Lab3 nginxand Nodejs + Expressjs

สร้าง lab3

cd /var/www

sudo mkdir lab3

```
devuser@server:/var/www$ sudo mkdir lab3
[sudo] password for devuser:
devuser@server:/var/www$
```

sudo chown -R $USER:$USER /var/www/lab3

กำหนด owner ให้เป็น lab3

```
devuser@server:/var/www$ sudo chown -R $USER:$USER /var/www/lab3
devuser@server:/var/www$
```

npx create-react-app my-react-app

```
devuser@server:/var/www/lab3$ npx create-react-app my-react-app

Creating a new React app in /var/www/lab3/my-react-app.

Installing packages. This might take a couple of minutes.
Installing react, react-dom, and react-scripts with cra-template...


added 1463 packages in 26s

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

Initialized a git repository.

Installing template dependencies using npm...

added 69 packages, and changed 1 package in 6s

246 packages are looking for funding
  run `npm fund` for details
Removing template package using npm...


removed 1 package, and audited 1532 packages in 2s

246 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.
Git commit not created Error: Command failed: git commit -m "Initialize project using Create React App"
    at checkExecSyncError (node:child_process:890:11)
    at execSync (node:child_process:962:15)
    at tryGitCommit (/var/www/lab3/my-react-app/node_modules/react-scripts/scripts/init.js:62:5)
```
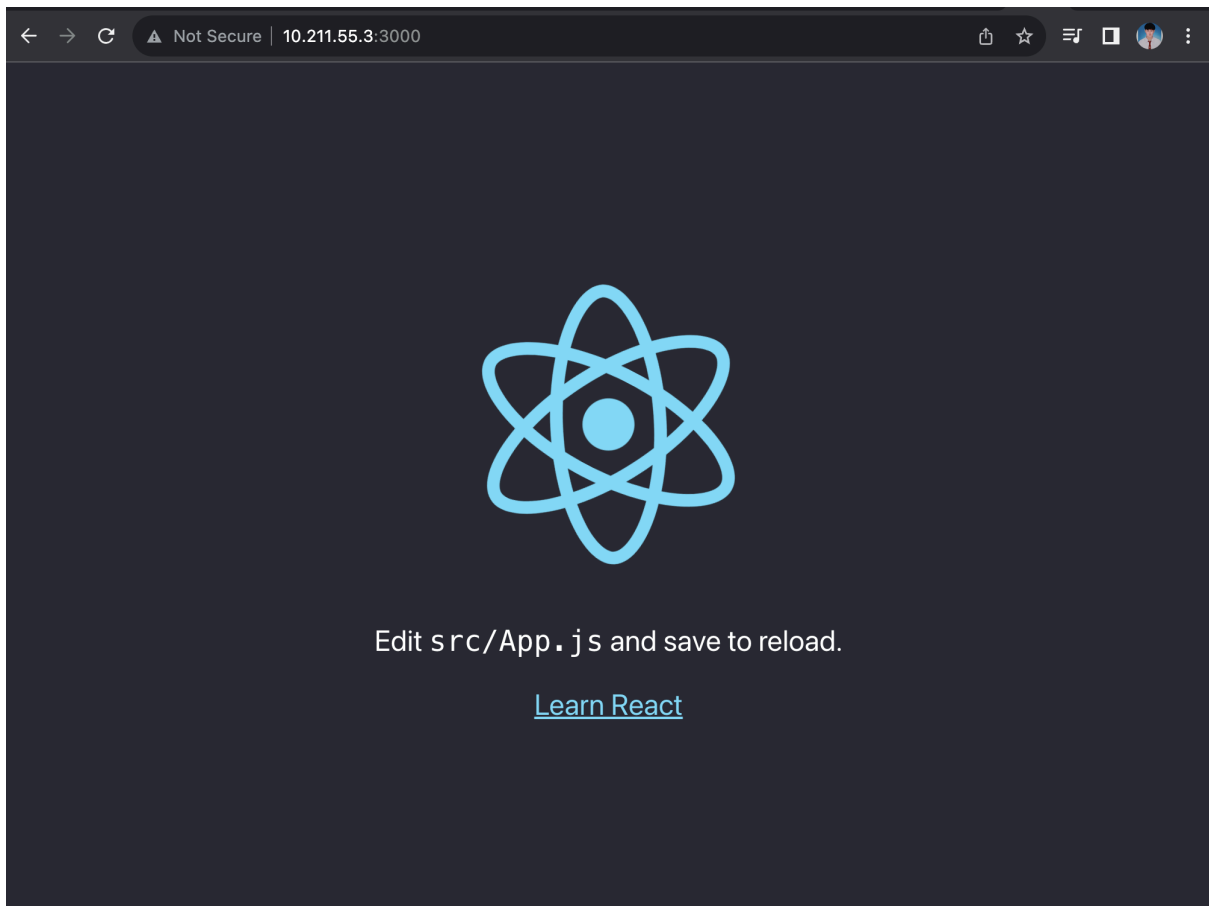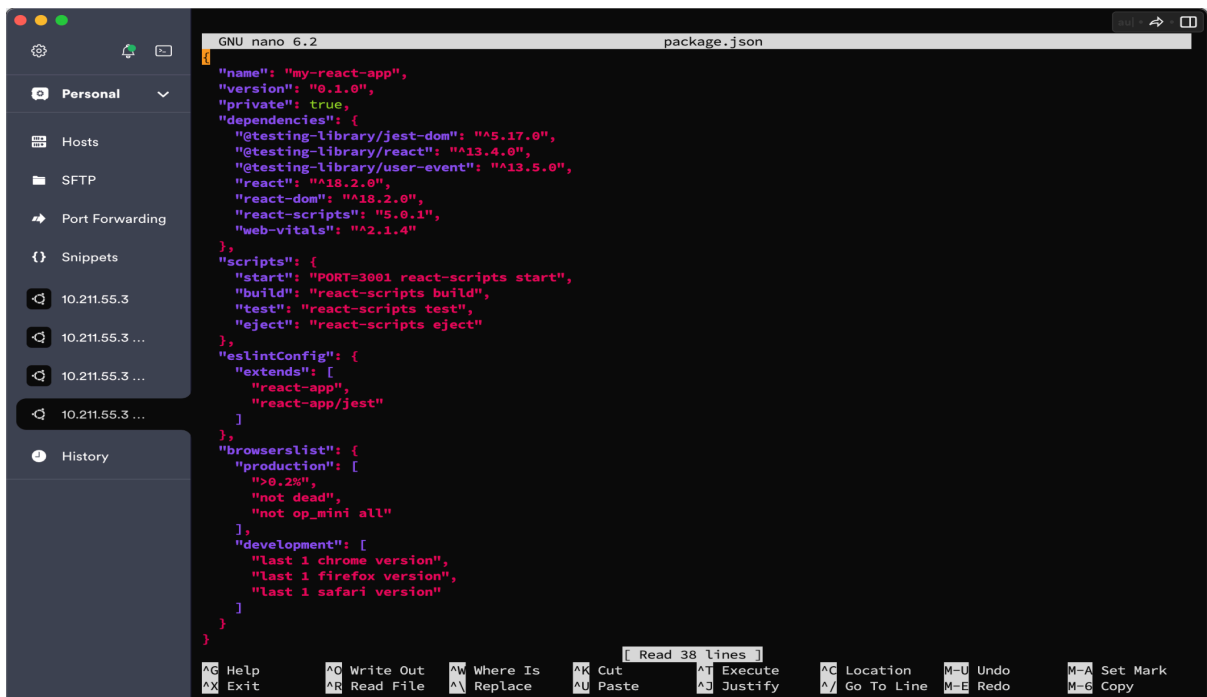
npmstart

