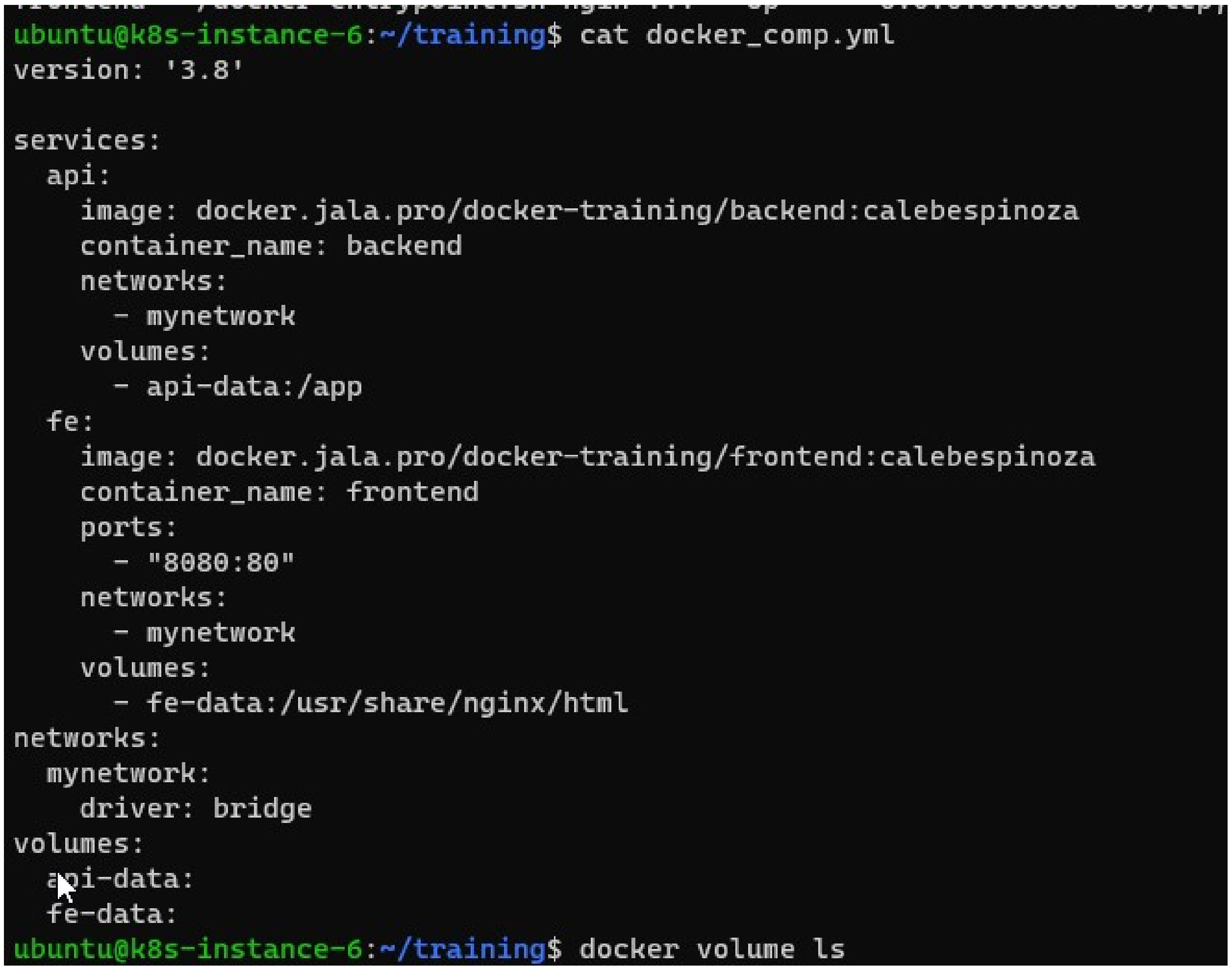
Homework 4

Exercise 1:

## Deploy Back End and Front End with Docker Compose.

Deploy two services (`api` and `fe`) using Docker Compose with the following specifications:

