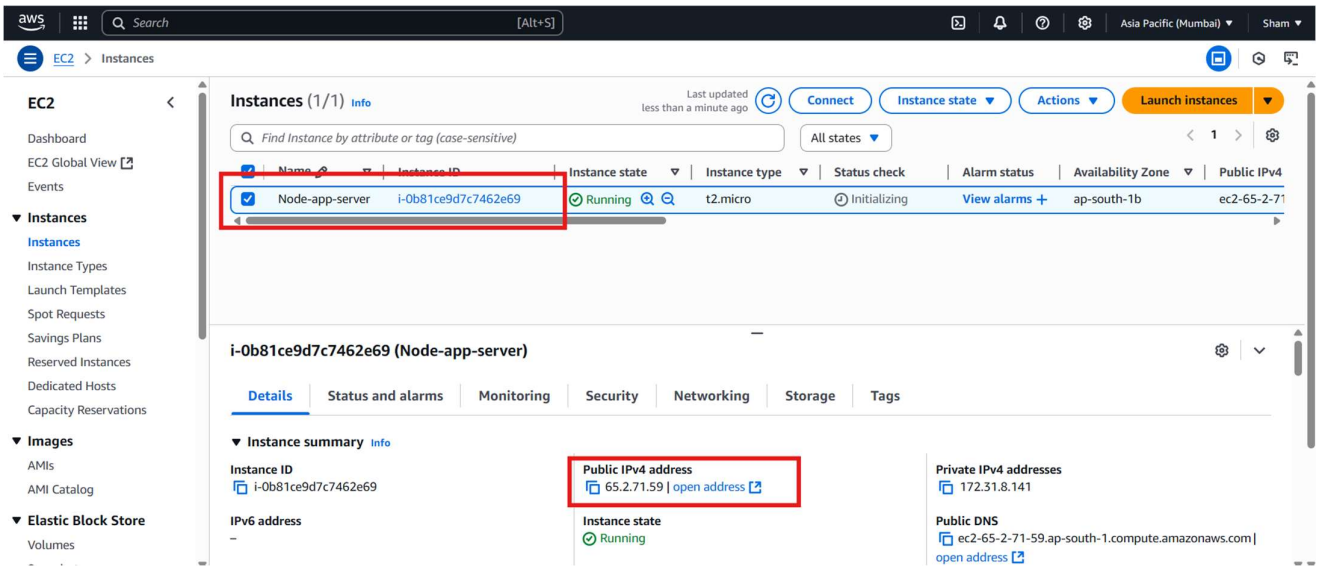
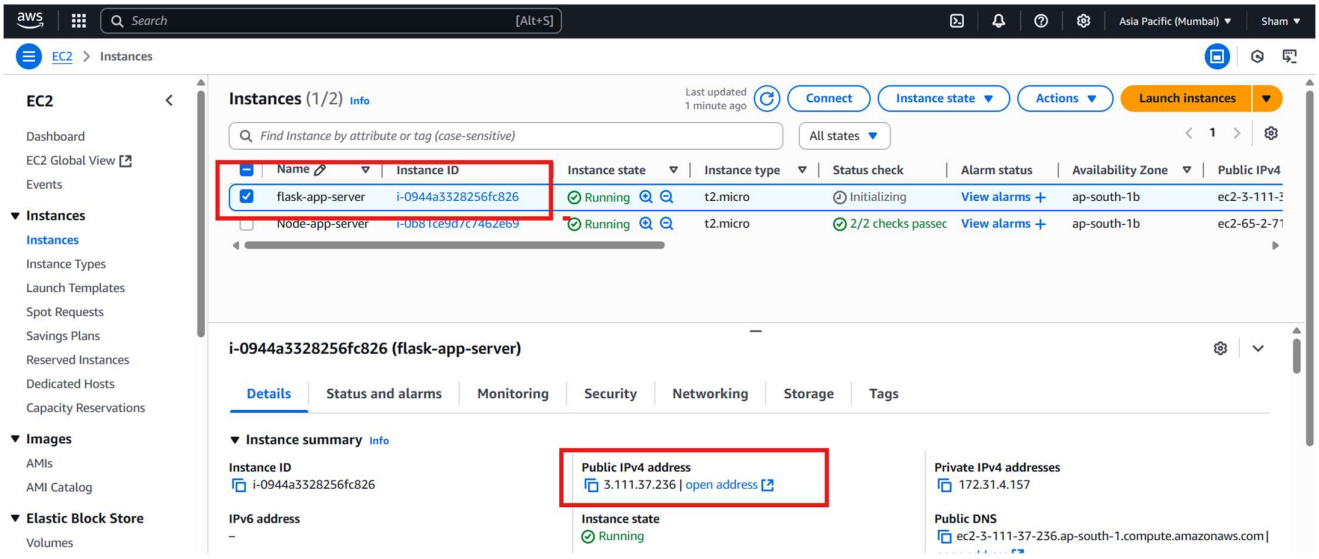
Run Two Separate Instances to Generate Images From the code and Deploy Containers on Different Servers

