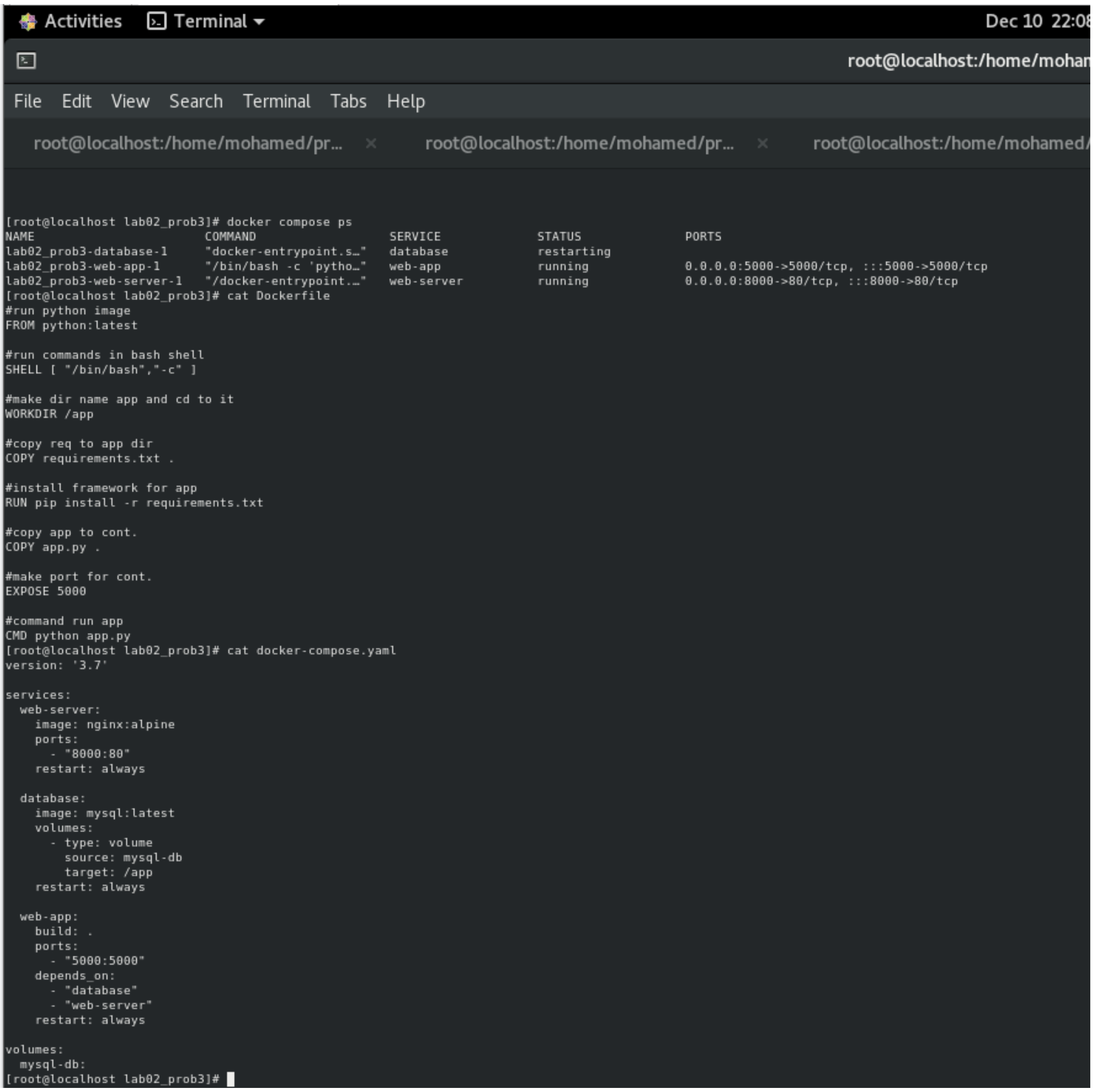
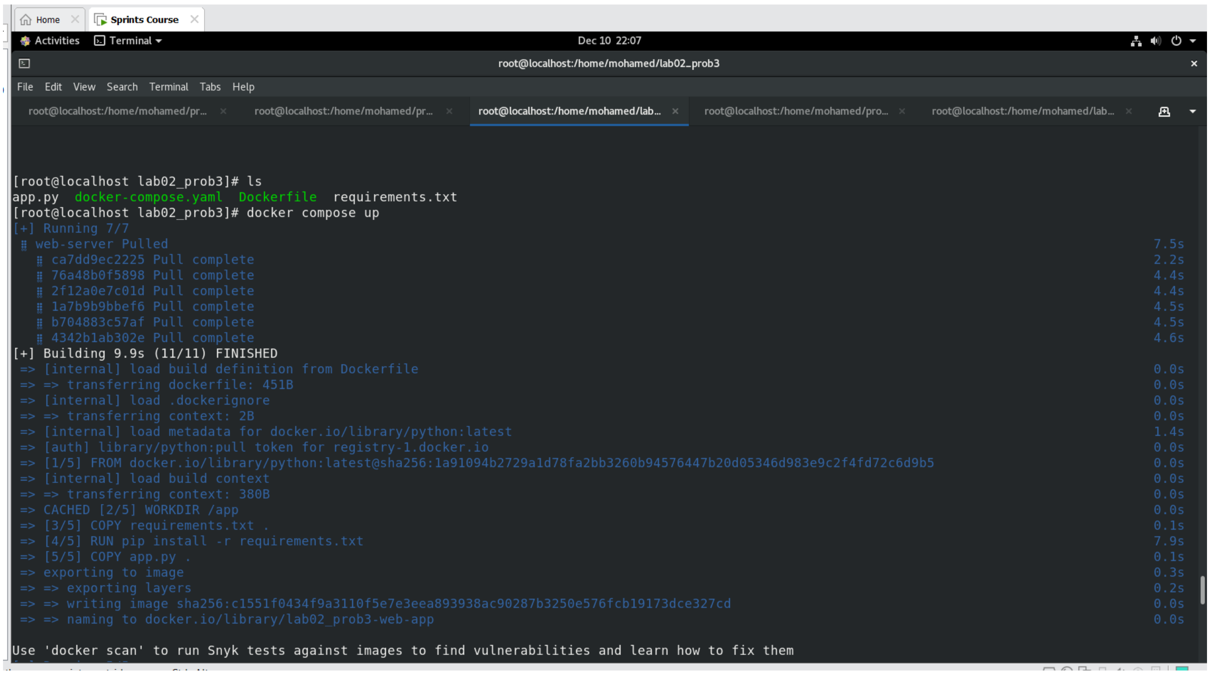
# Problem 3:

