# Deploy a React App on Ubuntu VM Using Nginx

To deploy a React application on an Ubuntu virtual machine, first launch an EC2 instance in AWS using the Ubuntu operating system image. Next, clone the application's React code from GitHub (Here is example Repo: https://github.com/pravinmishraaws/my-react-app), build the project, and configure Nginx to serve it from your VM's public IP.
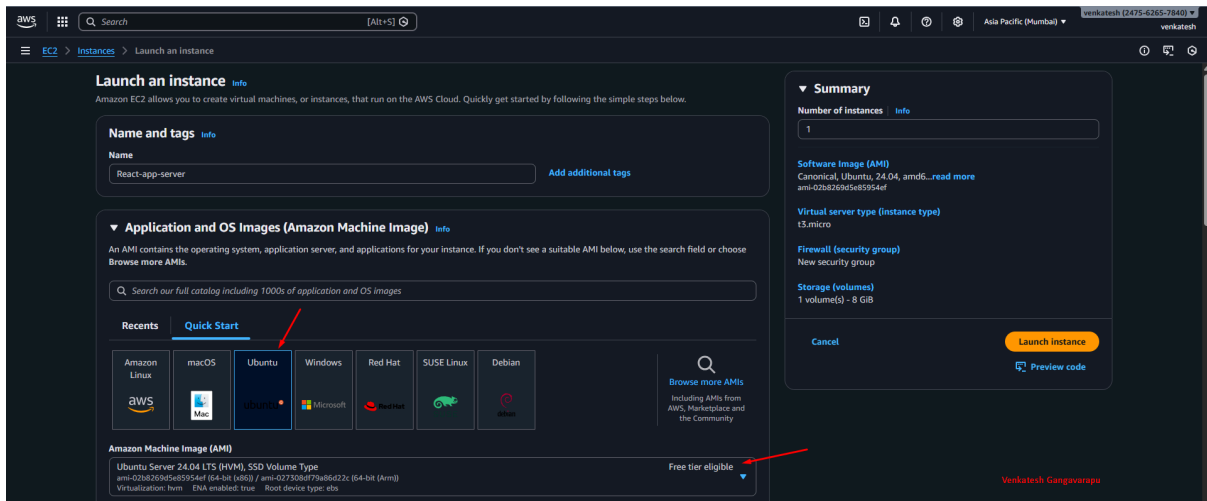
Launch EC2 Instance:

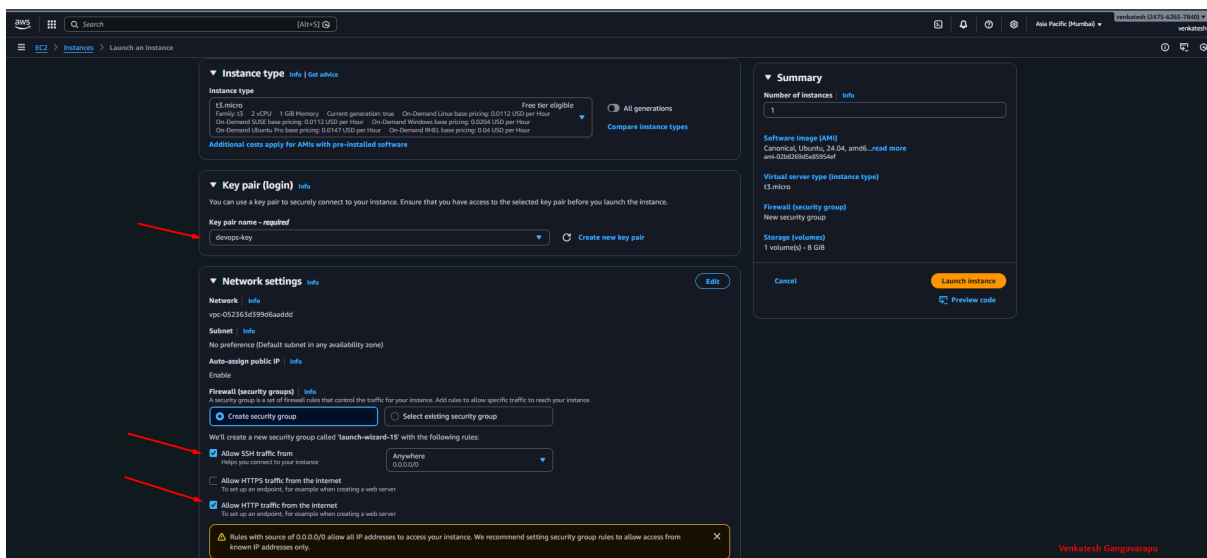- Login to AWS Management Console.

