

## ASSIGNMENT 4

### Database connection

Date	02 November 2022
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Student Roll no	621319104009
Maximum Marks	2 Marks

#### 1.Pull an Image from docker hub and run it in docker playground.

##### App.py

```
from flask import Flask
app=Flask(__name__)
import os
@app.route("/")
def home():
    return "Hello"

if __name__=="__main__":
    port=int(os.environ.get('PORT',5000))
    app.run(host='0.0.0.0',port=port)
```

##### Docker file

```
FROM python
WORKDIR /app
COPY . .
RUN pip install -r requirement.txt
CMD ["python","app.py"]
EXPOSE 5000
```

03:49:35

CLOSE SESSION

Instances

+ ADD NEW INSTANCE

192.168.0.18  
node1

cdjqr4n9\_cdjqr6n91rrg00fv71ng

IP  
192.168.0.18

OPEN PORT

Memory  
57.03% (2.228GiB / 3.906GiB)

CPU  
0.23%

SSH  
ssh ip172-18-0-13-cdjqr4n91rrg00fv71mg@direct.labs.play-  
[icon]

DELETE

EDITOR

```
/venv
WARNING: You are using pip version 21.2.4; however, version 21.3.1 is available.
You should consider upgrading via the '/usr/local/bin/python3 -m pip install --upgrade pip' command.
Removing intermediate container 886c3e73680e
--> 8b26a09aa2a2
Step 7/8 : EXPOSE 5000
--> Running in 32fa8b673695
Removing intermediate container 32fa8b673695
--> abd93ff8e465
Step 8/8 : CMD ["python","app.py"]
--> Running in c61cd0f020bb
Removing intermediate container c61cd0f020bb
--> cb0c181d8579
Successfully built cb0c181d8579
Successfully tagged helloworldapp:latest
[node1] (local) root@192.168.0.18 ~
$
```

03:46:39

CLOSE SESSION

Instances

+ ADD NEW INSTANCE

192.168.0.18  
node1

cdjqr4n9\_cdjqr6n91rrg00fv71ng

IP  
192.168.0.18

OPEN PORT

Memory  
56.86% (2.221GiB / 3.906GiB)

CPU  
0.22%

SSH  
ssh ip172-18-0-13-cdjqr4n91rrg00fv71mg@direct.labs.play-  
[icon]

DELETE

EDITOR

```
--> abd93ff8e465
Step 8/8 : CMD ["python","app.py"]
--> Running in c61cd0f020bb
Removing intermediate container c61cd0f020bb
--> cb0c181d8579
Successfully built cb0c181d8579
Successfully tagged helloworldapp:latest
[node1] (local) root@192.168.0.18 ~
$ docker image ls
REPOSITORY          TAG         IMAGE ID      CREATED       SIZE
helloworldapp        latest      cb0c181d8579  2 minutes ago 1.08GB
docker               latest      adc767c402b4  11 days ago   151MB
python               latest      00cd1fb8bdcc  11 days ago   932MB
python               3.6        54260638d07c  10 months ago 902MB
uifd/ui-for-docker   latest      965940f98fa5  6 years ago   8.1MB
[node1] (local) root@192.168.0.18 ~
$
```

labs.play-with-docker.com/p/cdh16tu3tccg00fmsr9g#cdh16tu3\_cdhm1q63tccg00fmst4g

02:54:14

CLOSE SESSION

Instances

+ ADD NEW INSTANCE

192.168.0.8  
node1

cdh16tu3\_cdhm1q63tccg00fmst4g

IP: 192.168.0.8 OPEN PORT

Memory CPU

SSH: ssh ip172-18-0-45-cdh16tu3tccg00fmsr9g@direct.labs.play-i

DELETE EDITOR

```
python latest 00cd1fb8bdc 8 days ago 932MB
(node1) (local) root@192.168.0.8 ~
$ docker run -p 5000:5000 helloapp
* Serving Flask app 'app'
* 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 - - [03/Nov/2022 06:41:07] "GET / HTTP/1.1" 200 -
172.18.0.1 - - [03/Nov/2022 06:41:08] "GET /favicon.ico HTTP/1.1" 404 -
172.18.0.1 - - [03/Nov/2022 06:41:53] "GET / HTTP/1.1" 200 -
172.18.0.1 - - [03/Nov/2022 06:42:04] "GET / HTTP/1.1" 200 -
172.18.0.1 - - [03/Nov/2022 06:42:06] "GET /favicon.ico HTTP/1.1" 404 -
172.18.0.1 - - [03/Nov/2022 06:42:16] "GET / HTTP/1.1" 200 -
172.18.0.1 - - [03/Nov/2022 06:42:20] "GET / HTTP/1.1" 200 -
172.18.0.1 - - [03/Nov/2022 06:42:21] "GET /favicon.ico HTTP/1.1" 404 -
172.18.0.1 - - [03/Nov/2022 06:42:29] "GET / HTTP/1.1" 200 -
172.18.0.1 - - [03/Nov/2022 06:42:29] "GET / HTTP/1.1" 200 -
```

Not secure | ip172-18-0-45-cdh16tu3tccg00fmsr9g-5000.direct.labs.play-with-docker.com

Hello

Windows taskbar with search, file explorer, and system tray icons.