1. Create a compose.yml file.

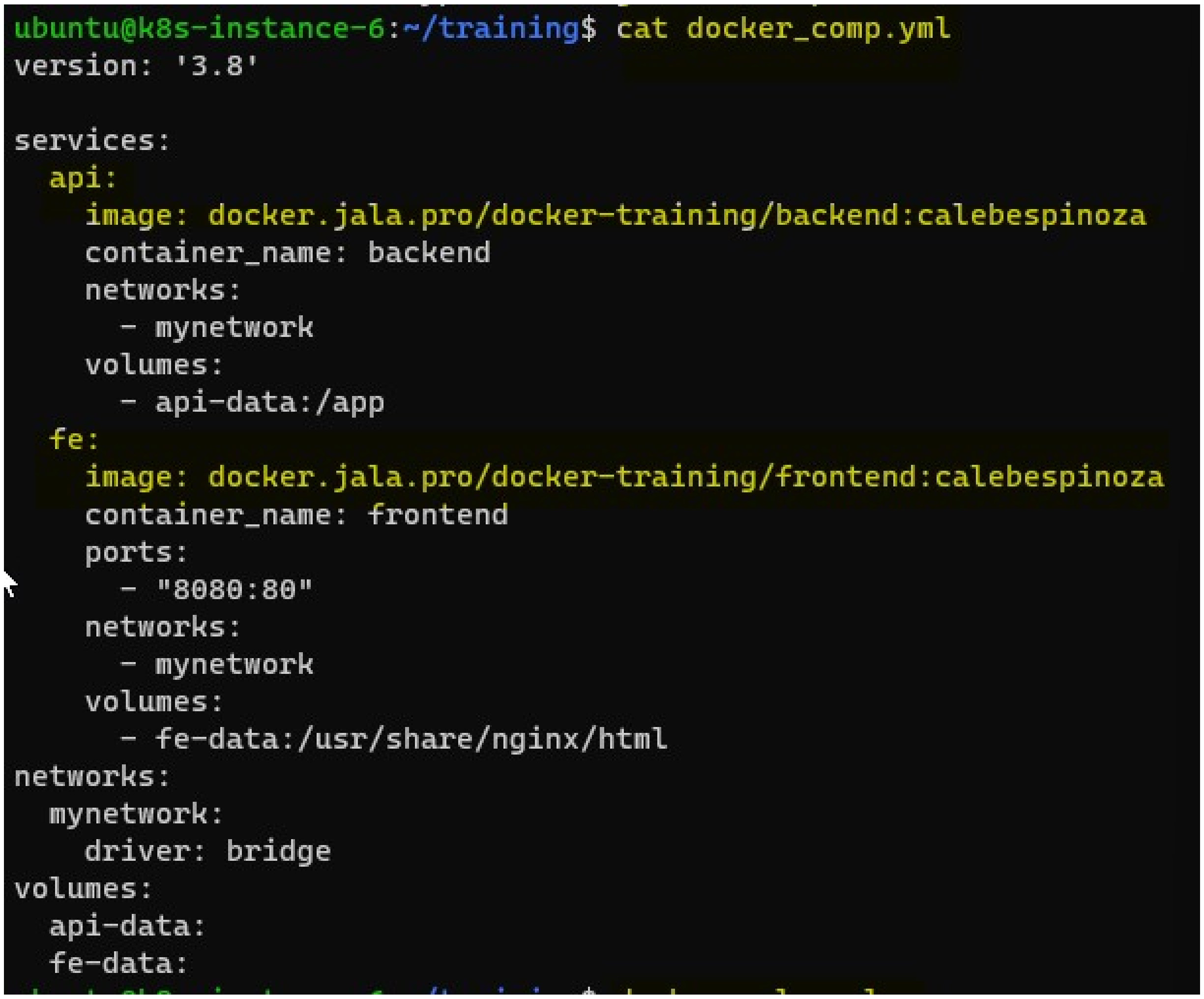


```
ubuntu@k8s-instance-6:~/training$ cat docker_comp.yml
version: '3.8'

services:
  api:
    image: docker.jala.pro/docker-training/backend:calebespinoza
    container_name: backend
    networks:
      - mynetwork
    volumes:
      - api-data:/app
  fe:
    image: docker.jala.pro/docker-training/frontend:calebespinoza
    container_name: frontend
    ports:
      - "8080:80"
    networks:
      - mynetwork
    volumes:
      - fe-data:/usr/share/nginx/html
networks:
  mynetwork:
    driver: bridge
volumes:
  api-data:
  fe-data:
ubuntu@k8s-instance-6:~/training$ docker volume ls
```

