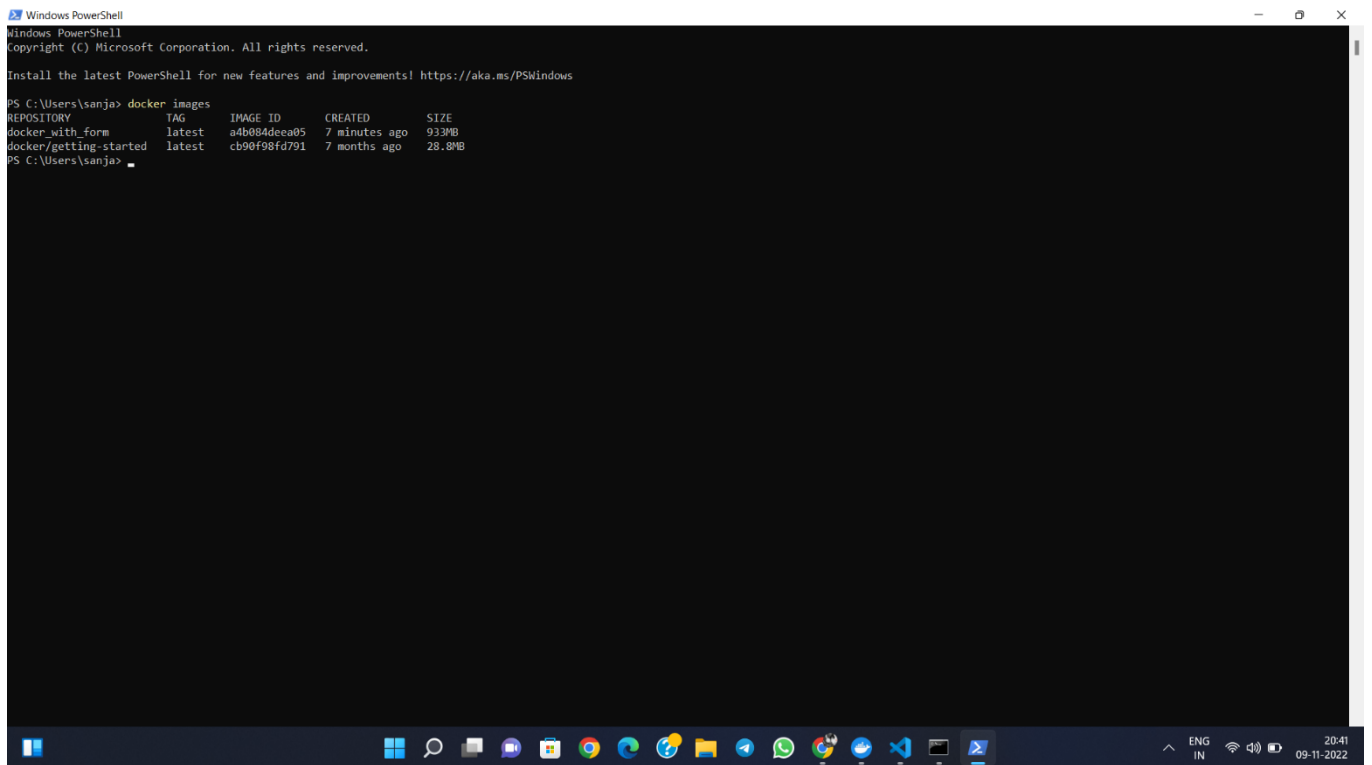


## Assignment-4

Assignment Date	29 October 2022
Student Name	Sanjay S
Student Roll Number	610519104087
Maximum Marks	2 Marks