## 2. Create a docker file for the jobportal application and deploy it in Docker desktop application

```
C:\Windows\System32\cmd.e  X  +  v

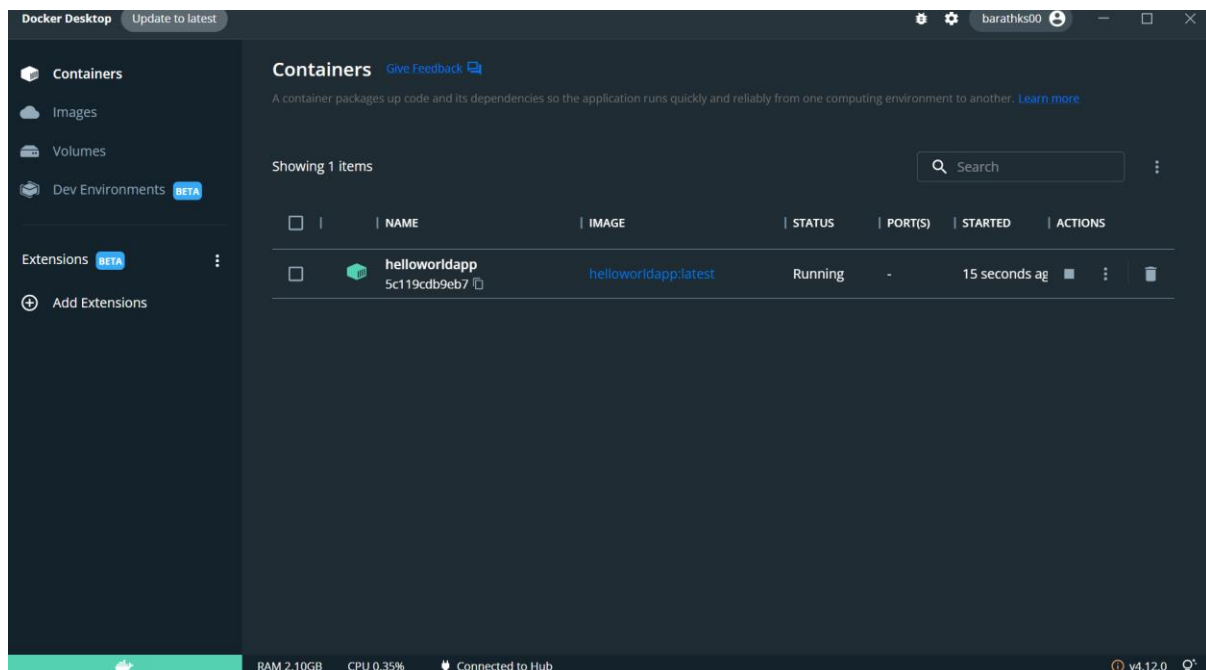
Microsoft Windows [Version 10.0.22621.755]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Barath\Desktop\helloworldapp>docker build -t helloworldapp .
[+] Building 101.1s (12/12) FINISHED
=> [internal] load build definition from Dockerfile                                0.0s
=> => transferring dockerfile: 229B                                              0.0s
=> [internal] load .dockerignore                                                  0.0s
=> => transferring context: 2B                                                  0.0s
=> [internal] load metadata for docker.io/library/python:3.6                    3.8s