sudo nano package.json

เพิ่ม PORT=3001 ตรง start

sudo ufw allow 3001

อนุญาติให้รันโดยไม่ติด Firewall

```
devuser@server:/var/www/lab3/my-react-app$ sudo ufw allow 3001
Rule added
Rule added (v6)
devuser@server:/var/www/lab3/my-react-app$ █
```

sudo cp default my-react-app

```
devuser@server:/etc/nginx/sites-available$ sudo cp default my-react-app
[sudo] password for devuser:
devuser@server:/etc/nginx/sites-available$ █
```

sudo nano my-react-app

```
devuser@server:/etc/nginx/sites-available$ sudo nano my-react-app
devuser@server:/etc/nginx/sites-available$ █
```

```
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;
        }

}
```

เข้าไปกำหนดเลข port และชื่อโดเมน


```
systemctl restart nginx.service
```

10.211.55.3 my-react-app.se-rmutl.net

cd เข้าไปที่ /etc/hosts เข้าไปเพิ่มโดเมนใน ip เพื่อให้สามารถเปิดโดเมนนี้ได้

```
● ● ●                    📁 admin — pico ‹ sudo — 80×24

  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             localhost
10.211.55.3 myapp.se-rmutl.net
10.211.55.3 expressjs-example.se-rmutl.net
10.211.55.3 my-react-app.se-rmutl.net




^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
```
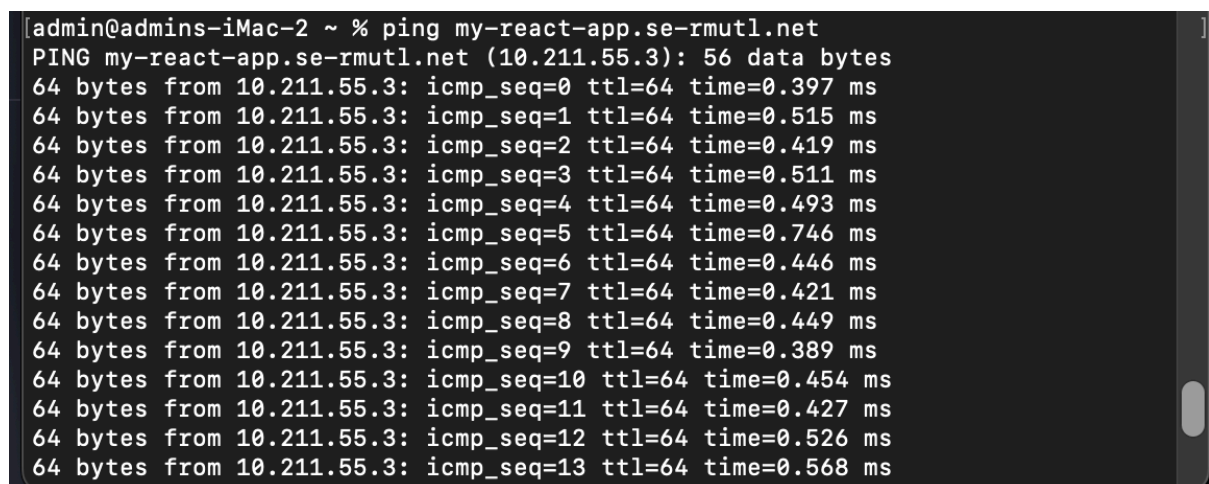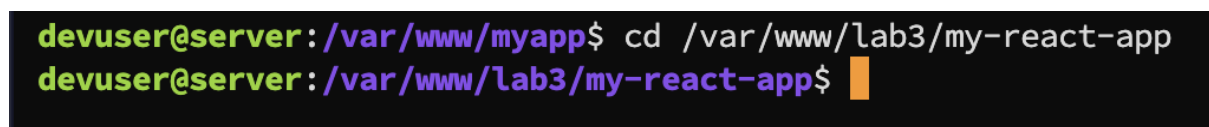
