

Assignment -4

Assignment Date	24 October 2022
Student Name	Aditya R
Student Roll Number	73151913003
Maximum Marks	2 Marks

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

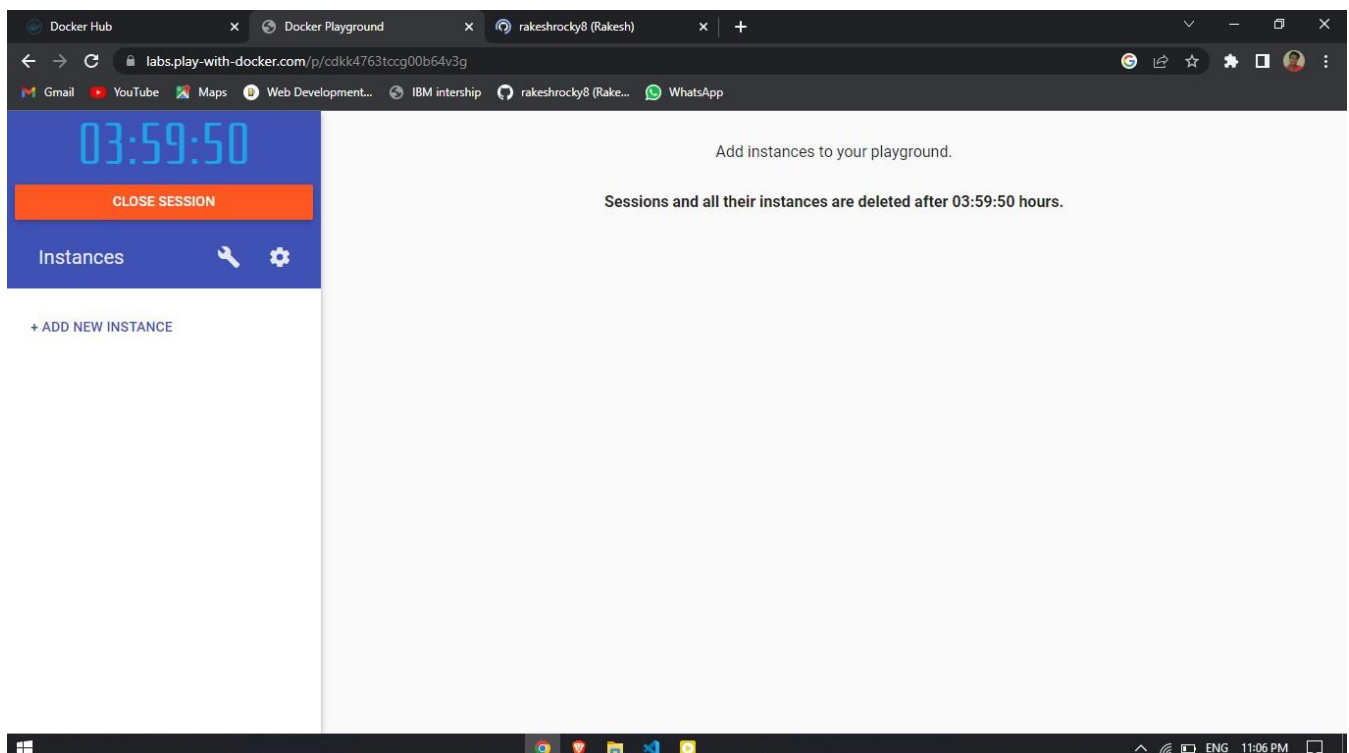
```
Windows PowerShell
PS C:\Users\Rakesh> docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
ibm/alpine    latest    9c6f07244728   3 months ago   5.54MB
alpine        latest    9c6f07244728   3 months ago   5.54MB
PS C:\Users\Rakesh> docker push ibm/alpine
Using default tag: latest
The push refers to repository [docker.io/ibm/alpine]
994393dc58e7: Preparing
denied: requested access to the resource is denied
PS C:\Users\Rakesh> docker tag alpine:latest
"docker tag" requires exactly 2 arguments.
See 'docker tag --help'.

Usage: docker tag SOURCE_IMAGE[:TAG] TARGET_IMAGE[:TAG]

Create a tag TARGET_IMAGE that refers to SOURCE_IMAGE
PS C:\Users\Rakesh> docker tag alpine:latest saravanan/alpine
"docker tag" requires exactly 2 arguments.
See 'docker tag --help'.

Usage: docker tag SOURCE_IMAGE[:TAG] TARGET_IMAGE[:TAG]

Create a tag TARGET_IMAGE that refers to SOURCE_IMAGE
PS C:\Users\Rakesh> docker tag alpine:latest saravanan0310/alpine
PS C:\Users\Rakesh> docker push saravanan0310/alpine
Using default tag: latest
The push refers to repository [docker.io/saravanan0310/alpine]
994393dc58e7: Pushed
```



