

Assignment Date	29 October 2022
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Student Roll Number	727620BCS313
Maximum Marks	2 Marks

Question:

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

```

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: sha256:8dbel4d48c9fc72acca15d0d0be2734009adb45a2a28a45336bcc0ca2b3ff5d7
Status: Image is up to date for dharshinipk/getting-started:latest
docker.io/dharshinipk/getting-started:latest

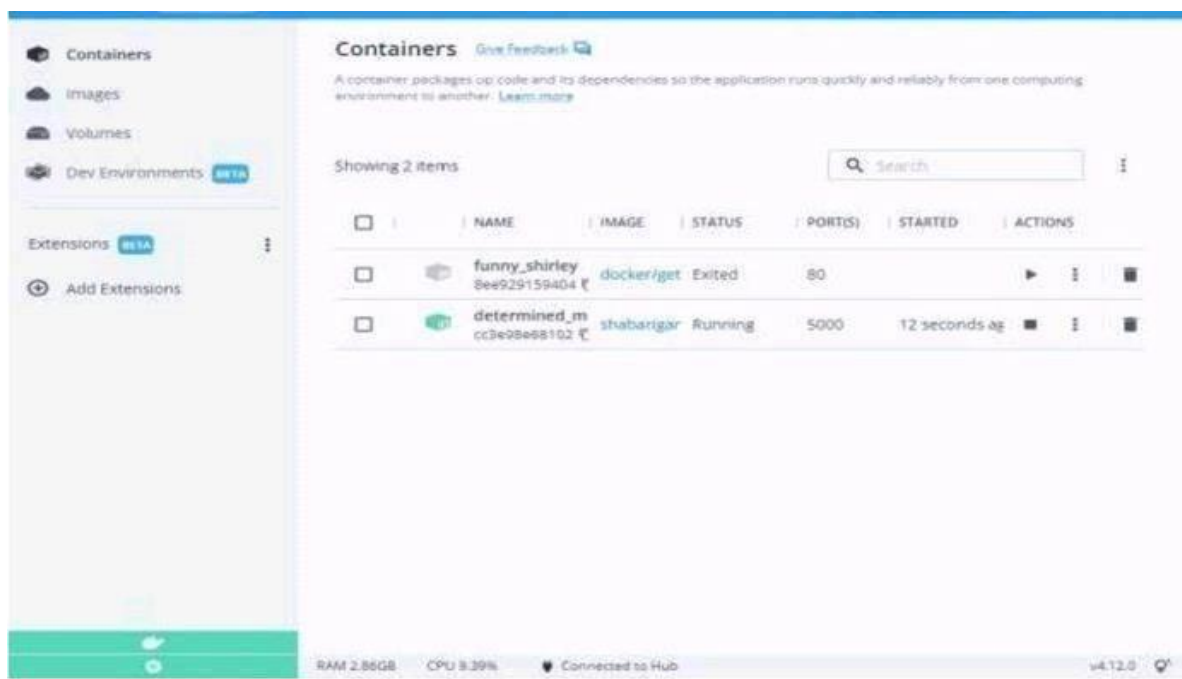
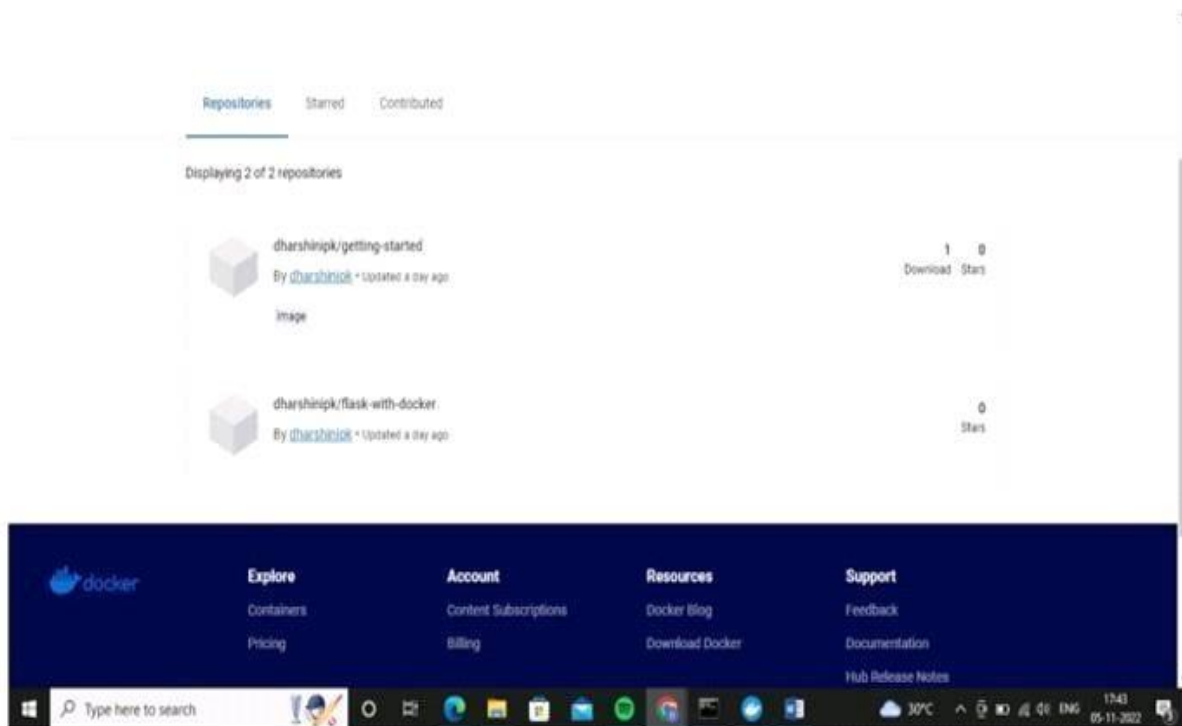
C:\Users\lenovo>docker pull dharshinipk/docker_flask_with_form
Using default tag: latest
Error response from daemon: manifest for dharshinipk/docker_flask_with_form:latest not found: manifest unknown: manifest unknown