ping my-react-app.se-rmutl.net

```
[admin@admins-iMac-2 ~ % ping my-react-app.se-rmutl.net
PING my-react-app.se-rmutl.net (10.211.55.3): 56 data bytes
64 bytes from 10.211.55.3: icmp_seq=0 ttl=64 time=0.397 ms
64 bytes from 10.211.55.3: icmp_seq=1 ttl=64 time=0.515 ms
64 bytes from 10.211.55.3: icmp_seq=2 ttl=64 time=0.419 ms
64 bytes from 10.211.55.3: icmp_seq=3 ttl=64 time=0.511 ms
64 bytes from 10.211.55.3: icmp_seq=4 ttl=64 time=0.493 ms
64 bytes from 10.211.55.3: icmp_seq=5 ttl=64 time=0.746 ms
64 bytes from 10.211.55.3: icmp_seq=6 ttl=64 time=0.446 ms
64 bytes from 10.211.55.3: icmp_seq=7 ttl=64 time=0.421 ms
64 bytes from 10.211.55.3: icmp_seq=8 ttl=64 time=0.449 ms
64 bytes from 10.211.55.3: icmp_seq=9 ttl=64 time=0.389 ms
64 bytes from 10.211.55.3: icmp_seq=10 ttl=64 time=0.454 ms
64 bytes from 10.211.55.3: icmp_seq=11 ttl=64 time=0.427 ms
64 bytes from 10.211.55.3: icmp_seq=12 ttl=64 time=0.526 ms
64 bytes from 10.211.55.3: icmp_seq=13 ttl=64 time=0.568 ms
```
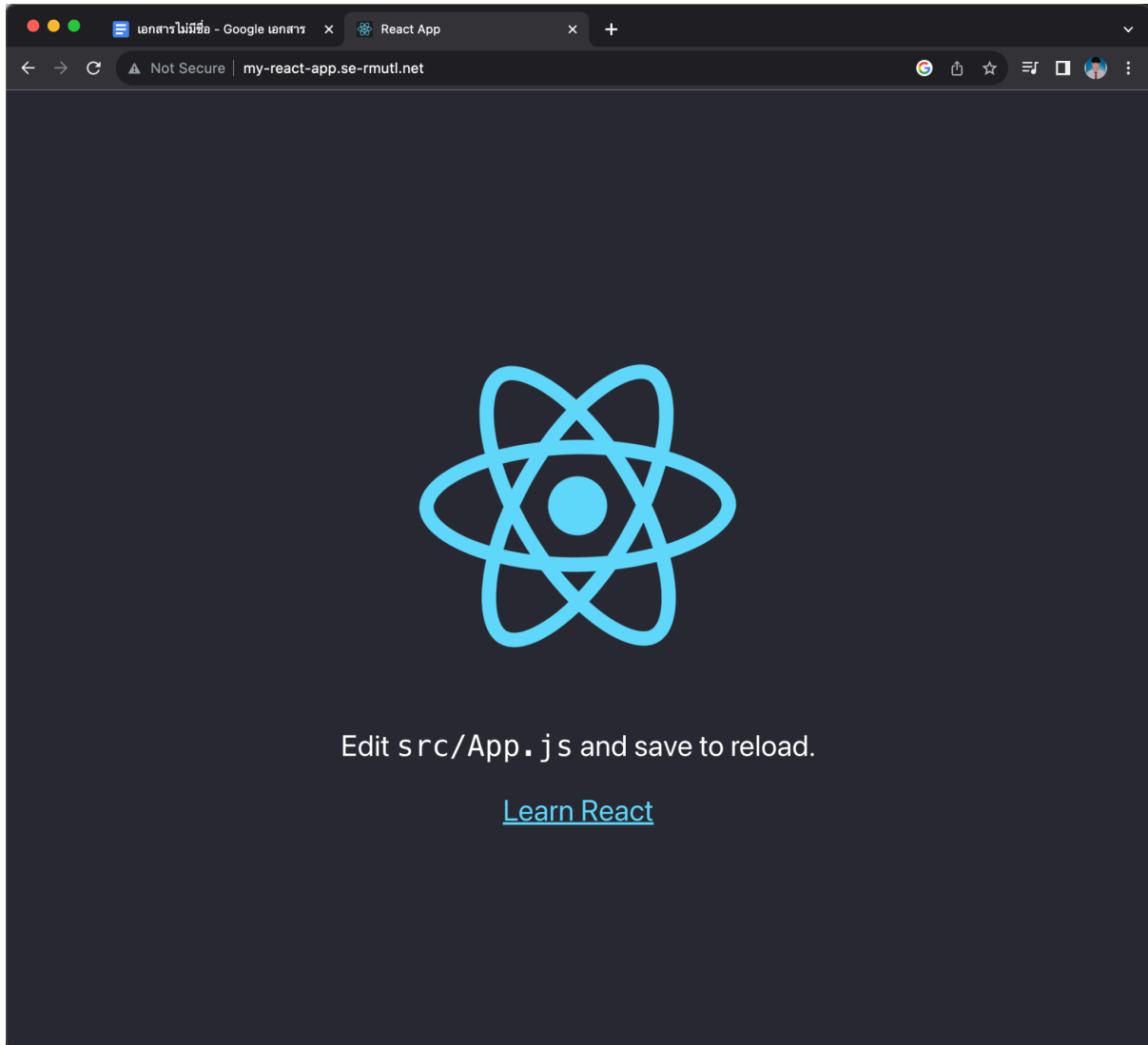
cd /var/www/lab3/my-react-app

```
devuser@server:/var/www/myapp$ cd /var/www/lab3/my-react-app
devuser@server:/var/www/lab3/my-react-app$ 
```

