

Assignment -4

Assignment Date	19 October 2022
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Student Roll Number	311019104033
Maximum Marks	2 Marks

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

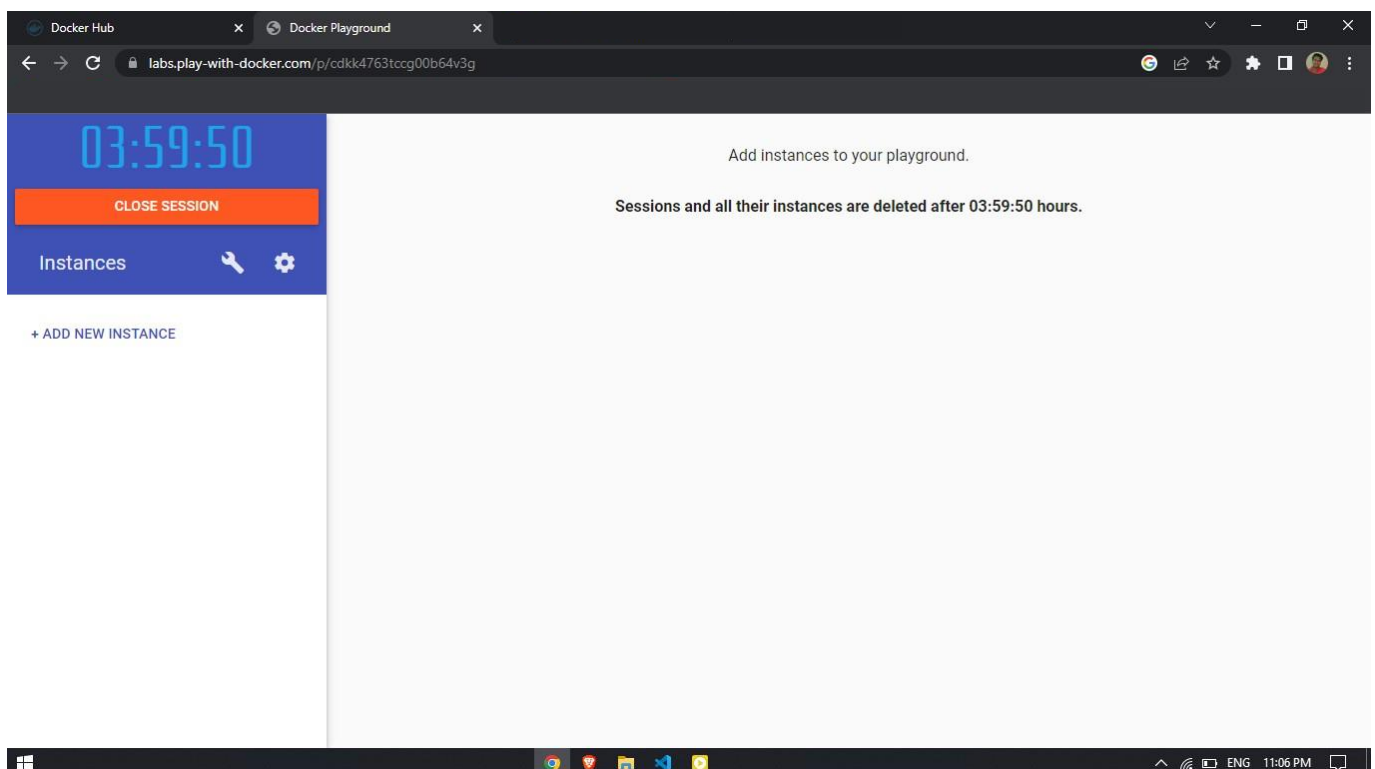
```
Windows PowerShell
PS C:\Users\Rakesh> docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
ibm/alpine latest 9c6f07244728 3 months ago 5.54MB
alpine latest 9c6f07244728 3 months ago 5.54MB
PS C:\Users\Rakesh> docker push ibm/alpine
Using default tag: latest
The push refers to repository [docker.io/ibm/alpine]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



The screenshot shows the Docker Playground interface in a web browser. 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 that, a list shows an instance named 'node1' with IP '192.168.0.28'. The main area displays details for the container 'cdkk9m79_cdkkd5n91rrg00fsv1ng', including its IP (192.168.0.28), memory usage (0.92% / 37MiB / 3.906GiB), and CPU usage (0.80%). There are buttons for 'OPEN PORT', 'DELETE', and 'EDITOR'. Below these, a terminal window shows a warning message and a shell prompt:

```
##### WARNING!!!! #####
# This is a sandbox environment. Using personal credentials #
# is HIGHLY! discouraged. Any consequences of doing so are #
# completely the user's responsibilities. #
# The PWD team. #
#####
[node1] (local) root@192.168.0.28 ~
$
```

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

```
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'.

