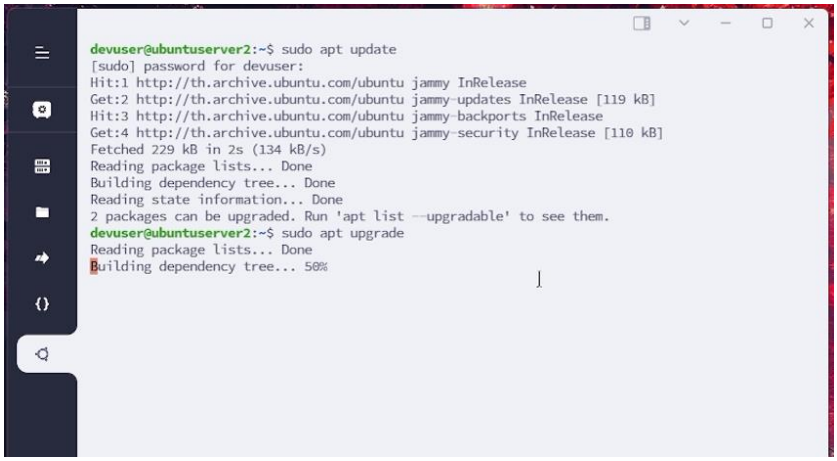
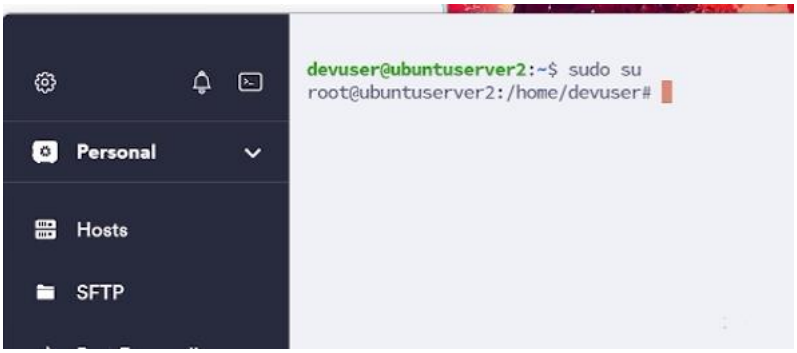
LAB3

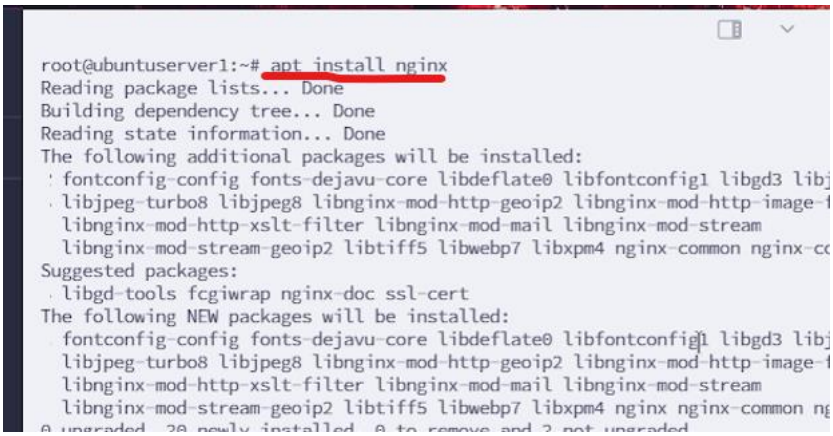
Step1: Update package. [apt update && apt upgrade]



Step2: Switch to the root account. [sudo su]

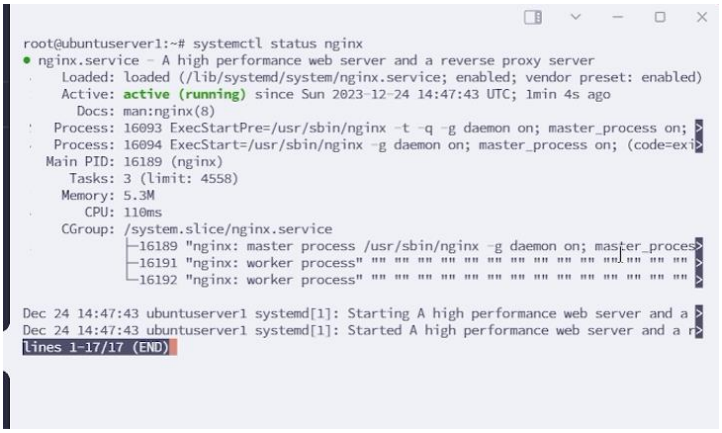


Step3: Install Nginx. [apt install nginx]

