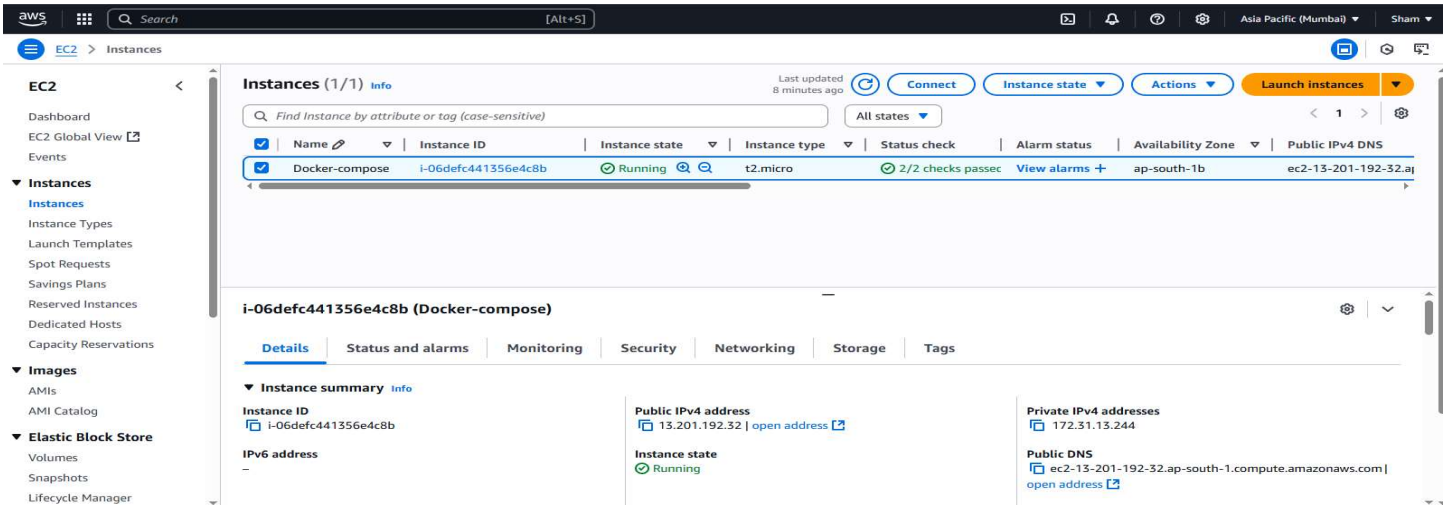
Runs A Node.js And A Flask App with Network Using Docker Compose File.

1. **Create Instance with Docker and Docker Compose Socket.**




```
root@ip-172-31-13-244:~# docker --version
Docker version 28.3.0, build 38b7060
root@ip-172-31-13-244:~# docker compose version
Docker Compose version v2.37.3
root@ip-172-31-13-244:~# 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-172-31-13-244:~# 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-172-31-13-244:~# ls
flask-app  node-app  snap
root@ip-172-31-13-244:~#
```

2. **Writing Docker Compose file with Build Services and Network.**

```
root@ip-172-31-13-244:~# vi docker-compose.yml
root@ip-172-31-13-244:~# cat docker-compose.yml

networks:
  my-network:
    driver: bridge

services:
  flask-app:
    build: ./flask-app
    container_name: my-flask-container
    ports:
      - "5000:5000"
    networks:
      - my-network
    environment:
      Name: PYTHON

  node-app:
    build: ./node-app
    container_name: my-node-container
    ports:
      - "3000:3000"
    networks:
      - my-network
    environment:
      Name: NODE
```