npm start

```
devuser@server:/var/www/lab3/my-react-app$ npm start
```
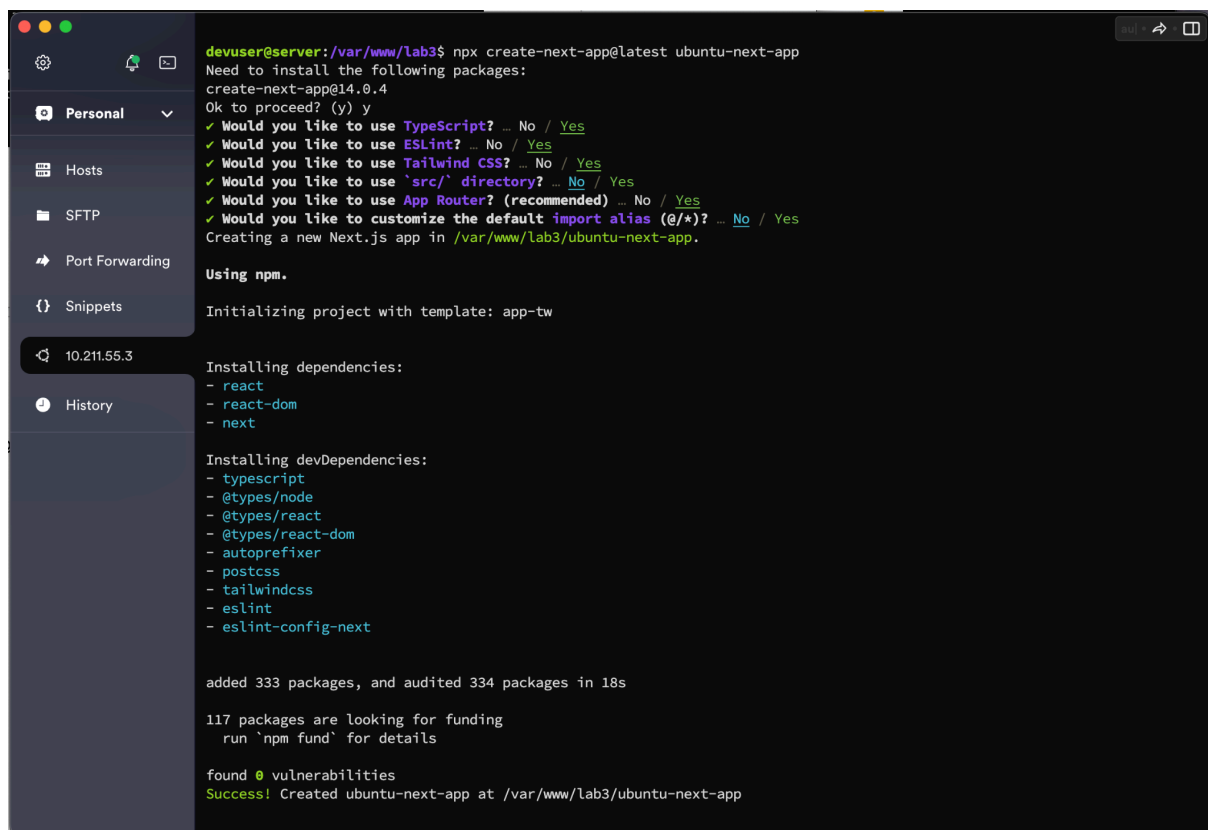
npm start (run domain)