=> [auth] library/python:pull token for registry-1.docker.io                    0.0s
=> [internal] load build context                                                  0.0s
=> => transferring context: 338B                                                0.0s
=> [1/6] FROM docker.io/library/python:3.6@sha256:f8652afaf88c25f0d22354d547d892591067aa4026a7fa9a6819df9f300af6  0.0s
=> CACHED [2/6] WORKDIR /app                                                    0.0s
=> [3/6] ADD . /app                                                             0.1s
=> [4/6] COPY requirements.txt /app                                             0.2s
=> [5/6] RUN python3 -m pip install -r requirements.txt                         94.7s
=> [6/6] RUN python3 -m pip install ibm_db                                    1.2s
=> exporting to image                                                            1.0s
=> => exporting layers                                                            0.9s
=> => writing image sha256:2388a5f6ea31f7e206970cfd97754e130fdd4c780d8e9c5dc3f1b7804e313f70  0.0s
=> => naming to docker.io/library/helloworldapp                                0.0s

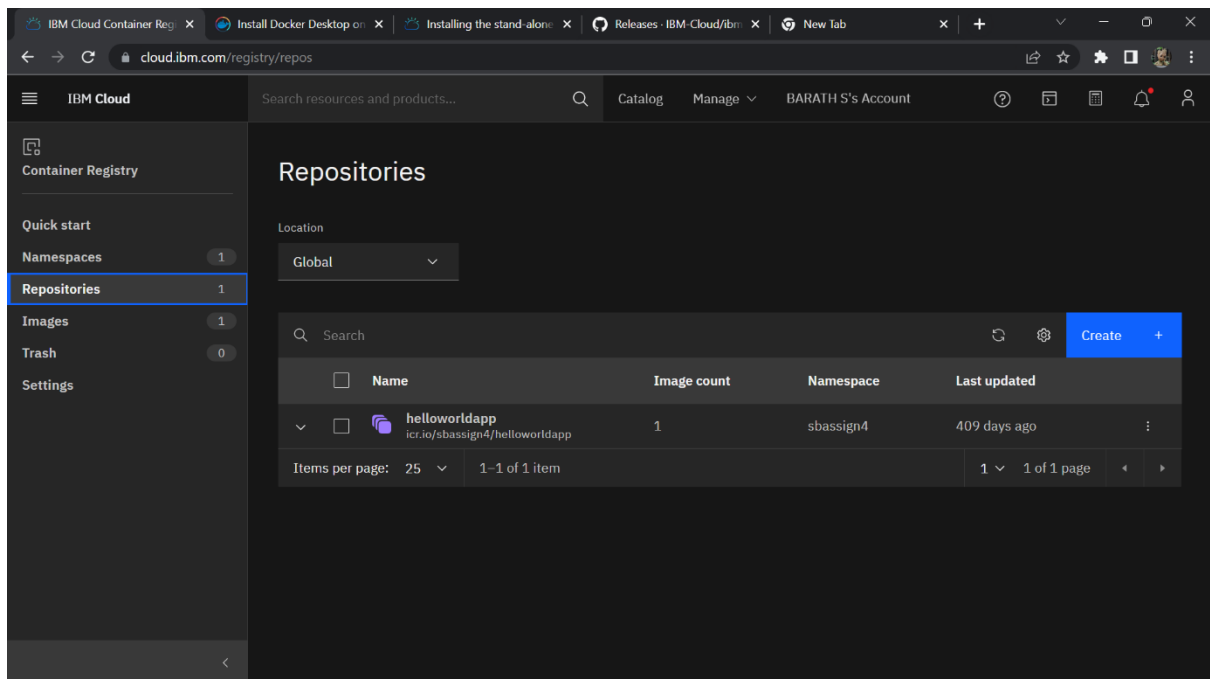
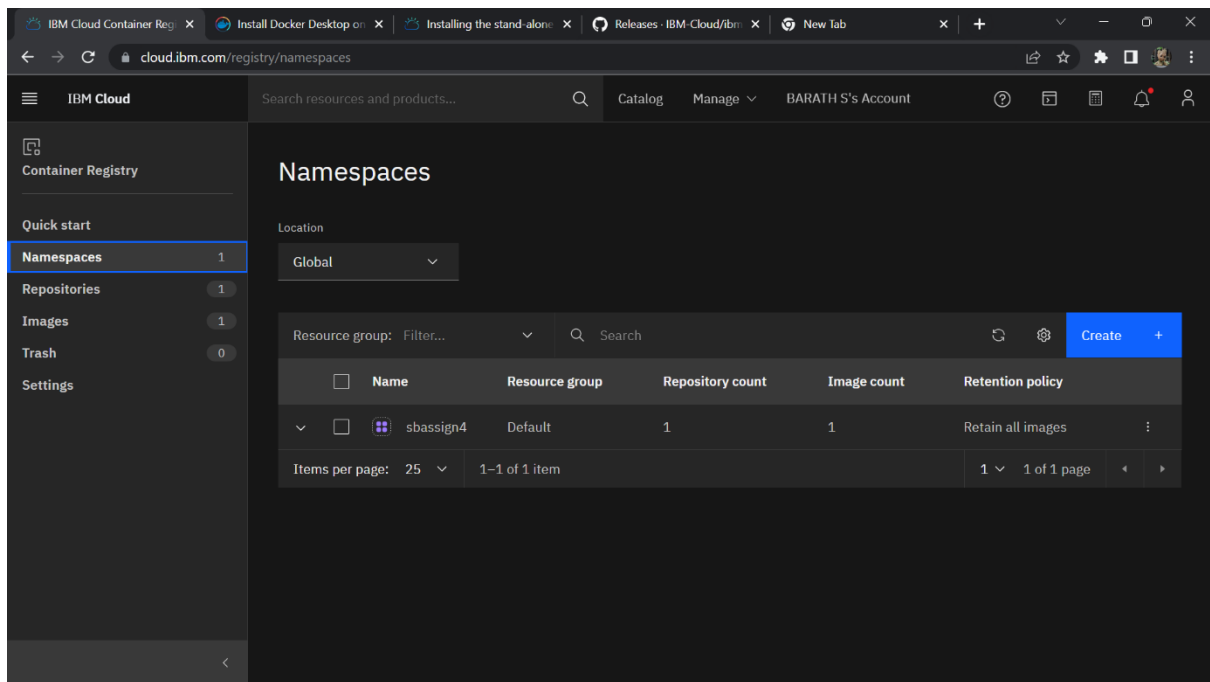
Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them

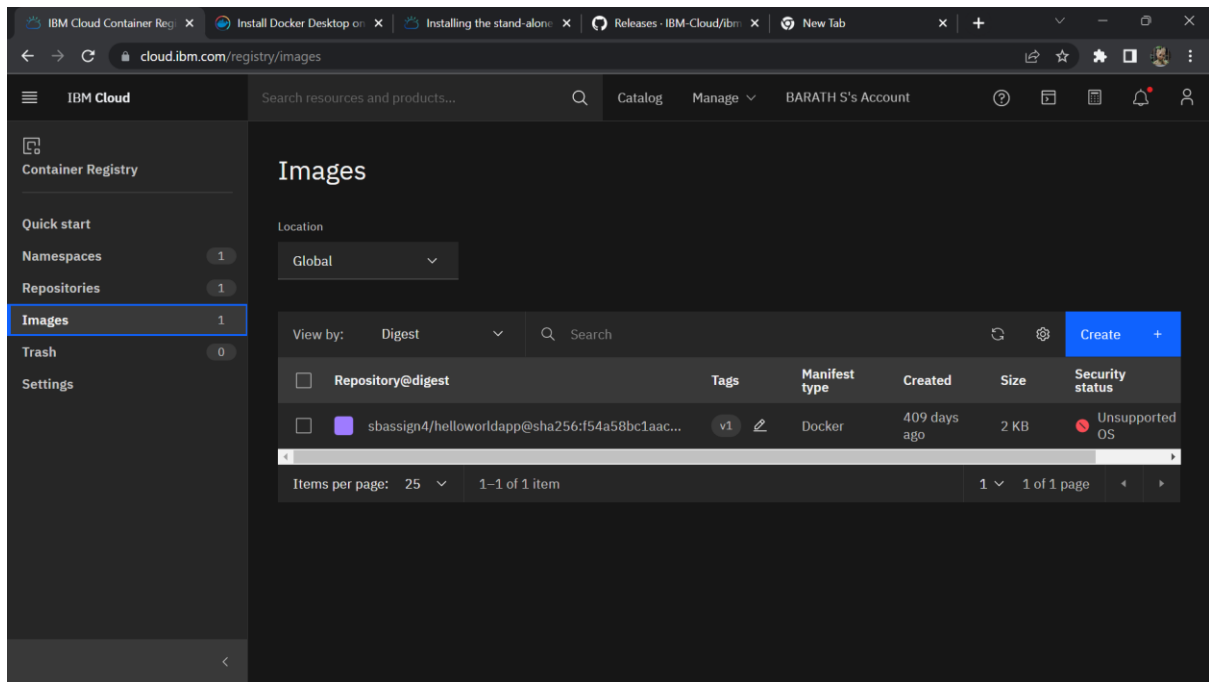
C:\Users\Barath\Desktop\helloworldapp>
```

```
C:\Users\Barath\Desktop\helloworldapp>docker images
REPOSITORY          TAG         IMAGE ID      CREATED        SIZE
helloworldapp       latest     2388a5f6ea31  About a minute ago  1.08GB
code                latest     d4e73184e6f8  29 hours ago   1.08GB
docker/getting-started latest     cb90f98fd791  6 months ago   28.8MB
```

