

**Assignment -4**  
**Docker and kubernetes**

Assignment Date	27 October 2022
Team ID	<b>PNT2022TMID21838</b>
Maximum Marks	2 Marks

**Question-1: pull an image from docker hub and run it in docker playground.**

**1) pull an image form docker hub**

```
Command Prompt
Microsoft Windows [Version 10.0.19044.1766]
(c) Microsoft Corporation. All rights reserved.

C:\Users\ADMIN>docker push shabariganesan/docker_with_flask_form
Using default tag: latest
The push refers to repository [docker.io/shabariganesan/docker_with_flask_form]
An image does not exist locally with the tag: shabariganesan/docker_with_flask_form

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
c71afc637d59: Pull complete
864a10b3c704: Pull complete
4334b2fe8293: Pull complete
8944570703f4: Pull complete
f885911288d0: Pull complete
086f369ca59f: Pull complete
e113bd27b88e: Pull complete
Digest: sha256:c61f28873bf1c909706ce991b8b60cd976765077f344e34d50e6cce8cf8d95c3
Status: Downloaded newer image for shabariganesan/docker_with_flask_form:latest
docker.io/shabariganesan/docker_with_flask_form:latest

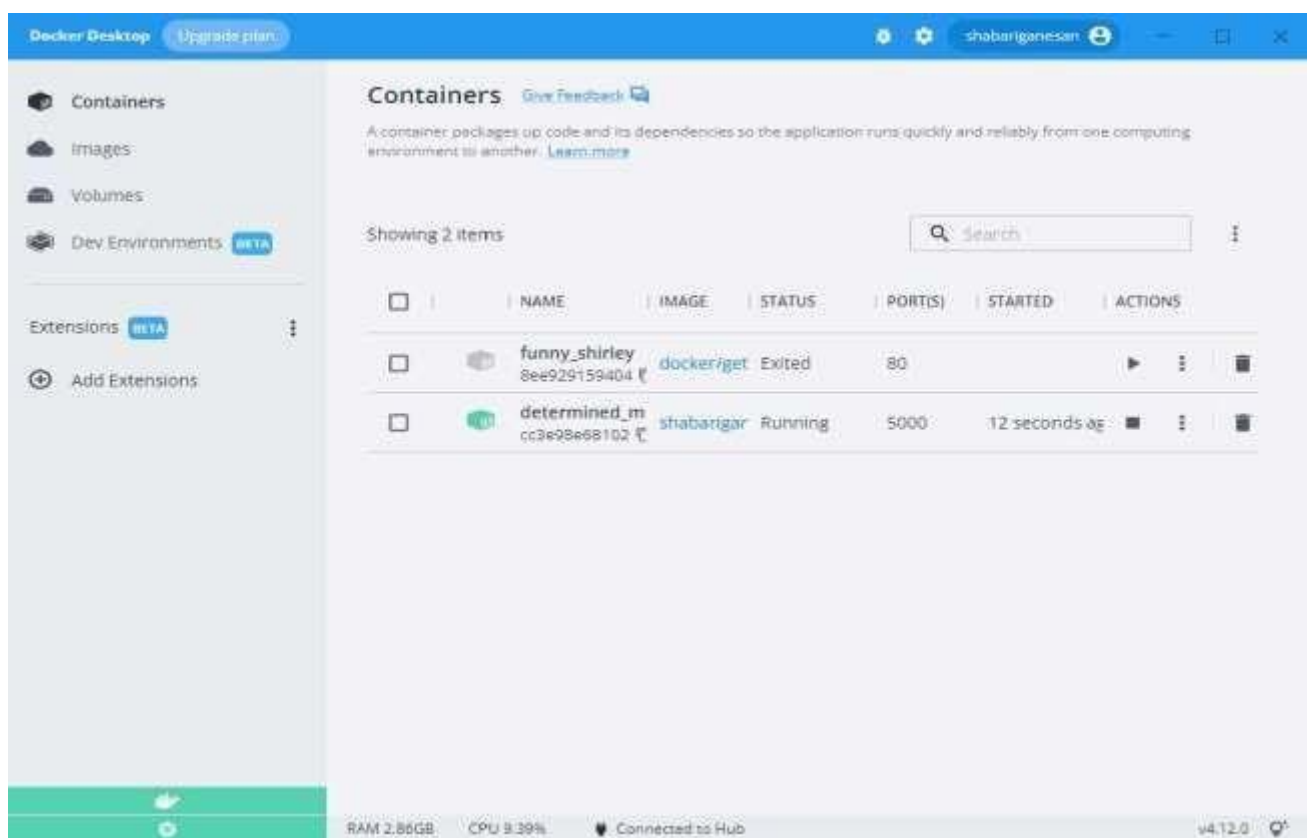
C:\Users\ADMIN>
```

