled successfully!

You can now view my-react-app in the browser.

Local:      http://localhost:3001
On Your Network:  http://10.211.55.4:3001

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

webpack compiled successfully
```

คัดลอกไฟล์ myapp เป็น react
sudo cp myapp react

```
devuser@server:~$ cd /etc/nginx/sites-available/
devuser@server:/etc/nginx/sites-available$ ls
default expressjs-example myapp
devuser@server:/etc/nginx/sites-available$
devuser@server:/etc/nginx/sites-available$
devuser@server:/etc/nginx/sites-available$ sudo cp myapp react
[sudo] password for devuser:
devuser@server:/etc/nginx/sites-available$ ls
default expressjs-example myapp react
devuser@server:/etc/nginx/sites-available$
```

restart nginx

```
devuser@server:/var/www/myapp$ cd /etc/nginx/sites-available/
devuser@server:/etc/nginx/sites-available$ systemctl restart nginx.service
==== AUTHENTICATING FOR org.freedesktop.systemd1.manage-units ====
Authentication is required to restart 'nginx.service'.
Authenticating as: Supawit Katasila (devuser)
Password:
==== AUTHENTICATION COMPLETE ====
devuser@server:/etc/nginx/sites-available$
```

แก้ไขไฟล์react

sudo nano react

```
GNU nano 6.2 react
server {
    listen 80;
    listen [::]:80;
    server_name my-react-app.se-rmutl.net;

    location / {
        proxy_pass http://127.0.0.1:3001; # !!! - 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;
    }
}
```

แก้ไขไฟล์ใน terminal

- sudo nano /etc/hosts

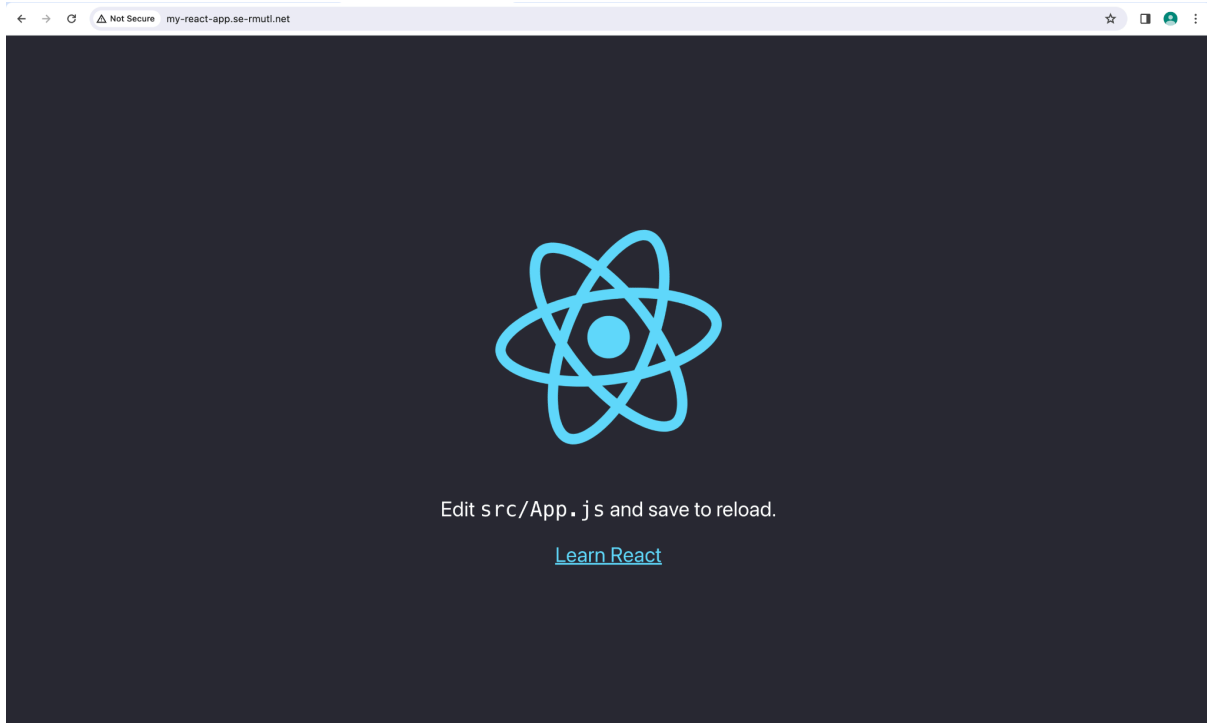
```
UW PICO 5.09 File: /etc/hosts Modified
##
# Host Database
#
# localhost is used to configure the loopback interface
# when the system is booting. Do not change this entry.
##
127.0.0.1        localhost
255.255.255.255 broadcasthost
::1             localhost
10.211.55.4      myapp.se-rmutl.net
10.211.55.4      expressjs-example.se-rmutl.net
10.211.55.4      my-react-app.se-rmutl.net
10.211.55.4      ubuntu-linux-lab.shared ubuntu-linux-lab #prl_hostonly shared