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]
99633df762e2: Pushed
73ee95d8486b: Pushed
a79bf86c66cb: Pushed
583275d8d6c8: Pushed
0fc1deb0136e: Pushed
1f121a68024c: Layer already exists
3d6eb1152931: Layer already exists
100796cdf3b1: Retrying in 1 second
54acb5a0fa8b: 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

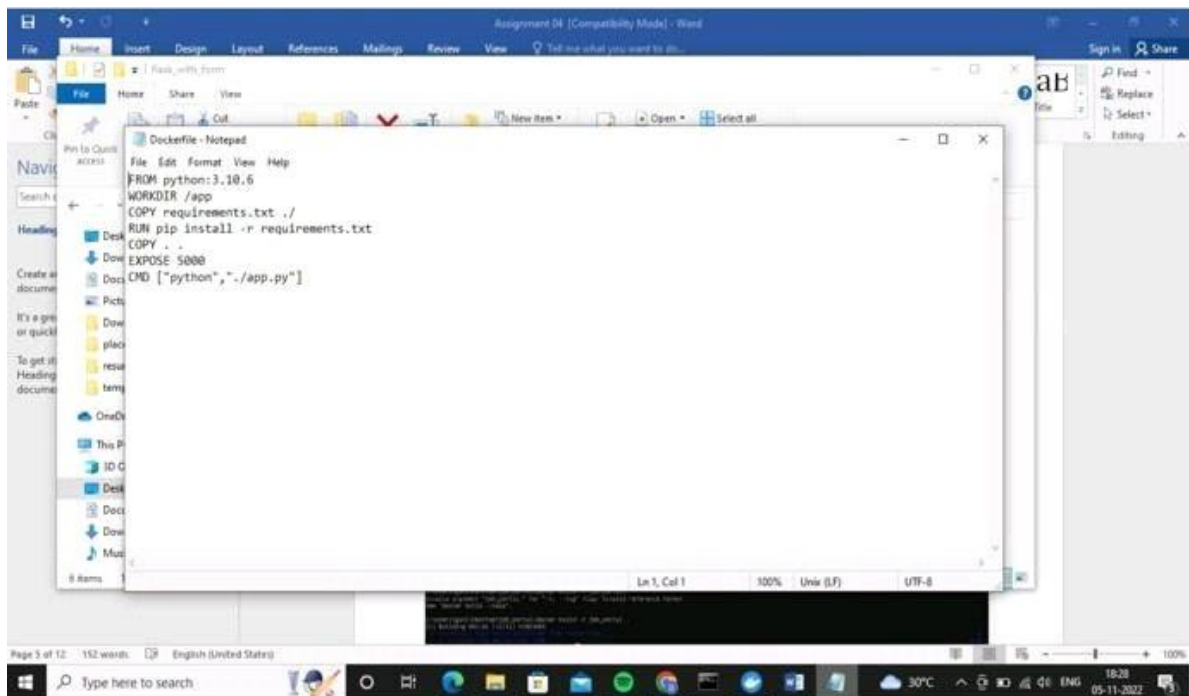
C:\Users\lenovo>docker images
REPOSITORY          TAG          IMAGE ID      CREATED      SIZE
dharshinipk/docker_flask_with_form   latest       94ac771be3b1   23 hours ago   932MB
docker_flask_with_form                 latest       94ac771be3b1   23 hours ago   932MB
