

## Assignment-4

Assignment Date	5 November 2022
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Maximum Marks	2 Marks

### Question:

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

**Pull an image from docker hub.**

```
Command Prompt
Microsoft Windows [Version 10.0.19044.2130]
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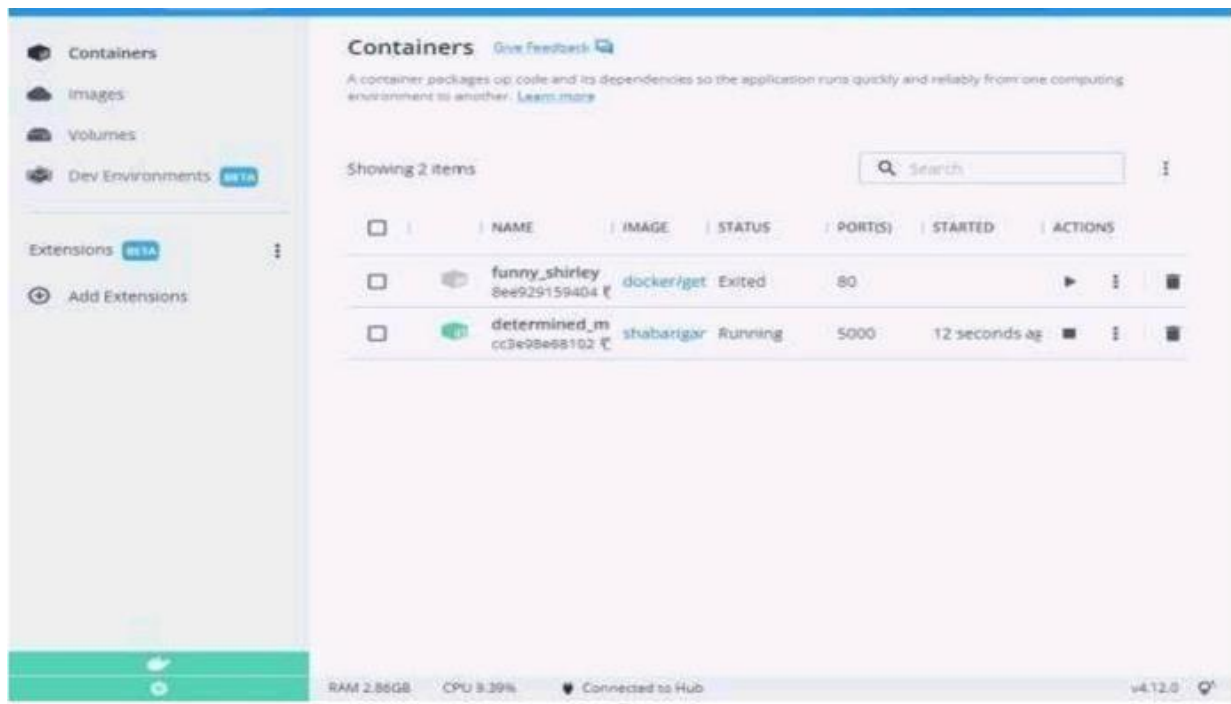
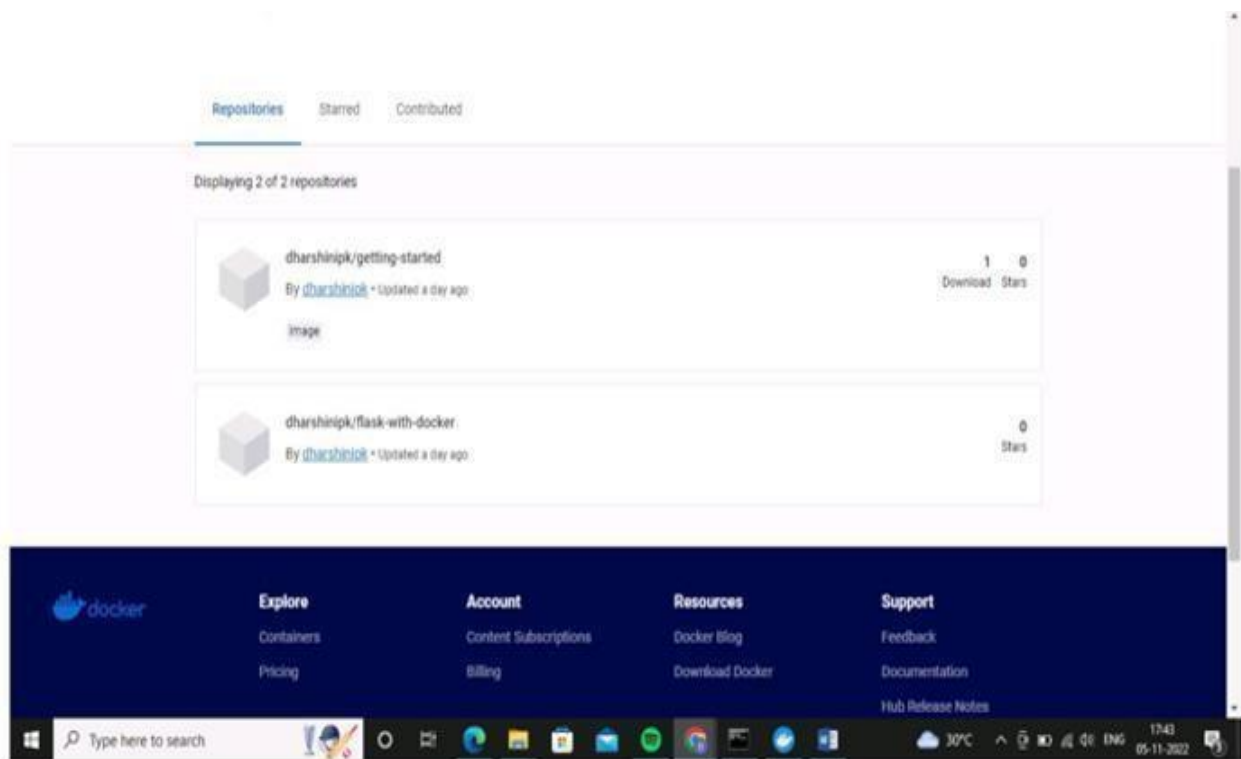
C:\Users\lenovo>docker pull dharshinipk/getting-started
Using default tag: latest
latest: Pulling from dharshinipk/getting-started
Digest: sha256:8dbed4d8c9fc72acca15d0dbe2734009adb45a2a28a45330bcc0ca2b3ff5d7
Status: Image is up to date for dharshinipk/getting-started:latest
docker.io/dharshinipk/getting-started:latest

C:\Users\lenovo>docker pull dharshinipk/docker_flask_with_form