cd เข้าไปใน lab3

```
devuser@server:/var/www/lab3/my-react-app$ cd
cd
devuser@server:~$ cd /var/www/lab3
devuser@server:/var/www/lab3$
```

npx create-next-app@latest ubuntu-next-app
-คำสั่งสร้าง app โดยใช้ nextjs

```
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 18s

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
```

cd ubuntu-next-app

```
devuser@server:/var/www/lab3/ubuntu-next-app$
```

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            81.8 kB
  ├ chunks/938-5e061ba0d46125b1.js       26.7 kB
  ├ chunks/fd9d1056-735d320b4b8745cb.js  53.3 kB
  ├ chunks/main-app-b0baefae49ce51a1.js  220 B
  └ chunks/webpack-327c219bf3d3ad2c.js   1.65 kB


○  (Static)   prerendered as static content

devuser@server:/var/www/lab3/ubuntu-next-app$
```
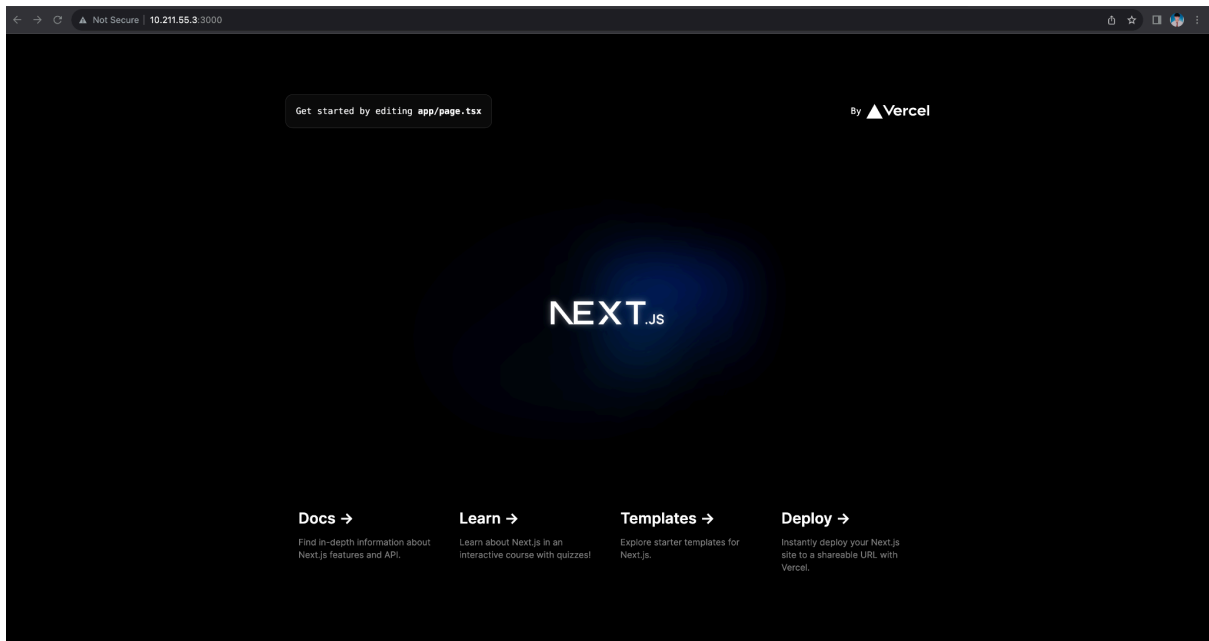
npm start