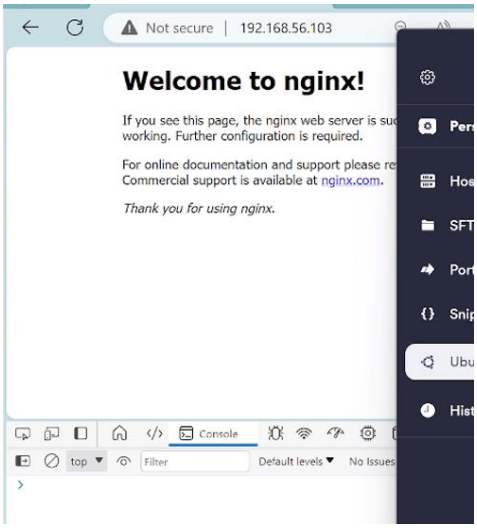


Step4: Check app list & allow Nginx & check status. [ufw app list], [ufw allow 'Nginx HTTP'], [ufw status]

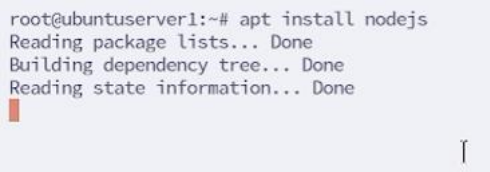
Step5: Check service status nginx. [systemctl status nginx]



Step6: Enter your ip localhost on Web Browser.



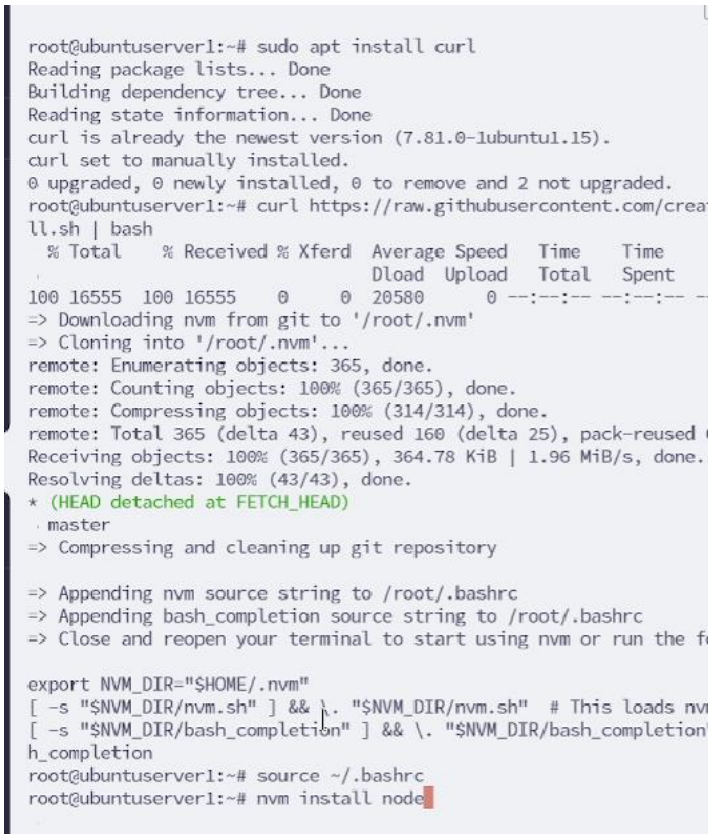
Step7: Install NodeJS. [apt install nodejs]

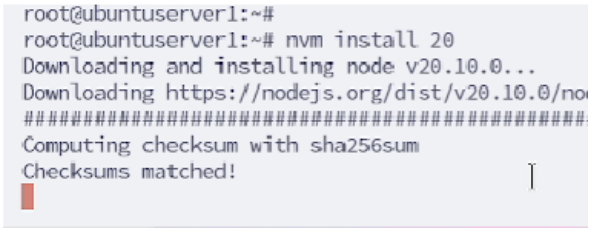


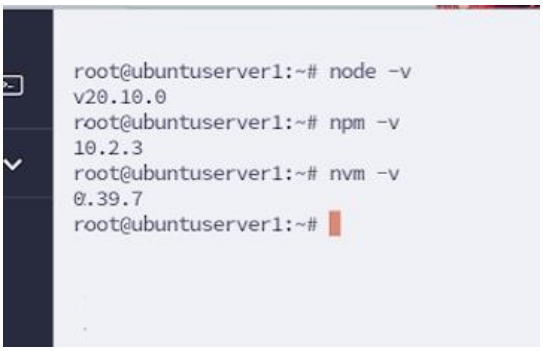
*NVM (Node Version Manage) is a tool used to download, install, manage, and upgrade NodeJS.