Save modified buffer (ANSWERING "No" WILL DESTROY CHANGES) ?
Y Yes
^C Cancel N No
```

```
cd /var/www/Lab3/my-react-app  
npm start
```

```
devuser@server: /var/www/Lab3/my-react-app$ npm start
```

run domain (Solution)



ติดตั้ง nextjs

```
cd /var/www/Lab3
```

```
npx create-next-app@latest ubuntu-next-app
```

```
devuser@server: /var/www/Lab3$ npx create-next-app@latest ubuntu-next-app  
Need to install the following packages:  
create-next-app@14.0.4  
Ok to proceed? (y) y  
✓ Would you like to use TypeScript? ... No / Yes  
✓ Would you like to use ESLint? ... No / Yes  
✓ Would you like to use Tailwind CSS? ... No / Yes  
✓ Would you like to use `src/` directory? ... No / Yes  
✓ Would you like to use App Router? (recommended) ... No / Yes  
✓ Would you like to customize the default import alias (@/*)? ... No / Yes  
Creating a new Next.js app in /var/www/Lab3/ubuntu-next-app.  
  
Using npm.  
  
Initializing project with template: app-tw  
  
Installing dependencies:  
- react  
- react-dom  
- next  
  
Installing devDependencies:  
- typescript  
- @types/node  
- @types/react  
- @types/react-dom  
- autoprefixer  
- postcss  
- tailwindcss  
- eslint  
- eslint-config-next  
  
added 333 packages, and audited 334 packages in 20s  
  
117 packages are looking for funding  
  run `npm fund` for details  
  
found 0 vulnerabilities  
Success! Created ubuntu-next-app at /var/www/Lab3/ubuntu-next-app
```

```
devuser@server:/var/www/Lab3$ ls
my-react-app  ubuntu-next-app
devuser@server:/var/www/Lab3$ cd ubuntu-next-app
-bash: cd: ubuntu-next-app: No such file or directory
devuser@server:/var/www/Lab3$ cd ubuntu-next-app/
devuser@server:/var/www/Lab3/ubuntu-next-app$ ls
app                next-env.d.ts      package.json        postcss.config.js   README.md           tsconfig.json
next.config.js     node_modules       package-lock.json   public              tailwind.config.ts
devuser@server:/var/www/Lab3/ubuntu-next-app$
```

เข้าไปแก้ไขไฟล์ package.json ในไดเรกทอรี ubuntu-next-app

- sudo nano package.json

```
devuser@server:/var/www/Lab3/ubuntu-next-app$ ls
app                next-env.d.ts      package.json        postcss.config.js   README.md           tsconfig.json
next.config.js     node_modules       package-lock.json   public              tailwind.config.ts
devuser@server:/var/www/Lab3/ubuntu-next-app$ sudo nano package.json
```

```
GNU nano 6.2                                package.json *
```

```
{
  "name": "ubuntu-next-app",
  "version": "0.1.0",
  "private": true,
  "scripts": {
    "dev": "next dev -p 3002",
    "build": "next build",
    "start": "next start -p 3002",
    "lint": "next lint"
  },
  "dependencies": {
    "react": "^18",
    "react-dom": "^18",
    "next": "14.0.4"
  },
  "devDependencies": {
    "typescript": "^5",
    "@types/node": "^20",
    "@types/react": "^18",
    "@types/react-dom": "^18",
    "autoprefixer": "10.0.1",
    "postcss": "^8",
    "tailwindcss": "^3.3.0",
    "eslint": "^8",
    "eslint-config-next": "14.0.4"
  }
}
```

npm run build

```
devuser@server:/var/www/Lab3/ubuntu-next-app$ npm run build

> ubuntu-next-app@0.1.0 build
> next build

Attention: Next.js now collects completely anonymous telemetry regarding usage.
This information is used to shape Next.js' roadmap and prioritize features.
You can learn more, including how to opt-out if you'd not like to participate in this anonymous program, by visiting the following URL:
https://nextjs.org/telemetry

▲ Next.js 14.0.4

✓ Creating an optimized production build
✓ Compiled successfully
✓ Linting and checking validity of types
✓ Collecting page data
✓ Generating static pages (5/5)
✓ Collecting build traces
✓ Finalizing page optimization