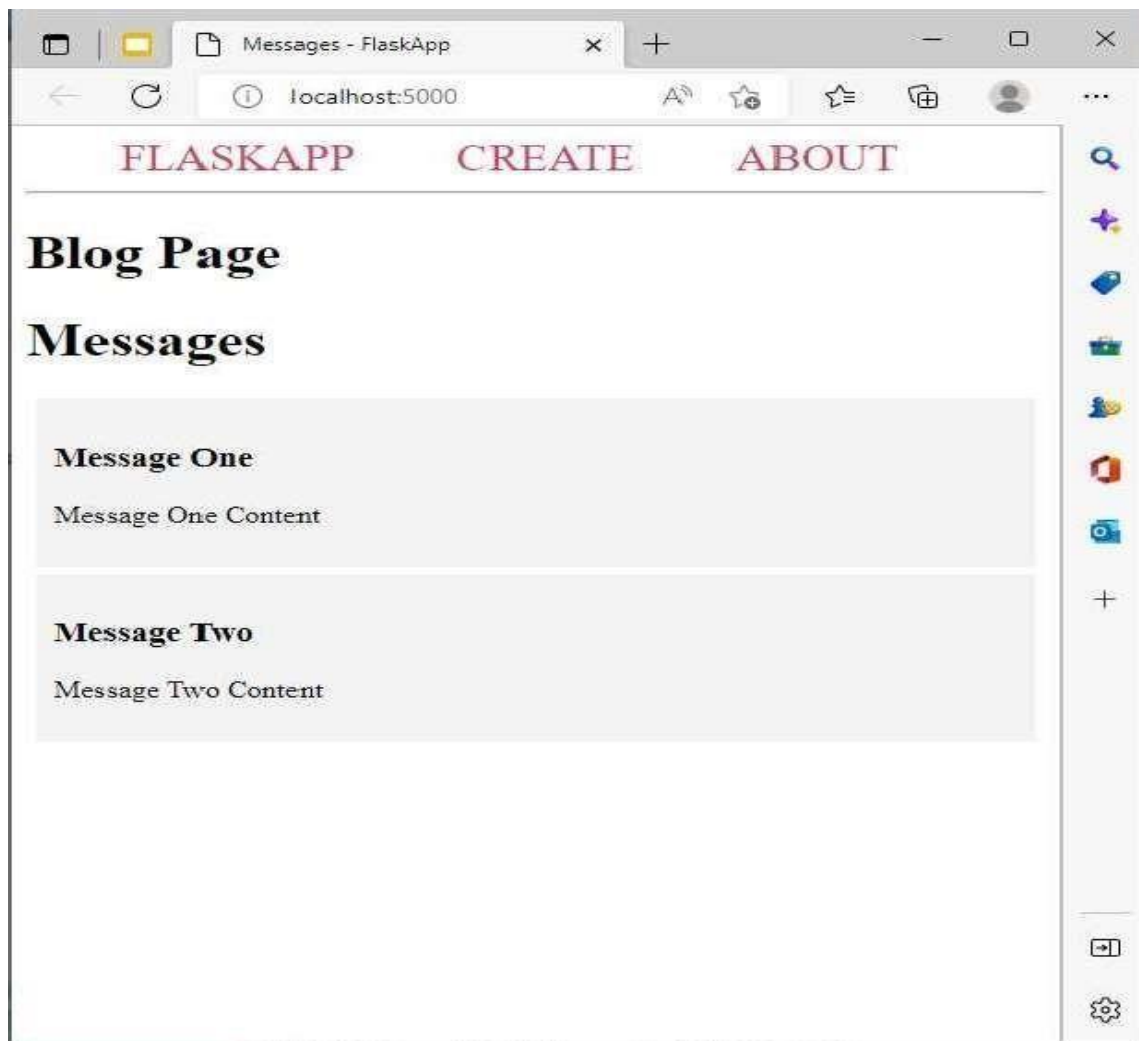
**2) run it in docker playground**

```
Select Command Prompt
Microsoft Windows [Version 10.0.19044.1766]
(c) Microsoft Corporation. All rights reserved.

C:\Users\ADMIN> docker run -d -p 5000:5000 shabariganesan/docker_with_flask_form
cc3e98e68102474e9c89c7674b07ad17a5645a7216d7c854d785197bdb54dee5

C:\Users\ADMIN>
```