Step8: Change Node version to version 20 using nvm (First of all, you must install nvm). [apt install curl], [source ~/.bashrc], [nvm install 20]

- Check Node version [node -v] Check npm version [npm -v] and Check nvm version. [nvm -v]



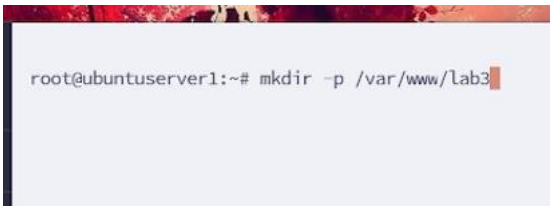




React

Step1: Make directories lab3. [mkdir -p /var/www/lab3]

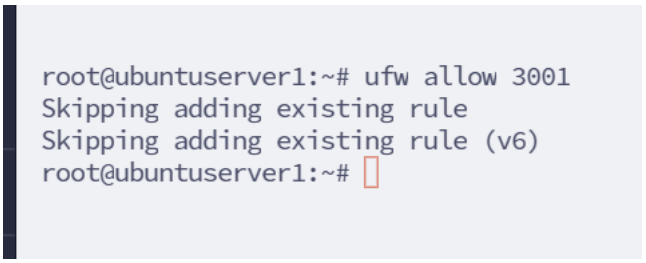
- Go inside the folder lab3. [cd /var/www/lab3]



Step2: Create Project React with command. [npx create-react-app my-reat-app]

- Edit file package.json (Specify a port run project 3001).

- Allow port 3001. [ufw allow 3001]



Step3: Set file nginx to set port project React.

- Copy file default in sites-available. [cp default my-react-app]

```
root@ubuntuserver1:/etc/nginx/sites-available# ls
default  expressjs-example  myapp
root@ubuntuserver1:/etc/nginx/sites-available# cp default my-react-app
```

- Set listen port 80 cause the default file will be 80 default_server

- Set server name. my-react-app.se-rmutl.net

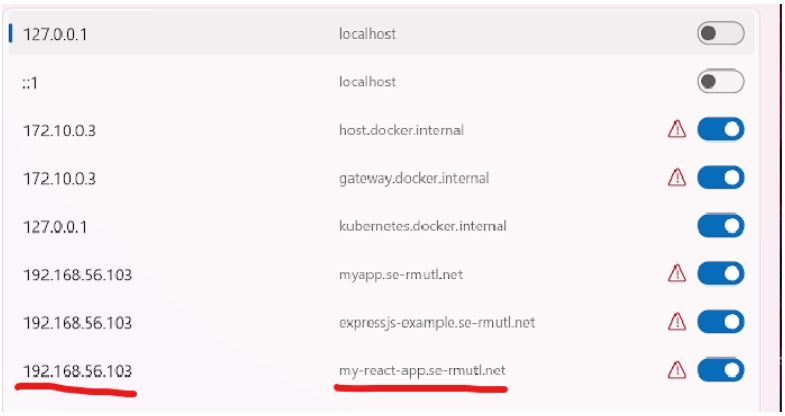
- Add location and set port 3001

```
 GNU nano 6.2                          my-react-app *
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;
        }
}

# 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
```