```
devuser@server:/var/www/lab3/ubuntu-next-app$ npm start

> ubuntu-next-app@0.1.0 start
> next start


   ▲ Next.js 14.0.4
   - Local:        http://localhost:3000


 ✓ Ready in 197ms
```
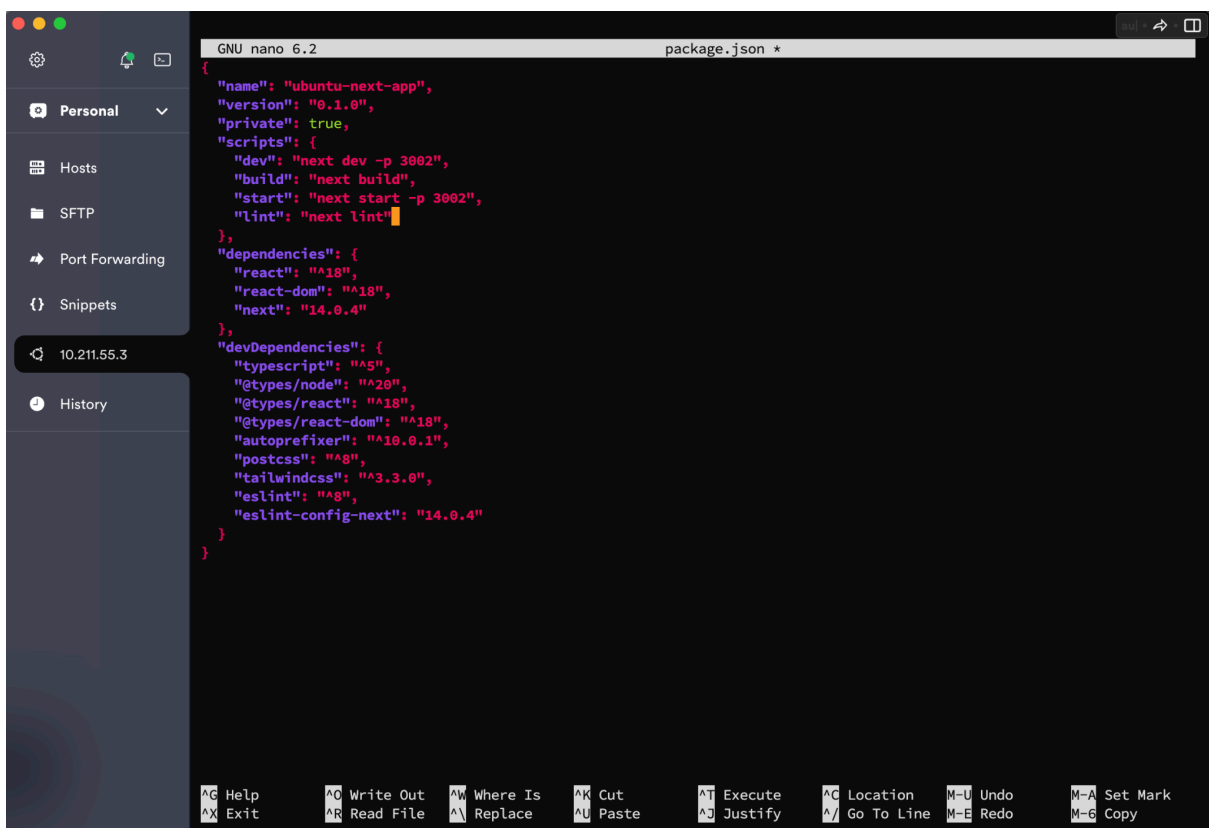
sudo nano package.json

เพิ่ม port 3002 ตรง dev,start


