Assignment -4

Assignment Kubernetes / Docker

Assignment Date	2 November 2022
Student Name	Ajay M
Student Roll Number	962319104008
Maximum Marks	2 Marks

Question-1:

```
1.Pull an Image from docker hub and run it in docker playground.
2.Create a docker file for the jobportal application and deploy it in Docker
desktop application
3.Create a IBM container registry and deploy helloworld app or jobportalapp.
4.Create a Kubernetes cluster in IBM cloud and deploy helloworld image or jobportal
image and also expose the same app to run in nodeport.
```

Solution:

Base.html:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>{% block title %}{% endblock %}</title>
    <link rel="stylesheet" href="{{ url_for('static', filename='css/style.css') }}"/>
    <link rel="preconnect" href="https://fonts.googleapis.com">
<link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
<link href="https://fonts.googleapis.com/css2?family=Michroma&display=swap" rel="stylesheet">
</head>
<body>
    {% block main %}
    {% endblock %}
</body>
</html>
```

Index.html:

```
{% extends 'base.html' %}

{% block title %}
   Welcome
{% endblock %}

{% block main %}
   <div>
      <h2>Hello World!</h2>
      <p>The Hello World Program is Printed Successfully</p>
   </div>
{% endblock %}
```

__init__.py:

```
from flask import Flask

def create_app():
   app = Flask(__name__)

   # registering the blue print with the app     from .views
import blue_print
app.register_blueprint(blueprint=blue_print, appendix='/')

   return app
```

Views.py:

```
from flask import Blueprint, render_template

blue_print = Blueprint("print", __name__)

@blue_print.route('/') def
home():
   return render_template('index.html')
```

App.py:

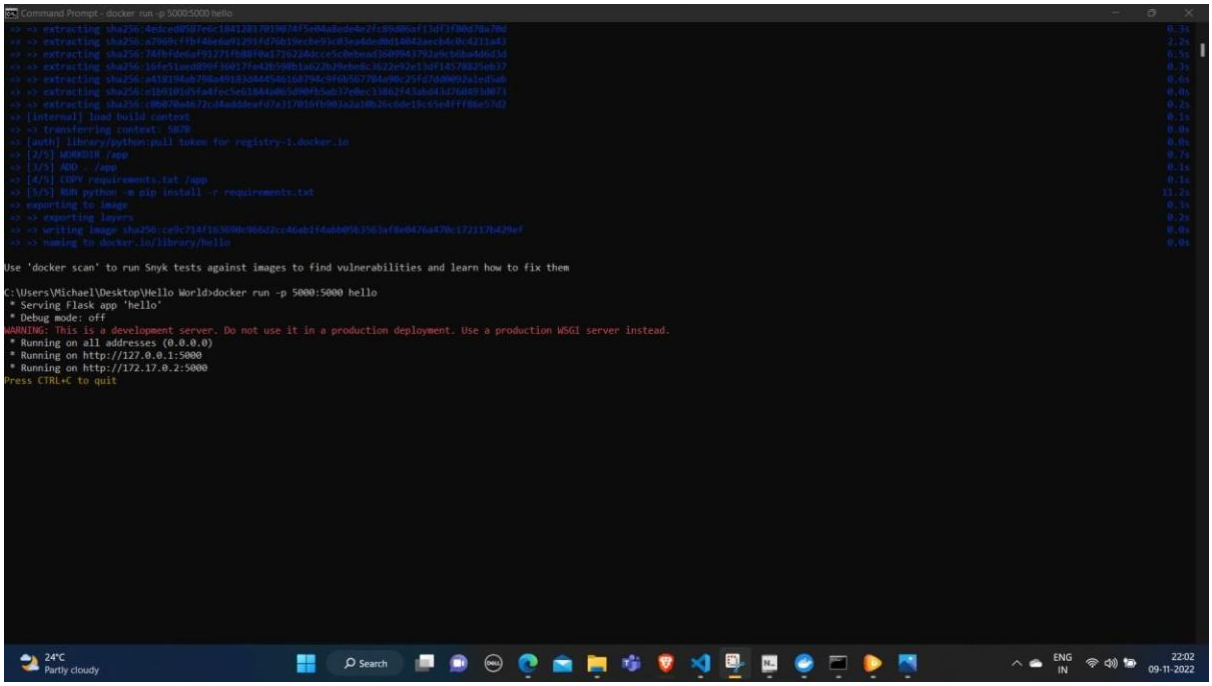
```
from venv import create from
hello import create_app