2. Define two services: api and fe , using the private registry images:

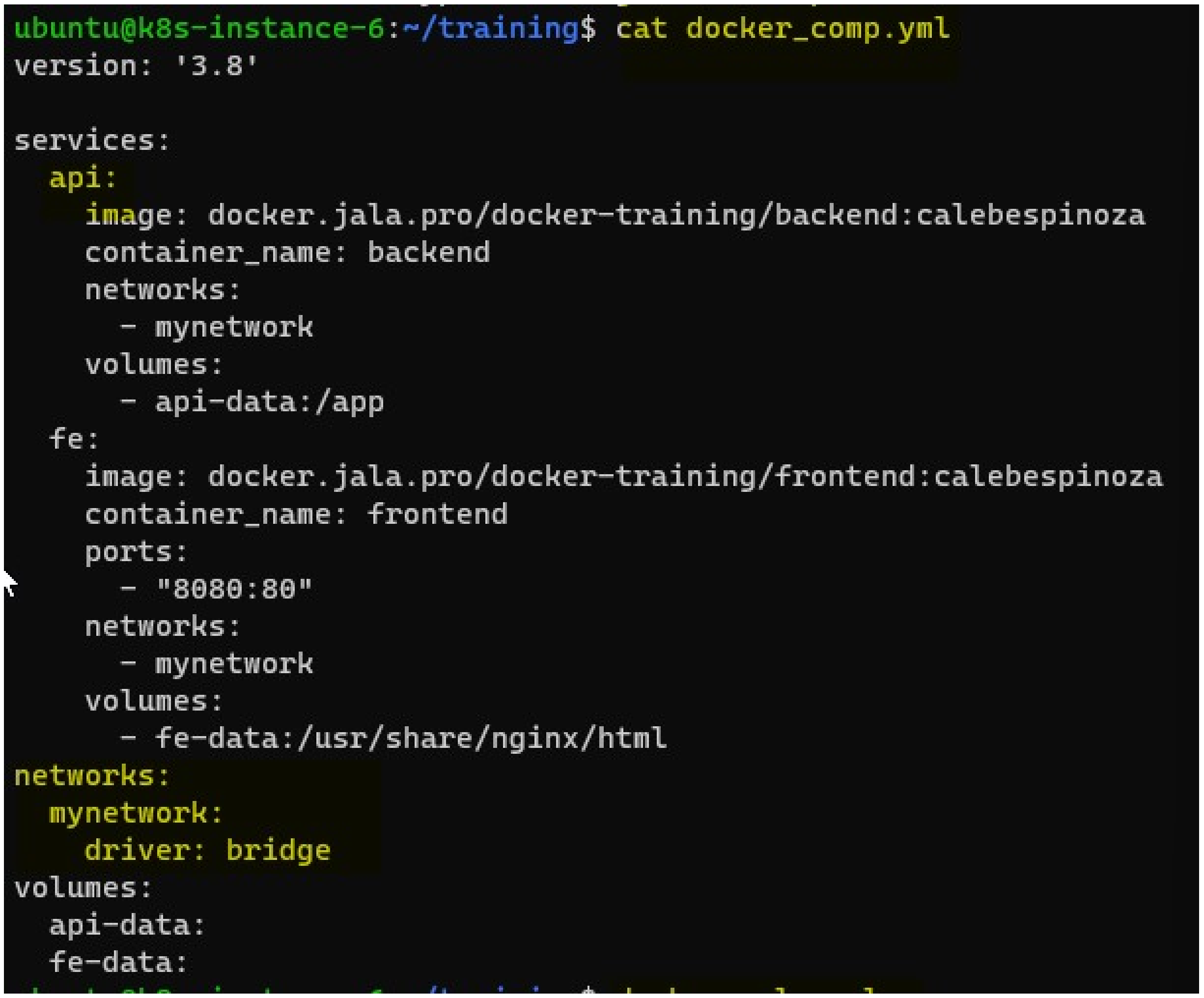
docker.jala.pro/docker-training/backend:[TAG]

docker.jala.pro/docker-training/frontend:[TAG]]