Using default tag: latest
Error response from daemon: manifest for dharshinipk/docker_flask_with_form:latest not found: manifest unknown: manifest unknown

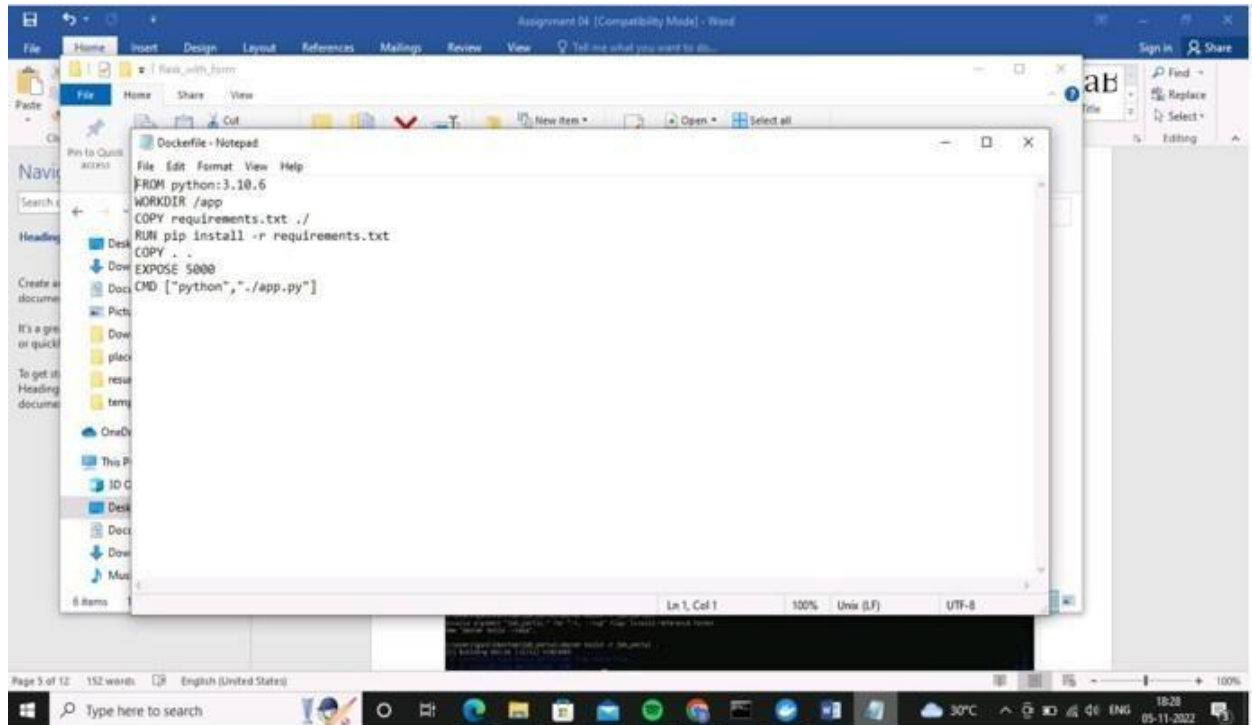
C:\Users\lenovo>docker push dharshinipk/docker_flask_with_form
Using default tag: latest
The push refers to repository [docker.io/dharshinipk/docker_flask_with_form]
99631d7f62e2: Pushed
73ee95d8486b: Pushed
b79bf86c66cb: Pushed
583275d8d6c8: Pushed
bf1deb8136e: Pushed
1f123186824c: Layer already exists
3d6eb1152931: Layer already exists
100796cdf3b1: Retrying in 1 second
54acb5a6fab0: Pushing [=====>] 71.27MB/528.7MB
8d51c618126f: Layer already exists
0ff6e4d46744: Pushing [=====] 8.333MB/18.95MB
a80d1d47b5a1: Layer already exists
655ed1b7a428: Layer already exists
net/http: TLS handshake timeout

C:\Users\lenovo>docker images
REPOSITORY          TAG         IMAGE ID      CREATED      SIZE
dharshinipk/docker_flask_with_form   latest      94ac771be3b1  23 hours ago  932MB
docker_flask_with_form                latest      94ac771be3b1  23 hours ago  932MB
dharshinipk/getting-started          latest      cb90f98fd791  6 months ago  28.8MB
docker/getting-started                latest      cb90f98fd791  6 months ago  28.8MB

C:\Users\lenovo>docker pull ubuntu:20.04
Error response from daemon: Head "https://registry-1.docker.io/v2/library/ubuntu/manifests/20.04": Get "https://auth.docker.io/token?account=dharshinipk&scope=repository%3Alibrary%2Fubuntu%3Apull&service=registry.docker.io": dialing auth.docker.io:443 no HTTPS proxy: connecting to 44.205.64.79:443: dial tcp 44.205.64.79:443: i/o timeout
```