Route (app)                                Size      First Load JS
┌ ○ /                                       5.16 kB    87 kB
├ ○ /_not-found                             869 B      82.7 kB
├ ○ First Load JS shared by all           31.8 kB
│   ├── chunks/939-5e061ba0d46125b1.js     26.7 kB
│   ├── chunks/fd9d1056-735d320b4b9745cb.js 53.3 kB
│   ├── chunks/main-app-6f5b7f54cc08e54c.js 220 B
│   └── chunks/webpack-83ed4af7468836e7.js  1.65 kB
└ ○ (Static) prerendered as static content
```

คัดลอกไฟล์ react เป็น next

- `sudo cp react next`

```
devuser@server:/etc/nginx/sites-available$ sudo cp react next
[sudo] password for devuser:
devuser@server:/etc/nginx/sites-available$ ls
default expressjs-example myapp next react
devuser@server:/etc/nginx/sites-available$ sudo nano next
```

แก้ไขไฟล์ react

- `sudo nano react`

```
GNU nano 6.2 next *
server {
    listen 80;
    listen [::]:80;
    server_name ubuntu-next--app.se-rmutl.net;

    location / {
        proxy_pass http://127.0.0.1:3002; # !!! - 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;
    }
}
```

แก้ไขไฟล์ใน terminal

- `sudo nano /etc/hosts`

```
poom — 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
255.255.255.255 broadcasthost
::1         localhost
10.211.55.4  myapp.se-rmutl.net
10.211.55.4  expressjs-example.se-rmutl.net
10.211.55.4  my-react-app.se-rmutl.net
10.211.55.4  ubuntu-next-app.se-rmutl.net
10.211.55.4  ubuntu-linux-lab.shared ubuntu-linux-lab #prl_hostonly shared
```



```
PING ubuntu-next-app.se-rmutl.net (10.211.55.4): 56 data bytes
64 bytes from 10.211.55.4: icmp_seq=0 ttl=64 time=0.474 ms
64 bytes from 10.211.55.4: icmp_seq=1 ttl=64 time=1.433 ms
64 bytes from 10.211.55.4: icmp_seq=2 ttl=64 time=1.005 ms
64 bytes from 10.211.55.4: icmp_seq=3 ttl=64 time=0.946 ms
^C
--- ubuntu-next-app.se-rmutl.net ping statistics ---
4 packets transmitted, 4 packets received, 0.0% packet loss
round-trip min/avg/max/stddev = 0.474/0.964/1.433/0.340 ms
```

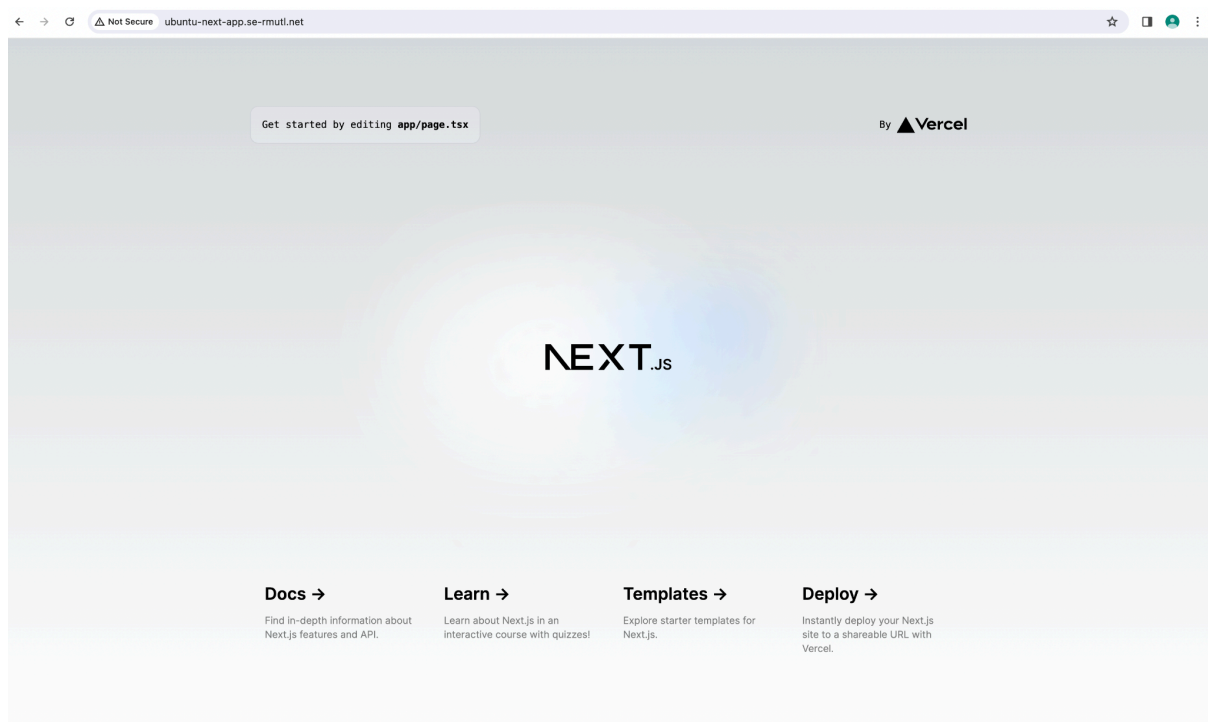
restart nginx

