Playground used: <https://www.katacoda.com/courses/ubuntu/playground>

Steps to follow

* In the katacoda terminal create a directory using the command *mkdir <folder name>*

E.g.: mkdir dirtest

* Create a python file, test.py in the dirtest folder
  + In the terminal go to the dirtest folder and open an editor using *vim* command

cd dirtest

vim test.py

* + Copy the below code in the editor

from flask import Flask

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

@app.route('/')

def hello\_world():

return "Hello World"

if \_\_name\_\_ == '\_\_main\_\_':

app.run()

* Press Esc and type :wq and press Enter key

This will save and exit from the terminal

* Install flask module using the command, *pip3 install flask*
* Create a Dockerfile using *vim* command and write the below code in it.

FROM python:3.8.11-buster

WORKDIR /test

RUN pip3 install flask

ENV FLASK\_APP=test.py

COPY . .

CMD [ "python3", "-m" , "flask", "run", "--host=0.0.0.0"]

* Build the Dockerfile using the command, *docker build --tag <image\_name>* .

E.g.: docker build --tag testimage .

* Check if the image created is successful using the command*, docker images*
* Create container for the image created using the command, *docker run <image\_name>*

E.g.: docker run testimage

* In another terminal, check whether the container created displays “Hello World” as given in the test.py file using the command *curl <ip:port>*

E.g.: curl 172.18.0.3:5000 ; ip and port number will be displayed in the terminal when *docker run* command is executed. Here the ip with be the localhost and the port number will be the default one, 5000

* Publish port to outside

E.g.: docker run -p 2010:5000 --name mycontainer testimage

This will create a container named mycontainer with hostport 2010 binded to port no: 5000 of the container

* Check ipaddress of the machine using the command, *ifconfig*
* Use *curl* command to check if the web application is accessible.

E.g.: curl <ipaddress>:2010 (Prints “Hello World” in the console)