3. Build Image and Running Container With docker-compose.yml file.

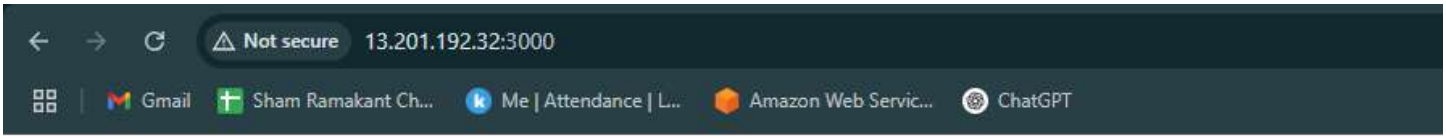
```
root@ip-172-31-13-244:~# ls
docker-compose.yml  flask-app  node-app  snap
root@ip-172-31-13-244:~# docker compose up --build -d
[+] Building 1.1s (22/22) FINISHED
 => [internal] load local bake definitions
 => => reading from stdin 586B
 => [flask-app internal] load build definition from Dockerfile
 => => transferring dockerfile: 368B
 => [node-app internal] load build definition from Dockerfile
 => => transferring dockerfile: 154B
 => [flask-app internal] load metadata for docker.io/library/python:3.11-slim
 => [node-app internal] load metadata for docker.io/library/node:18-alpine
 => [flask-app internal] load .dockerignore
 => => transferring context: 2B
 => [flask-app 1/4] FROM docker.io/library/python:3.11-slim@sha256:d54d74906041691f5fa471646d62cd3ef40abb3b4a9b94edc3c79b505418f530
 => => resolve docker.io/library/python:3.11-slim@sha256:d54d74906041691f5fa471646d62cd3ef40abb3b4a9b94edc3c79b505418f530
 => [flask-app internal] load build context
 => => transferring context: 2.08kB
 => CACHED [flask-app 2/4] WORKDIR /app
 => CACHED [flask-app 3/4] COPY . .
 => CACHED [flask-app 4/4] RUN pip install -r requirements.txt
 => [node-app internal] load .dockerignore
 => => transferring context: 2B
 => [flask-app] exporting to image
 => => exporting layers
 => => writing image sha256:7ca7b98532df9bfa647320394dffa5255fc09c5db923e7921e49af3ccf53cdfb
 => => naming to docker.io/library/root-flask-app
 => [node-app 1/5] FROM docker.io/library/node:18-alpine@sha256:8d6421d663b4c28fd3ebc498332f249011d118945588d0a35cb9bc4b8ca09d9e
 => [node-app internal] load build context
 => => transferring context: 2.07kB
```

```
 => [flask-app internal] load build context
 => => transferring context: 2.08kB
 => CACHED [flask-app 2/4] WORKDIR /app
 => CACHED [flask-app 3/4] COPY . .
 => CACHED [flask-app 4/4] RUN pip install -r requirements.txt
 => [node-app internal] load .dockerignore
 => => transferring context: 2B
 => [flask-app] exporting to image
 => => exporting layers
 => => writing image sha256:7ca7b98532df9bfa647320394dffa5255fc09c5db923e7921e49af3ccf53cdfb
 => => naming to docker.io/library/root-flask-app
 => [node-app 1/5] FROM docker.io/library/node:18-alpine@sha256:8d6421d663b4c28fd3ebc498332f249011d118945588d0a35cb9bc4b8ca09d9e
 => [node-app internal] load build context
 => => transferring context: 2.07kB
 => CACHED [node-app 2/5] WORKDIR /app
 => CACHED [node-app 3/5] COPY package.json ./
 => CACHED [node-app 4/5] RUN npm install
 => CACHED [node-app 5/5] COPY . .
 => [node-app] exporting to image
 => => exporting layers
 => => writing image sha256:216c1b1336ba8be0228d15bd3069755de586f9fca247a5616b3f2e9a92a062d3
 => => naming to docker.io/library/root-node-app
 => [flask-app] resolving provenance for metadata file
 => [node-app] resolving provenance for metadata file
[+] Running 4/4
 ✓ flask-app                    Built
 ✓ node-app                     Built
 ✓ Container my-node-container  Started
 ✓ Container my-flask-container Started
root@ip-172-31-13-244:~#
```

4. Verify Logs and Application using Server IP.

```
root@ip-172-31-13-244:~# docker images
REPOSITORY       TAG       IMAGE ID       CREATED             SIZE
root-flask-app   latest    7ca7b98532df   About an hour ago   330MB
root-node-app    latest    216c1b1336ba   About an hour ago   138MB
root@ip-172-31-13-244:~# docker ps
CONTAINER ID   IMAGE           COMMAND                  CREATED              STATUS              PORTS                                       NAMES
6a9054c2b170   root-flask-app  "python app.py"          About a minute ago   Up About a minute   0.0.0.0:5000->5000/tcp, [::]:5000->5000/tcp  my-flask-container
68f49addb504   root-node-app   "docker-entrypoint.s…"   About a minute ago   Up About a minute   0.0.0.0:3000->3000/tcp, [::]:3000->3000/tcp  my-node-container
root@ip-172-31-13-244:~# docker network ls
NETWORK ID     NAME              DRIVER    SCOPE
6b8c82cddecd   bridge            bridge    local
16753cd5fb49   host              host      local
05e997f83bf4   none              null      local
fdf302bee609   root_my-network   bridge    local
root@ip-172-31-13-244:~#
```

Node.js Application

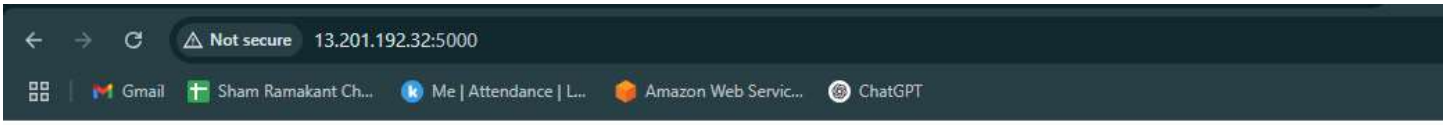


Welcome to My Node.js App!

Click below to get a random programming quote:

Get Quote

Flask Application



Welcome to Flask App on EC2!

This app is running directly on EC2 without Docker.

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