```
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"
  }
}
```

```
^G Help       ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location   M-U Undo      M-A Set Mark
^X Exit       ^R Read File  ^\ Replace    ^U Paste      ^J Justify    ^/ Go To Line M-E Redo      M-6 Copy
```

sudo ufw allow 3002

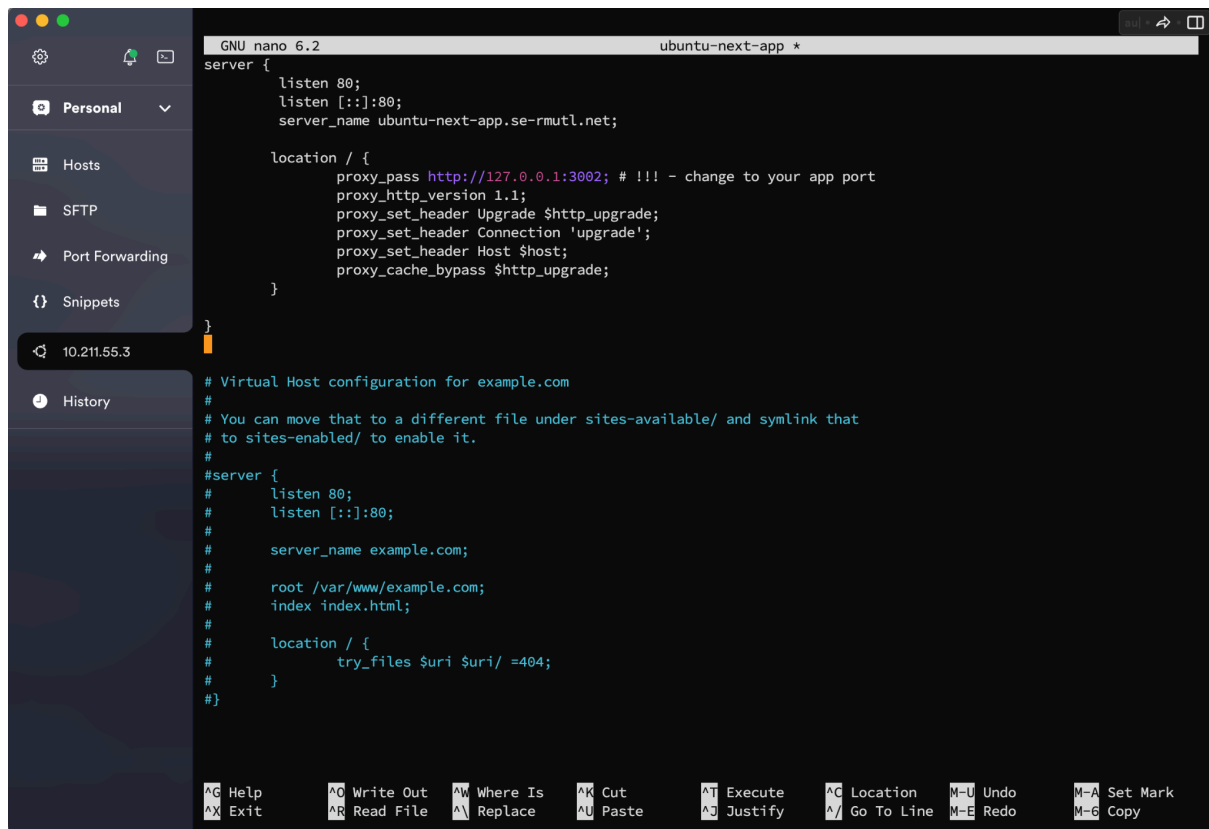อนุญาติให้รันโดยไม่ติด Firewall

```
devuser@server:/var/www/lab3/ubuntu-next-app$ sudo ufw allow 3002
Skipping adding existing rule
Skipping adding existing rule (v6)
devuser@server:/var/www/lab3/ubuntu-next-app$
```

cd /etc/nginx/sites-available

sudo cp default ubuntu-next-app

sudo nano ubuntu-next-app

```
devuser@server:/var/www/lab3/ubuntu-next-app$ cd
devuser@server:~$ cd /etc/nginx/sites-available
devuser@server:/etc/nginx/sites-available$ sudo cp default ubuntu-next-app
devuser@server:/etc/nginx/sites-available$ sudo nano ubuntu-next-app
```

```
GNU nano 6.2                                    ubuntu-next-app *
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;
        }
}

# 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;
#       }
#}

^G Help      ^O Write Out   ^W Where Is   ^K Cut     ^T Execute   ^C Location    M-U Undo   M-A Set Mark
^X Exit      ^R Read File   ^\ Replace    ^U Paste   ^J Justify   ^/ Go To Line  M-E Redo   M-6 Copy
```

sudo systemctl restart nginx

คำสั่ง restart nginx