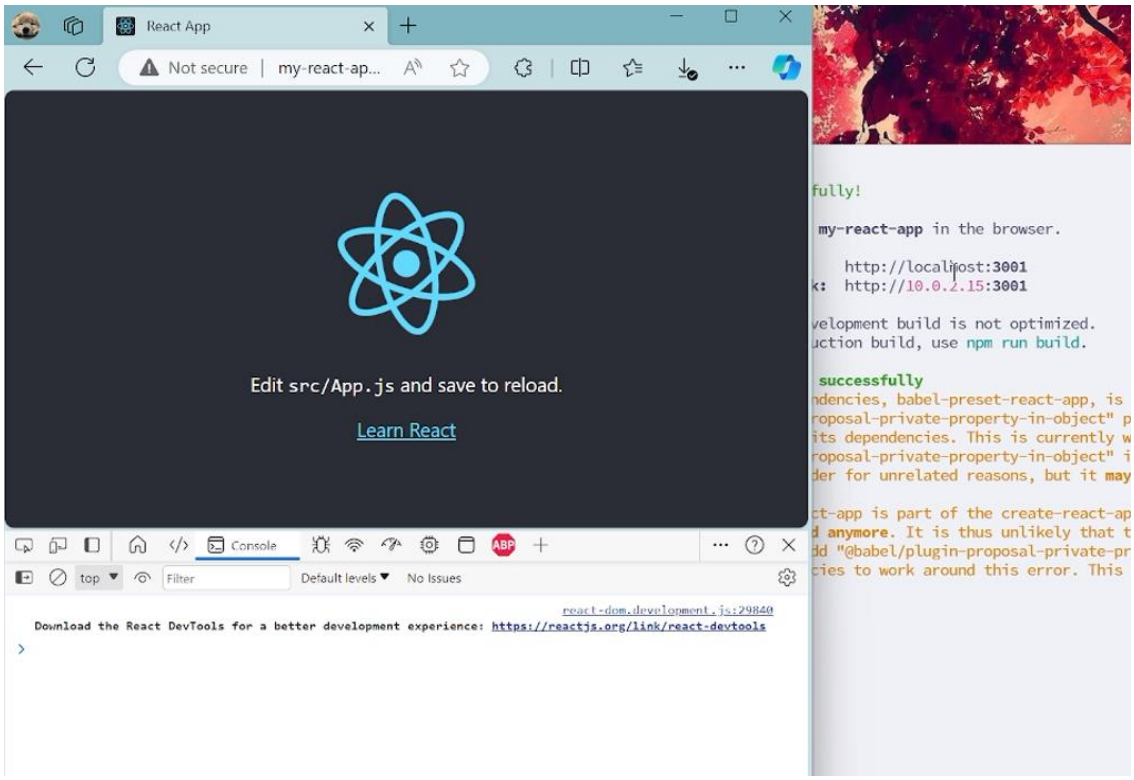
- Then restart nginx and check service it's ok. [systemctl restart nginx], [nginx -t]

```
root@ubuntuserver1:/etc/nginx/sites-available# nano my-react-app
root@ubuntuserver1:/etc/nginx/sites-available# systemctl restart nginx
root@ubuntuserver1:/etc/nginx/sites-available# nginx -t
nginx: the configuration file /etc/nginx/nginx.conf syntax is ok
nginx: configuration file /etc/nginx/nginx.conf test is successful
root@ubuntuserver1:/etc/nginx/sites-available# clea
```

- Then set up the host (from the outside machine).

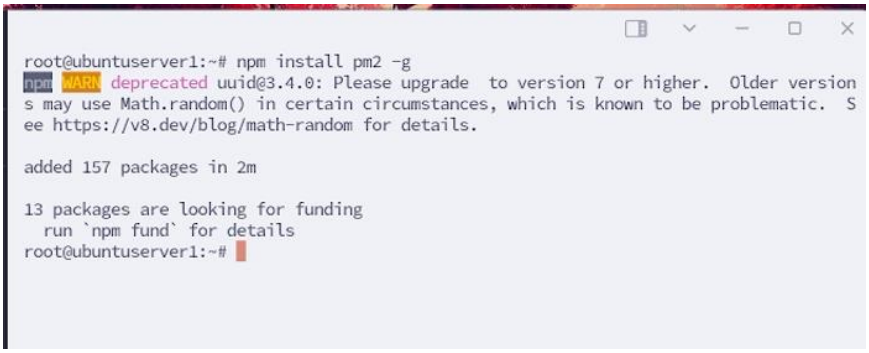


- Test to see if Hosts are working normally. [npm start]

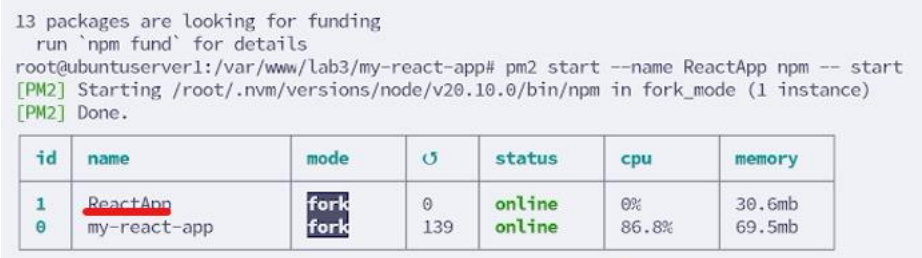


*PM2 is a tool that helps our NodeJS process run at all times.