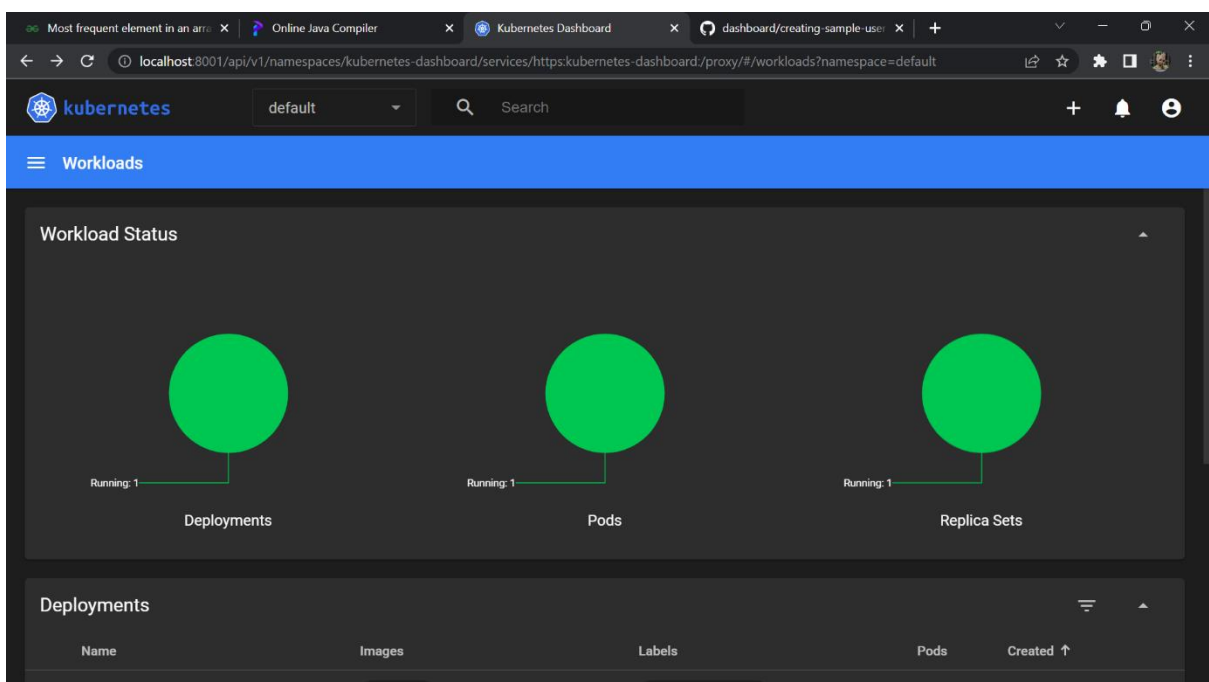


### 3. Create a IBM container registry and deploy helloworld app or jobportalapp.





**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**



Most frequent element in an array x Online Java Compiler x Kubernetes Dashboard x dashboard/creating sample user x +

localhost:8001/api/v1/namespaces/kubernetes-dashboard/services/https:kubernetes-dashboard:/proxy/#/workloads?namespace=default

kubernetes default Search +

### Workloads

- Workloads
- Cron Jobs
- Daemon Sets
- Deployments
- Jobs
- Pods
- Replica Sets
- Replication Controllers
- Stateful Sets
- Service
- Ingresses
- Ingress Classes
- Services
- Config and Storage

#### Deployments

Name	Images	Labels	Pods	Created
helloworldapp	nginx	app: helloworldapp	1 / 1	8h

#### Pods

Name	Images	Labels	Node	Status	Restarts	CPU Usage (cores)	Memory Usage (bytes)
helloworldapp-7989877b4b-b25rz	nginx	app: helloworldapp pod-template-hash: 7989877b4b	docker-desktop	Running	1	-	-

#### Replica Sets

Name	Images	Labels	Pods	Created
helloworldapp-7989877b4b	nginx	app: helloworldapp	1 / 1	8h

Most frequent element in an array x Online Java Compiler x Kubernetes Dashboard x dashboard/creating sample user x +

localhost:8001/api/v1/namespaces/kubernetes-dashboard/services/https:kubernetes-dashboard:/proxy/#/namespace?namespace=default

kubernetes default Search +

### Cluster > Namespaces

#### Namespaces

Name	Labels	Phase	Created ↑
kubernetes-dashboard	kubernetes.io/metadata.name: kubernetes-dashboard	Active	17 hours ago
default	kubernetes.io/metadata.name: default	Active	17 hours ago
kube-node-lease	kubernetes.io/metadata.name: kube-node-lease	Active	17 hours ago
kube-public	kubernetes.io/metadata.name: kube-public	Active	17 hours ago
kube-system	kubernetes.io/metadata.name: kube-system	Active	17 hours ago