Lab 3 Create Reactjs app and Create Nextjs app

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

สร้างไฟล์ LAB3

```
devuser@server:~$ npx update -g
Need to install the following packages:
update@0.7.4
Ok to proceed? (y) y
(          ) ⸬ idealTree:question-cache: sill placeDep ROOT use@1.1.2 OK for: question-cache@0.4.0 want: ^1.1.2
```

Update npx

```
devuser@server:/var/www/lab3$ npx create-react-app my-react-app
Need to install the following packages:
create-react-app@5.0.1
Ok to proceed? (y)
```

โหลด Reactjs

```
devuser@server:/var/www/lab3$ cd 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$ nano package.json
```

เข้าไปแก้ไข Port ใน Package.json โดยใช้คำสั่ง Nano

```
  GNU nano 6.2
{
  "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"
    ]
  }
}
```

เปลี่ยน Port เป็น 3001 ในหัวข้อ Start

```
Compiled successfully!

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

  Local:            http://localhost:3001
  On Your Network:  http://10.211.55.5:3001

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

webpack compiled successfully
```

ใช้คำสั่งNpm start

Edit src/App.js and save to reload.

Learn React

เข้าเช็คโดยหมายเลข ip ตัวเอง 10.211.55.x

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

เข้าไปแก้ไข config ใน nginx

```
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;

}
```

แก้ไข port และเปลี่ยน Servername

```
::1             localhost
10.211.55.5     myapp.se-rmutl.net expressjs-example.se-rmutl.net my-react-app.se-rmutl.net
```

เพิ่ม Domain เข้าไป

เข้า React ด้วย Domain ที่ใส่เข้าไป

```
devuser@server:/etc/nginx$ cd /var/www/lab3
devuser@server:/var/www/lab3$ 
```

กลับเข้าไปในไฟล์ Lab3

```
devuser@server:/etc/nginx$ cd /var/www/lab3
devuser@server:/var/www/lab3$ npx create-next-app@latest ubuntu-next-app
```

โหลดไฟล์ Next js

```
devuser@server:/var/www/lab3$ npx create-next-app@latest ubuntu-next-app
✔ 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
✔ What import alias would you like configured? … @/*
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 11s

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$
```

ติดตั้ง Nextjsให้เสร็จสิ้น

```
devuser@server:/var/www/lab3$ cd ubuntu-next-app/
devuser@server:/var/www/lab3/ubuntu-next-app$ sudo nano package
devuser@server:/var/www/lab3/ubuntu-next-app$ sudo nano package.json
devuser@server:/var/www/lab3/ubuntu-next-app$ sudo ufw allow 3002
Rule added
Rule added (v6)
devuser@server:/var/www/lab3/ubuntu-next-app$ █
```

เข้าโฟลเดอร์ไปแก้ไข Package.json และเปิด Port 3002

```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"
  }
}
```

เข้าไปแก้ไข ตรง Dev และ start เพื่อเพิ่ม Port 3002


```
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 run build เพื่อสร้าง server


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

> ubuntu-next-app@0.1.0 start
> next start -p 3002

   ▲ Next.js 14.0.4
   - Local:        http://localhost:3002

 ✓ Ready in 211ms
```

Npm start เพื่อเปิดใช้งาน

เข้าโดยการใช้ Port 3002 และ ipของตัวเอง

```
devuser@server:/etc/nginx/sites-available$ sudo cp reactjs-app nextjs-app
[sudo] password for devuser:
devuser@server:/etc/nginx/sites-available$ sudo nano nextjs-app
```