- Navigate to EC2 service.
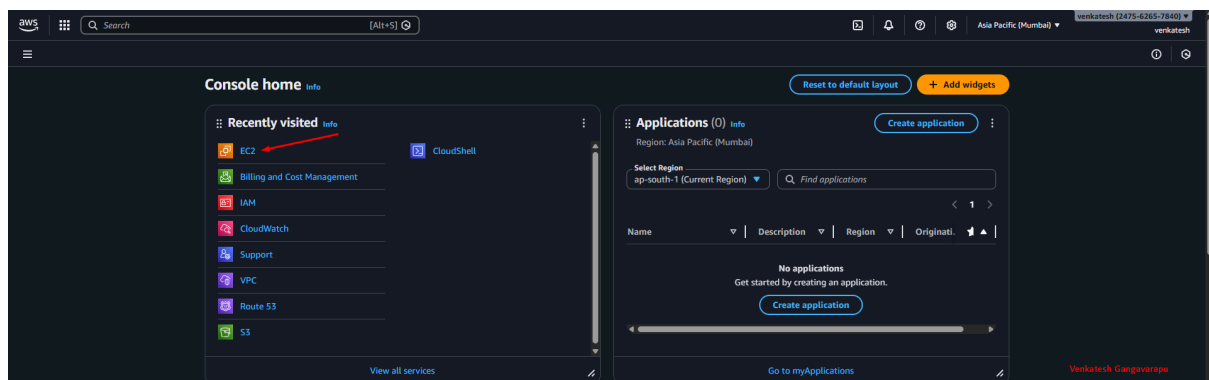
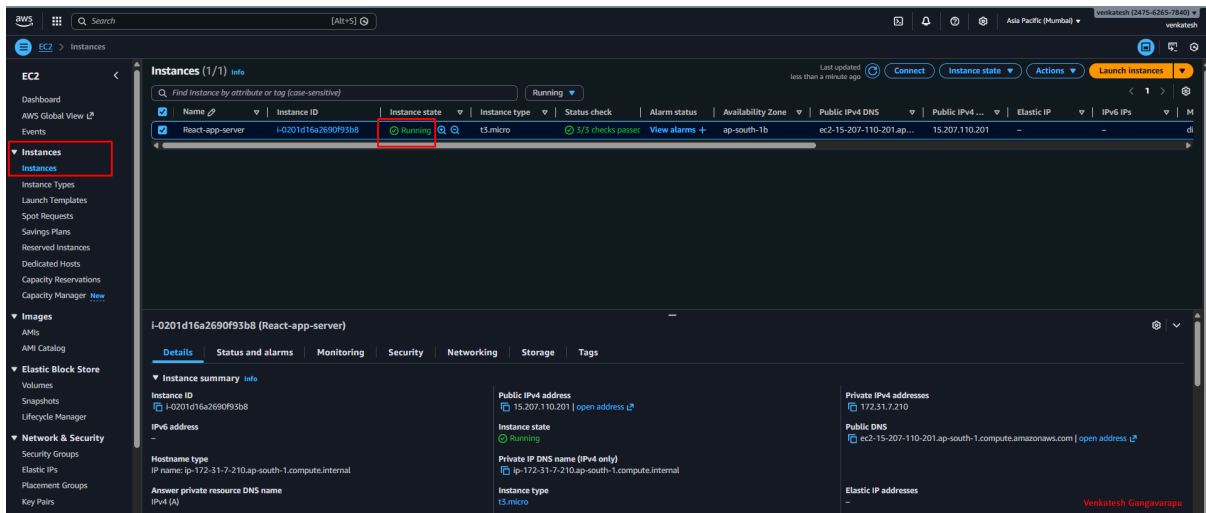- Launch a new instance using Ubuntu Server as the operating system image.
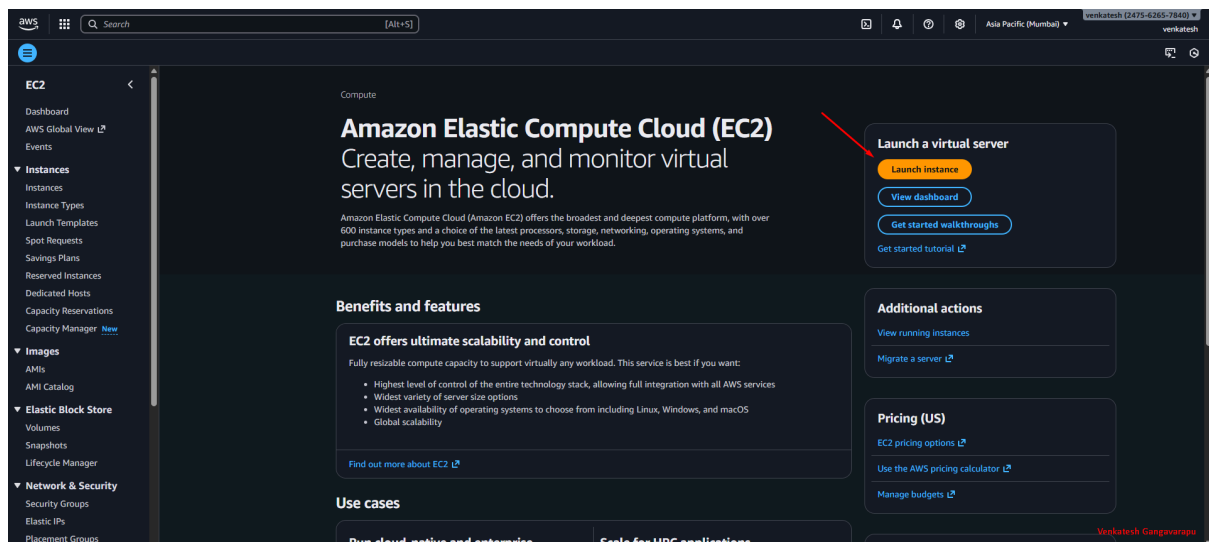
- Configure Key pair access key and security group to allow **HTTP** (port 80) and **SSH** (port 22) and click on Launch Instance.

