

## Assignment -4

### Assignment Kubernetes / Docker

Assignment Date	2 November 2022
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Student Roll Number	<b>962319104033</b>
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
```

03:58:05

CLOSE SESSION

Instances

+ ADD NEW INSTANCE

192.168.0.28  
node1

cdm14n9\_cdm16m3tccg009i2550

IP  
192.168.0.28

OPEN PORT 5000

Memory  
27.59% (1.078GiB / 3.906GiB)

CPU  
285.86%

SSH  
ssh ip172-18-0-130-cdm14n91rrg00emv3og@direct.labs.pl

DELETE EDITOR

```
a8c11554fce: Pull complete
e4e46864aba2: Pull complete
c95a0be79bfb: Pull complete
195ea6a58ca8: Pull complete
157f16ed0a0c: Pull complete
884b144bec28: Pull complete
a8f147ae68ca: Pull complete
94104985f76f: Pull complete
c4da09becd66: Pull complete
9a68a79c15f3: Pull complete
d69e18f8b0d1: Pull complete
da14cb8cbb54: Pull complete
f22ad3c49f29: Pull complete
Digest: sha256:8b323ebc3d508e7a44d429ca39f2ed323dafa8243484b3ec3b584c02bd24fb8c
Status: Downloaded newer image for jayahariprasath/hello:latest
* 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
```

30°C Cloudy

Not secure | ip172-18-0-130-cdm14n91rrg00emv3og-5000.direct.labs.play-with-docker.com

# Hello World!

The Hello World Program is Printed Successfully

30°C Cloudy

```
Command Prompt - docker run -p 5000:5000 hello

-> sha256:c850b677b6f3a309d1f05dc40b4d7aa82004502531fed1e76126d0e61481a5 10.80MB / 18.60MB 6.8s
-> sha256:195ea5a58ca87a18477965a6e6a6021112bde82c5b568a29c56ce4581b0e6695 54.59MB / 54.59MB 27.5s
-> sha256:157f16ed0a2110c4813d2095f6115b8f9e8654811b370b79ce29824429a8b 196.87MB / 196.87MB 52.5s
-> extracting sha256:a8ca11558fca08d9177da2d76387bdc86d77faeb8452975c6d8ac4886192cd1 2.4s
-> sha256:884b144bec28b45b1c0694cd0ad0c7c3619b3b84069c4dc575fe213e94a7e 6.29MB / 6.29MB 26.3s
-> extracting sha256:c4da05beddc6680fb956ae1dc1faf484a2f3d5e66f75bec5b1a38d4b05878 2.80MB / 2.80MB 8.5s
-> sha256:a8f147ae68ca8d779ef4f177ec1381a8d8b064c2085a0f7c0ae50040b01 15.48MB / 15.48MB 36.0s
-> extracting sha256:c850b677b6f3a309d1f05dc40b4d7aa82004502531fed1e76126d0e61481a5 0.5s
-> sha256:94104985f76f2a8ed7291907864cf92fbbf06c291b4e6fffdca9172ac21b0a 233B / 232B 30.8s
-> sha256:c4da05beddc6680fb956ae1dc1faf484a2f3d5e66f75bec5b1a38d4b05878 2.80MB / 2.80MB 35.2s
-> extracting sha256:195ea5a58ca87a18477965a6e6a6021112bde82c5b568a29c56ce4581b0e6695 5.7s
-> extracting sha256:157f16ed0a2110c4813d2095f6115b8f9e8654811b370b79ce29824429a8b 42.5s
-> extracting sha256:884b144bec28b45b1c0694cd0ad0c7c3619b3b84069c4dc575fe213e94a7e 0.4s
-> extracting sha256:a8f147ae68ca8d779ef4f177ec1381a8d8b064c2085a0f7c0ae50040b01 1.5s
-> extracting sha256:94104985f76f2a8ed7291907864cf92fbbf06c291b4e6fffdca9172ac21b0a 0.0s
-> extracting sha256:c4da05beddc6680fb956ae1dc1faf484a2f3d5e66f75bec5b1a38d4b05878 1.4s
[Interval] land build context
-> transferring context: 1.32MB 3.5s
-> [2/5] WORKDIR /app 2.8s
-> [3/5] ADD . /app 3.1s
-> [4/5] COPY requirements.txt /app 4.6s
-> [5/5] RUN python -m pip install -r requirements.txt 3.0s
-> exporting to image 16.8s
-> exporting layers 6.6s
-> writing image sha256:677b055f8a2b8d8e91314084a9a319c6c26daa406580116e0206da8120858f6 5.5s
-> naming to docker.io/library/hello 0.1s
-> 0.2s