if __name__ == "__main__":     app =
create_app()
app.run(host="0.0.0.0", port=5000)
```

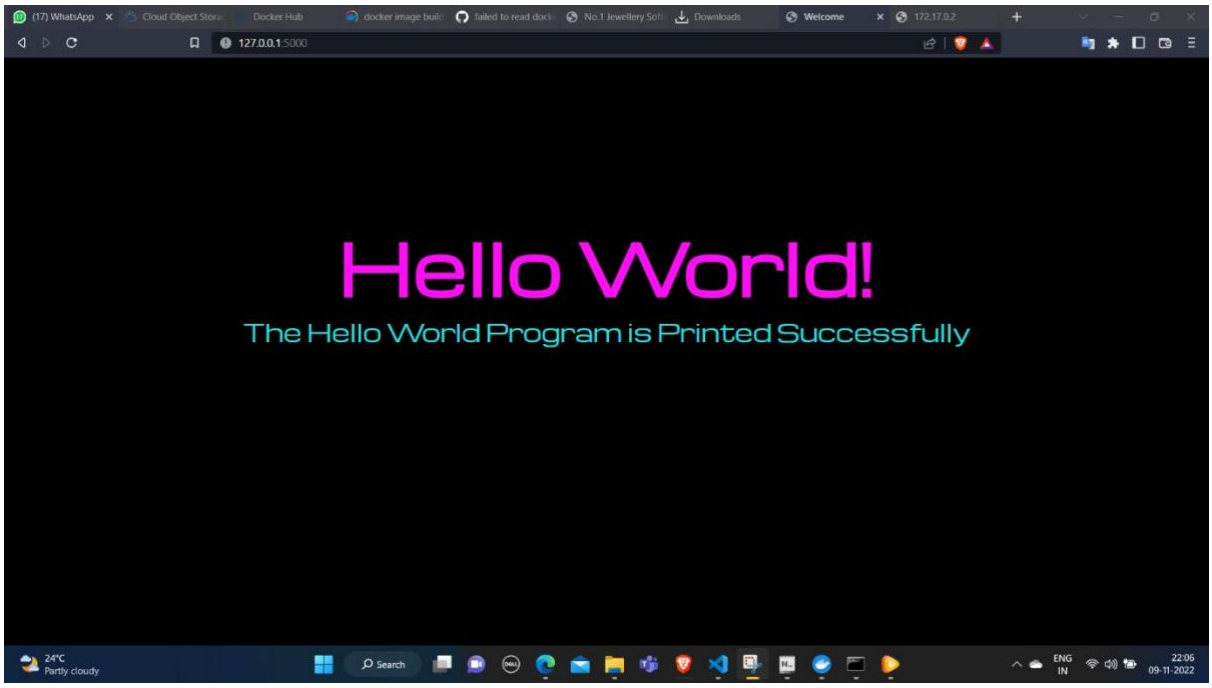
Dockerfile:

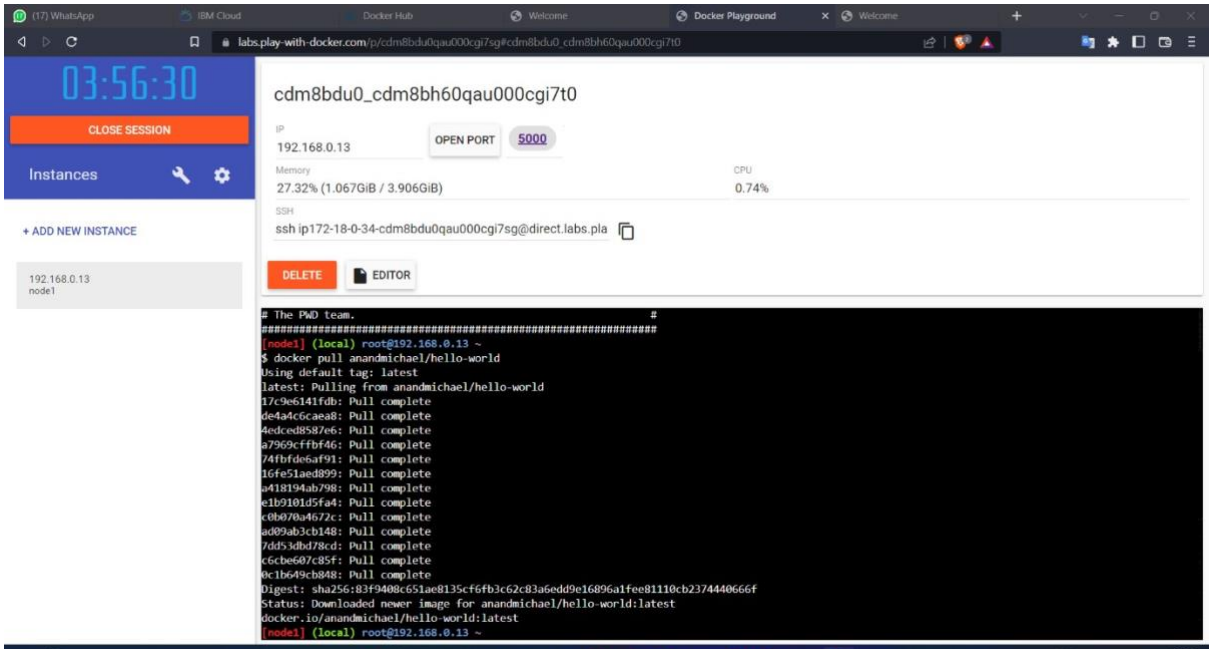
```
FROM python:3.7
WORKDIR /app
ADD . /app
COPY requirements.txt /app
RUN python -m pip install -r requirements.txt
EXPOSE 5000
ENTRYPOINT [ "python" ]
CMD [ "app.py" ]
```

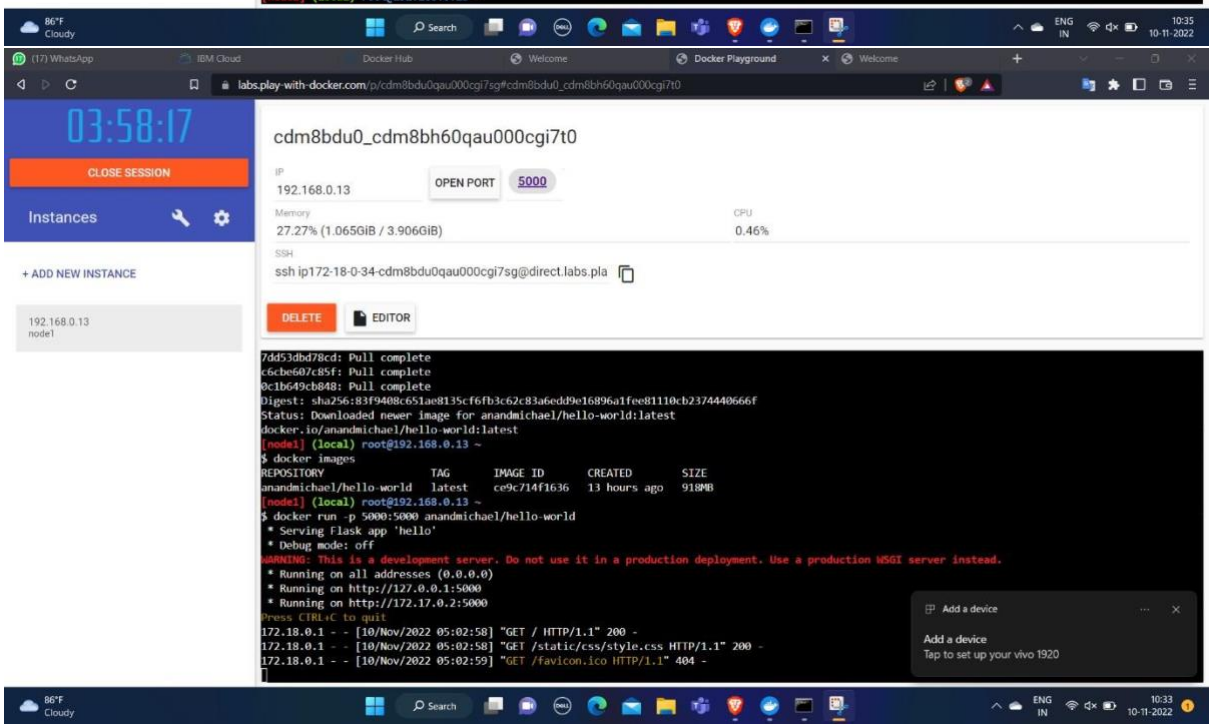
Requirements.txt:

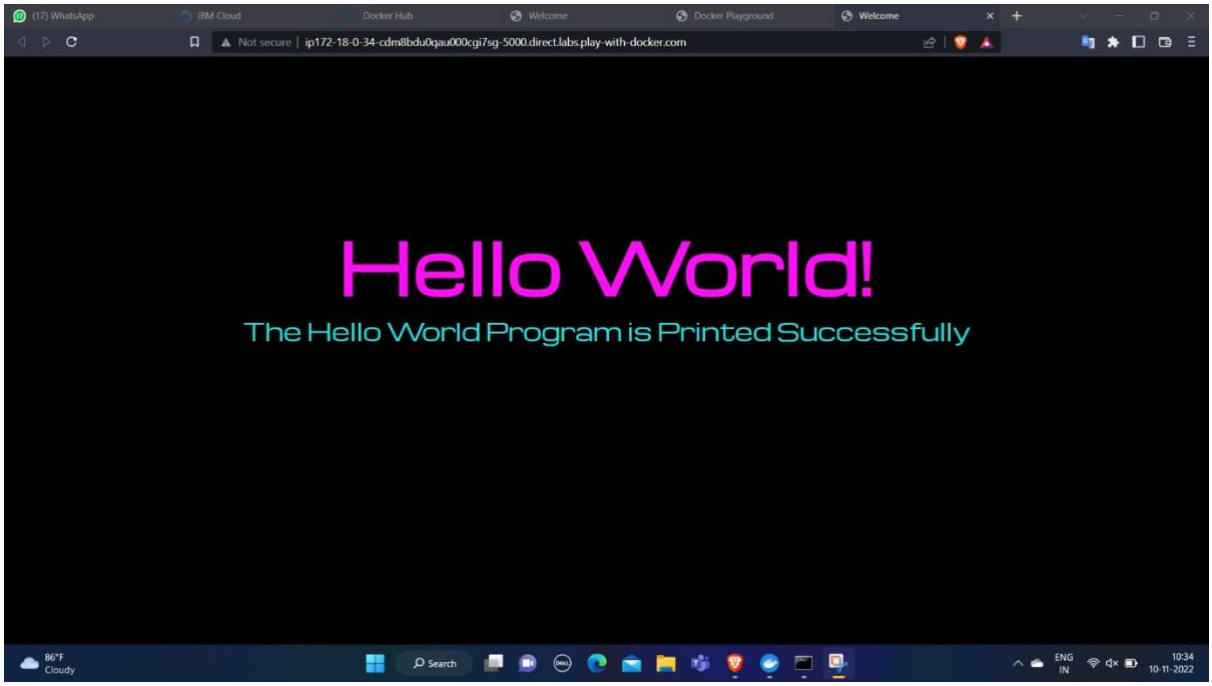
```
flask
```


Command Prompt - docker run -p 5000:5000 hello
Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them
C:\Users\Michael\Desktop\Hello World>docker run -p 5000:5000 hello
* Serving Flask app 'hello'
* Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on all addresses (0.0.0.0)
* Running on http://127.0.0.1:5000
* Running on http://172.17.0.2:5000
Press CTRL+C to quit
24°C
Partly cloudy
Search
ENG
IN
22:02
09-11-2022


127.0.0.1:5000