Copy ไฟล์ config

```
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;
        }

}
```
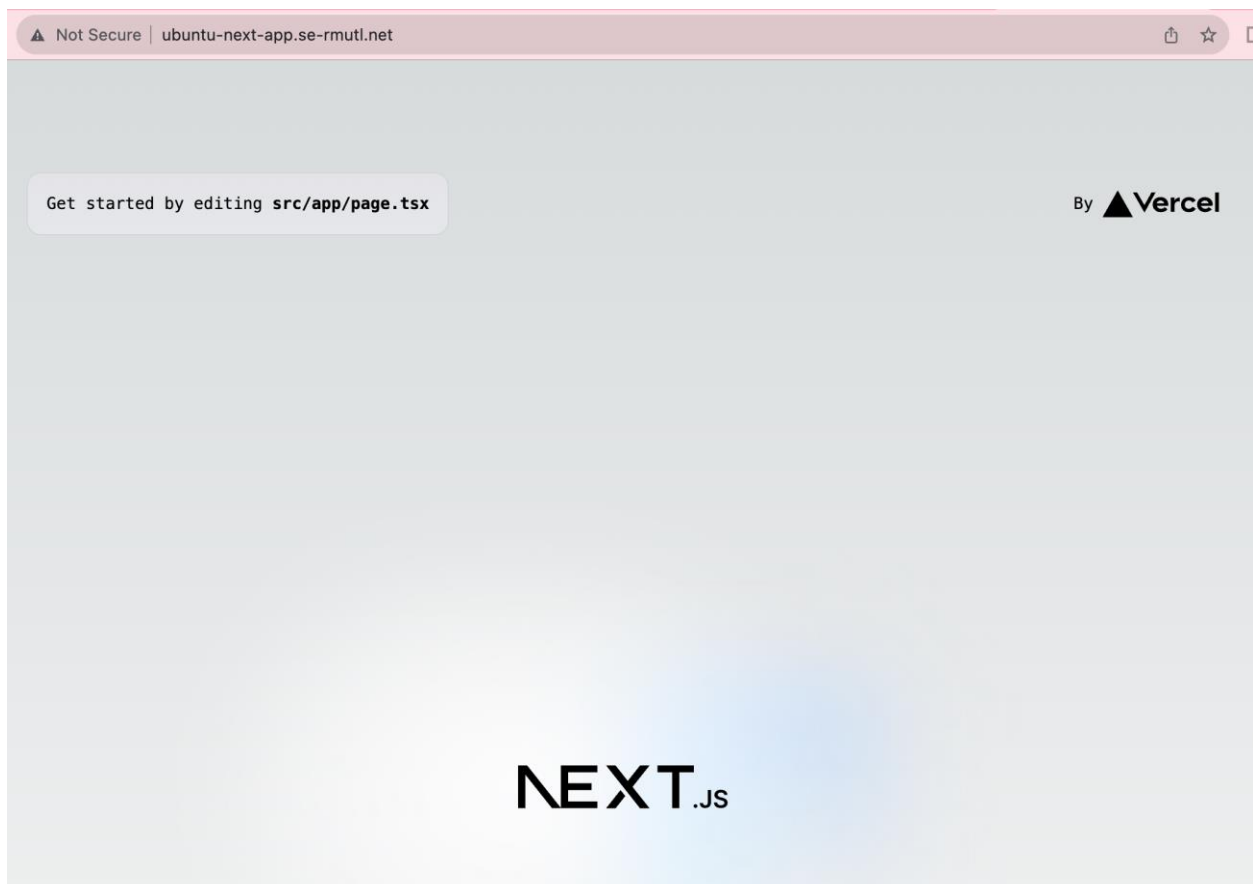
เปลี่ยน Port และ Servername