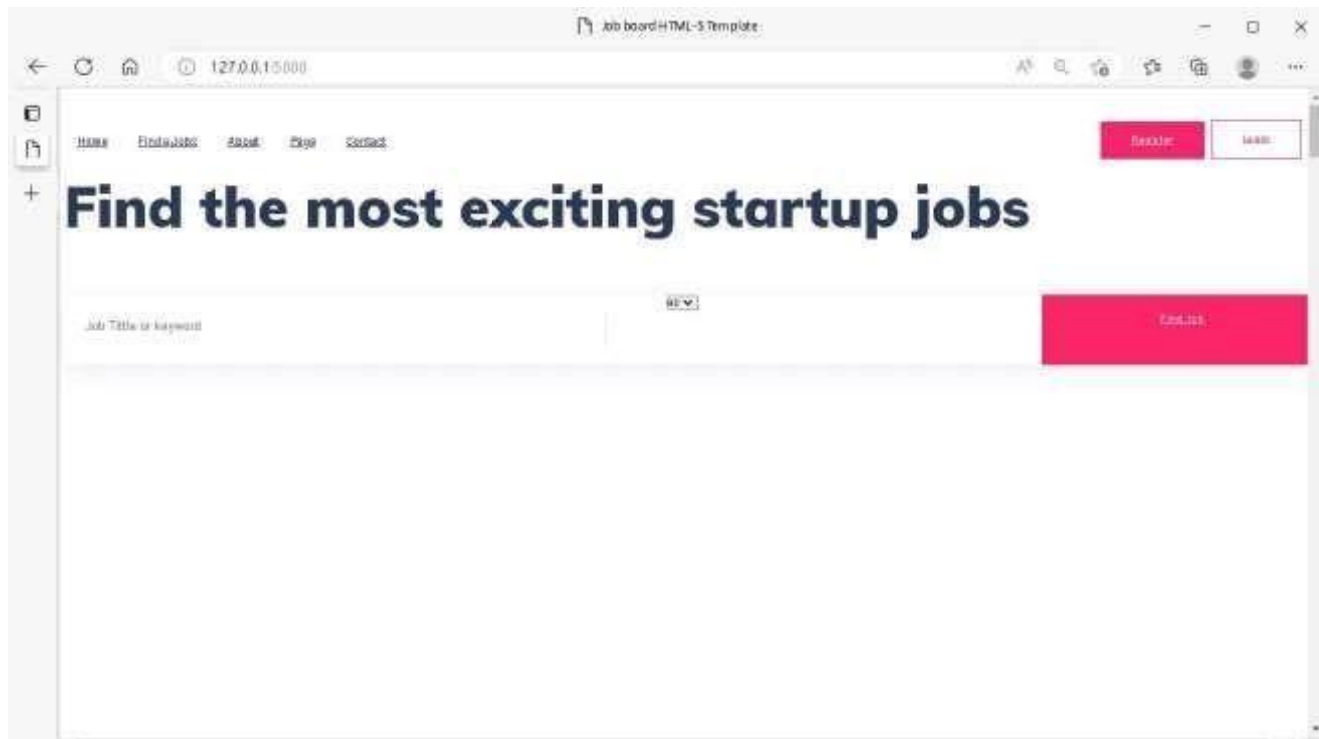