The screenshot shows the Docker Playground web interface. On the left, there's a sidebar with a digital clock showing 03:52:14, a 'CLOSE SESSION' button, and an 'Instances' section with a '+ ADD NEW INSTANCE' button. Below this, a list shows an instance with IP 192.168.0.28 and name 'node1'. The main area displays details for the instance 'cdkk9m79_cdkkd5n91rrg00fsv1ng', including its IP (192.168.0.28), memory usage (0.92% / 37MiB / 3.906GiB), and CPU usage (0.80%). It also provides an SSH command: `ssh ip172-18-0-5-cdkk9m791rrg00fsv1d0@direct.labs.play-with-docker.com`. Below the details are 'DELETE' and 'EDITOR' buttons. At the bottom, a terminal window shows a warning message and a shell prompt: `[node1] (local) root@192.168.0.28 ~`.

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

```

Windows PowerShell
PS C:\Users\Rakesh> docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
ibm/alpine    latest   9c6f07244728   3 months ago   5.54MB
alpine        latest   9c6f07244728   3 months ago   5.54MB
PS C:\Users\Rakesh> docker push ibm/alpine
Using default tag: latest
The push refers to repository [docker.io/ibm/alpine]
994393dc58e7: Preparing
denied: requested access to the resource is denied
PS C:\Users\Rakesh> docker tag alpine
"docker tag" requires exactly 2 arguments.
See 'docker tag --help'.

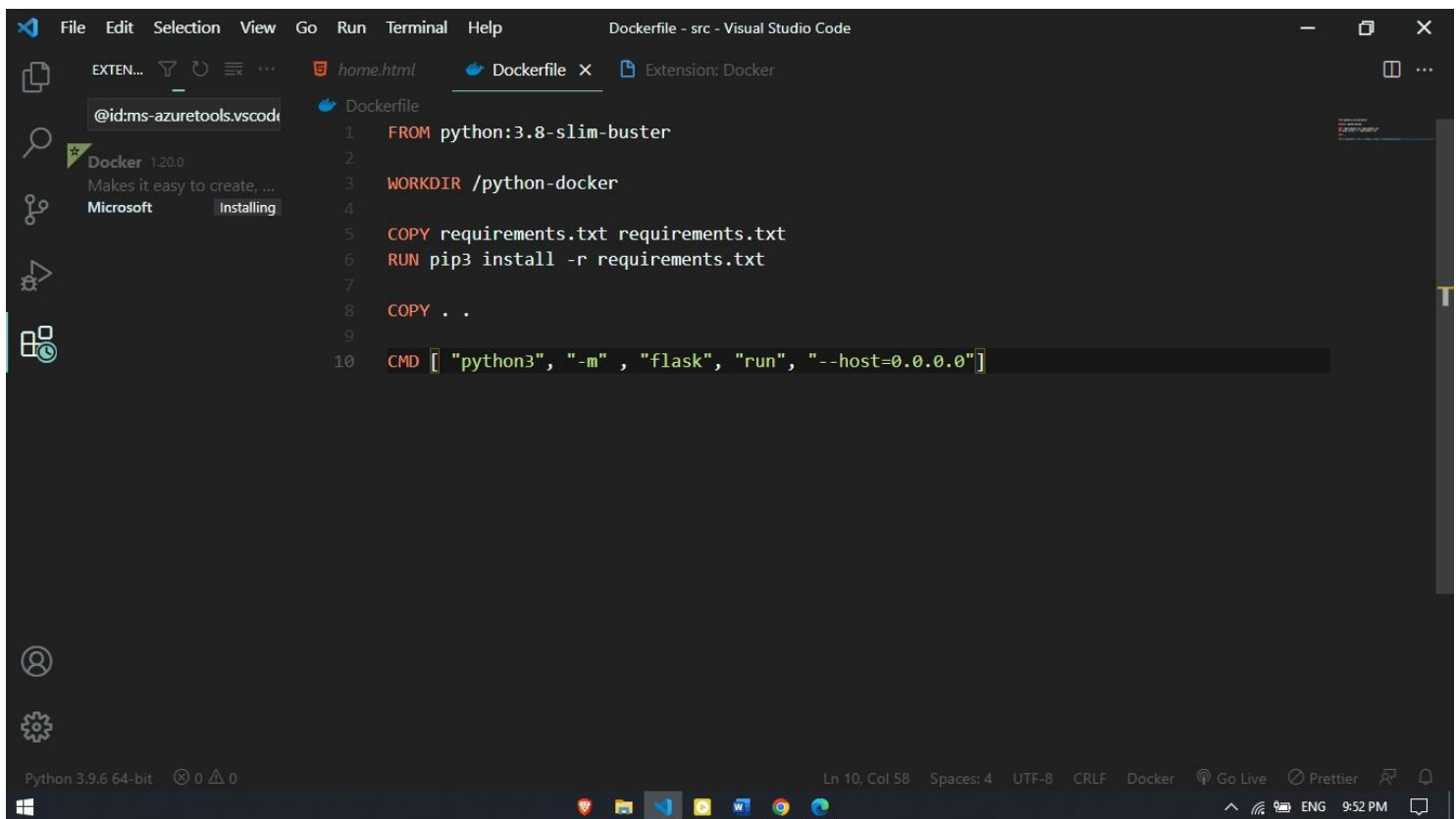
Usage: docker tag SOURCE_IMAGE[:TAG] TARGET_IMAGE[:TAG]

Create a tag TARGET_IMAGE that refers to SOURCE_IMAGE
PS C:\Users\Rakesh> docker tag alpine:latest
"docker tag" requires exactly 2 arguments.
See 'docker tag --help'.

Usage: docker tag SOURCE_IMAGE[:TAG] TARGET_IMAGE[:TAG]

Create a tag TARGET_IMAGE that refers to SOURCE_IMAGE
PS C:\Users\Rakesh> docker tag alpine:latest saravanan/alpine
PS C:\Users\Rakesh> docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
ibm/alpine    latest   9c6f07244728   3 months ago   5.54MB
alpine        latest   9c6f07244728   3 months ago   5.54MB
saravanan/alpine latest   9c6f07244728   3 months ago   5.54MB
PS C:\Users\Rakesh> docker tag alpine:latest saravanan0310/alpine
PS C:\Users\Rakesh> docker push saravanan0310/alpine
Using default tag: latest
The push refers to repository [docker.io/saravanan0310/alpine]
994393dc58e7: Pushed
  