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

ใส่ชื่อDomain

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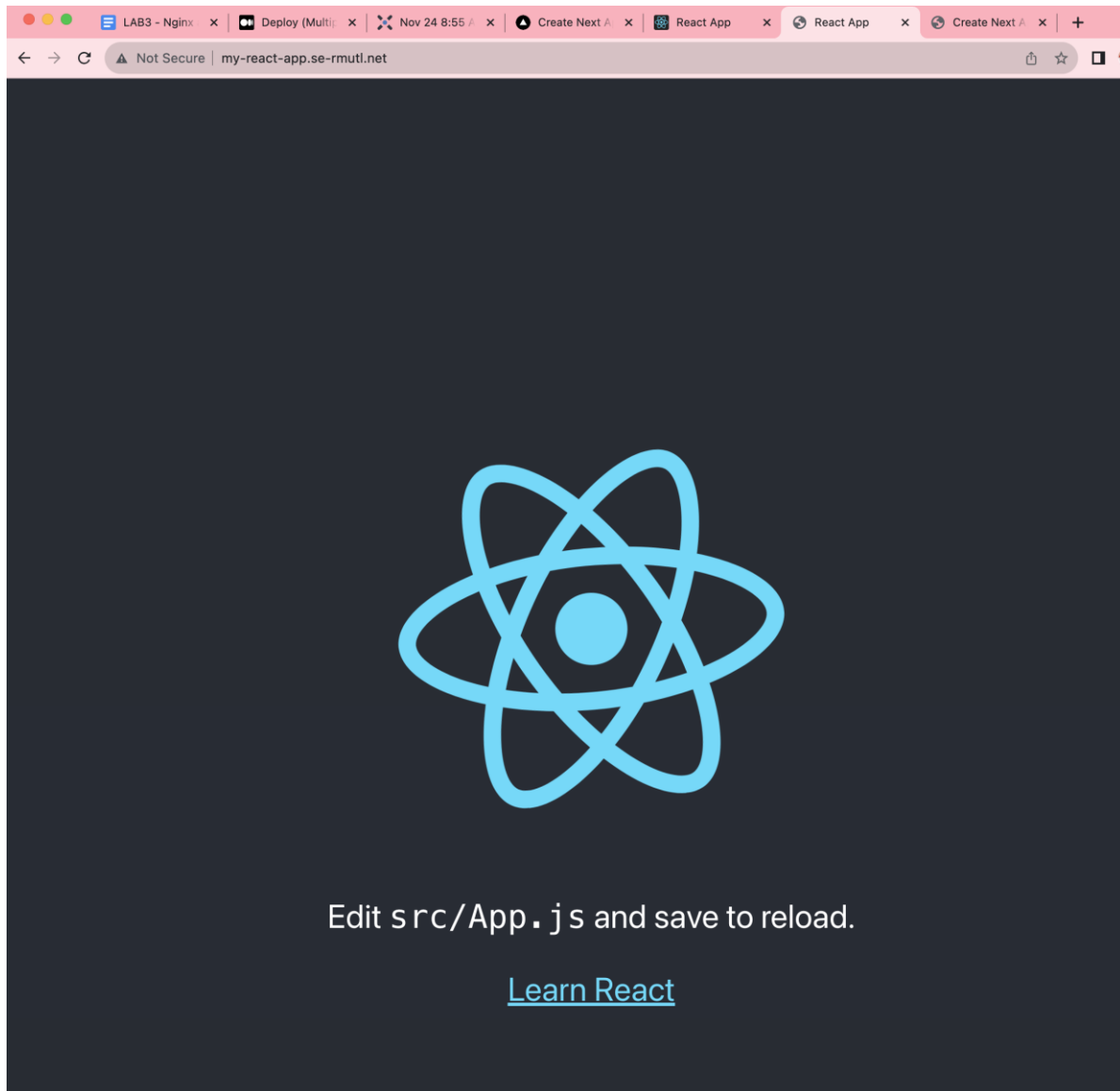
Restart nginx