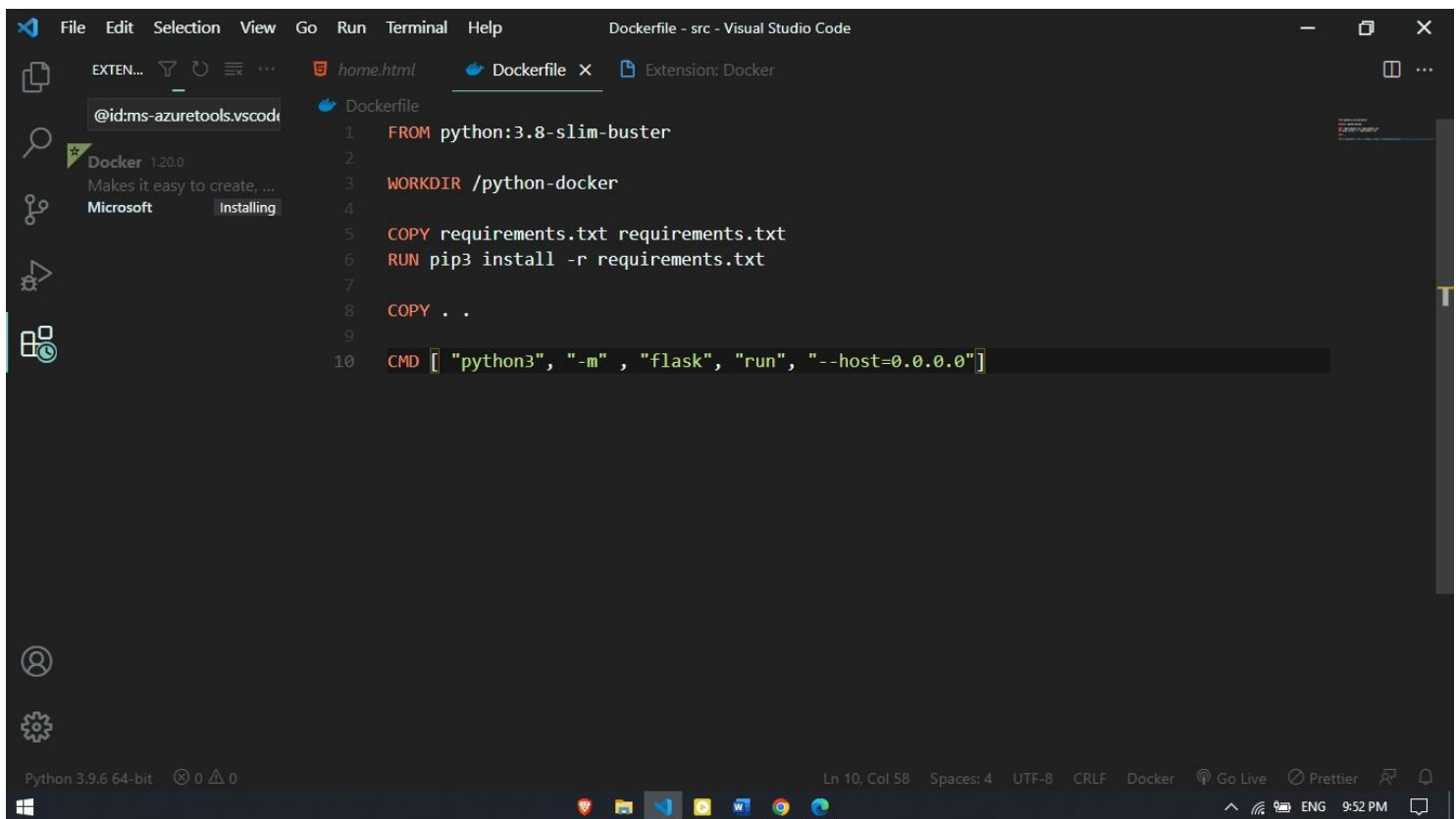
Usage: docker tag SOURCE_IMAGE[:TAG] TARGET_IMAGE[:TAG]

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 image shows a screenshot of the Visual Studio Code editor interface. The title bar at the top reads "Dockerfile - src - Visual Studio Code". The menu bar includes File, Edit, Selection, View, Go, Run, Terminal, and Help. The Explorer sidebar on the left shows a file named "Dockerfile" and an extension "Docker" by Microsoft, which is currently installing. 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 version is 3.9.6 64-bit, with 0 errors and 0 warnings. It also shows the current cursor position as Line 10, Column 58, with 4 spaces, UTF-8 encoding, and CRLF line endings. The Docker extension is active, and the status bar includes "Go Live", "Prettier", and a bell icon. The system tray at the bottom right shows the date and time as 9:52 PM.