```

Dockerfile



The screenshot shows the Visual Studio Code editor with a Dockerfile open. The file explorer on the left shows the Docker extension is being installed. The Dockerfile content is as follows:

```
1 FROM python:3.8-slim-buster
2
3 WORKDIR /python-docker
4
5 COPY requirements.txt requirements.txt
6 RUN pip3 install -r requirements.txt
7
8 COPY . .
9
10 CMD ["python3", "-m", "flask", "run", "--host=0.0.0.0"]
```

The status bar at the bottom indicates the Python 3.9.6 64-bit environment is active, and the file is encoded in UTF-8 with CRLF line endings. The system tray shows the time as 9:52 PM.

Email address

Password

Sign in

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Sign up

Your Name

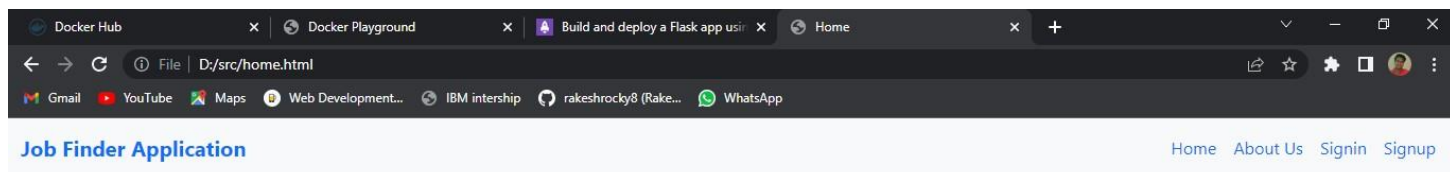
Your Email

Password

Repeat your password

☐ I agree all statements in [Terms of service](#)