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



## Deploy in docker application

```
C:\Users\sgal\Desktop>cd job_portal
```

```
C:\Users\sgal\Desktop>docker build -t job_portal .
```

```
Docker Build requires exactly 1 argument.  
See "docker build --help".  
  
Usage: docker build [OPTIONS] PATH | URL [-> TAG]  
  
Build an Image from a Dockerfile  
  
C:\Users\sgal\Desktop>job_portal.dir  
Volume In Drive C has no label.  
Volume Serial Number Is 86A3-10B9.
```

```
Directory of C:\Users\sgal\Desktop\job_portal
```

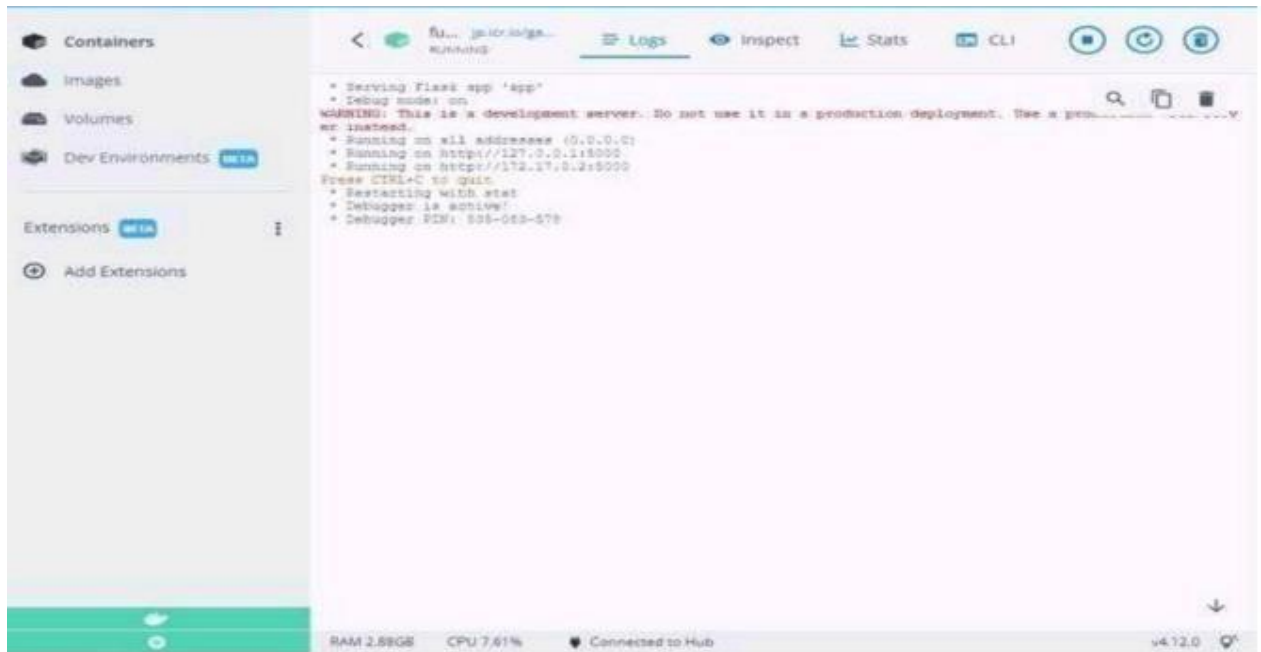
```
10/25/2022   04:53 PM    <DIR>          .  
10/25/2022   04:53 PM    <DIR>          ..  
10/25/2022   04:11 PM         320 app.py  
10/22/2022   10:48 AM        148 Dockerfile  
10/22/2022   10:48 PM           5 requirements.txt  
10/25/2022   04:53 PM    <DIR>      static  
10/25/2022   04:53 PM    <DIR>      templates  
10/25/2022   04:53 PM    <DIR>      __pycache__  
             5 File(s)       474 Bytes  
             5 Dir(s)     77,947,954,970 bytes free
```

```
C:\Users\sgal\Desktop\job_portal>docker build -t job_portal .  
Invalid argument "job_portal." for "--tag" flag: invalid reference format  
See "docker build --help".
```