- Create a docker compose to setup web container (flask app from lab1 if not exist) and nginx, mysql, the app container depends on nginx and mysql.
- Add volume for mysqldb.

## Solution:


Activities
Terminal
Dec 10 22:08
root@localhost:/home/mohan
File Edit View Search Terminal Tabs Help
root@localhost:/home/mohamed/pr...
root@localhost:/home/mohamed/pr...
root@localhost:/home/mohamed/

```
[root@localhost lab02_prob3]# docker compose ps
NAME                        COMMAND                  SERVICE             STATUS              PORTS
lab02_prob3-database-1      "docker-entrypoint.s…"   database            restarting
lab02_prob3-web-app-1       "/bin/bash -c 'pytho…"   web-app             running             0.0.0.0:5000->5000/tcp, :::5000->5000/tcp
lab02_prob3-web-server-1    "/docker-entrypoint.…"   web-server          running             0.0.0.0:8000->80/tcp, :::8000->80/tcp
[root@localhost lab02_prob3]# cat Dockerfile
#run python image
FROM python:latest

#run commands in bash shell
SHELL [ "/bin/bash","-c" ]

#make dir name app and cd to it
WORKDIR /app

#copy req to app dir
COPY requirements.txt .

#install framework for app
RUN pip install -r requirements.txt

#copy app to cont.
COPY app.py .

#make port for cont.
EXPOSE 5000

#command run app
CMD python app.py
[root@localhost lab02_prob3]# cat docker-compose.yaml
version: '3.7'

services:
  web-server:
    image: nginx:alpine
    ports:
      - "8000:80"
    restart: always

  database:
    image: mysql:latest
    volumes:
      - type: volume
        source: mysql-db
        target: /app
    restart: always

  web-app:
    build: .
    ports:
      - "5000:5000"
    depends_on:
      - "database"
      - "web-server"
    restart: always

volumes:
  mysql-db:
[root@localhost lab02_prob3]# 
```