### Question:

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



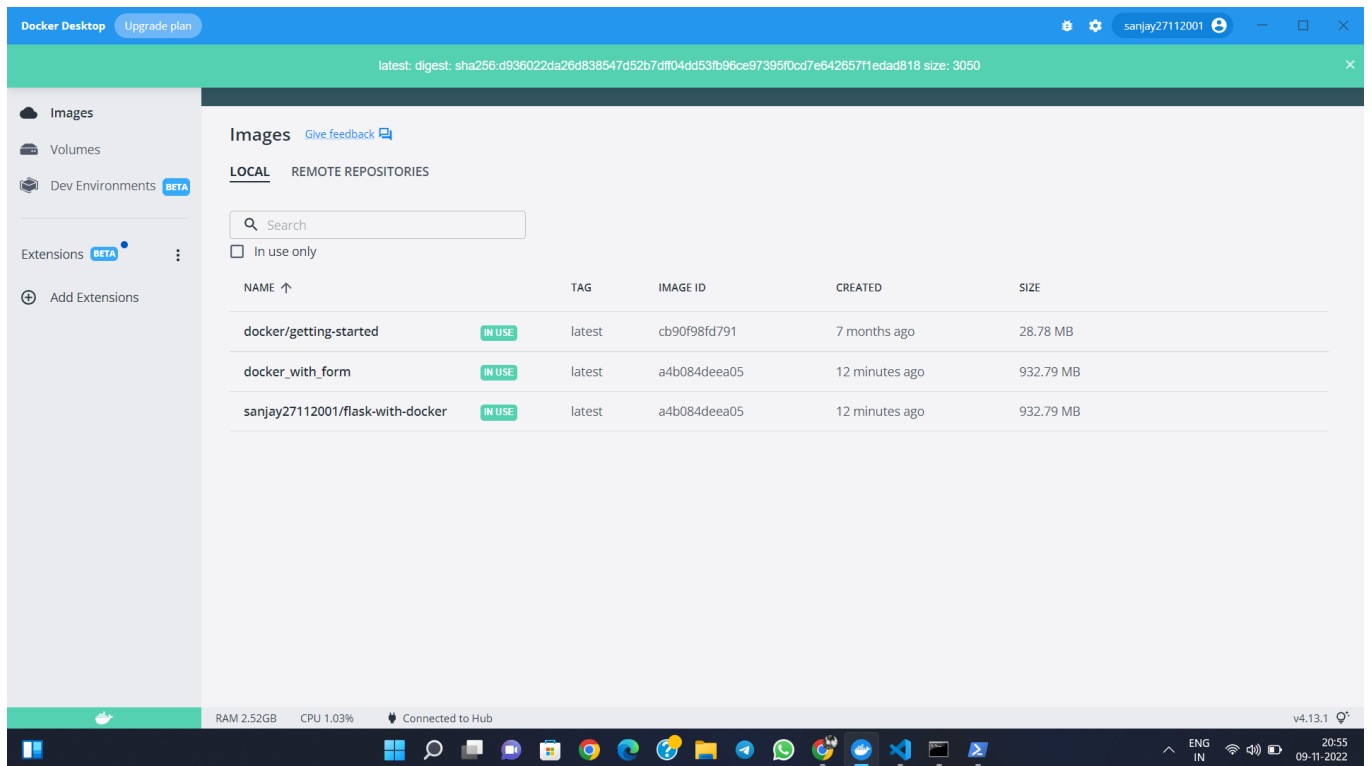