```
devuser@server:/etc/nginx/sites-available$ sudo systemctl restart nginx
devuser@server:/etc/nginx/sites-available$
```

10.211.55.3   ubuntu-next-app-rmutl.net (edit in terminal -> sudo nano /etc/host)

cd เข้าไปที่ /etc/hosts เข้าไปเพิ่มโดเมนใน ip เพื่อให้สามารถเปิดโดเมนนี้ได้

```
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             localhost
10.211.55.3 myapp.se-rmutl.net
10.211.55.3 expressjs-example.se-rmutl.net
10.211.55.3 my-react-app.se-rmutl.net
10.211.55.3 ubuntu-next-app-rmutl.net




^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
```
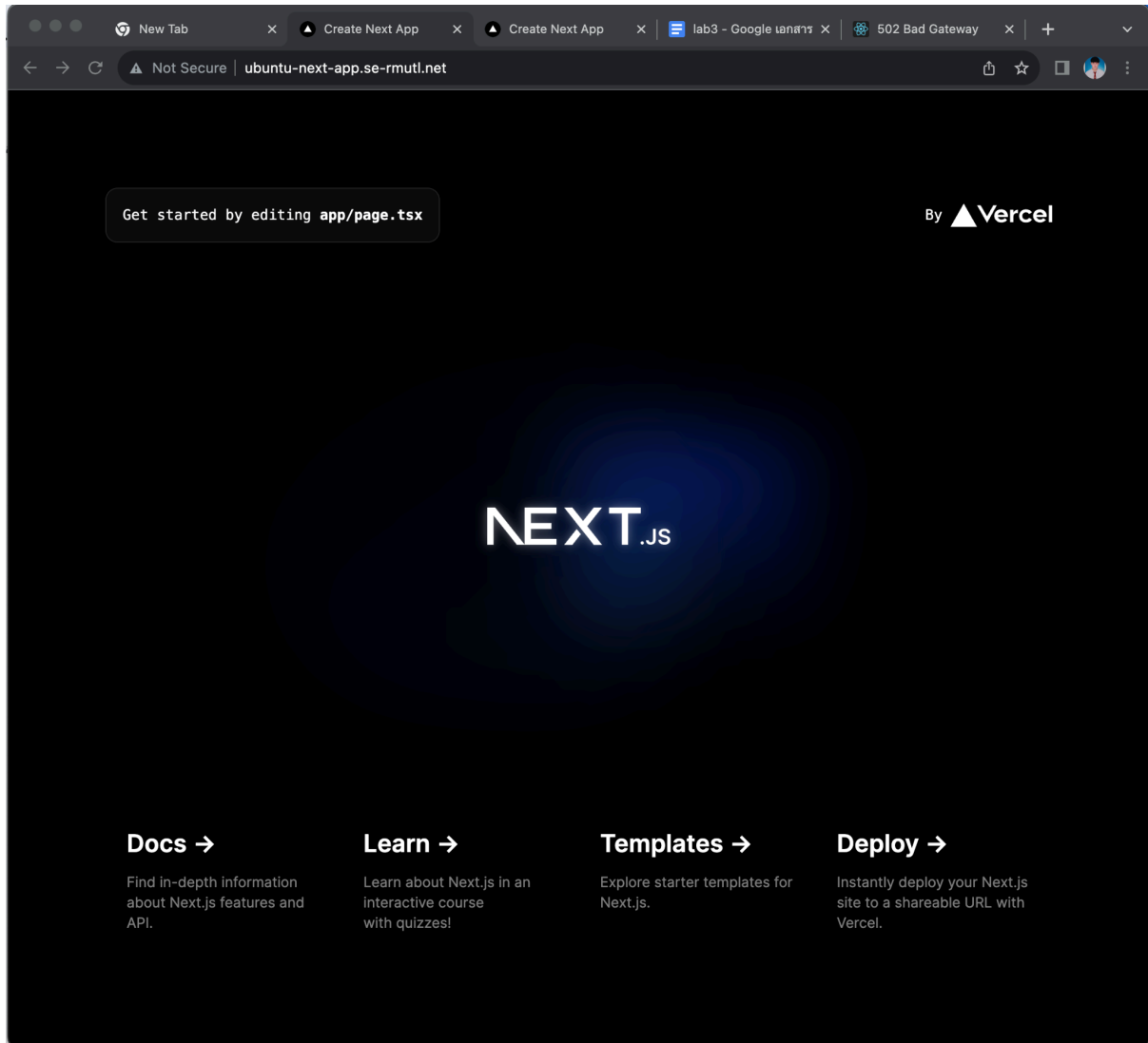
cd /var/www/lab3/ubuntu-next-app

```
devuser@server:/var/www/lab3/ubuntu-next-app$
```

npm start

```
devuser@server:/var/www/lab3/ubuntu-next-app$ npm start
```


66543210006-3 จิรภัทร ทนุโวหาร