```
devuser@server:/etc/nginx/sites-available$ systemctl restart nginx.service
==== AUTHENTICATING FOR org.freedesktop.systemd1.manage-units ====
Authentication is required to restart 'nginx.service'.
Authenticating as: Supawit Katasila (devuser)
Password:
polkit-agent-helper-1: pam_authenticate failed: Authentication failure
==== AUTHENTICATION FAILED ====
Failed to restart nginx.service: Access denied
See system logs and 'systemctl status nginx.service' for details.
devuser@server:/etc/nginx/sites-available$
```

cd /var/www/Lab3/ubutu-next-app

npm start

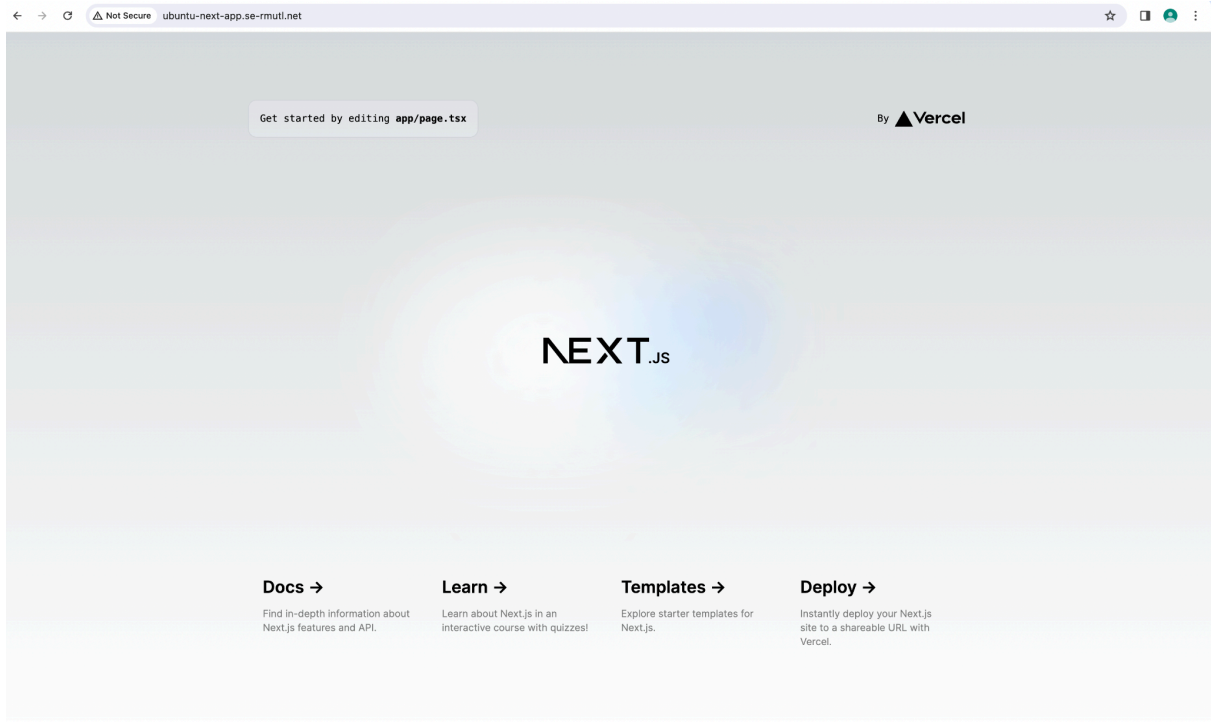
Solution



run pm2 react app

```
devuser@server:/var/www/Lab3/my-react-app$ pm2 start --name my-react-app npm -- start
[PM2] Starting /usr/bin/npm in fork_mode (1 instance)
[PM2] Done.
```

id	name	mode	u	status	cpu	memory
0	my-react-app	fork	0	online	0%	61.4mb
1	my-react-app	fork	0	online	0%	13.8mb



run pm2 next app

```
devuser@server:/var/www/Lab3/ubuntu-next-app$ pm2 start --name ubutu-next-app npm -- start
[PM2] Starting /usr/bin/npm in fork_mode (1 instance)
[PM2] Done.
```

id	name	mode	u	status	cpu	memory
0	my-react-app	fork	0	online	0%	61.5mb
1	my-react-app	fork	15	errored	0%	0b
2	ubutu-next-app	fork	0	online	0%	3.5mb