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

```
C:\Windows\System32\cmd.exe - docker build.
Microsoft Windows [Version 10.0.19044.2130]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Rakesh\Downloads\flask_hello_docker-master\flask_hello_docker-master>docker build .
[*] Building 66.3s (7/10)
-> [internal] load build definition from Dockerfile
-> => transferring dockerfile: 199B
-> [internal] load .dockerignore
-> => transferring context: 2B
-> [internal] load metadata for docker.io/library/python:3.7-alpine
-> [auth] library/python:pull token for registry-1.docker.io
-> [1/5] FROM docker.io/library/python:3.7-alpine@sha256:6e24a81708ffd8a4a99c1f4c357a96190b7efe47230c3bed184b8f4ad368fb9f
-> => resolve docker.io/library/python:3.7-alpine@sha256:6e24a81708ffd8a4a99c1f4c357a96190b7efe47230c3bed184b8f4ad368fb9f
-> => sha256:6e24a81708ffd8a4a99c1f4c357a96190b7efe47230c3bed184b8f4ad368fb9f 1.65kB / 1.65kB
-> => sha256:c7f521e75c40f8026cb12e08c13d0317a1afeb724d015c4e39347152c81bf 1.27kB / 1.27kB
-> => sha256:caace8aee14d1c9f31128c8a96a2ee98bb257daab07791c86780712ed7a38048 7.71kB / 7.71kB
-> => sha256:47858aee13bf9c7c2b62cfaccdc9ce2524efef339df0c0ed8935c6587a376d60 673.19kB / 673.19kB
-> => sha256:21d1eb95d7874516e8447cc3067020af49c4fb512abc36162c174c0d0c22bf50 11.16MB / 11.16MB
-> => sha256:17ac4101fac6ced0416dec3e04584d913e58bfd5a585dff62f684807d10ac77e 230B / 230B
-> => extracting sha256:47858aee13bf9c7c2b62cfaccdc9ce2524efef339df0c0ed8935c6587a376d60
-> => sha256:a4cc00d82d4786274c2a21d71815bfc13e37a86d9fbd0d08f08abe21971d18b 2.80MB / 2.80MB
-> => extracting sha256:21d1eb95d7874516e8447cc3067020af49c4fb512abc36162c174c0d0c22bf50
-> => extracting sha256:17ac4101fac6ced0416dec3e04584d913e58bfd5a585dff62f684807d10ac77e