เข้าเว็ปโดยการใช้ Domain name

```
devuser@server:/etc/nginx/sites-available$ sudo npm install pm2 -g
```
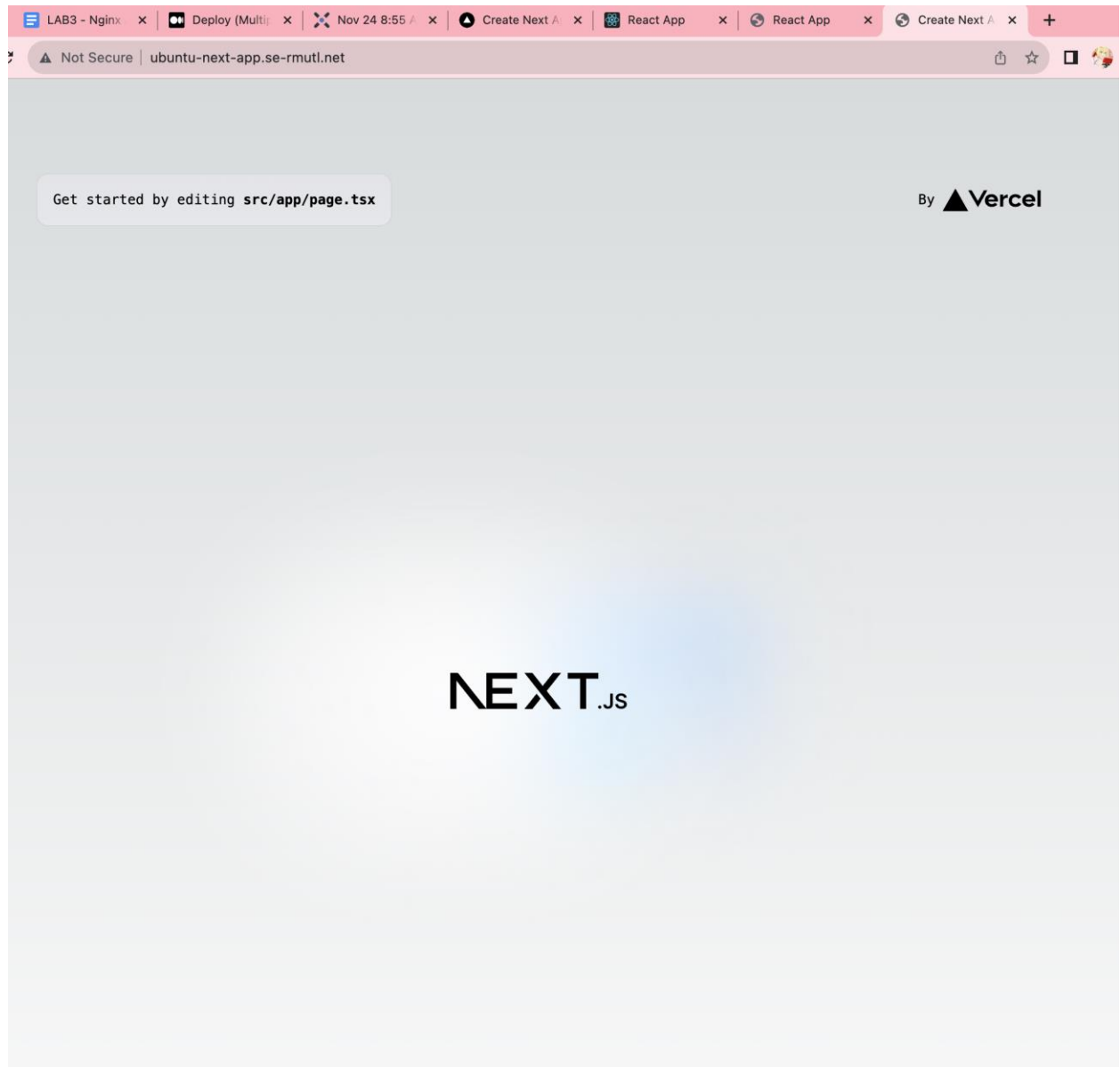
ติดตั้ง pm2

```
devuser@server:/etc/nginx/sites-available$ cd /var/www/lab3/ubuntu-next-app/
devuser@server:/var/www/lab3/ubuntu-next-app$ pm2 start npm --name "Nextjs" -- start


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 _\/\\\///////\\\_\/\\\\\_____/\\\\\__/\\\///////\\\___
  _\/\\_____\///__\/\\\//\\\___/\\\/\\\_\///_____\//\\\___
   _\/\\\\\\\\\\/__\/\\\\///\\\/\\\/_\/\\_____/\\\/___
    _\/\\\///////____\/\\\__\///\\\/___\/\\_____/\\\//_____
     _\/\\_____\/\\\____\///_____\/\\\____/\\\//_____
      _\/\\_____\/\\_____\/\\\___/\\\/_____
       _\/\\_____\/\\_____\/\\\__/\\\\\\\\\\\\\\\_
        _\///_____\///_____\///__\///////////////__


                     Runtime Edition

        PM2 is a Production Process Manager for Node.js applications
                with a built-in Load Balancer.

                Start and Daemonize any application:
                $ pm2 start app.js

                Load Balance 4 instances of api.js:
                $ pm2 start api.js -i 4

                Monitor in production:
                $ pm2 monitor

                Make pm2 auto-boot at server restart:
                $ pm2 startup

                To go further checkout:
                http://pm2.io/


                  -------------

[PM2] Spawning PM2 daemon with pm2_home=/home/devuser/.pm2
[PM2] PM2 Successfully daemonized
[PM2] Starting /usr/bin/npm in fork_mode (1 instance)
[PM2] Done.
```

id	name	namespace	version	mode	pid	uptime	↺	status	cpu	mem	user	watching
0	Nextjs	default	N/A	fork	2773	0s	0	online	0%	35.6mb	devuser	disabled

```
devuser@server:/var/www/lab3/ubuntu-next-app$ cd /var/www/lab3/my-react-app/
devuser@server:/var/www/lab3/my-react-app$ pm2 start npm --name "Reactjs" -- start
[PM2] Starting /usr/bin/npm in fork_mode (1 instance)
[PM2] Done.
```

id	name	namespace	version	mode	pid	uptime	↺	status	cpu	mem	user	watching
0	Nextjs	default	N/A	fork	2773	4m	0	online	0%	59.7mb	devuser	disabled
1	Reactjs	default	N/A	fork	2836	0s	0	online	0%	17.6mb	devuser	disabled

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

เข้าโฟลเดอร์ทั้งสอง เว็ปไซด์ แล้วเปิดใช้งาน

Reactjs

Nextjs