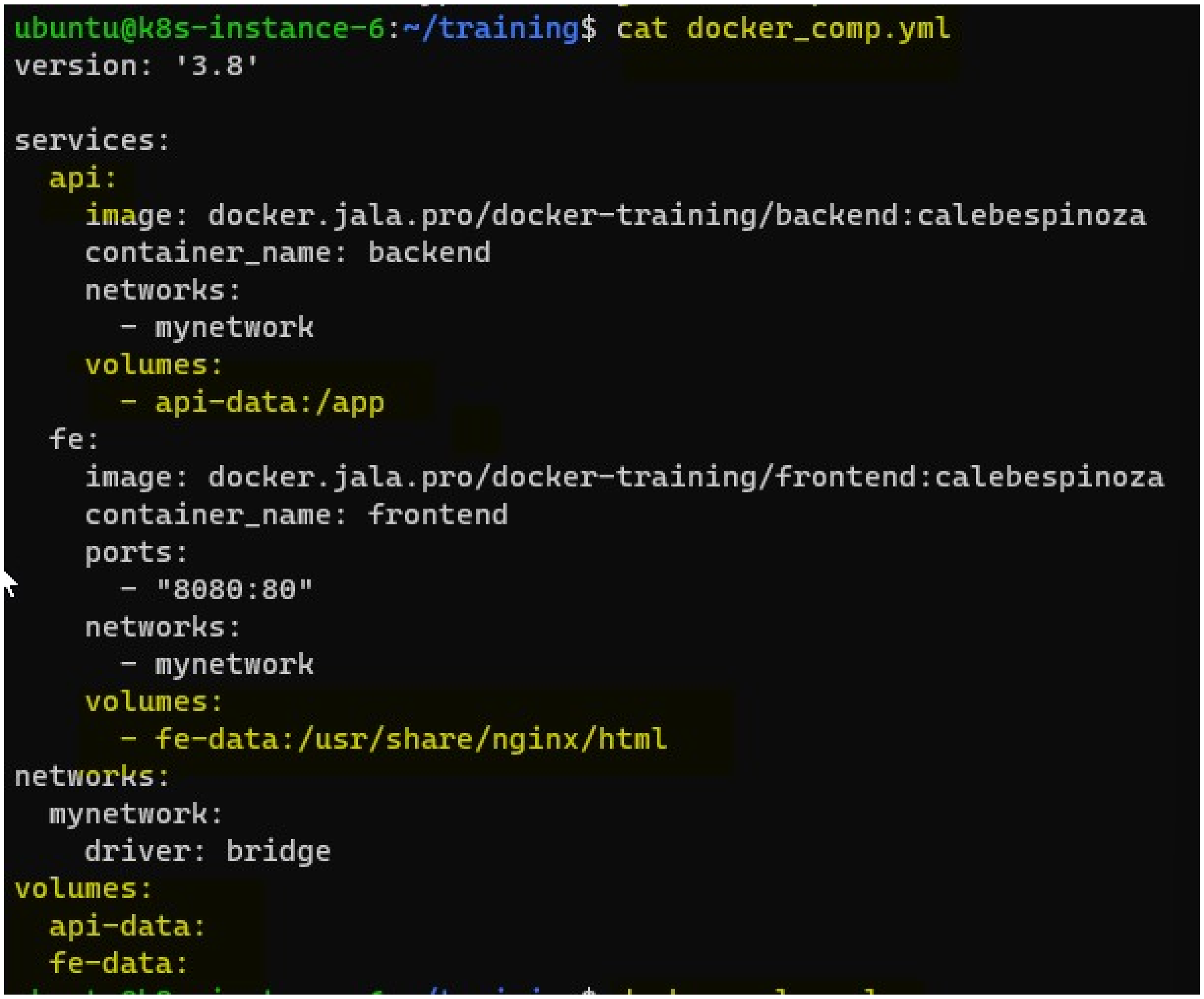
```
ubuntu@k8s-instance-6:~/training$ cat docker_comp.yml
version: '3.8'

services:
  api:
    image: docker.jala.pro/docker-training/backend:calebespinoza
    container_name: backend
    networks:
      - mynetwork
    volumes:
      - api-data:/app
  fe:
    image: docker.jala.pro/docker-training/frontend:calebespinoza
    container_name: frontend
    ports:
      - "8080:80"
    networks:
      - mynetwork
    volumes:
      - fe-data:/usr/share/nginx/html
networks:
  mynetwork:
    driver: bridge
volumes:
  api-data:
  fe-data:
```