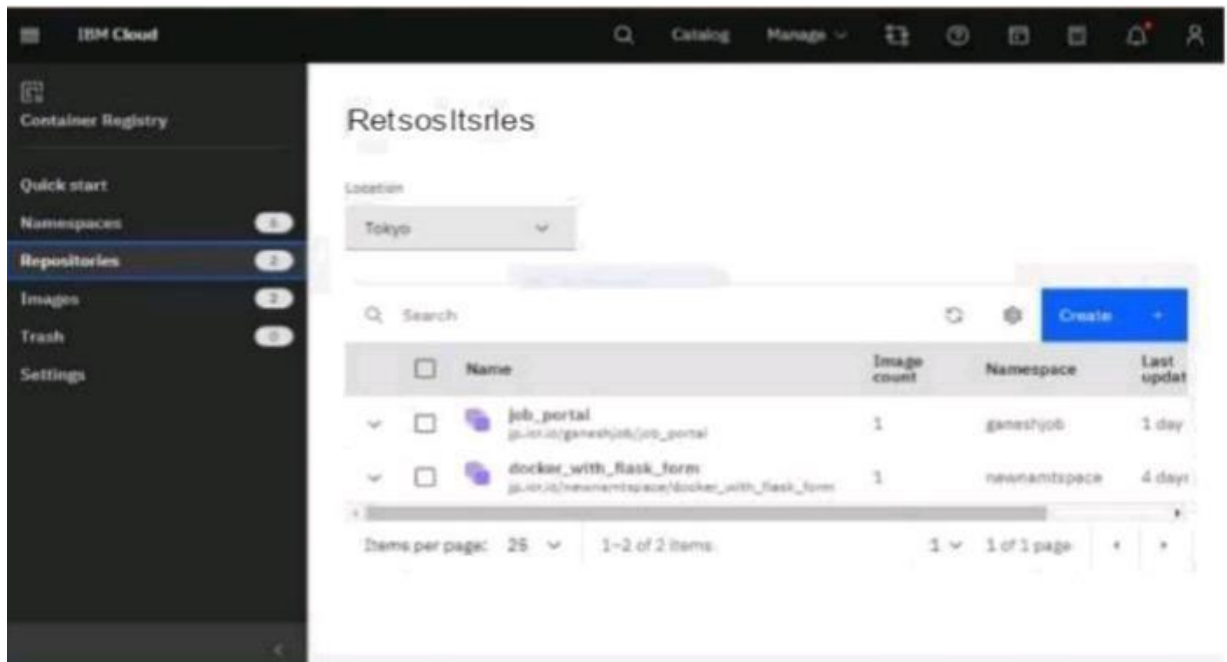
```
C:\Users\sgal\Desktop\job_portal>docker build -t job_portal .  
[+] Building 442.6s (11/1) FINISHED
```