- We can verify the created EC2 instance in the Instance module.

- Login into EC2 instance by Public IP address with Key pair access key.

```
$ ssh -i <access-key> ubuntu@IP-address
```

Install Software & Application Modification:

1. **Install Node.js and npm**

- React requires Node.js and npm, so we are installing them first.

`$ sudo apt update – Update apt packages`

`$ sudo apt install -y nodejs npm`

- Verify the installation:

`$ node -v && npm -v`

2. **Install and start the Nginx**

- Installing Nginx:

`$ sudo apt install -y nginx`

- **Start and Enable Nginx:**

```
$ sudo systemctl start nginx
$ sudo systemctl enable nginx
```


- **Check Nginx status:**

```
$ sudo systemctl status nginx
```

3. Clone the React Application Repo from GitHub:

● Clone the GitHub Repo in EC2 instance:

```
$ git clone https://github.com/pravinmishraaws/my-react-app.git
```

```
ubuntu@ip-172-31-7-210:~$ git clone https://github.com/pravinmishraaws/my-react-app.git
Cloning into 'my-react-app'...
remote: Enumerating objects: 79, done.
remote: Counting objects: 100% (36/36), done.
remote: Compressing objects: 100% (16/16), done.
remote: Total 79 (delta 24), reused 24 (delta 18), pack-reused 43 (from 1)
Receiving objects: 100% (79/79), 213.97 KiB | 17.83 MiB/s, done.
Resolving deltas: 100% (30/30), done.
ubuntu@ip-172-31-7-210:~$ |                              Venkatesh Gangavarapu
```

```
$ cd my-react-app/
```

```
ubuntu@ip-172-31-7-210:~$ ls
my-react-app
ubuntu@ip-172-31-7-210:~$ ls -l
total 4
drwxrwxr-x 6 ubuntu ubuntu 4096 Jan 20 09:32 my-react-app
ubuntu@ip-172-31-7-210:~$ cd my-react-app/
ubuntu@ip-172-31-7-210:~/my-react-app$
ubuntu@ip-172-31-7-210:~/my-react-app$      Venkatesh Gangavarapu
```

