

## Assignment -4

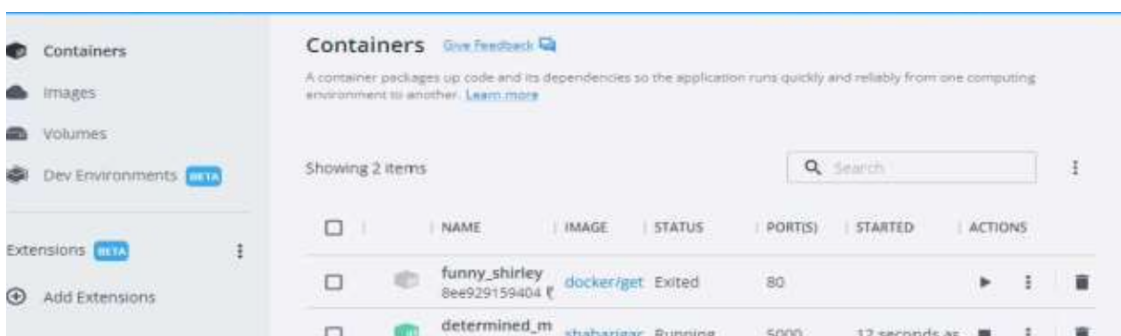
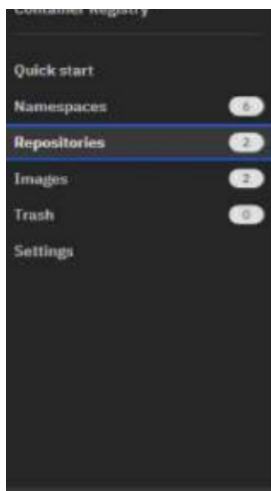
Assignment Date	07 October 2022
Student Name	Blesson Thomas
Student Roll Number	210419104034
Maximum Marks	2 Marks

### Question 1:

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

```
C:\Users\ADMIN>docker pull shabariganesan/docker_with_flask_form
Using default tag: latest
latest: Pulling from shabariganesan/docker_with_flask_form
1671565cc8df: Pull complete
3e94d13e55e7: Pull complete
fa9c7528c685: Pull complete
53ad072f9cd1: Pull complete
d6b983117533: Pull complete
d8092d56ded5: Pull complete
c71afc637d50: Pull complete
864a10b3c704: Pull complete
4334b2fe8293: Pull complete
8944570703f4: Pull complete
f885911288d0: Pull complete
086f369ca59f: Pull complete
e113bd27b88e: Pull complete
Digest: sha256:c61f28873bf1c909786ce991b8b60cd976765077f344e34d50e6cce8cf8d95c3
Status: Downloaded newer image for shabariganesan/docker_with_flask_form:latest
docker.io/shabariganesan/docker_with_flask_form:latest

C:\Users\ADMIN>
```



### Question 2 :

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

```
1 FROM python:3.10.6
2 WORKDIR /app
3 COPY requirements.txt ./
4 RUN pip install -r requirements.txt
5 COPY . .
6 EXPOSE 5000
7 CMD ["python","./app.py"]
8
```

[illegible]

© 2007 The Authors  
Journal compilation © 2007 Blackwell Publishing Ltd

```
0/25/2022 04:59 PM <DIR> .
0/25/2022 04:59 PM <DIR> ..
0/25/2022 04:11 PM 320 app.py
0/22/2022 10:48 PM 148 Dockerfile
0/22/2022 10:48 PM $ requirements.txt
0/25/2022 04:53 PM <DIR> static
0/25/2022 04:53 PM <DIR> templates
0/25/2022 04:53 PM <DIR> __pycache__
$ file(s) 474 bytes
$ dir(s) 77,847,934,976 bytes free
```

The screenshot shows the Docker Desktop interface. On the left sidebar, the 'Containers' tab is selected, showing a list of containers. The main panel displays the 'Logs' for a container named 'fu... j...io/ja...'. The logs show a Flask application running on port 5000. The interface also shows options for 'Inspect', 'Stats', 'CLI', and 'Restart'.