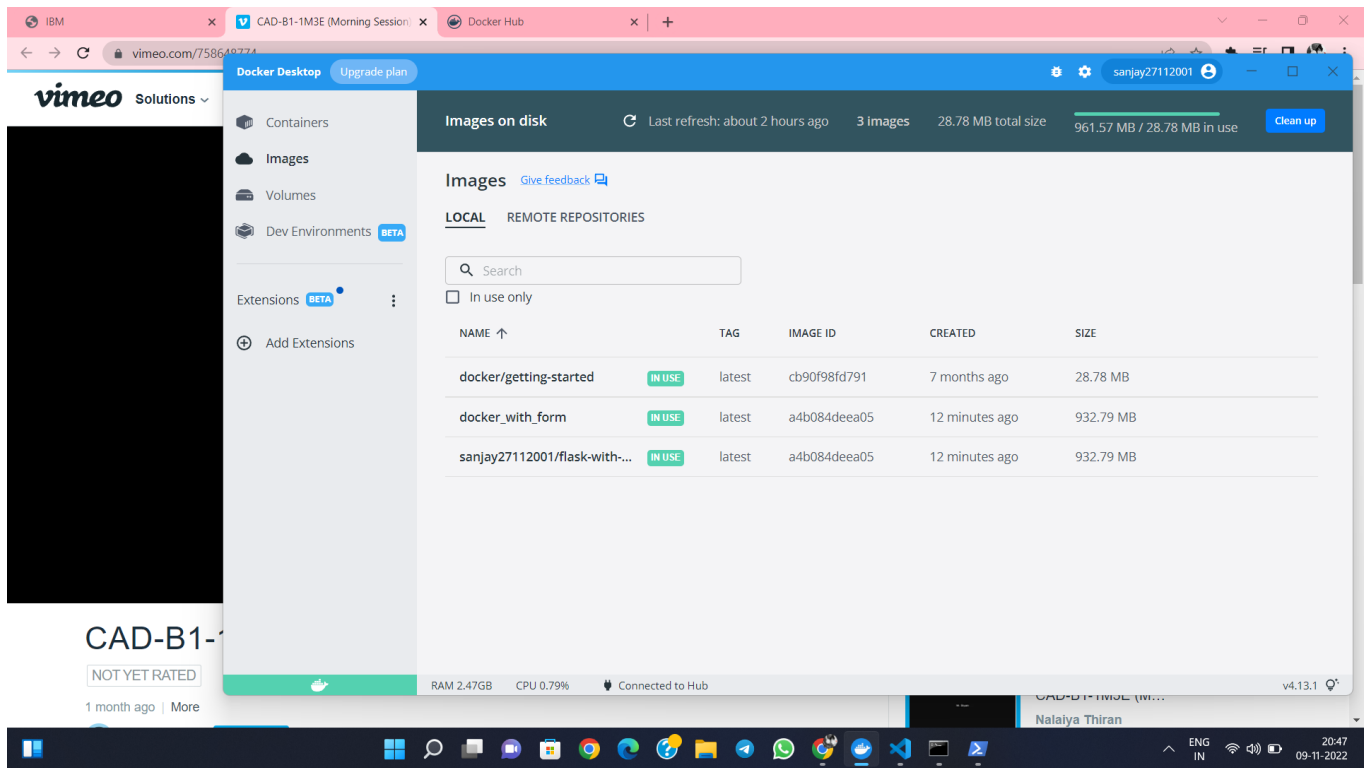
The screenshot shows a Windows PowerShell terminal window with the following content:

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

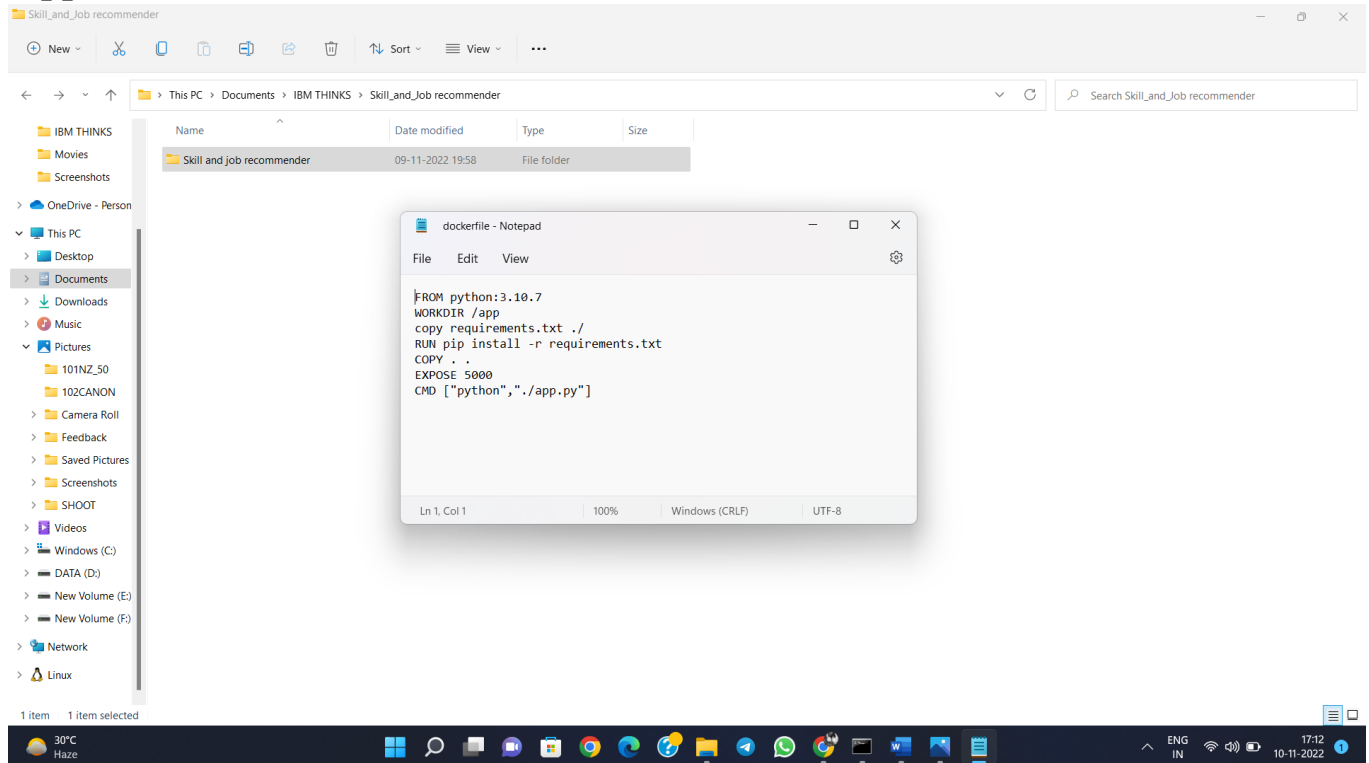
Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\sanja> docker images
REPOSITORY          TAG             IMAGE ID        CREATED         SIZE
docker_with_form    latest          a4b084deea05   7 minutes ago   933MB
docker/getting-started latest          cb90f98fd791   7 months ago    28.8MB
PS C:\Users\sanja>
```

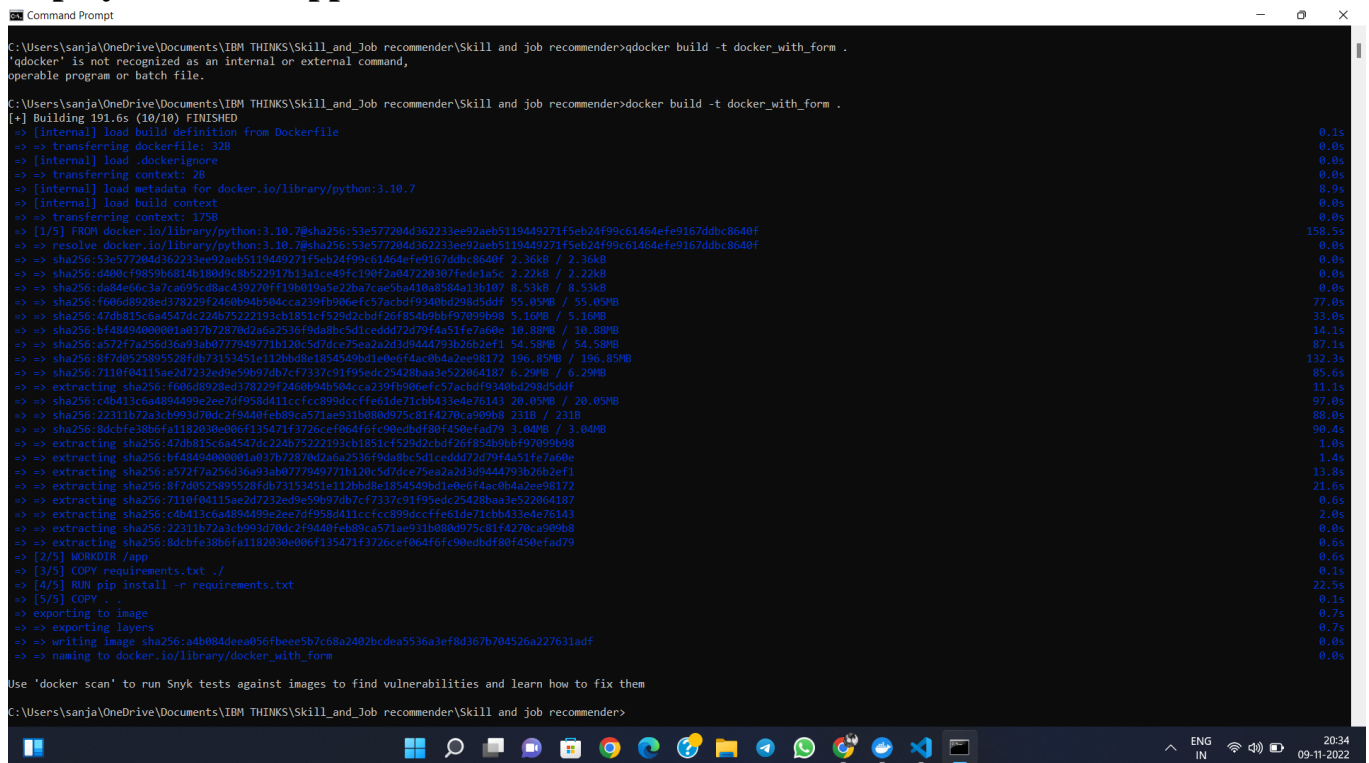
The terminal window is titled "Windows PowerShell" and shows the output of the `docker images` command. The output lists two Docker images: `docker_with_form:latest` (933MB) and `docker/getting-started:latest` (28.8MB). The Windows taskbar is visible at the bottom of the screen.



## 2. Create a docker file for the job portal application and deploy it in Docker desktop application.



## Deploy in docker application



# Running in docker desktop