2. Use a user-defined bridge network to allow inter-container communication.

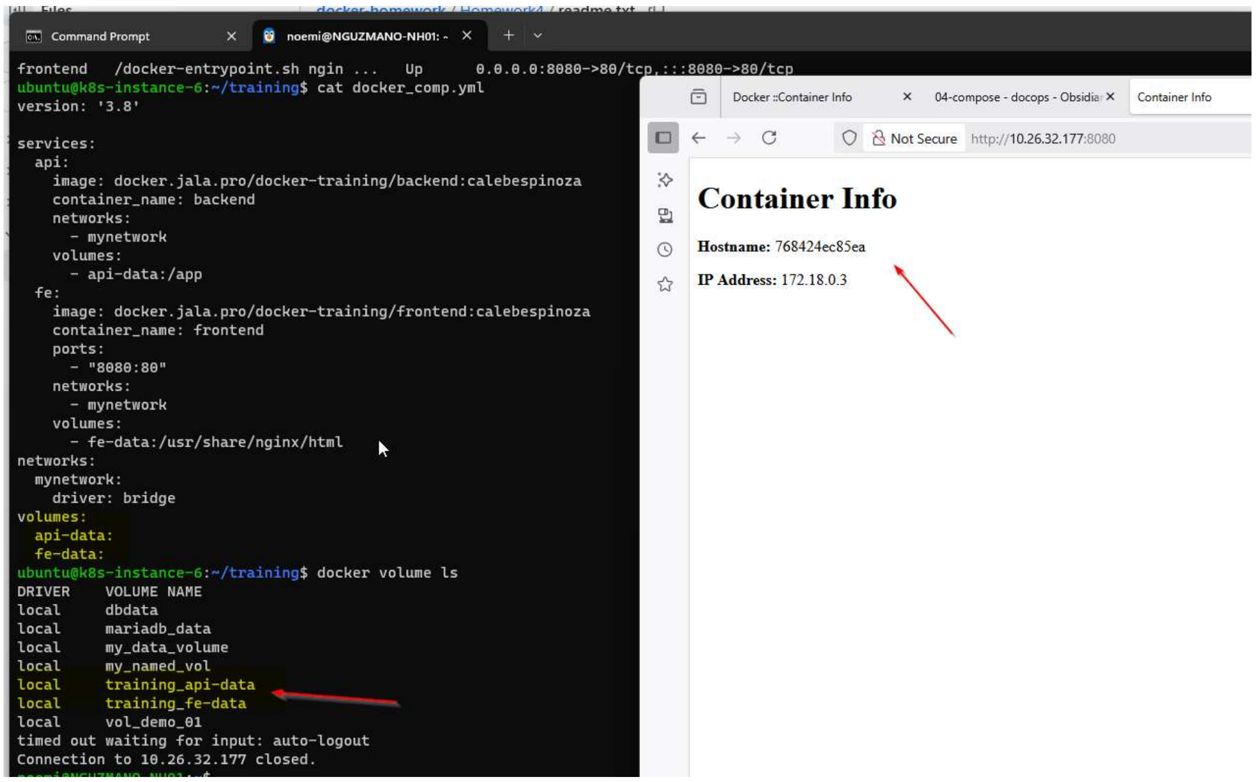


```
ubuntu@k8s-instance-6:~/training$ cat docker_comp.yml
version: '3.8'

services:
  api:
    image: docker.jala.pro/docker-training/backend:calebespinoza
    container_name: backend
    networks:
      - mynetwork
    volumes:
      - api-data:/app
  fe:
    image: docker.jala.pro/docker-training/frontend:calebespinoza
    container_name: frontend
    ports:
      - "8080:80"
    networks:
      - mynetwork
    volumes:
      - fe-data:/usr/share/nginx/html
networks:
  mynetwork:
    driver: bridge
volumes:
  api-data:
  fe-data:
```