dharshinipk/getting-started           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%3Aubuntu%3Apull%3Aservice+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

```



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



Deploy in docker application

```
C:\Users\lgan\Desktop\job_portal>cd ..
C:\Users\lgan\Desktop>cd job_portal
C:\Users\lgan\Desktop\job_portal>docker build -t job_portal
"docker build" requires exactly 1 argument.
see 'docker build --help'.

Usage: docker build [OPTIONS] PATH | URL | -
Build an image from a Dockerfile

C:\Users\lgan\Desktop\job_portal>dir
Volume in drive C has no label.
Volume Serial Number is 96A1-1060

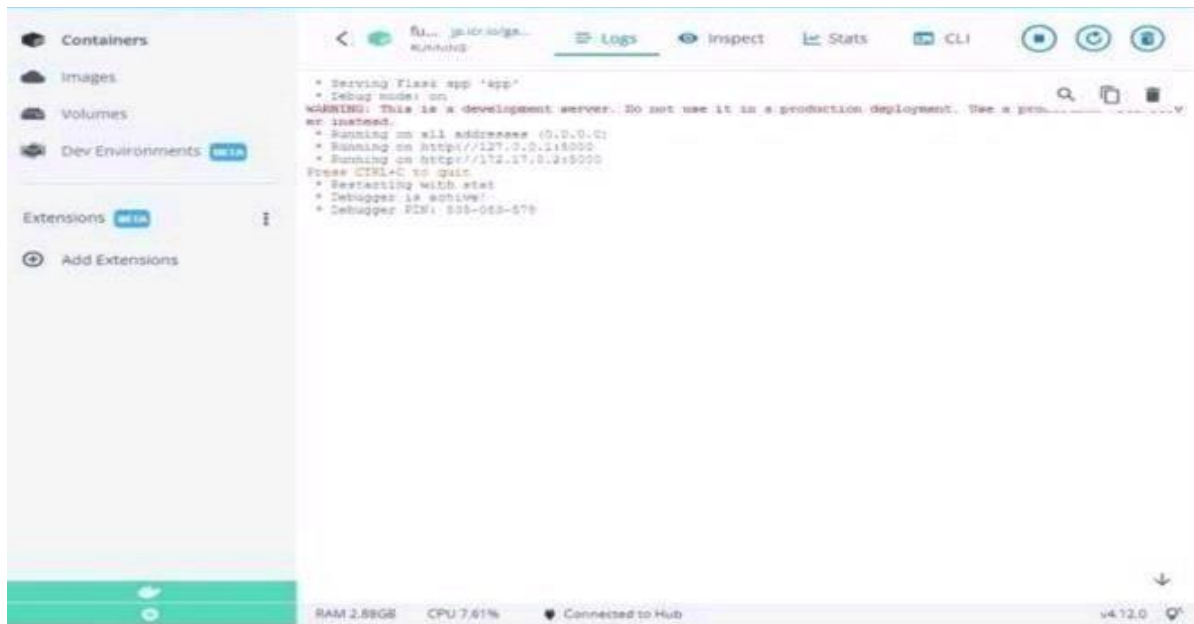
Directory of C:\Users\lgan\Desktop\job_portal

10/25/2022  04:53 PM    <DIR>          .