```
Command Prompt - docker run -p 5000:5000 docker_with_form

-> [internal] load metadata for docker.io/library/python:3.10.7
-> [internal] load build context
-> => transferring context: 175B
-> [1/5] FROM docker.io/library/python:3.10.7@sha256:53e577204d362233ee92aeb5119449271f5eb24f99c61464efe9167ddbc8640f
-> => resolve docker.io/library/python:3.10.7@sha256:53e577204d362233ee92aeb5119449271f5eb24f99c61464efe9167ddbc8640f
-> => sha256:53e577204d362233ee92aeb5119449271f5eb24f99c61464efe9167ddbc8640f 2.36kB / 2.36kB
-> => sha256:d408cf98596e814b18085c8b522917b131ce49fc190f2a0a7220307fede1a5c 2.22kB / 2.22kB
-> => sha256:da84e66c3a7ca695cd8ac439270ff19b019a5e22ba7cae5ba410a8584a13b107 8.53kB / 8.53kB
-> => sha256:f606d8928ed378229f2460b94b504cca239fb906efc57acbd9f340bd298d5ddf 55.05MB / 55.05MB
-> => sha256:47db815c6a4547dc224b75222193cb1851cf529d2cbd26f854b9bbf97099b98 5.16MB / 5.16MB
-> => sha256:bf48494000001a037b72870d2a6a2536f9da8bc5d1ceddd72d79f4a51fe7a60e 10.88MB / 10.88MB
-> => sha256:a572f7a25d36a93ab0777949771b120c5d7dce75ea2a2d3d9444793b26b2ef1 54.58MB / 54.58MB
-> => sha256:8f7d0525895528fdb73153451e112bbd8e1854549bd1e0e6f4ac0b4a2ee98172 196.85MB / 196.85MB
-> => sha256:7110f064115ae2072326d9e90b97db7c77337c91f95edc25420baaa5c22064187 6.29MB / 6.29MB
-> => extracting sha256:f606d8928ed378229f2460b94b504cca239fb906efc57acbd9f340bd298d5ddf
-> => sha256:c4b413c6a4894499e2ee7d4f958d411ccfcc899dcffe61de71cbb433e4c76143 20.85MB / 20.85MB
-> => sha256:22311b72a3cb993d70dc2f9440f8eb89ca571ae931b080d975c81f42770ca909b98 231B / 231B
-> => sha256:8dc8fe38b6fa1182030e006f135471f3726cef064f6fc90edbd80f450efad79 3.04MB / 3.04MB