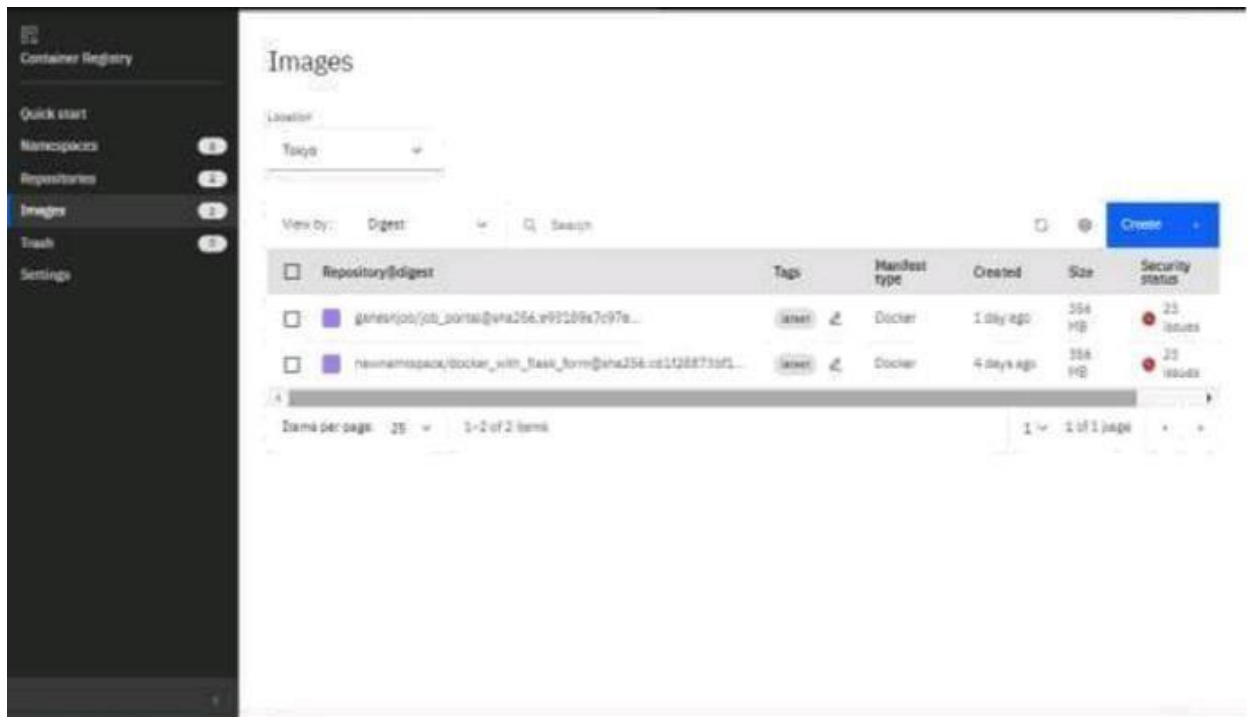
<- [external]	[local build artifact]	FROM baseimage
<- [external]	[external build artifact]	WORKDIR /app
<- [external]	[external build artifact]	ADD . /app
<- [external]	[external build artifact]	RUN pip install -r requirements.txt
<- [external]	[external build artifact]	EXPOSE 8080
<- [external]	[external build artifact]	ENTRYPOINT ["python"]
<- [external]	[external build artifact]	CMD ["app.py"]
<- [external]	[external build artifact]	VOLUME ["/tmp"]
<- [external]	[external build artifact]	HEALTHCHECK CMD curl --fail http://localhost:8080/_health
<- [external]	[external build artifact]	USER root
<- [external]	[external build artifact]	SHELL ["/bin/bash"]