Home
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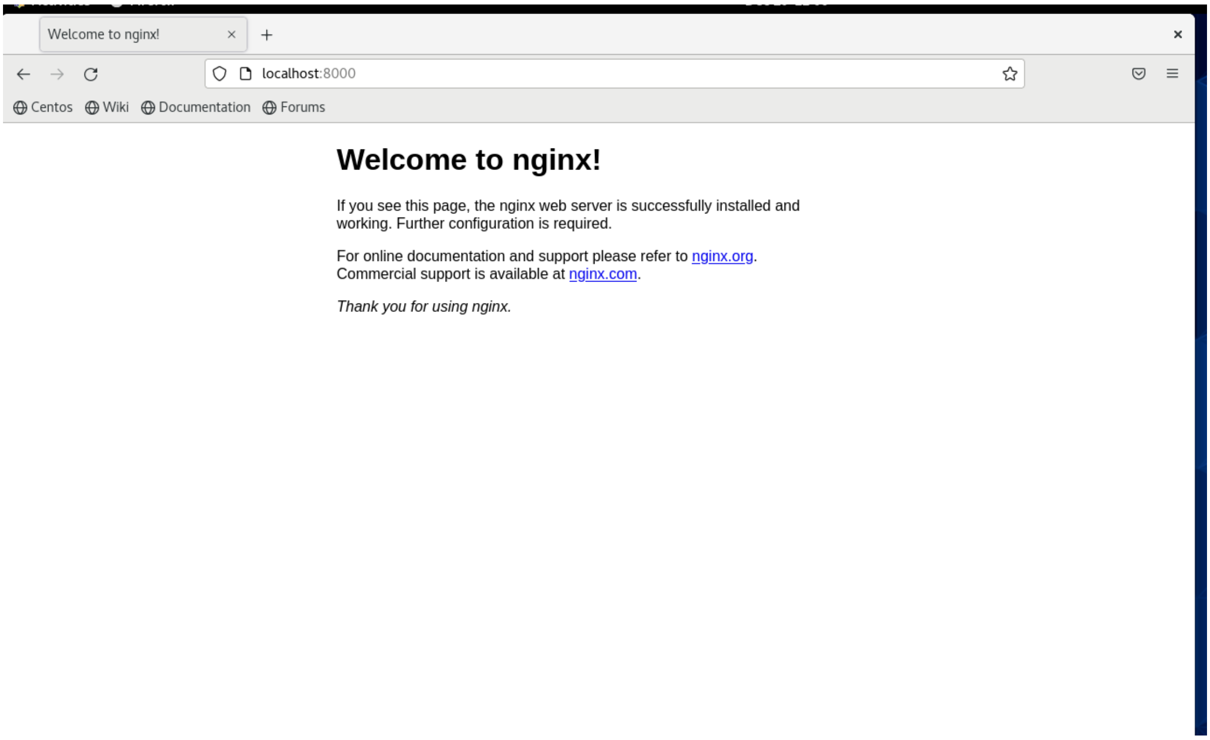
Activities
Terminal
Dec 10 22:07
root@localhost:/home/mohamed/lab02_prob3
File Edit View Search Terminal Tabs Help
root@localhost:/home/mohamed/pr...
root@localhost:/home/mohamed/pr...
root@localhost:/home/mohamed/lab...
root@localhost:/home/mohamed/pro...
root@localhost:/home/mohamed/lab...

```
[root@localhost lab02_prob3]# ls
app.py  docker-compose.yaml  Dockerfile  requirements.txt
[root@localhost lab02_prob3]# docker compose up
[+] Running 7/7
 ⣿ web-server Pulled                                                                                                                              7.5s
   ⣿ ca7dd9ec2225 Pull complete                                                                                                                   2.2s
   ⣿ 76a48b0f5898 Pull complete                                                                                                                   4.4s
   ⣿ 2f12a0e7c01d Pull complete                                                                                                                   4.4s
   ⣿ 1a7b9b9bbef6 Pull complete                                                                                                                   4.5s
   ⣿ b704883c57af Pull complete                                                                                                                   4.5s
   ⣿ 4342b1ab302e Pull complete                                                                                                                   4.6s
[+] Building 9.9s (11/11) FINISHED
 => [internal] load build definition from Dockerfile                                                                                              0.0s
 => => transferring dockerfile: 451B                                                                                                              0.0s
 => [internal] load .dockerignore                                                                                                                 0.0s
 => => transferring context: 2B                                                                                                                   0.0s
 => [internal] load metadata for docker.io/library/python:latest                                                                                  1.4s
 => [auth] library/python:pull token for registry-1.docker.io                                                                                     0.0s
 => [1/5] FROM docker.io/library/python:latest@sha256:1a91094b2729a1d78fa2bb3260b94576447b20d05346d983e9c2f4fd72c6d9b5                            0.0s
 => [internal] load build context                                                                                                                 0.0s
 => => transferring context: 380B                                                                                                                 0.0s
 => CACHED [2/5] WORKDIR /app                                                                                                                     0.0s
 => [3/5] COPY requirements.txt .                                                                                                                 0.1s
 => [4/5] RUN pip install -r requirements.txt                                                                                                     7.9s
 => [5/5] COPY app.py .                                                                                                                           0.1s
 => exporting to image                                                                                                                            0.3s
 => => exporting layers                                                                                                                           0.2s
 => => writing image sha256:c1551f0434f9a3110f5e7e3eea893938ac90287b3250e576fcb19173dce327cd                                                      0.0s
 => => naming to docker.io/library/lab02_prob3-web-app                                                                                            0.0s

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them
```