10/25/2022  04:53 PM    <DIR>          ..
10/25/2022  04:11 PM                229 app.py
10/22/2022  10:48 PM                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__
               3 file(s)              474 bytes
               5 dir(s)  77,047,934,976 bytes free

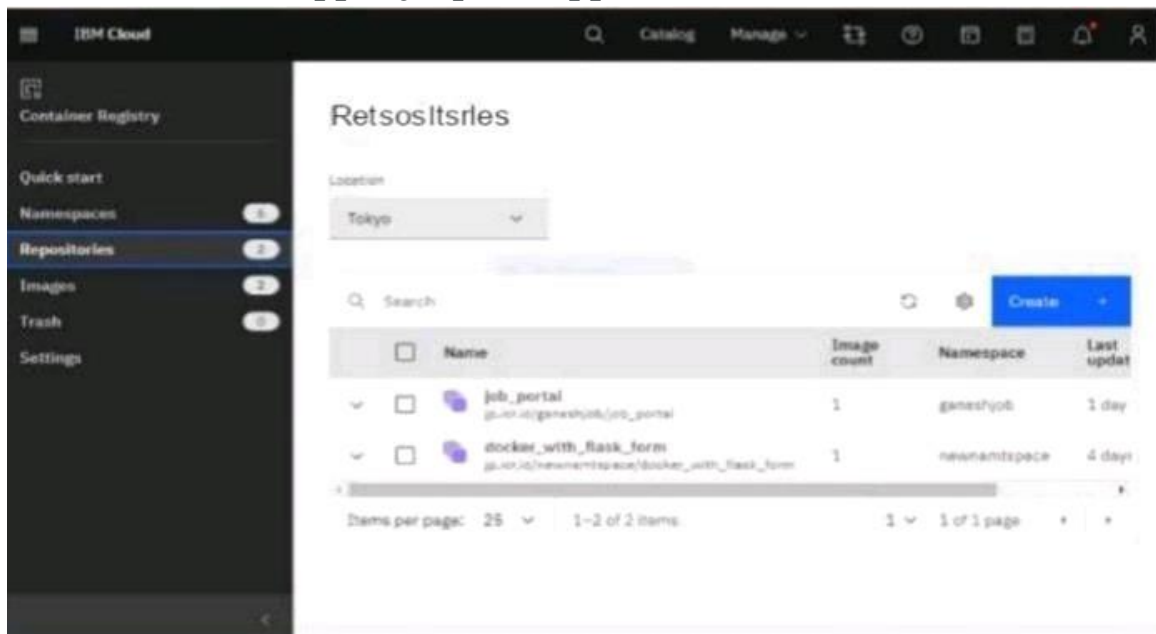
C:\Users\lgan\Desktop\job_portal>docker build -t job_portal
Build argument "job_portal." for "--tag" flag: invalid reference format
see 'docker build --help'.

