# Lab Exercise 4

Find all the files used in the Lab Exercise below.

### app.py

from flask import Flask

from redis import Redis

app = Flask(\_\_name\_\_)

redis = Redis(host='redis', port=6379)

@app.route('/')

def hello():

count = redis.incr('hits')

return 'Hello World! I have been seen {} times.\n'.format(count)

if \_\_name\_\_ == "\_\_main\_\_":

app.run(host="0.0.0.0", port=8000, debug=True)

### **Dockerfile**

FROM python:3.12-alpine

ADD requirements.txt /code/requirements.txt

ADD app.py /code/app.py

WORKDIR /code

RUN pip install -r requirements.txt

CMD ["python", "app.py"]

### **requirements.txt**

flask

redis

### **docker-compose.yml**

version: '3'

services:

web:

image: stackdemo24:latest

build: .

ports:

- "96-100:8000"

redis:

image: redis:alpine

Install Docker: Follow below commands to install docker in the Linux machine.

sudo apt-get update

sudo install -m 0755 -d /etc/apt/keyrings

curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o /etc/apt/keyrings/docker.gpg

sudo chmod a+r /etc/apt/keyrings/docker.gpg

echo \

"deb [arch=$(dpkg --print-architecture) signed-by=/etc/apt/keyrings/docker.gpg] https://download.docker.com/linux/ubuntu \

$(. /etc/os-release && echo "$VERSION\_CODENAME") stable" | \

sudo tee /etc/apt/sources.list.d/docker.list > /dev/null

sudo apt-get install ca-certificates curl gnupg

sudo install -m 0755 -d /etc/apt/keyrings

curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o /etc/apt/keyrings/docker.gpg

sudo chmod a+r /etc/apt/keyrings/docker.gpg

echo \

"deb [arch=$(dpkg --print-architecture) signed-by=/etc/apt/keyrings/docker.gpg] https://download.docker.com/linux/ubuntu \

$(. /etc/os-release && echo "$VERSION\_CODENAME") stable" | \

sudo tee /etc/apt/sources.list.d/docker.list > /dev/null

sudo apt-get update

sudo apt-get install docker-ce docker-ce-cli containerd.io docker-buildx-plugin docker-compose-plugin

Install docker-compose: Follow below steps to install docker-compose.

sudo curl -L "https://github.com/docker/compose/releases/download/v2.23.3/docker-compose-$(uname -s)-$(uname -m)" -o /usr/local/bin/docker-compose

sudo chmod +x /usr/local/bin/docker-compose

sudo docker-compose --version

Start docker-compose: Follow below steps to start docker-compose.

cd DockerComposeTest/

sudo docker-compose up

Start docker-compose in detached mode: Follow below steps to install docker-compose.

sudo docker-compose up -d

Check the site: Check the site availability using the below steps.

curl localhost:95

Shutdown docker-compos: Shut down docker-compose using the below steps.

sudo docker-compose down

Scale up/down docker-compose: Scale up or scale down the docker instances using the below commands.

sudo docker-compose up --scale web=4 -d