Email address

Password

Sign in

Not a member? [Signup](#)

Sign up

Your Name

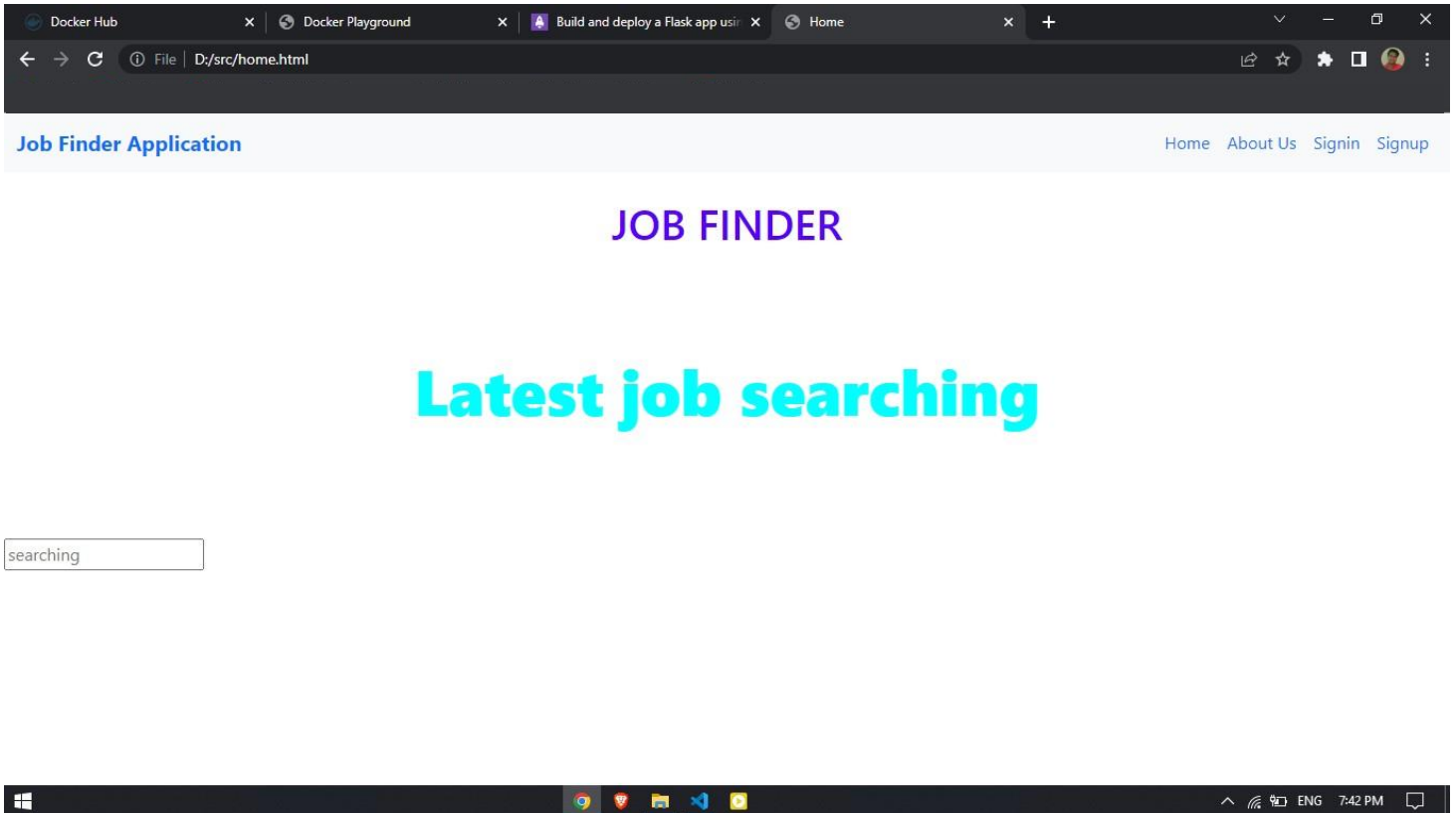
Your Email

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>docker build .
[+] Building 66.3s (7/10)
-> [internal] load build definition from Dockerfile 2.9s
-> == transferring dockerfile: 199B 0.5s
-> [internal] load .dockerignore 3.1s
-> == transferring context: 2B 0.1s
-> [internal] load metadata for docker.io/library/python:3.7-alpine 14.9s
-> [auth] library/python:pull token for registry-1.docker.io 0.0s
-> [1/5] FROM docker.io/library/python:3.7-alpine@sha256:6a24a81708ff08a4a99c1f4c357a96190b7efe47230c3bed184b8f4ad368fb9f 30.4s
-> == resolve docker.io/library/python:3.7-alpine@sha256:6a24a81708ff08a4a99c1f4c357a96190b7efe47230c3bed184b8f4ad368fb9f 0.6s
-> == sha256:6a24a81708ff08a4a99c1f4c357a96190b7efe47230c3bed184b8f4ad368fb9f 1.65kB / 1.65kB 0.0s
-> == sha256:c7f521e75ec40f0260cb22ee68c13d0337a1aafef724e015c4620347152c01bf 1.37kB / 1.37kB 0.0s