1. Launching Server-1 And Install Docker.




```
root@ip-172-31-8-141:~# systemctl status docker
● docker.service - Docker Application Container Engine
     Loaded: loaded (/usr/lib/systemd/system/docker.service; enabled; preset: enabled)
     Active: active (running) since Thu 2025-06-26 04:10:50 UTC; 3min 29s ago
TriggeredBy: ● docker.socket
       Docs: https://docs.docker.com
   Main PID: 2304 (dockerd)
      Tasks: 8
     Memory: 55.9M (peak: 56.8M)
        CPU: 290ms
     CGroup: /system.slice/docker.service
             └─2304 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock

Jun 26 04:10:44 ip-172-31-8-141 systemd[1]: Starting docker.service - Docker Application Container Engine...
Jun 26 04:10:48 ip-172-31-8-141 dockerd[2304]: time="2025-06-26T04:10:48.122620152Z" level=info msg="Starting up"
Jun 26 04:10:48 ip-172-31-8-141 dockerd[2304]: time="2025-06-26T04:10:48.124146852Z" level=info msg="OTEL tracing is not configured, u
Jun 26 04:10:48 ip-172-31-8-141 dockerd[2304]: time="2025-06-26T04:10:48.124227882Z" level=info msg="detected 127.0.0.53 nameserver, a
Jun 26 04:10:49 ip-172-31-8-141 dockerd[2304]: time="2025-06-26T04:10:49.430491432Z" level=info msg="Loading containers: start."
Jun 26 04:10:49 ip-172-31-8-141 dockerd[2304]: time="2025-06-26T04:10:49.897790561Z" level=info msg="Loading containers: done."
Jun 26 04:10:50 ip-172-31-8-141 dockerd[2304]: time="2025-06-26T04:10:50.085280774Z" level=info msg="Docker daemon" commit="27.5.1-0ub
Jun 26 04:10:50 ip-172-31-8-141 dockerd[2304]: time="2025-06-26T04:10:50.085363517Z" level=info msg="Daemon has completed initializati
Jun 26 04:10:50 ip-172-31-8-141 dockerd[2304]: time="2025-06-26T04:10:50.137935561Z" level=info msg="API listen on /run/docker.sock"
Jun 26 04:10:50 ip-172-31-8-141 systemd[1]: Started docker.service - Docker Application Container Engine.
```

2. Launching Server-2 And Install Docker.



```
root@ip-172-31-4-157:~# systemctl status docker
● docker.service - Docker Application Container Engine
     Loaded: loaded (/usr/lib/systemd/system/docker.service; enabled; preset: enabled)
     Active: active (running) since Thu 2025-06-26 04:15:33 UTC; 23s ago
TriggeredBy: ● docker.socket
       Docs: https://docs.docker.com
   Main PID: 2373 (dockerd)
      Tasks: 8
     Memory: 71.7M (peak: 72.0M)
        CPU: 283ms
     CGroup: /system.slice/docker.service
             └─2373 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock

Jun 26 04:15:32 ip-172-31-4-157 systemd[1]: Starting docker.service - Docker Application Container Engine...
Jun 26 04:15:32 ip-172-31-4-157 dockerd[2373]: time="2025-06-26T04:15:32.705166356Z" level=info msg="Starting up"
Jun 26 04:15:32 ip-172-31-4-157 dockerd[2373]: time="2025-06-26T04:15:32.707557249Z" level=info msg="OTEL tracing is not config
Jun 26 04:15:32 ip-172-31-4-157 dockerd[2373]: time="2025-06-26T04:15:32.707682793Z" level=info msg="detected 127.0.0.53 nameser
Jun 26 04:15:32 ip-172-31-4-157 dockerd[2373]: time="2025-06-26T04:15:32.898405561Z" level=info msg="Loading containers: start.
Jun 26 04:15:33 ip-172-31-4-157 dockerd[2373]: time="2025-06-26T04:15:33.254473618Z" level=info msg="Loading containers: done."
Jun 26 04:15:33 ip-172-31-4-157 dockerd[2373]: time="2025-06-26T04:15:33.281971741Z" level=info msg="Docker daemon" commit="27.
Jun 26 04:15:33 ip-172-31-4-157 dockerd[2373]: time="2025-06-26T04:15:33.283030985Z" level=info msg="Daemon has completed initi
Jun 26 04:15:33 ip-172-31-4-157 dockerd[2373]: time="2025-06-26T04:15:33.328326311Z" level=info msg="API listen on /run/docker.
Jun 26 04:15:33 ip-172-31-4-157 systemd[1]: Started docker.service - Docker Application Container Engine.
```