4. Modify the Application content:

● Navigate to React app's source folder:

```
$ cd my-react-app/src/
```

```
ubuntu@ip-172-31-7-210:~$ cd my-react-app/src/
ubuntu@ip-172-31-7-210:~/my-react-app/src$
ubuntu@ip-172-31-7-210:~/my-react-app/src$ ls -l
total 36
-rw-rw-r-- 1 ubuntu ubuntu  564 Jan 20 09:32 App.css
-rw-rw-r-- 1 ubuntu ubuntu 1077 Jan 20 09:32 App.js
-rw-rw-r-- 1 ubuntu ubuntu  246 Jan 20 09:32 App.test.js
-rw-rw-r-- 1 ubuntu ubuntu  366 Jan 20 09:32 index.css
-rw-rw-r-- 1 ubuntu ubuntu  535 Jan 20 09:32 index.js
-rw-rw-r-- 1 ubuntu ubuntu 2632 Jan 20 09:32 logo.svg
-rw-rw-r-- 1 ubuntu ubuntu  362 Jan 20 09:32 reportWebVitals.js
-rw-rw-r-- 1 ubuntu ubuntu  241 Jan 20 09:32 setupTests.js
drwxrwxr-x 2 ubuntu ubuntu 4096 Jan 20 09:32 tests
ubuntu@ip-172-31-7-210:~/my-react-app/src$           Venkatesh Gangavarapu
```

● Open the "App.js" file in a text editor:

```
$ vi App.js
```

```
ubuntu@ip-172-31-7-210:~/my-react-app/src$ vi App.js
ubuntu@ip-172-31-7-210:~/my-react-app/src$
ubuntu@ip-172-31-7-210:~/my-react-app/src$          Venkatesh Gangavarapu
```

● Modify the content: (Updated my Full Name and Date)

```
<h2>Deployed by: <strong>Your Full Name</strong></h2>

<p>Date: <strong>DD/MM/YYYY</strong></p>
```

```
import React from "react";

function App() {
  return (
    <div style={{ textAlign: "center", paddingTop: "50px" }}>
      <h1>Welcome to My React App</h1>
      <p>This app is running on Nginx!</p>

      <h2>Deployed by: <strong>Venkatesh Gangavarapu</strong></h2>
      <p>Date: <strong>20/01/2026</strong></p>
```

Build Application for Production:

1. Install Dependencies and Build the React App:

- Installing required dependencies:

```
$ npm install
```


- Build React Application and this will generate a "build/" folder with production ready static files:

```
$ npm run build
```

```
ubuntu@ip-172-31-7-210:~/my-react-app$ npm run build

> my-react-app@0.1.0 build
> react-scripts build

Creating an optimized production build...
Browserslist: browsers data (caniuse-lite) is 11 months old. Please run:
  npx update-browserslist-db@latest
  Why you should do it regularly: https://github.com/browserslist/update-db#readme


Browserslist: browsers data (caniuse-lite) is 11 months old. Please run:
  npx update-browserslist-db@latest
  Why you should do it regularly: https://github.com/browserslist/update-db#readme
Compiled successfully.

File sizes after gzip:

  59.21 kB  build/static/js/main.01af2c0d.js
  1.78 kB   build/static/js/453.ad6eb26e.chunk.js
  264 B     build/static/css/main.e6c13ad2.css

The project was built assuming it is hosted at /.
You can control this with the homepage field in your package.json.

The build folder is ready to be deployed.
You may serve it with a static server:

  npm install -g serve
  serve -s build

Find out more about deployment here:

  https://cra.link/deployment

ubuntu@ip-172-31-7-210:~/my-react-app$
ubuntu@ip-172-31-7-210:~/my-react-app$
ubuntu@ip-172-31-7-210:~/my-react-app$ ls -l
total 680
-rw-rw-r--   1 ubuntu ubuntu    282 Jan 20 09:32 Dockerfile
-rw-rw-r--   1 ubuntu ubuntu   3026 Jan 20 09:32 README.md
drwxrwxr-x   3 ubuntu ubuntu   4096 Jan 20 09:57 build
drwxrwxr-x 878 ubuntu ubuntu  36864 Jan 20 09:57 node_modules
-rw-rw-r--   1 ubuntu ubuntu 629882 Jan 20 09:55 package-lock.json
-rw-rw-r--   1 ubuntu ubuntu    859 Jan 20 09:32 package.json
drwxrwxr-x   2 ubuntu ubuntu   4096 Jan 20 09:32 public
drwxrwxr-x   3 ubuntu ubuntu   4096 Jan 20 09:46 src
ubuntu@ip-172-31-7-210:~/my-react-app$
ubuntu@ip-172-31-7-210:~/my-react-app$
```