-> => extracting sha256:a4cc00d82d4786274c2a21d71815bfc13e37a86d9fbd0d08f08abe21971d18b
-> [internal] load build context
-> => transferring context: 5.65kB
-> [2/5] WORKDIR /app
-> [3/5] RUN pip install pipenv 13.7s
```

```
C:\Windows\System32\cmd.exe - docker push icr.io/smartfashionapp/ibm
Space:

C:\Users\Rakesh\Downloads\flask_hello_docker-master\flask_hello_docker-master>ibmcloud cr region-set global
The region is set to 'global', the registry is 'icr.io'.

OK

C:\Users\Rakesh\Downloads\flask_hello_docker-master\flask_hello_docker-master>ibmcloud cr login
Logging 'docker' in to 'icr.io'...
Logged in to 'icr.io'.

OK

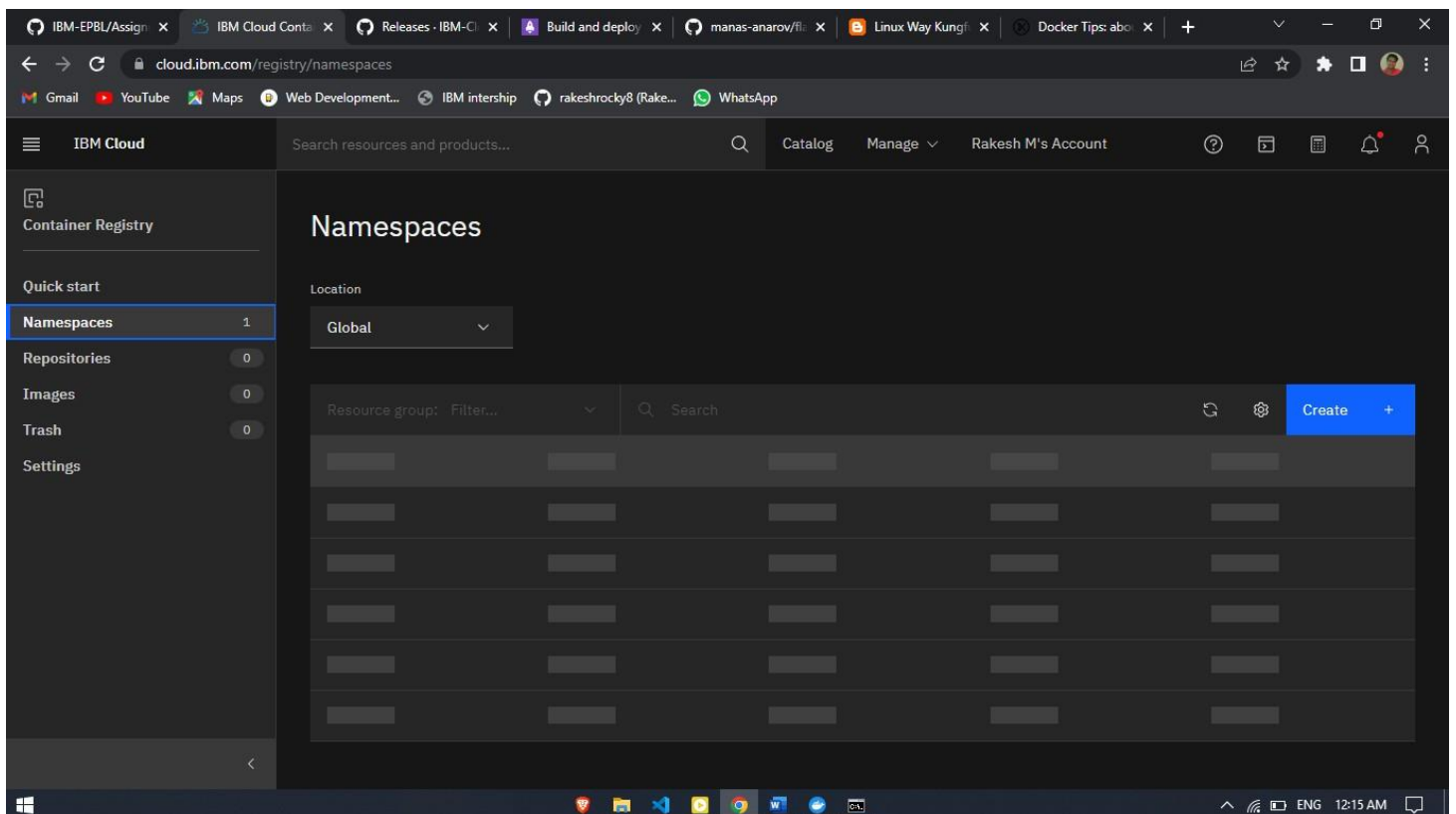
C:\Users\Rakesh\Downloads\flask_hello_docker-master\flask_hello_docker-master>docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
myapp                1.0-recover        95232a1151f8       18 minutes ago     97.9MB
myapp                1.0-recovered      95232a1151f8       18 minutes ago     97.9MB
icr.io/smartfashionapp/app  ibm                95232a1151f8       18 minutes ago     97.9MB
saravanan0310/alpine    latest             9c6f07244728       3 months ago       5.54MB
ibm/alpine             latest             9c6f07244728       3 months ago       5.54MB
alpine                 latest             9c6f07244728       3 months ago       5.54MB
saravanan/alpine       latest             9c6f07244728       3 months ago       5.54MB

C:\Users\Rakesh\Downloads\flask_hello_docker-master\flask_hello_docker-master>docker tag myapp icr.io/smartfashionapp/ibm:
Error parsing reference: "icr.io/smartfashionapp/ibm:" is not a valid repository/tag: invalid reference format

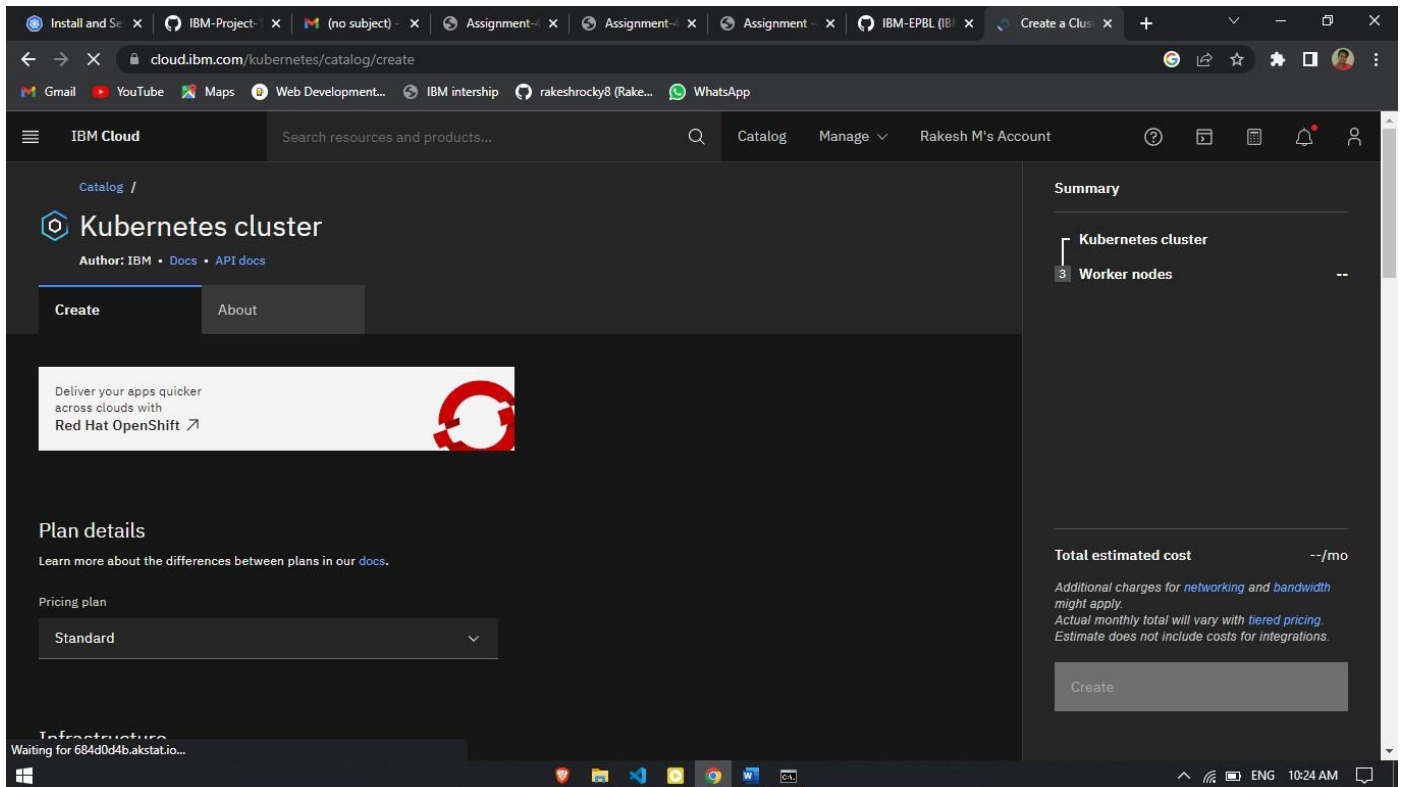