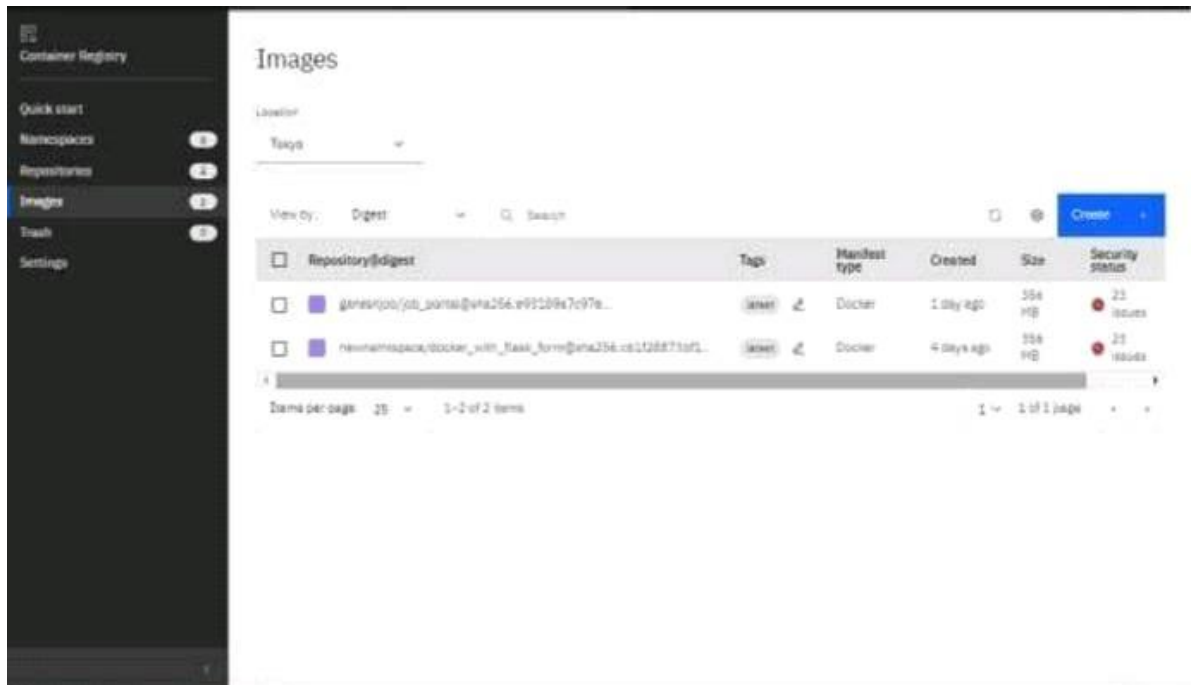
C:\Users\lgan\Desktop\job_portal>docker build -t job_portal .
[+] Building 403.8s (11/11) FINISHED
=> [internal] load build definition from Dockerfile
=> [internal] load Dockerfile . /Dockerfile
=> [internal] load build context from /C:/Users/lgan/Desktop/job_portal
=> [internal] load metadata for mcr.microsoft.com/docker/python:3.10.6
=> [internal] create build context from Dockerfile . /Dockerfile
=> [internal] resolve image references for docker.io/library/python:3.10.6
=> [internal] fetch docker.io/library/python:3.10.6
=> [internal] load image by reference (pulling from docker.io/library/python:3.10.6)
=> [internal] load image by reference (pulling from docker.io/library/python:3.10.6)
```

Running in docker desktop



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





Deploy helloworld or jobportal

```
C:\Windows\system32\cmd.exe
64cb5a6fa8b: Retrying in 1 second
6d51c81026f: Retrying in 1 second
9f6e4d40744: Pushing
a0021d470541: Pushing
655ed1b7a420: Pushing
failed to lookup host: jp.icr.io

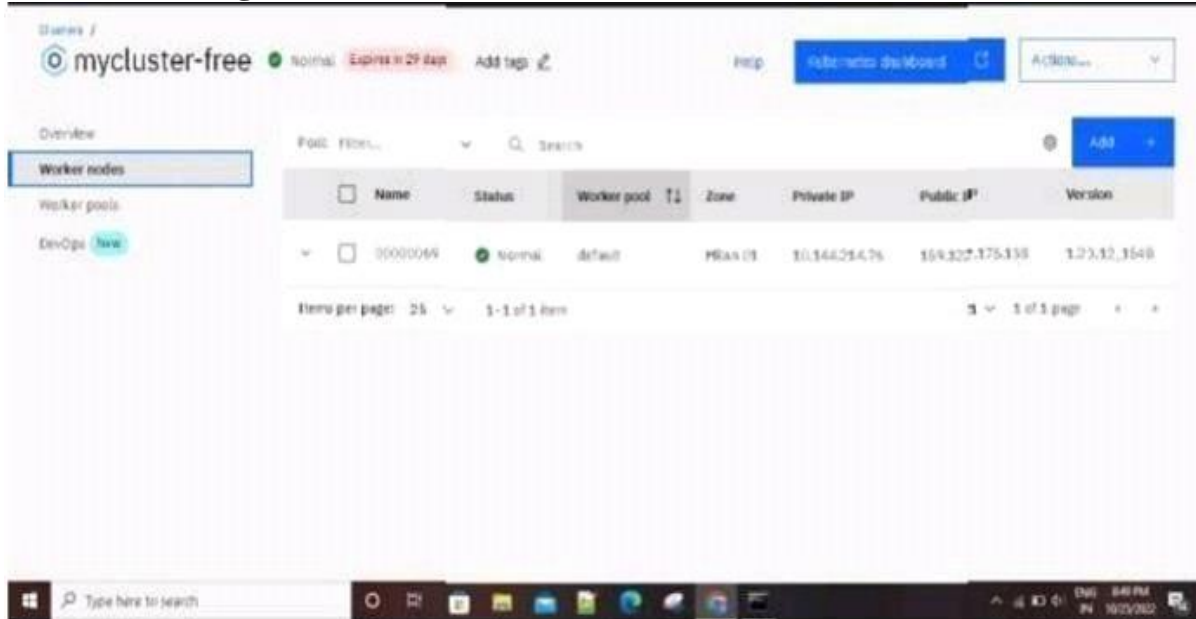
C:\Users\lgan\Desktop\job_portal\docker push jp.icr.io/ganeshjob/job_portal
Using default tag: latest
The push refers to repository [jp.icr.io/ganeshjob/job_portal]
13eb1504025: layer already exists
80e94f95e10: Pushed