-> == sha256:caace8ae014d1c9f31128c0a96a2ee9bbb257daab97791c86780712ed7e30948 7.71kB / 7.71kB 0.0s
-> == sha256:47858aee13bf9c7c2b62cfaccdc9ce2524efef339df0c0ed8935c6587a376d60 673.19kB / 673.19kB 2.7s
-> == sha256:21d1eb95d7874516e8447cc3067020af49c4fb512abc36162c174c0d0c22bf50 11.16MB / 11.16MB 16.8s
-> == sha256:17ac4101fac6ced0416der3e04584d913e58bfd5a585dff62f684807d10ac77e 230B / 230B 3.1s
-> == extracting sha256:47858aee13bf9c7c2b62cfaccdc9ce2524efef339df0c0ed8935c6587a376d60 5.8s
-> == sha256:a4cc00d82d4786274c2a21d71815bfc13e37a86d9fbd0d08fd08abe21971d18b 2.89MB / 2.89MB 9.5s
-> == extracting sha256:21d1eb95d7874516e8447cc3067020af49c4fb512abc36162c174c0d0c22bf50 2.6s
-> == extracting sha256:17ac4101fac6ced0416der3e04584d913e58bfd5a585dff62f684807d10ac77e 0.8s
-> == extracting sha256:a4cc00d82d4786274c2a21d71815bfc13e37a86d9fbd0d08fd08abe21971d18b 1.8s
-> [internal] load build context 1.3s
-> == transferring context: 5.65kB 0.3s
-> [2/5] WORKDIR /app 2.5s
-> [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