2. Deploy Build Files to Nginx Web Directory

- Remove any existing files in the Nginx web directory:

$ sudo rm -rd /var/www/html/*

```
ubuntu@ip-172-31-7-210:~$ sudo rm -rf /var/www/html/*
ubuntu@ip-172-31-7-210:~$
ubuntu@ip-172-31-7-210:~$
ubuntu@ip-172-31-7-210:~$
```

- Copy the React build files to /var/www/html/ folder:

$ sudo cp -r build/* /var/www/html/

```
ubuntu@ip-172-31-7-210:~/my-react-app$
ubuntu@ip-172-31-7-210:~/my-react-app$ sudo cp -r build/* /var/www/html/
ubuntu@ip-172-31-7-210:~/my-react-app$
ubuntu@ip-172-31-7-210:~/my-react-app$
```

- Change ownership and permissions of Nginx web directory:

```
$ sudo chown -R www-data:www-data /var/www/html
$ sudo chmod -R 755 /var/www/html/
```


3. **Configure Nginx for React App:**

   - Change the default Nginx configuration file with below config:

```
echo 'server {
 listen 80;
 server_name _;
 root /var/www/html;
 index index.html;

 location / {
   try_files $uri /index.html;
 }

 error_page 404 /index.html;
}' | sudo tee /etc/nginx/sites-available/default > /dev/null
```

   - Restart the Nginx to apply configuration:

```
$ sudo systemctl restart nginx
```


Find Public IP Address and Access the Application

1. Retrieve the public IP of Ubuntu VM:

```
$ curl ifconfig.me
```


2. Now, we can access the React application in browser by public IP address

http://<IP-addresss>
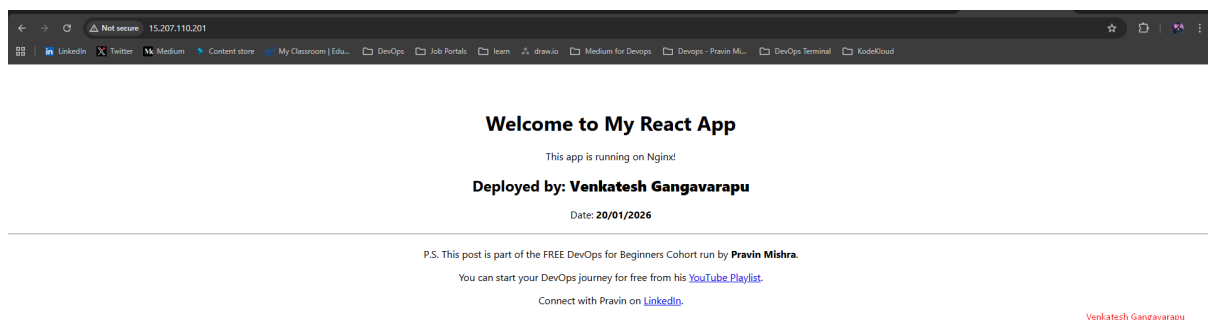
3. We can also verify the Ngnix is correctly serving the React App from the server.

```
$ curl <IP-address>
```


● If this is successful, React application is live.

React App is Now Live on Ubuntu with Nginx

Venkatesh Gangavarapu