3. Use volumes to persist data of each service.



```
ubuntu@k8s-instance-6:~/training$ cat docker_comp.yml
version: '3.8'

services:
  api:
    image: docker.jala.pro/docker-training/backend:calebespinoza
    container_name: backend
    networks:
      - mynetwork
    volumes:
      - api-data:/app
  fe:
    image: docker.jala.pro/docker-training/frontend:calebespinoza
    container_name: frontend
    ports:
      - "8080:80"
    networks:
      - mynetwork
    volumes:
      - fe-data:/usr/share/nginx/html
networks:
  mynetwork:
    driver: bridge
volumes:
  api-data:
  fe-data:
```



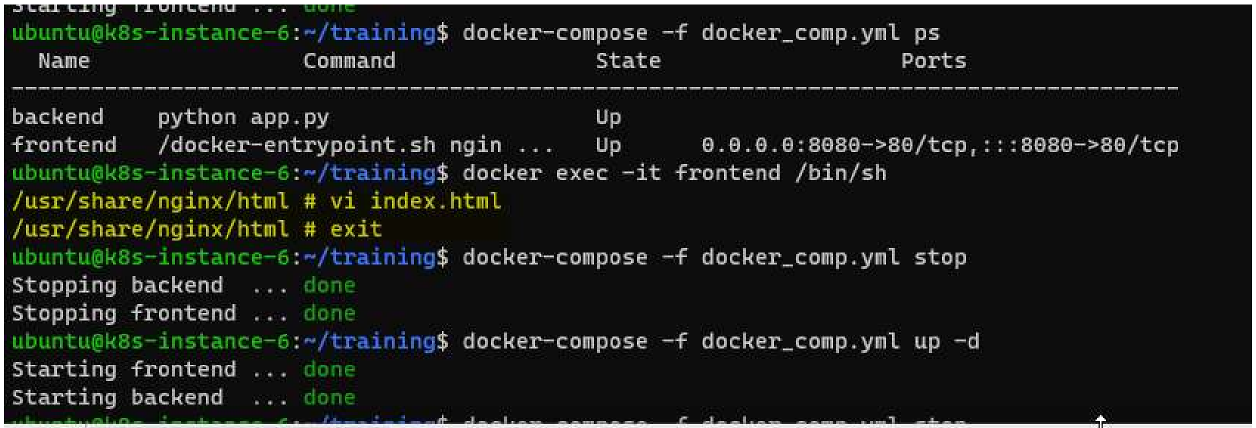
```
frontend   /docker-entrypoint.sh ngin ...   Up      0.0.0.0:8080->80/tcp,:::8080->80/tcp
ubuntu@k8s-instance-6:~/training$ cat docker_comp.yml
version: '3.8'

services:
  api:
    image: docker.jala.pro/docker-training/backend:calebespinoza
    container_name: backend
    networks:
      - mynetwork
    volumes:
      - api-data:/app
  fe:
    image: docker.jala.pro/docker-training/frontend:calebespinoza
    container_name: frontend
    ports:
      - "8080:80"
    networks:
      - mynetwork
    volumes:
      - fe-data:/usr/share/nginx/html
networks:
  mynetwork:
    driver: bridge
volumes:
  api-data:
  fe-data:
ubuntu@k8s-instance-6:~/training$ docker volume ls
DRIVER    VOLUME NAME
local     dbdata
local     mariadb_data
local     my_data_volume
local     my_named_vol
local     training_api-data
local     training_fe-data
local     vol_demo_01
timed out waiting for input: auto-logout
Connection to 10.26.32.177 closed.
```