Hello World!
The Hello World Program is Printed Successfully
24°C
Partly cloudy
Search
ENG
IN
22:06
09-11-2022


labs.play-with-docker.com/p/cdm8bdu0qau000cgi7sg#cdm8bdu0_cdm8bh60qau000cgi7t0
03:56:30
CLOSE SESSION
Instances
+ ADD NEW INSTANCE
192.168.0.13
node1
cdm8bdu0_cdm8bh60qau000cgi7t0
IP
192.168.0.13
OPEN PORT
5000
Memory
27.32% (1.067GiB / 3.906GiB)
CPU
0.74%
SSH
ssh ip172-18-0-34-cdm8bdu0qau000cgi7sg@direct.labs.pla
DELETE
EDITOR
The PWD team.
[node1] (local) root@192.168.0.13 ~
$ docker pull anandmichael/hello-world
Using default tag: latest
latest: Pulling from anandmichael/hello-world
17c9e6141fdb: Pull complete
de4a4c6caea8: Pull complete
4edced8587e6: Pull complete
a7969cffbf46: Pull complete
74fbfde6af91: Pull complete
16fe51aed899: Pull complete
a418194ab798: Pull complete
e1b9101d5fa4: Pull complete
c0b070a4672c: Pull complete
ad09ab3cb148: Pull complete
7dd53dbd78cd: Pull complete
c6cbe607c85f: Pull complete