Containers

Images

Volumes

Dev Environments **BETA**

Extensions **BETA**

fu... j...io/ja...  
RUNNING

Logs

Inspect

Stats

CLI

Restart

\* Serving Flask app 'app'

\* Debug mode: on

WARNING: This is a development server. Do not use it in a production deployment. Use a production 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

\* Restarting with stat

\* Debugger is active!

\* Debugger PIN: 535-083-578

### Question 3 :

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

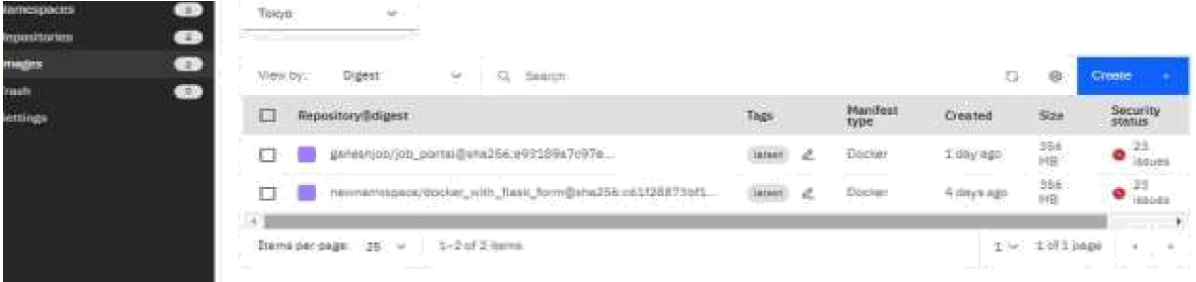
```
9 Dir(s) 79,221,886,976 bytes free

C:\Users\gani\Desktop>cd deploy
The system cannot find the path specified.

C:\Users\gani\Desktop>kubectl apply -f kubernetes/depoly.yaml
error: the path "kubernetes/depoly.yaml" does not exist

C:\Users\gani\Desktop>kubectl apply -f depoly.yaml
error: the path "depoly.yaml" does not exist

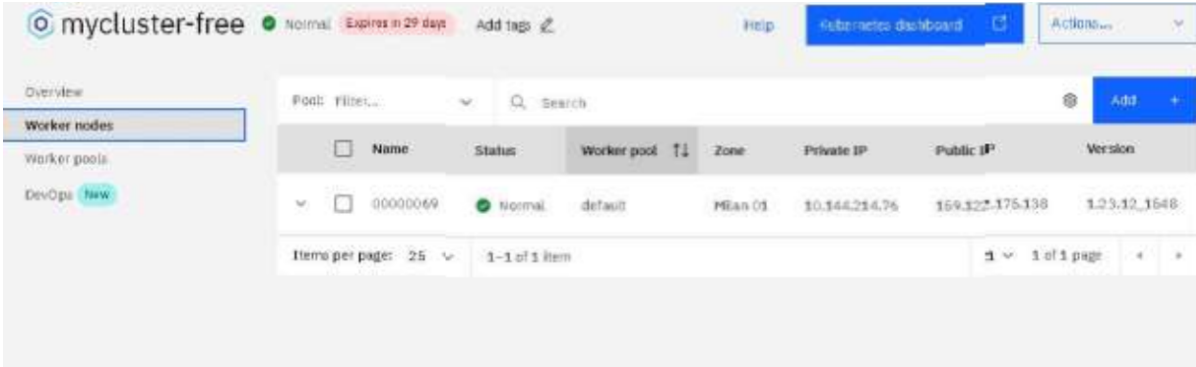
C:\Users\gani\Desktop>kubectl apply -f C:\Users\gani\Desktop\deploy.yaml
deployment.apps/flask-app created
```



The screenshot shows the IBM Container Registry interface. On the left is a sidebar with navigation links: Namespaces, Repositories, Images, Dash, and Settings. The main area displays a table of repositories. The table has columns for repository name, tags, manifest type, created time, size, and security status. Two repositories are listed:

repository@digest	Tags	Manifest type	Created	Size	Security status
ganesan/job_portal@sha256:e93289a7c97e...	latest	Docker	1 day ago	356 MB	23 issues
newname@space/docker_with_flask_form@sha256:c61128873b8f...	latest	Docker	4 days ago	356 MB	23 issues

At the bottom of the table, it says "Items per page: 25" and "1-2 of 2 items".