3. Creating Images on Both Servers and Make Code Available on Both Servers.

Server-1: Node-App.

```
root@ip-172-31-8-141:~# git clone https://github.com/sham9394/node-app.git
Cloning into 'node-app'...
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (5/5), done.
remote: Total 5 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (5/5), done.
root@ip-172-31-8-141:~# ls
node-app  snap
root@ip-172-31-8-141:~# cd node-app/
root@ip-172-31-8-141:~/node-app# ls
Dockerfile  app.js  package.json
```

```
root@ip-172-31-8-141:~/node-app# docker build -t node-app .
DEPRECATED: The legacy builder is deprecated and will be removed in a future release.
            Install the buildx component to build images with BuildKit:
            https://docs.docker.com/go/buildx/

Sending build context to Docker daemon  67.07kB
Step 1/7 : FROM node:18-alpine
18-alpine: Pulling from library/node
f18232174bc9: Pull complete
dd71dde834b5: Pull complete
1e5a4c89cee5: Pull complete
25ff2da83641: Pull complete
Digest: sha256:8d6421d663b4c28fd3ebc498332f249011d118945588d0a35cb9bc4b8ca09d9e
Status: Downloaded newer image for node:18-alpine
```

```
root@ip-172-31-8-141:~/node-app# docker images
REPOSITORY   TAG       IMAGE ID       CREATED              SIZE
node-app     latest    50433a720fad   About a minute ago   138MB
node         18-alpine ee77c6cd7c16   3 months ago         127MB
root@ip-172-31-8-141:~/node-app#
```

Server-2: Flask-App.

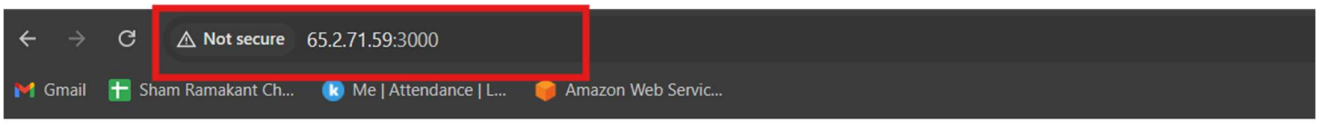
```
root@ip-172-31-4-157:~# git clone https://github.com/sham9394/flask-app.git
Cloning into 'flask-app'...
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 5 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (5/5), done.
root@ip-172-31-4-157:~# ls
flask-app  snap
root@ip-172-31-4-157:~# cd flask-app/
root@ip-172-31-4-157:~/flask-app# ls
Dockerfile  app.py  requirements.txt
root@ip-172-31-4-157:~/flask-app# docker build -t flask-app .
DEPRECATED: The legacy builder is deprecated and will be removed in a future release.
            Install the buildx component to build images with BuildKit:
            https://docs.docker.com/go/buildx/

Sending build context to Docker daemon  67.07kB
Step 1/6 : FROM python:3.11-slim
3.11-slim: Pulling from library/python
dad67da3f26b: Pull complete
799440a7bae7: Pull complete
9596beeb5a6d: Pull complete
15658014cd85: Pull complete
Digest: sha256:9e1912aab0a30bbd9488eb79063f68f42a68ab0946cbe98fecf197fe5b085506
Status: Downloaded newer image for python:3.11-slim
 ---> be3324b8ee1a
```

```
root@ip-172-31-4-157:~/flask-app# docker images
REPOSITORY   TAG          IMAGE ID       CREATED          SIZE
flask-app    latest       17fe37038884   26 seconds ago   330MB
python       3.11-slim    be3324b8ee1a   3 weeks ago      130MB
root@ip-172-31-4-157:~/flask-app#
```