0c1b649cb848: Pull complete
Digest: sha256:83f9408c651ae8135cf6fb3c62c83a6edd9e16896a1fee81110cb2374440666f
Status: Downloaded newer image for anandmichael/hello-world:latest
docker.io/anandmichael/hello-world:latest
[node1] (local) root@192.168.0.13 ~


labs.play-with-docker.com/p/cdm8bdu0qau000cgi7sg#cdm8bdu0_cdm8bh60qau000cgi7t0
03:58:17
CLOSE SESSION
Instances
+ ADD NEW INSTANCE
192.168.0.13
node1
cdm8bdu0_cdm8bh60qau000cgi7t0
IP
192.168.0.13
OPEN PORT
5000
Memory
27.27% (1.065GiB / 3.906GiB)
CPU
0.46%
SSH
ssh ip172-18-0-34-cdm8bdu0qau000cgi7sg@direct.labs.pla
DELETE
EDITOR
7dd53dbd78cd: Pull complete
c6cbe607c85f: Pull complete
0c1b649cb848: Pull complete
Digest: sha256:83f9408c651ae8135cf6fb3c62c83a6edd9e16896a1fee81110cb2374440666f
Status: Downloaded newer image for anandmichael/hello-world:latest
docker.io/anandmichael/hello-world:latest
[node1] (local) root@192.168.0.13 ~
$ docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
anandmichael/hello-world latest ce9c714f1636 13 hours ago 918MB
[node1] (local) root@192.168.0.13 ~
$ docker run -p 5000:5000 anandmichael/hello-world
* Serving Flask app 'hello'
* Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on all addresses (0.0.0.0)
* Running on http://127.0.0.1:5000
* Running on http://172.17.0.2:5000
Press CTRL+C to quit
172.18.0.1 - - [10/Nov/2022 05:02:58] "GET / HTTP/1.1" 200 -
172.18.0.1 - - [10/Nov/2022 05:02:58] "GET /static/css/style.css HTTP/1.1" 200 -
172.18.0.1 - - [10/Nov/2022 05:02:59] "GET /favicon.ico HTTP/1.1" 404 -
Add a device
Add a device
Tap to set up your vivo 1920


(17) WhatsApp
IBM Cloud
Docker Hub
Welcome
Docker Playground
Welcome
Not secure | ip172-18-0-34-cdm8bdu0qau000cgi7sg-5000.direct.labs.play-with-docker.com
Hello World!
The Hello World Program is Printed Successfully
86°F
Cloudy
Search
ENG
IN
10:34
10-11-2022