48c2a74c12b: layer already exists
9b72c7035466: layer already exists
9fc3d6b136e: layer already exists
1f123180024c: layer already exists
3d0e1152051: Pushed
190796c0f3b1: Pushed
64cb5a6fa8b: Retrying in 1 second
6d51c81026f: Pushed
9f6e4d40744: Pushed
a0021d470541: Pushed
655ed1b7a420: Pushing [=====] 99.10MB/124MB
^C

C:\Users\lgan\Desktop\job_portal\docker push jp.icr.io/ganeshjob/job_portal
Using default tag: latest
The push refers to repository [jp.icr.io/ganeshjob/job_portal]
13eb1504025: layer already exists
80e94f95e10: layer already exists
48c2a74c12b: layer already exists
9b72c7035466: layer already exists
9fc3d6b136e: layer already exists
1f123180024c: layer already exists
3d0e1152051: layer already exists
190796c0f3b1: layer already exists
64cb5a6fa8b: Pushed
6d51c81026f: layer already exists
9f6e4d40744: layer already exists
a0021d470541: layer already exists
655ed1b7a420: Pushed
latest: digest: sha256:e93209a7c97b9b9086668a54e95cfe1a3bed930996cb7a21a7a7961fc207 size: 9852

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

- 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 127.0.0.1:9901
^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  <none>   *          *          80        27m
C:\Windows\system32\kubectl get svc
NAME          TYPE          CLUSTER-IP    EXTERNAL-IP  PORT(S)    AGE

```