-> => extracting sha256:47db815c6a4547dc224b75222193cb1851cf529d2cbd26f854b9bbf97099b98
-> => extracting sha256:bf48494000001a037b72870d2a6a2536f9da8bc5d1ceddd72d79f4a51fe7a60e
-> => extracting sha256:a572f7a25d36a93ab0777949771b120c5d7dce75ea2a2d3d9444793b26b2ef1
-> => extracting sha256:8f7d0525895528fdb73153451e112bbd8e1854549bd1e0e6f4ac0b4a2ee98172
-> => extracting sha256:7110f064115ae2072326d9e90b97db7c77337c91f95edc25420baaa5c22064187
-> => extracting sha256:c4b413c6a4894499e2ee7d4f958d411ccfcc899dcffe61de71cbb433e4c76143
-> => extracting sha256:22311b72a3cb993d70dc2f9440f8eb89ca571ae931b080d975c81f42770ca909b98
-> => extracting sha256:8dc8fe38b6fa1182030e006f135471f3726cef064f6fc90edbd80f450efad79
-> [2/5] WORKDIR /app
-> [3/5] COPY requirements.txt ./
-> [4/5] RUN pip install -r requirements.txt
-> [5/5] COPY . .
-> exporting to image
-> => exporting layers
-> => writing image sha256:a4b084deea056fbee5b7c68a2402bcdea5536a3ef8d367b704526a227631adf
-> => naming to docker.io/library/docker_with_form

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them

C:\Users\sanja\OneDrive\Documents\IBM THINKS\Skill_and_Job recommender\Skill and job recommender>docker run -p 5000:5000 docker_with_form
* Serving Flask app 'app'
* Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on all addresses (0.0.0.0)
* Running on http://172.17.0.1:5000
* Running on http://172.17.0.2:5000
Press CTRL+C to quit
172.17.0.1 - - [09/Nov/2022 15:06:52] "GET / HTTP/1.1" 200 -
172.17.0.1 - - [09/Nov/2022 15:06:52] "GET /favicon.ico HTTP/1.1" 200 -
```

## 3. Create a IBM container registry and deploy hello world app or job portal app.

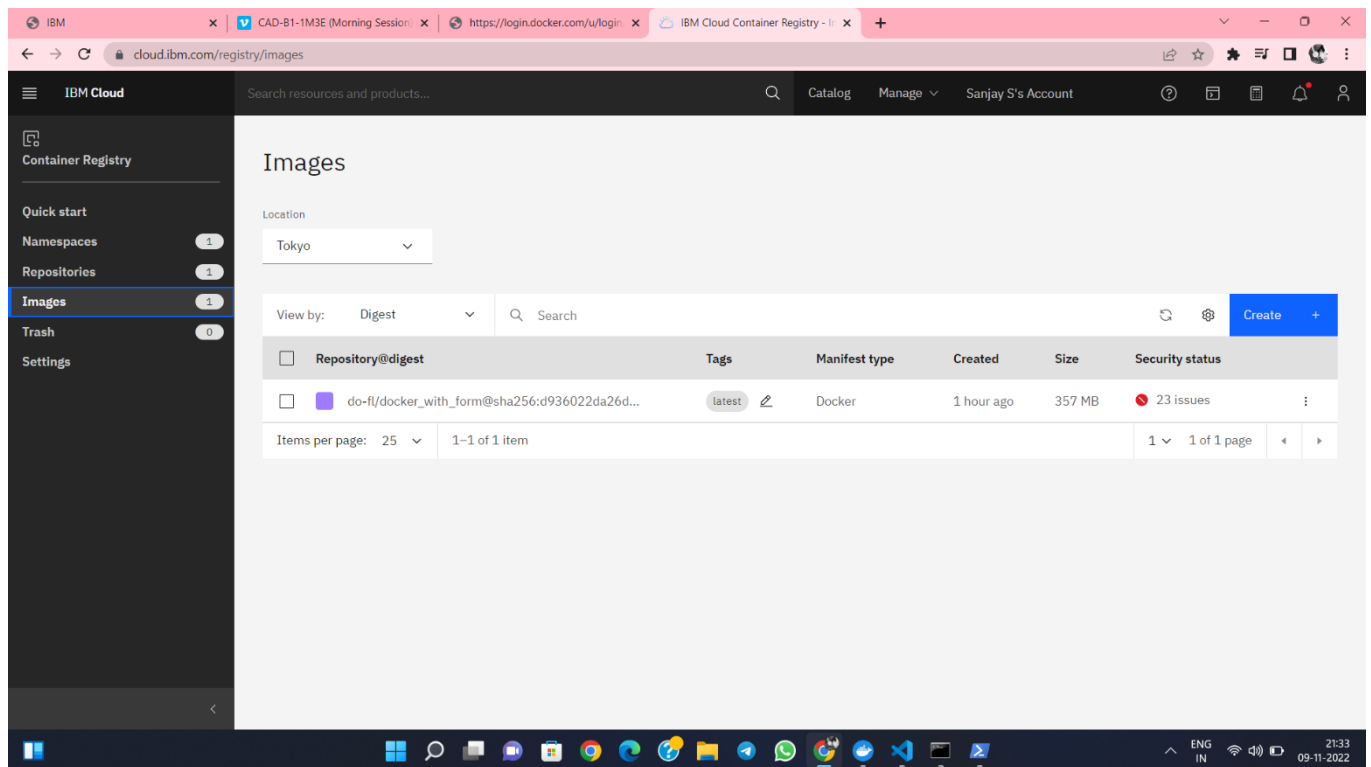
```
Windows PowerShell