4. **Run A Container from Images on Both Server with Port Mapping**

Server-1: Node-App.

```
root@ip-172-31-8-141:~/node-app# docker images
REPOSITORY   TAG        IMAGE ID       CREATED         SIZE
node-app     latest     50433a720fad   2 minutes ago   138MB
node         18-alpine  ee77c6cd7c18   3 months ago    127MB
root@ip-172-31-8-141:~/node-app# docker run -d -p 3000:3000 --name node-container node-app
23b7e5cf0e2fcee519b3f9e739ab05d104c978c872d56c9a29e6f7323e8bc0a0
root@ip-172-31-8-141:~/node-app# docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED         STATUS         PORTS                                       NAMES
23b7e5cf0e2f   node-app   "docker-entrypoint.s…"   7 seconds ago   Up 6 seconds   0.0.0.0:3000->3000/tcp, :::3000->3000/tcp   node-container
root@ip-172-31-8-141:~/node-app#
```



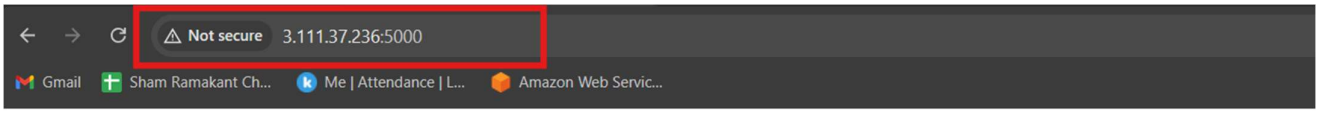
Welcome to My Node.js App!

Click below to get a random programming quote:

Get Quote

Server-1: Flask-App.

```
root@ip-172-31-4-157:~/flask-app# docker images
REPOSITORY   TAG         IMAGE ID       CREATED         SIZE
flask-app    latest      17fe37038884   14 minutes ago   330MB
python       3.11-slim   be3324b8ee1a   3 weeks ago      130MB
root@ip-172-31-4-157:~/flask-app# docker run -d -p 5000:5000 --name flask-container flask-app
4524946aca70f1f7e2c5daf286e87ee45e827f20b1527045fd6d4ab05b0eaa64
root@ip-172-31-4-157:~/flask-app# docker ps
CONTAINER ID   IMAGE       COMMAND           CREATED         STATUS         PORTS                                       NAMES
4524946aca70   flask-app   "python app.py"   8 seconds ago   Up 7 seconds   0.0.0.0:5000->5000/tcp, :::5000->5000/tcp   flask-container
root@ip-172-31-4-157:~/flask-app#
```



Welcome to Flask App on EC2!

This app is running directly on EC2 without Docker.

- /fetch - External API Call
- /health - Health Check

Server History:

Server-1

root@ip-172-31-8-141:~/node-app# history

1 clear

2 apt update

3 clear

4 apt install docker.io -y

5 systemclt status doccker

6 clear

7 systemctl status doccker

8 systemctl status docker

9 lear

10 clear

11 git clone https://github.com/sham9394/node-app.git

12 ls

13 cd node-app/

14 ls

15 docker build -t node-app

16 clear

17 docker build -t node-app .

18 docker images

19 clear

20 docker imahes

21 docker images

22 clea

23 clear

24 docker images

25 docker run -d -p 3000:3000 --name node-container node-app

26 docker ps

27 history

root@ip-172-31-8-141:~/node-app#

Server-2

root@ip-172-31-4-157:~/flask-app# history

1 clear

2 apt update

3 apt install docker -y

4 apt install docker.io -y

5 clear

6 systemctl status docker

7 clear

8 git clone https://github.com/sham9394/flask-app.git

9 ls

```
  10  cd flask-app/
  11  ls
  12  docker build -t flask-app .
  13  clear
  14  docker images
  15  docker run -d -p 3000:3000 --name flask-container flask-app
  16  docker ps
  17  clear
  18  docker images
  19  docker run -d -p 5000:5000 --name flask-container flask-app
  20  clear
  21  docker ps
  22  docker stop 722459b4802f
  23  docker ps
  24  clear
  25  docker images
  26  docker run -d -p 5000:5000 --name flask-container flask-app
  27  clear
  28  docker ps -a
  29  docker rm 722459b4802f
  30  docker ps -a
  31  clear
  32  docker images
  33  docker run -d -p 5000:5000 --name flask-container flask-app
  34  docker ps
  35  history
root@ip-172-31-4-157:~/flask-app#
```