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

C:\Users\hup\OneDrive\Desktop\Hello World>docker run -p 5000:5000 hello
* Serving Flask app 'Hello World'
* 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://172.17.0.3:5000
Press CTRL+C to quit
```

03:59:14

CLOSE SESSION

Instances

+ ADD NEW INSTANCE

192.168.0.28  
node1

cdm14n9\_cdm16m3tccg009i2550

IP  
192.168.0.28  
OPEN PORT

Memory  
1.20% (48.04MiB / 3.906GiB)

CPU  
0.52%

SSH  
ssh ip172-18-0-130-cdm14n91rrg00emv3og@direct.labs.pl

DELETE EDITOR

```
# The FWD team.
#####
[node1] (local) root@192.168.0.28 ~
$ docker pull jayahariprasath/hello
Using default tag: latest
latest: Pulling from jayahariprasath/hello
a8ca11558fca: Downloading [=====] 55.04MB/55.04MB
e4e46864aba2: Download complete
c85a0be79bfb: Download complete
195ea5a58ca8: Downloading [=====] 54.59MB/54.59MB
157f16ed0a0c: Downloading [=====] 196.9MB/196.9MB
884b144bec28: Download complete
a8f147ae68ca: Download complete
94104985f76f: Download complete
c4da05beddc6: Download complete
9e68a79e15f3: Download complete
d69e18f8b0d1: Download complete
da14cb8ebb54: Download complete
f22ad3c49f29: Download complete
write /var/lib/docker/tmp/GetImageBlob832995375: no space left on device
[node1] (local) root@192.168.0.28 ~
$
```

```
Command Prompt
Microsoft Windows [Version 10.0.22000.1219]
(c) Microsoft Corporation. All rights reserved.

C:\Users\hp>cd C:\Users\hp\OneDrive\Desktop\Hello World

C:\Users\hp\OneDrive\Desktop\Hello World>docker login
authenticating with existing credentials...
login Succeeded

Logging in with your password grants your terminal complete access to your account.
For better security, log in with a limited-privilege personal access token. Learn more at https://docs.docker.com/go/access-tokens/

C:\Users\hp\OneDrive\Desktop\Hello World>docker tag hello jayahariprasath/hello

C:\Users\hp\OneDrive\Desktop\Hello World>docker push jayahariprasath/hello
Using default tag: latest
The push refers to repository [docker.io/jayahariprasath/hello]
c4e3c62723c: Pushed
f80af943d7b: Pushed
7a7f7c799b99: Pushed
ea29a1ceb55: Pushed
f1cc2bae9a3: Mounted from library/python
c3040e02d68: Mounted from library/python
a7a6da7a330: Mounted from library/python
6e9854ca999: Mounted from library/python
97a22a853b: Mounted from library/python
9c3244a8702: Mounted from library/python
80231db1194c: Mounted from library/python
31cf2298584: Mounted from library/python
cba29d69370: Mounted from library/python
latest: digest: sha256:8b323ebc3d508e7a44d429ca39f2ed323dafa8243484b3ec3b584c02bd24fb8c size: 3054

C:\Users\hp\OneDrive\Desktop\Hello World>
```

Adobe Creative Cloud  
Adobe Creative Cloud App  
Unable to update Creative Cloud Apps.  
Please update manually.

30°C Cloudy 16:07 18-11-2022