unauthorized: The login credentials are not valid, or your IBM Cloud account is not active.
PS C:\Users\sanja> ibmcloud cr login
Logging 'docker' in to 'jp.icr.io'...
FAILED
Failed to 'docker login' to 'jp.icr.io' with error: Error saving credentials: error storing credentials - err: exit status 1, out: 'getting entitlement: request to https://accounts-api.s.us-east-1.aws.dcr.io/v2/users/sanjay27112001/orgs/?page_size=2147483647 failed with status 403: ("message":"access is forbidden with a JWT issued from a personal access token","errinfo":{})'
.

PS C:\Users\sanja> ibmcloud cr login
Logging 'docker' in to 'jp.icr.io'...
Logged in to 'jp.icr.io'.

jk

PS C:\Users\sanja> docker push jp.icr.io/do-fl/docker_with_form:latest
The push refers to repository [jp.icr.io/do-fl/docker_with_form]
708e448083b7: Preparing
2d116cd9a8cf: Preparing
f5307bc62862: Preparing
2f59fa15bea7: Preparing
cf399be408ea: Preparing
930b971cb999: Waiting
4172a9e6f9e6: Waiting
0c7da9a72c8: Waiting
75ba02937496: Waiting
288cf3a46e32: Waiting
186da837555d: Waiting
955c9335e041: Waiting
8e079f9ee2186: Waiting
```



## Deploy hello world or job portal

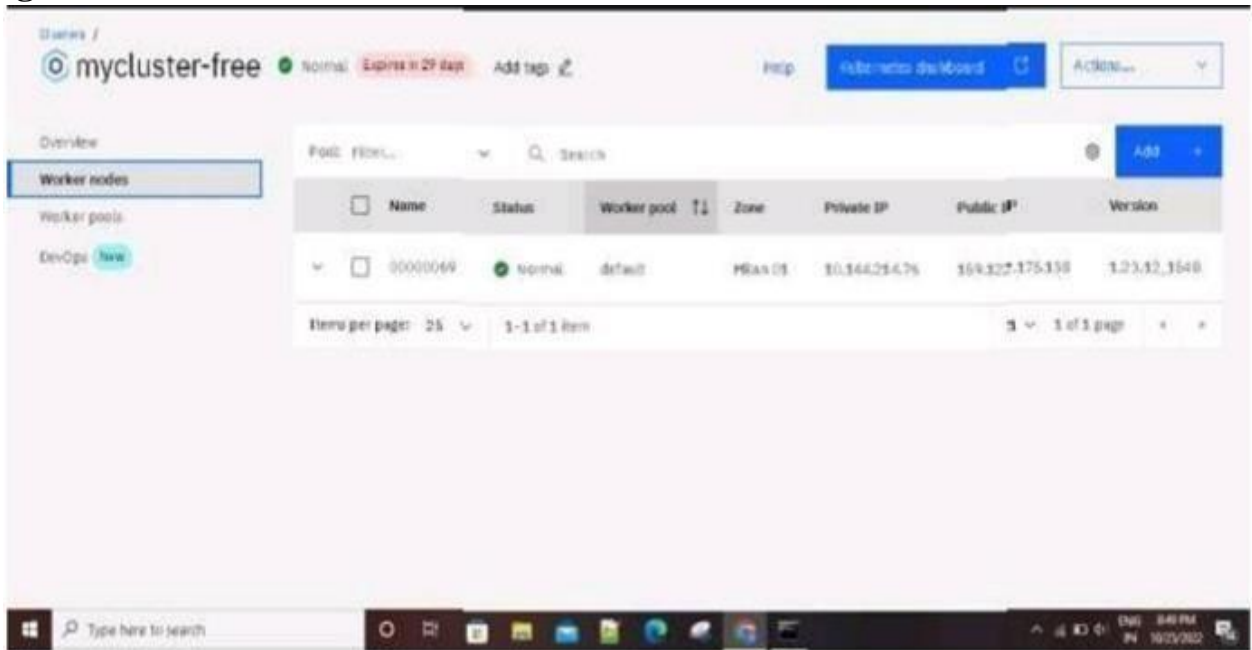
```
Windows PowerShell
unauthorized: The login credentials are not valid, or your IBM Cloud account is not active.
PS C:\Users\sanja> ibmcloud cr login
logging 'docker' in to 'jp.icr.io'...
FAILED
Failed to 'docker login' to 'jp.icr.io' with error: Error saving credentials: error storing credentials - err: exit status 1, out: 'getting entitlement: request to https://accounts-api.s.us-east-1.aws.dcr.io/v2/users/sanjay27112001/orgs/?page_size=2147483647 failed with status 403: {"message":"access is forbidden with a JWT issued from a personal access token","errinfo":{}}'
.

PS C:\Users\sanja> ibmcloud cr login
logging 'docker' in to 'jp.icr.io'...
logged in to 'jp.icr.io'.

OK
PS C:\Users\sanja> docker push jp.icr.io/do-fl/docker_with_form:latest
The push refers to repository [jp.icr.io/do-fl/docker_with_form]
708e448083b7: Pushed
2d116cd9a8cf: Pushed
f5307bc62862: Pushed
2f59fa15hea7: Pushed
cf399be408ea: Pushed
793b971ccb99: Pushed
d172a9e6f9e6: Pushed
0c7da9a72c8: Pushed
75ba02937496: Pushed
288cf3a46e32: Pushed
186da837554d: Pushed
955c9335e041: Pushed
8e079fee2186: Pushed
latest: digest: sha256:d936022da26d838547d52b7dff04dd53fb96ce97395f0cd7e642657f1edad818 size: 3050
PS C:\Users\sanja>
```

4. Create a Kubernetes cluster in IBM cloud and deploy hello world image or job portal image and also expose the same app to run in node port.

### 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 127.0.0.1:9001
^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         27s
C:\Windows\system32\kubectl get svc
NAME      TYPE      CLUSTER-IP      EXTERNAL-IP      PORT(S)      AGE

```