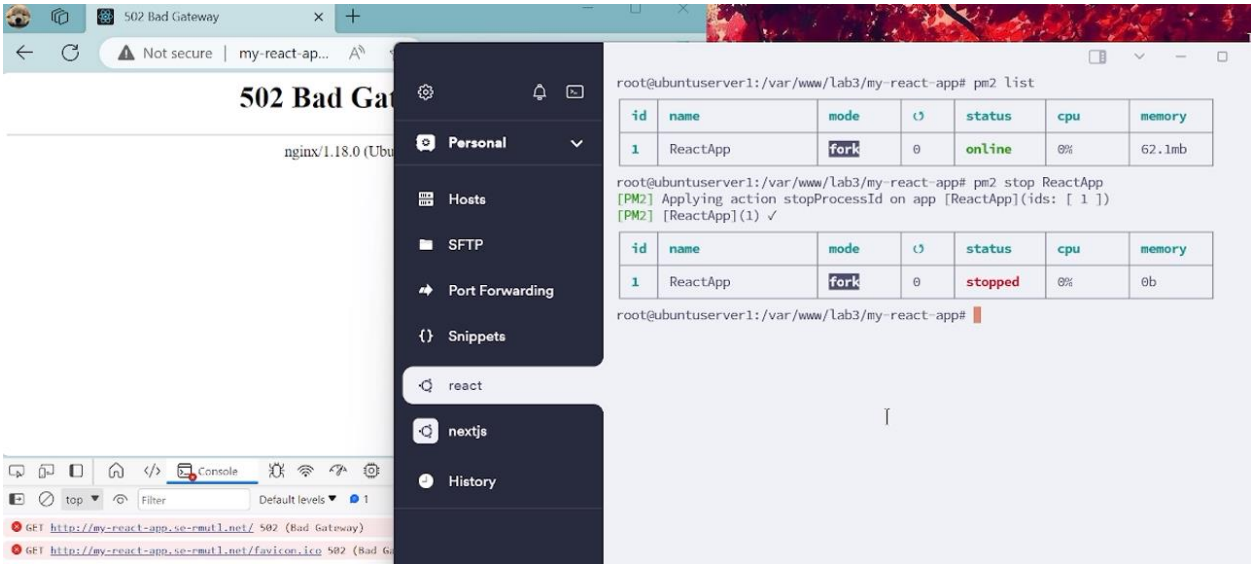
Step4: Install pm2. [npm install pm2 -g]



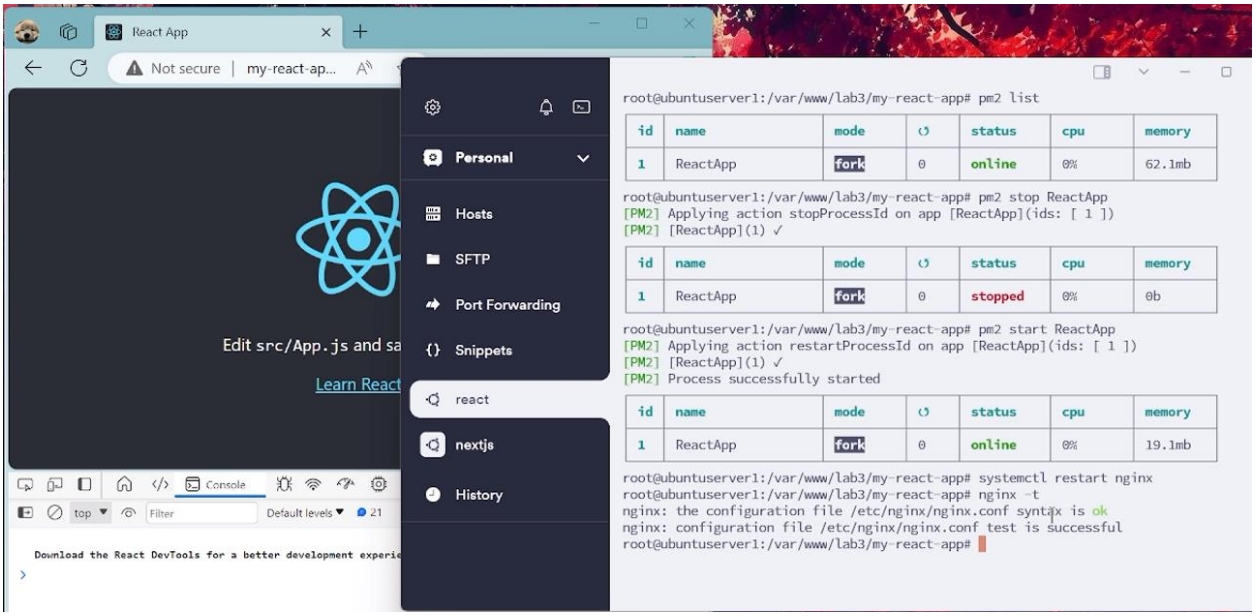
- Run start project react with pm2. [pm2 start –name ReactApp npm -- start]