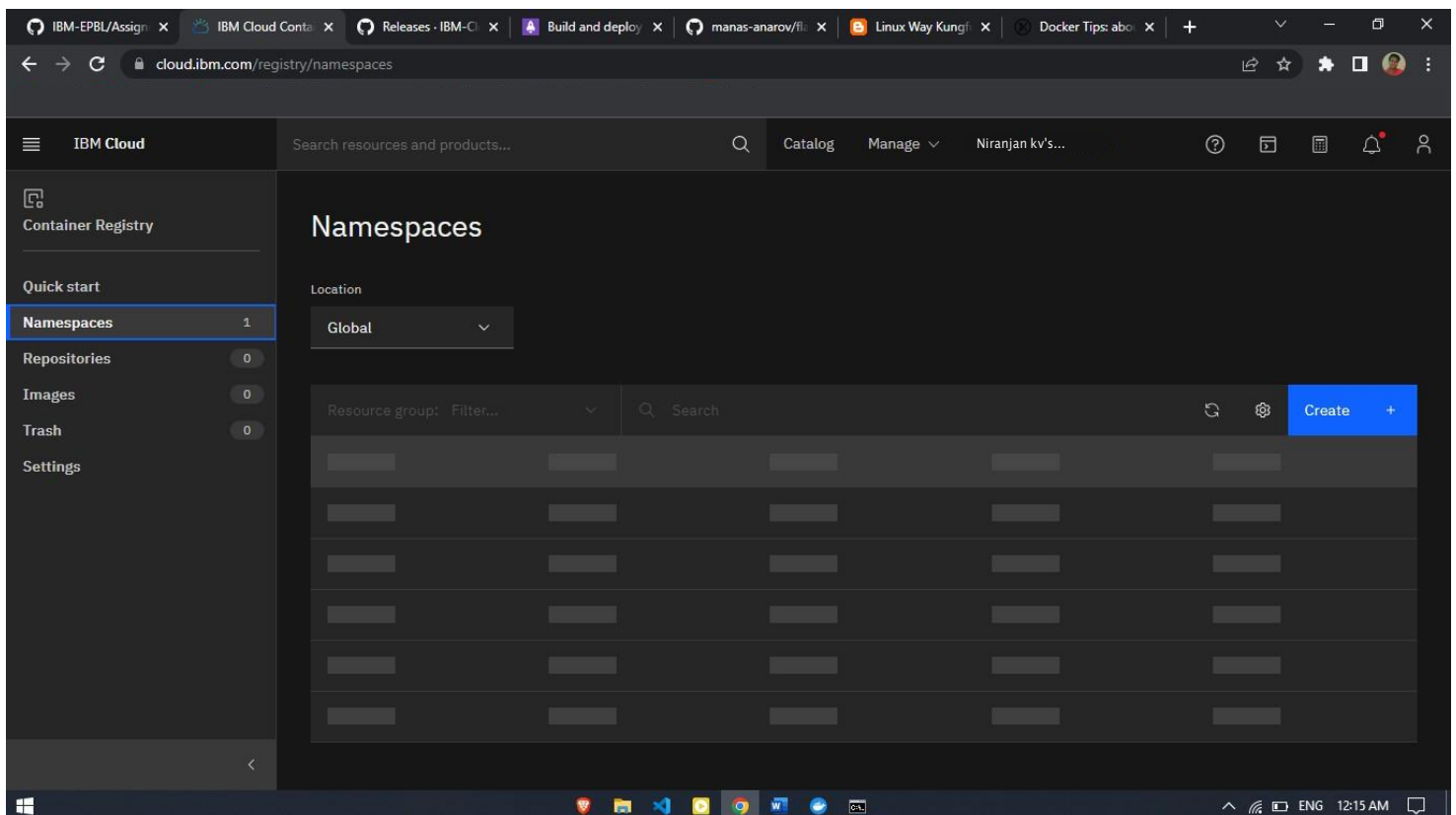
C:\Users\Rakesh\Downloads\flask_hello_docker-master\flask_hello_docker-master>docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
myapp                1.0-recover        95232a1151f8       18 minutes ago     97.9MB
myapp                1.0-recovered      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.

The screenshot shows the IBM Cloud console interface for creating a Kubernetes cluster. The browser address bar displays `cloud.ibm.com/kubernetes/catalog/create`. The page header includes the IBM Cloud logo, a search bar, and navigation links for Catalog, Manage, and the user account (Niranjan kv's Account). The main content area is titled "Kubernetes cluster" and includes tabs for "Create" and "About". A promotional banner for Red Hat OpenShift is visible. The "Plan details" section shows a "Standard" pricing plan. On the right, a "Summary" sidebar lists "Kubernetes cluster" and "3 Worker nodes". The "Total estimated cost" is shown as "--/mo" with a note about additional charges for networking and bandwidth. A "Create" button is located at the bottom right of the summary section. The Windows taskbar at the bottom shows various application icons and the system clock indicating 10:24 AM on 10/24.

IBM Cloud Project-10373-1659175 Fwd: - rakesh0072001@gmail Assignments-CAPD/Assignm mycluster - IBM Cloud

cloud.ibm.com/kubernetes/clusters/cdlocfmf0p7m891r5cu0/overview

IBM Cloud Search resources and products... Catalog Manage Niranjan kv's Account

Clusters / mycluster Preparing master, workers... Expires in 30 days Add tags Help [Kubernetes dashboard](#) Actions...

Overview
Worker nodes
Worker pools
DevOps New

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](#).

Node status
1 of 1
Pending
[Details](#)

Add-on status
0 of 0
Normal
[Details](#)

Master status
Deploying
[Docs](#)

Ingress status
Pending
[Docs](#)

Details

Cluster ID	Version	Infrastructure	Zones
cdlocfmf0p7m891r5cu0	1.24.7_1542	Classic	Milan 01
Created	Resource group	Image security enforcement	
11/9/2022, 4:21 PM		Enable	

IBM-EPBL/Assign IBM Cloud Conta Releases - IBM-Cl Build and deploy manas-anarov/lin Linux Way Kungl Docker Tips: abc

cloud.ibm.com/registry/namespaces

IBM Cloud Search resources and products... Catalog Manage Niranjan kv's Account

Container Registry

Quick start

Namespaces 1

Repositories 0

Images 0

Trash 0

Settings

Namespaces

Location

Global

Resource group: Filter... Search [Create](#)

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

Items per page: 25 1-1 of 1 item 1 1 of 1 page