C:\Users\Rakesh\Downloads\flask_hello_docker-master\flask_hello_docker-master>docker tag myapp icr.io/smartfashionapp/ibm
Error response from daemon: No such image: myapp:latest

C:\Users\Rakesh\Downloads\flask_hello_docker-master\flask_hello_docker-master>docker tag 95232a1151f8 icr.io/smartfashionapp/ibm

C:\Users\Rakesh\Downloads\flask_hello_docker-master\flask_hello_docker-master>docker push icr.io/smartfashionapp/ibm
Using default tag: latest
The push refers to repository [icr.io/smartfashionapp/ibm]
879dc0a7d13a: Preparing
45ca0a7778a1: Preparing
420a6604882f: Preparing
c49c12d42c1e: Preparing
ed37f306c964: Preparing
31e0f81c5bec: Waiting
b3aede2981e3: Waiting
6666686122fd: Waiting
994393dc58e7: Waiting
```



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.



IBM Cloud console showing the overview of a Kubernetes cluster named 'mycluster'.

Cluster Overview:

- Node status: 1 of 1 Pending
- Add-on status: 0 of 0 Normal
- Master status: Deploying
- Ingress status: Pending

Details:

- Cluster ID: cdlocfmf0p7m891r5cu0
- Version: 1.24.7_1542
- Infrastructure: Classic
- Zones: Milan 01
- Created: 11/9/2022, 4:21 PM
- Resource group: [Not specified]
- Image security enforcement: Enable

Warning: Expires in 30 days: Be sure to back up your data, your cluster will be deleted in 30 days. To access the full capabilities of the service, try out a [standard cluster](#).

IBM Cloud console showing the 'Namespaces' page under 'Container Registry'.

Namespaces:

Location: Global

Resource group: Filter... Search

Create

Name	Resource group	Repository count	Image count	Retention policy
smartfashionapp	Default	0	0	Retain all images

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