- Check the work of pm2 to see if it works? [pm2 stop RectApp]

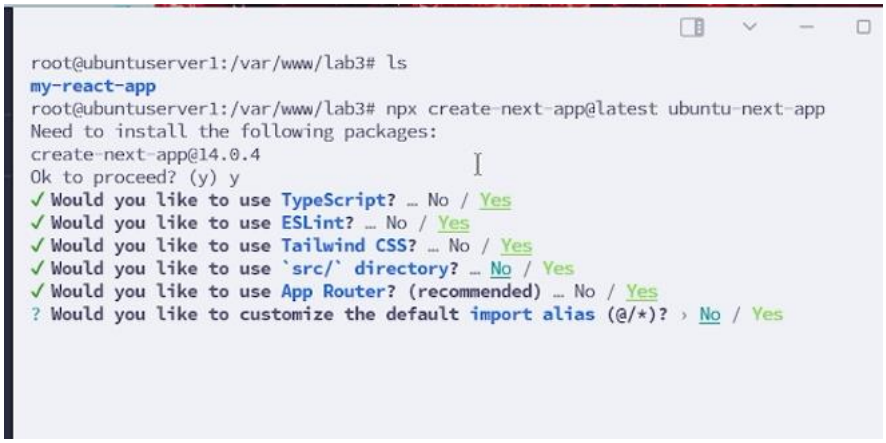


- Check pm2 run project it’s work again? [pm2 start ReactApp]
- Restart nginx. [systemctl restart nginx]
- Then check service nginx is ok. [nginx -t]



NextJS

Step1: Create project NextJS inside lab3 with command. [npx create-next-app@latest ubuntu-next-app]



- Edit file package.json (Specify a port run project 3002).

Step2: Set file nginx to set port project NextJS.

- Copy file my-react-app in sites-available. [cp my-react-app ubuntu-next-app]

```
root@ubuntuserver1:~# cd /etc/nginx/
conf.d/            koi-win            nginx.conf         sites-enabled/
fastcgi.conf       mime.types         proxy_params       snippets/
fastcgi_params     modules-available/ scgi_params        uwsgi_params
koi-utf            modules-enabled/   sites-available/   win-utf
root@ubuntuserver1:~# cd /etc/nginx/sites-available
root@ubuntuserver1:/etc/nginx/sites-available# ls
default  expressjs-example  myapp  my-react-app
root@ubuntuserver1:/etc/nginx/sites-available# cp my-react-app ubuntu-next-app
```