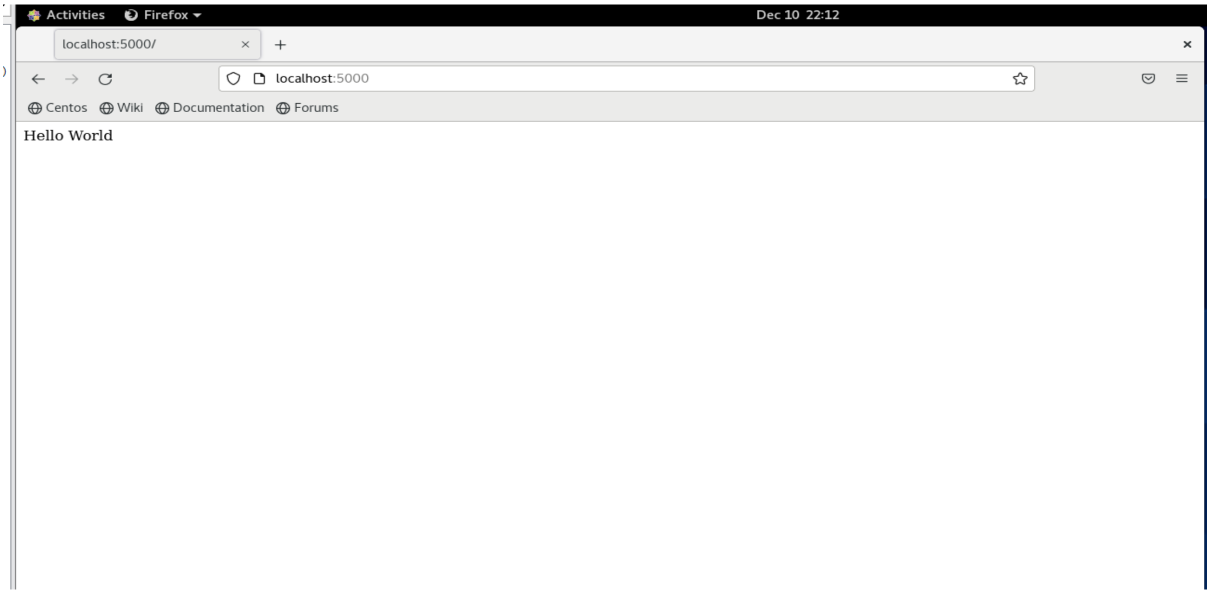


# Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.

*Thank you for using nginx.*



Activities
Firefox
Dec 10 22:12
localhost:5000/
localhost:5000
Centos
Wiki
Documentation
Forums

Hello World