The screenshot shows the mycluster-free Kubernetes dashboard. The top bar includes the logo, status "Normal", "Expires in 29 days", "Add tags", "Help", "Kubernetes dashboard", and "Actions". The left sidebar has links for Overview, Worker nodes (selected), Worker pools, and DevOps (labeled "new"). The main area displays a table of worker nodes. The table has columns for Name, Status, Worker pool, Zone, Private IP, Public IP, and Version. One worker node is listed:

Name	Status	Worker pool	Zone	Private IP	Public IP	Version
00000069	Normal	default	MEan 01	10.144.214.76	169.127.175.138	1.23.12_1648

At the bottom of the table, it says "Items per page: 25" and "1-1 of 1 item".

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.

```
C:\Windows\system32>kubectl get svc --all-namespaces
The Service "flask_service" is invalid: metadata.name: Invalid value: "flask_service": a DNS-1035 label must consist of lower case alphanumeric characters or '-' with an alphabetic character, and end with an alphanumeric character (e.g. "my-name", or "abc-123", regex used for validation is "[a-z]([a-z0-9]*[a-z0-9])?")

C:\Windows\system32>kubectl expose deployment flask-app --type=NodePort --name=flask_service
The Service "flask_service" is invalid: metadata.name: Invalid value: "flask_service": a DNS-1035 label must consist of lower case alphanumeric characters or '-' with an alphabetic character, and end with an alphanumeric character (e.g. "my-name", or "abc-123", regex used for validation is "[a-z]([a-z0-9]*[a-z0-9])?")

C:\Windows\system32>kubectl expose deployment flask-app --type=NodePort --name=flask-service
The Service "flask-service" is invalid: metadata.name: Invalid value: "flask-service": a DNS-1035 label must consist of lower case alphanumeric characters or '-' with an alphabetic character, and end with an alphanumeric character (e.g. "my-name", or "abc-123", regex used for validation is "[a-z]([a-z0-9]*[a-z0-9])?")

C:\Windows\system32>kubectl expose deployment flask-app --type=NodePort --name=flask-service
error from server (AlreadyExists): services "flask-service" already exists

C:\Windows\system32>
C:\Windows\system32>kubectl -n kubernetes-dashboard get deploy
No resources found in kubernetes-dashboard namespace.

C:\Windows\system32>kubectl -n kubernetes-dashboard get deploy
No resources found in kubernetes-dashboard namespace.

C:\Windows\system32>kubectl proxy
Starting to serve on 127.0.0.1:8001
^C

C:\Windows\system32>kubectl -n kubernetes-dashboard get deploy
No resources found in kubernetes-dashboard namespace.

C:\Windows\system32>kubectl -n kubernetes-dashboard get pods
No resources found in kubernetes-dashboard namespace.

C:\Windows\system32>kubectl expose deployment flask-app --type=NodePort --name=flask-service
error from server (AlreadyExists): services "flask-service" already exists

C:\Windows\system32>kubectl get ing
NAME          CLASS    HOSTS      ADDRESS     PORTS     AGE
flask-app-ingress   <none>   *         10.0.0.1    276       27s

C:\Windows\system32>kubectl get svc
NAME                TYPE        CLUSTER-IP      EXTERNAL-IP  PORT(S)    AGE
kubernetes           ClusterIP   10.0.0.1         <none>       443         1m
kubernetes-dashboard NodePort     10.0.0.1         <none>       8080        1m

C:\Windows\system32>kubectl apply -f https://raw.githubusercontent.com/kubernetes/dashboard/v2.0.0-beta1/manifests/install.yaml
kubectl apply -f https://raw.githubusercontent.com/kubernetes/dashboard/v2.0.0-beta1/manifests/install.yaml
Warning: This is a development server. Do not use it in a production deployment. Use a production NGINX server instead.[3]m
Running on all addresses (0.0.0.0)
Running on http://127.0.0.1:5800
Running on http://172.30.23.11:5800
Press Ctrl-C to quit[3]m
Starting with stat
Debugger is active!
Debugger PID: 316-480-340
```