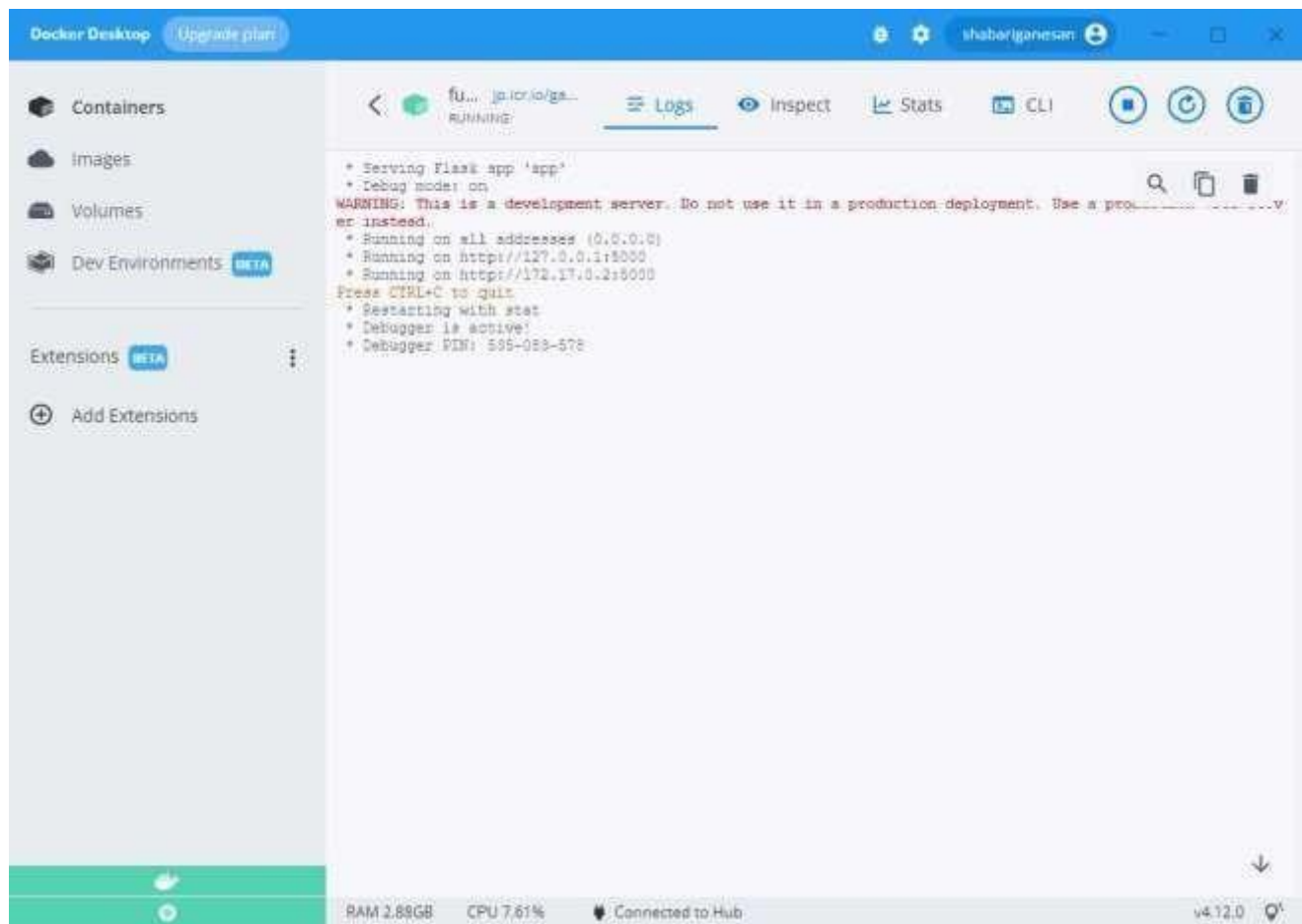
Question-2:

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

1) Creating a docker file for the jobportal application







running in docker desktop 1

Question-3: Create a ibm container registry and deploy helloworld app or jobportalapp

## 1) create a ibm container registry

```
Command Prompt
Account: Ganesan S's Account (2a239674b9ba463891acc3c4fcbe0a99)
Resource group: No resource group targeted, use 'ibmcloud target -g RESOURCE_GROUP'
CF API endpoint:
Org:
Space:

New version 2.11.1 is available.
Change logs: https://github.com/IBM-Cloud/ibm-cloud-cli-release/releases/tag/v2.11.1
TIP: use 'ibmcloud config --check-version=false' to disable update check.

Do you want to update? [y/N] > y

Installing version '2.11.1'...
Downloading...
 14.88 MiB / 14.88 MiB [=====] 100.00% 25
15604696 bytes downloaded
Saved in C:\Users\ADMIN\.bluemix\tmp\bx_2625690972\IBM_Cloud_CLI_2.11.1_amd64.exe

C:\Users\ADMIN>ibmcloud plugin install container-registry
Looking up 'container-registry' from repository 'IBM Cloud'...
Plug-in 'container-registry[cr] 1.0.2' found in repository 'IBM Cloud'
Attempting to download the binary file...
 11.90 MiB / 11.90 MiB [=====] 100.00% 15
12476416 bytes downloaded
Installing binary...
OK
Plug-in 'container-registry 1.0.2' was successfully installed into C:\Users\ADMIN\.bluemix\plugins\container-registry. Use 'ibmcloud plugin show container-registry' to show its details.

C:\Users\ADMIN>
```