- Set server name. ubuntu-next-app.se-rmutl.net

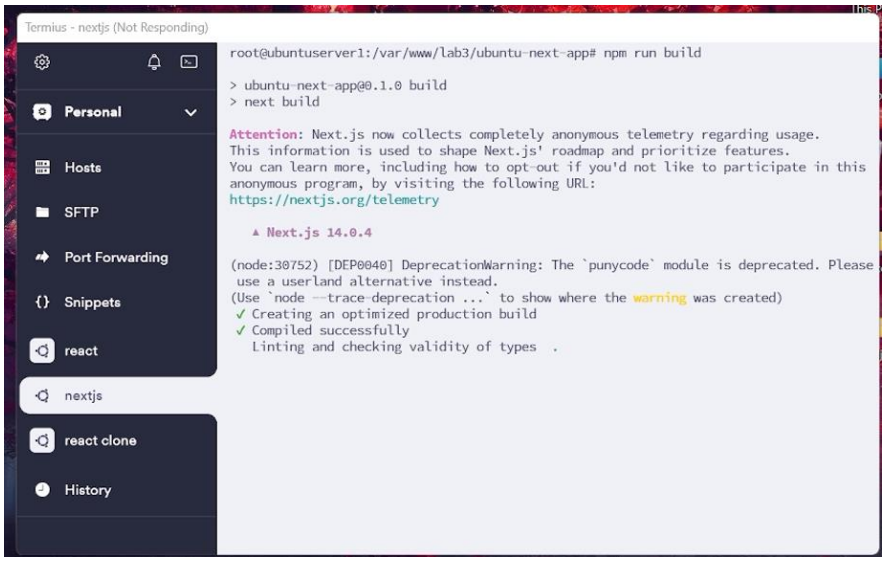
- Change app port run 3002

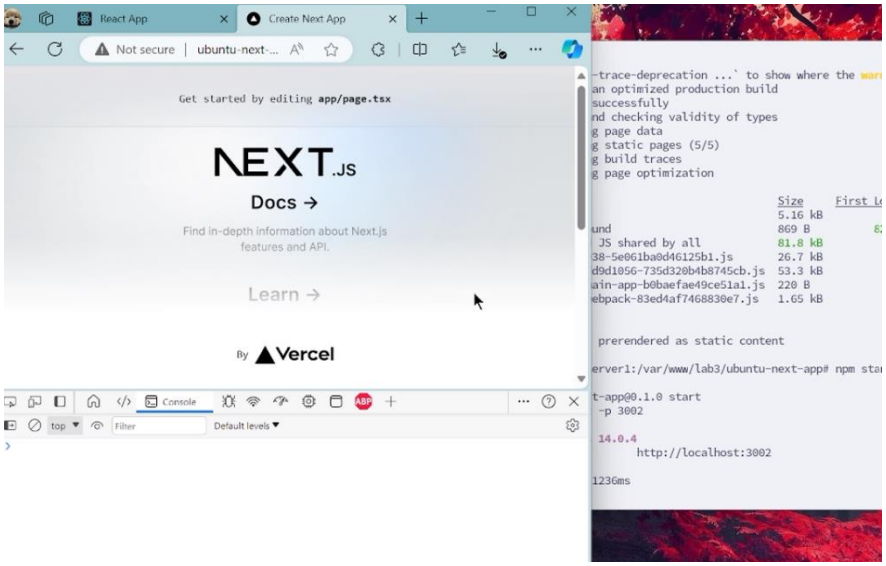
```
 GNU nano 6.2                          ubuntu-next-app *
server {
        listen 80;
        listen [::]:80;

        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;

^G Help      ^O Write Out  ^W Where Is  ^K Cut       ^T Execute   ^C Location
^X Exit      ^R Read File  ^\ Replace   ^U Paste     ^J Justify   ^/ Go To Line
```

- Then restart nginx and allow port run 3002 [systemctl restart nginx], [ufw allow 3002]

- Set up the host (from the outside machine).