**Container Info**

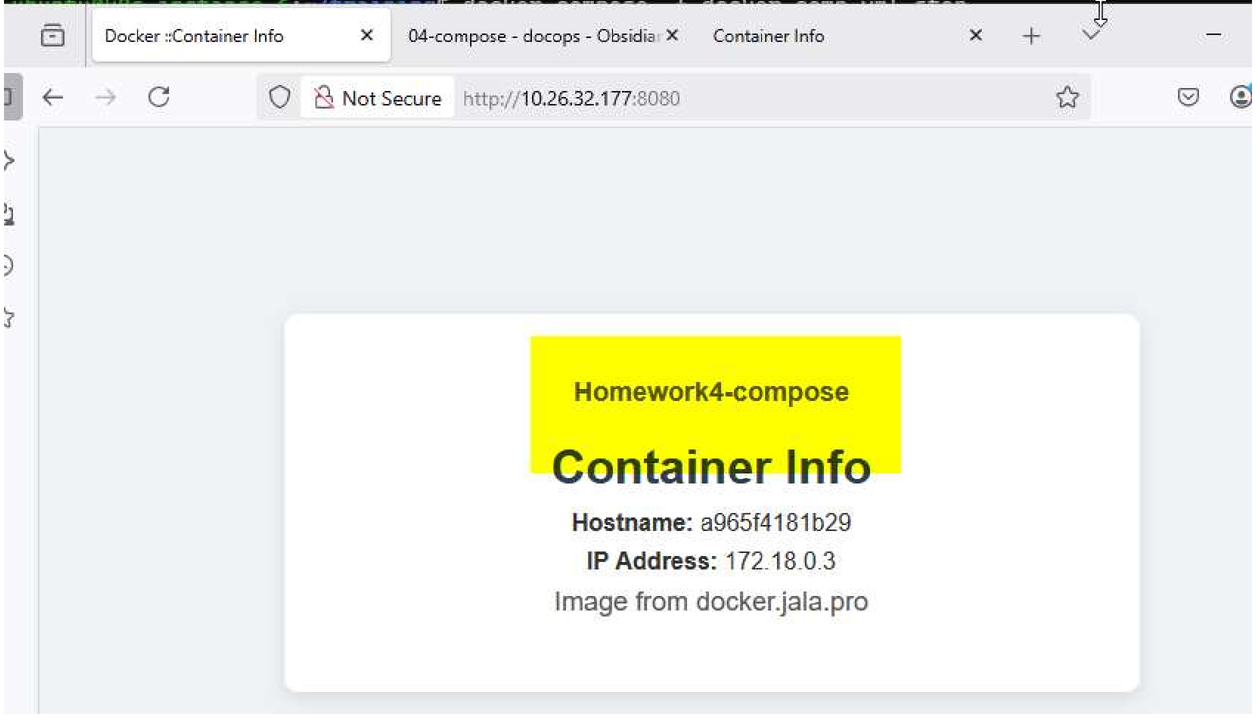
**Hostname:** 768424ec85ea

**IP Address:** 172.18.0.3

Improved index.html from container



```
ubuntu@k8s-instance-6:~/training$ docker-compose -f docker_comp.yml ps
  Name               Command               State                Ports
-------------------------------------------------------------------------------------------
backend    python app.py                   Up
frontend   /docker-entrypoint.sh ngin ...   Up      0.0.0.0:8080->80/tcp,:::8080->80/tcp
ubuntu@k8s-instance-6:~/training$ docker exec -it frontend /bin/sh
/usr/share/nginx/html # vi index.html
/usr/share/nginx/html # exit
ubuntu@k8s-instance-6:~/training$ docker-compose -f docker_comp.yml stop
Stopping backend  ... done
Stopping frontend ... done
ubuntu@k8s-instance-6:~/training$ docker-compose -f docker_comp.yml up -d
Starting frontend ... done
Starting backend  ... done
```



Homework4-compose

Container Info

**Hostname:** a965f4181b29

**IP Address:** 172.18.0.3

Image from docker.jala.pro