## 2) deployhelloworld or jobportal

```
C:\Windows\system32\cmd.exe
544cb5a6fa80: Retrying in 1 second
8d51c618126f: Retrying in 1 second
9ff6e4d6744: Waiting
a90d1d47b5a1: Waiting
655ed1b74428: Waiting
Failed to lookup host: jp.kcr.io

C:\Users\gan\Desktop\job_portal>docker push jp.kcr.io/ganeshjob/job_portal
Using default tag: latest
The push refers to repository [jp.kcr.io/ganeshjob/job_portal]
11e3b1589025: layer already exists
80e94f9e186: Pushed
48c2a744c12b: layer already exists
8072c7835466: layer already exists
bfc1d6b8186e: layer already exists
1f123106024c: layer already exists
3d5eb1152931: Pushed
180796cdf3b1: Pushed
544cb5a6fa80: Retrying in 1 second
8d51c618126f: Pushed
9ff6e4d6744: Pushed
a90d1d47b5a1: Pushed
655ed1b74428: Pushing [=====] 89.89MB/124MB
^C

C:\Users\gan\Desktop\job_portal>docker push jp.kcr.io/ganeshjob/job_portal
Using default tag: latest
The push refers to repository [jp.kcr.io/ganeshjob/job_portal]
1503b1584025: layer already exists
80e94f9e186: layer already exists
48c2a744c12b: layer already exists
8072c7835466: layer already exists
bfc1d6b8186e: layer already exists
1f123106024c: layer already exists
3d5eb1152931: layer already exists
180796cdf3b1: layer already exists
544cb5a6fa80: Pushed
8d51c618126f: layer already exists
9ff6e4d6744: layer already exists
a90d1d47b5a1: layer already exists
655ed1b74428: Pushed
latest: digest: sha256:e92183a7c97eeb92386660a54e896cf61aa6eda939998c8c7a2147a7961fc207 size: 3852

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



IBM Cloud Container Registry Repositories

Location: Tokyo

Search

Create +

Name	Image count	Namespace	Last updated
job_portal jp.icr.io/ganeshjob/job_portal	1	ganeshjob	1 day
docker_with_flask_form jp.icr.io/newnamespace/docker_with_flask_form	1	newnamespace	4 days

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IBM Cloud Container Registry Images

Location: Tokyo

View by: Digest Search

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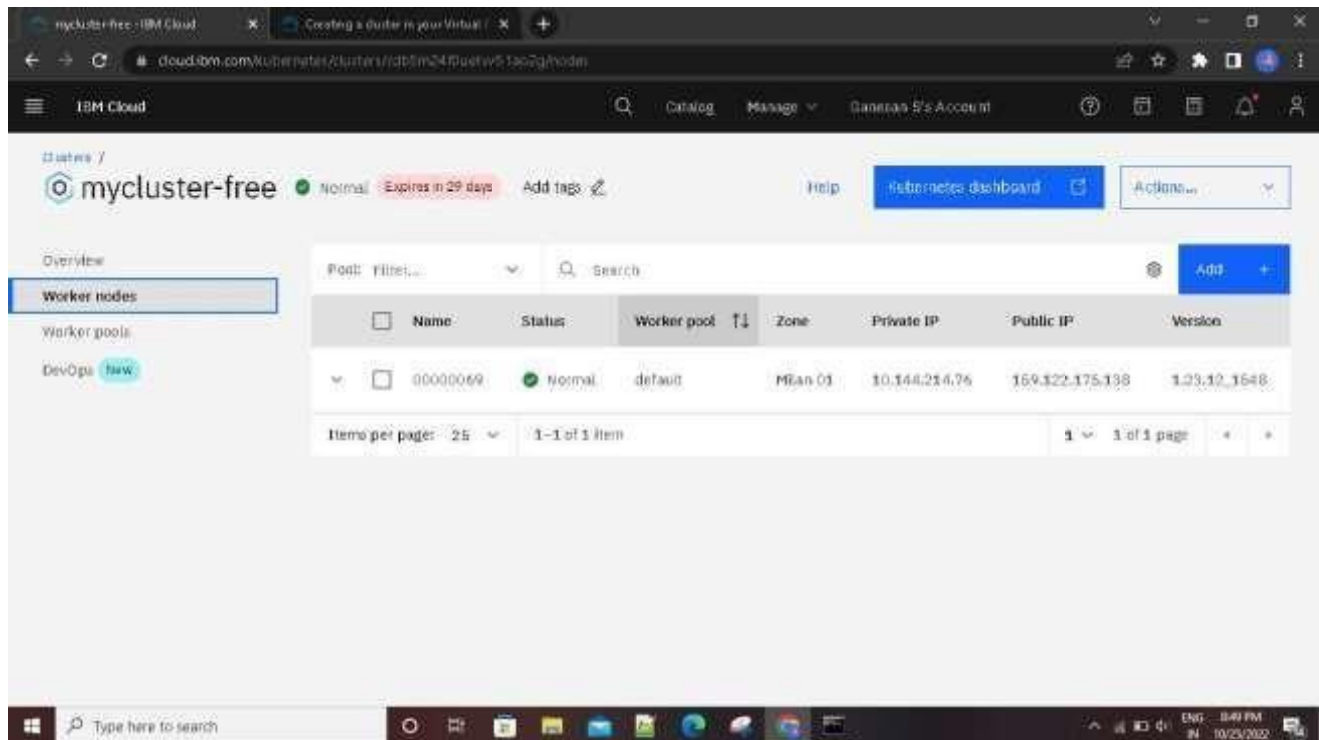
repository@digest	Tags	Manifest type	Created	Size	Security status
ganeshjob/job_portal@sha256:e93169a7c979...	latest	Docker	1 day ago	556 MB	23 issues
newnamespace/docker_with_flask_form@sha256:cd1128875a5f...	latest	Docker	4 days ago	556 MB	23 issues

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**Question-4: Create a kubernetes cluster in ibm cloud and deploy helloworld image or jobportal image and also expose the same app to run in noteport**

**1)Creating a kubernetes cluster in ibm cloud**



**2) deploy helloworld image or jobportal image and also 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 kuberneteshdashbaord get deploy
^C
C:\Windows\system32>kubectl -n kuberneteshdashbaord get deploy
No resources found in kuberneteshdashbaord namespace.
C:\Windows\system32>kubectl -n kuberneteshdashbaord get deploy
No resources found in kuberneteshdashbaord namespace.
C:\Windows\system32>kubectl proxy
Starting to serve on 127.0.0.1:8081
^C
C:\Windows\system32>kubectl -n kuberneteshdashbaord get deploy
^C
C:\Windows\system32>kubectl -n kuberneteshdashbaord get deploy
No resources found in kuberneteshdashbaord namespace.
C:\Windows\system32>kubectl -n kuberneteshdashbaord get pods
No resources found in kuberneteshdashbaord 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  cnone> *
C:\Windows\system32>kubectl get svc
NAME          TYPE          CLUSTER-IP      EXTERNAL-IP    PORT(S)      AGE

```