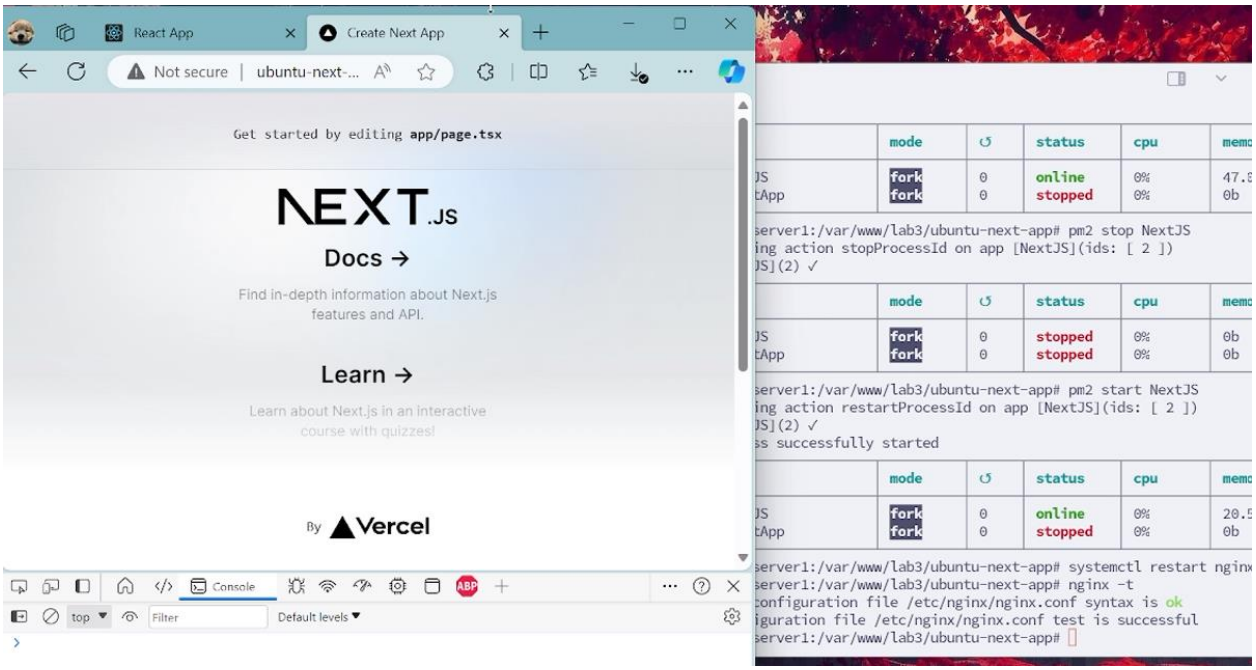
- Test project Build project NextJS [npm run build]

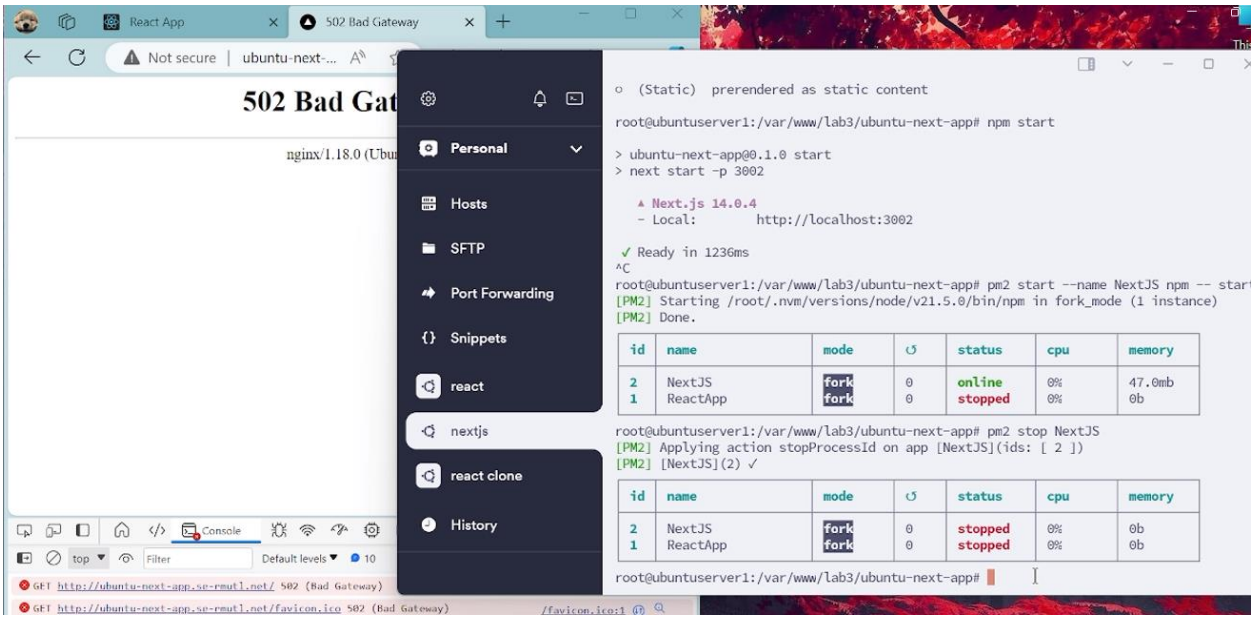




Step3: Run start project with pm2 [pm2 start –name NextJS npm -- start]

- Check work of pm2 see if it works. [pm2 stop NextJS]
- Check pm2 run project it's work again. [pm2 start NextJS]
- Restart nginx and check service nginx is ok. [systemctl restart nginx], [nginx -t]





วชิรวิทย์ มูลอัง 66543210027-9 (เทียบโอน)