## Running in docker desktop



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





## Deploy helloworld or jobportal

```
C:\Windows\system32\cmd.exe
64c85a6f48b: Retrying in 1 second
8d51c618126f: Retrying in 1 second
8ff6e4d6744: Waiting
u905d47b5a1: Waiting
055ed1b7a428: Waiting
Failed to lookup host: jp.lcr.in

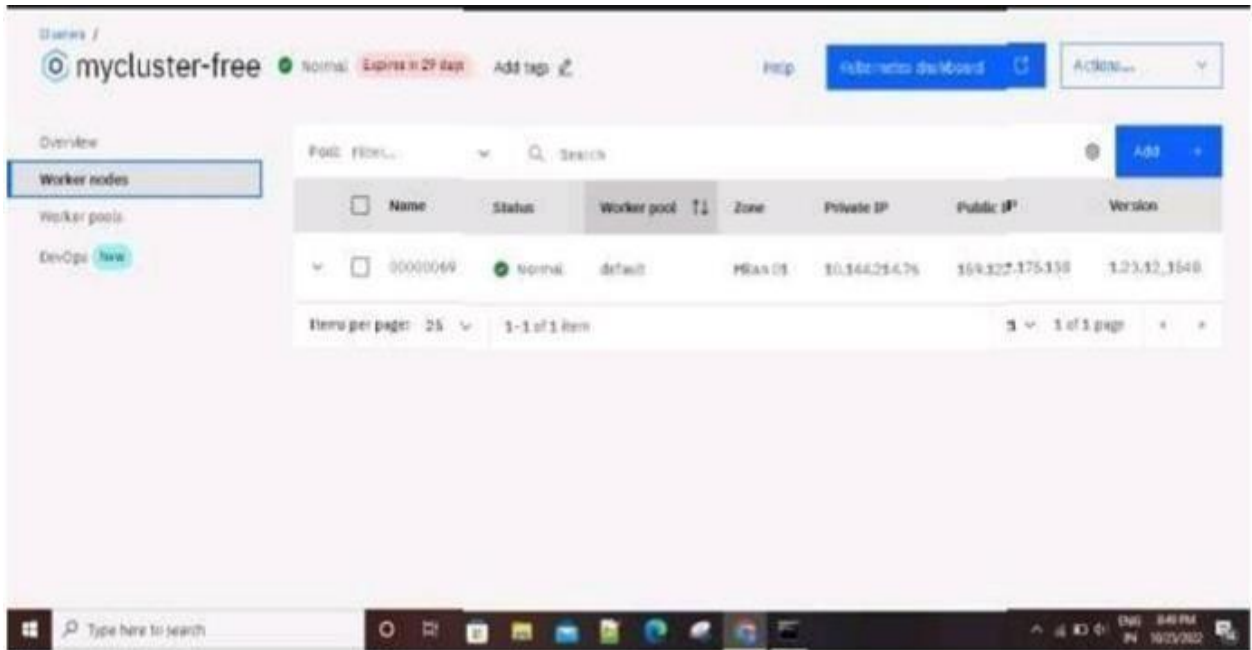
C:\Users\ganesh\Desktop\job_portal>docker push jp.lcr.in/ganeshjob/job_portal
Using default tag: latest
The push refers to repository [jp.lcr.in/ganeshjob/job_portal]
15b1b18a625: Layer already exists
89e94f95e186: Pushed
48c2a74c12b: Layer already exists
9072c7835466: Layer already exists
9fc1d8eb1196: Layer already exists
1f123188624c: Layer already exists
0d6e01152931: Pushed
180796cdf3b1: Pushed
64c85a6f48b: Retrying in 1 second
8d51c618126f: Pushed
8ff6e4d6744: Pushed
u905d47b5a1: Pushed
055ed1b7a428: Pushing [-----] 99.80MB/124MB
^C

C:\Users\ganesh\Desktop\job_portal>docker push jp.lcr.in/ganeshjob/job_portal
Using default tag: latest
The push refers to repository [jp.lcr.in/ganeshjob/job_portal]
15b1b18a625: Layer already exists
89e94f95e186: Layer already exists
48c2a74c12b: Layer already exists
9072c7835466: Layer already exists
9fc1d8eb1196: Layer already exists
1f123188624c: Layer already exists
0d6e01152931: Layer already exists
180796cdf3b1: Layer already exists
64c85a6f48b: Pushed
8d51c618126f: Layer already exists
8ff6e4d6744: Layer already exists
u905d47b5a1: Layer already exists
055ed1b7a428: Pushed
latest: digest: sha256:e95109a7c97eeb9908668a54ee95cf61ca9bde9399906c8c7a2147479b1fc207 size: 3952

C:\Users\ganesh\Desktop\job_portal>
C:\Users\ganesh\Desktop\job_portal>
```

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.

### Creating a kubernetes cluster in ibm cloud



### Expose the same app to run in noteport

```
C:\Windows\System32\cmd.exe
10/16/2022 12:28 PM          3,721 windows shortcut.txt
08/25/2022 08:40 PM          2,897 YouTube.lnk
          24 File(s)      804,677,196 bytes
          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

C:\Users\gani\Desktop>
```

```

C:\Windows\System32\cmd.exe
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 '-', start 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 '-', start 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 '-', start 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
^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 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
^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  cnames  *          80           276s

C:\Windows\system32\kubectl get svc
NAME          TYPE          CLUSTER-IP      EXTERNAL-IP      PORT(S)      AGE

```