

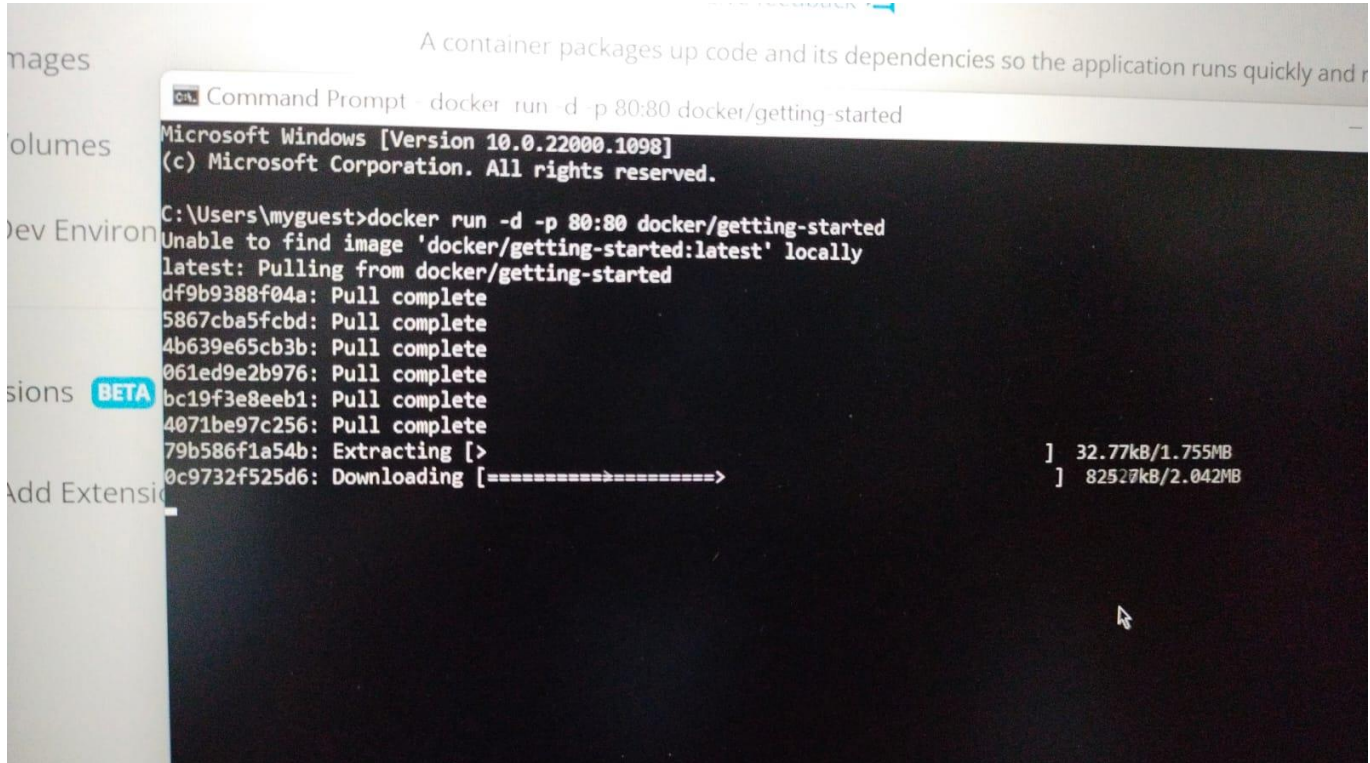
**Assignment -4**  
**Docker and kubernetes**

Assignment Date	10 October 2022
Student Name	Fatima Stany J
Student Roll Number	951319104020
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 - docker run -d -p 80:80 docker/getting-started
Microsoft Windows [Version 10.0.22000.1098]
(c) Microsoft Corporation. All rights reserved.

C:\Users\myguest>docker run -d -p 80:80 docker/getting-started
Unable to find image 'docker/getting-started:latest' locally
latest: Pulling from docker/getting-started
df9b9388f04a: Pull complete
5867cba5fcdb: Pull complete
4b639e65cb3b: Pull complete
061ed9e2b976: Pull complete
bc19f3e8eeb1: Pull complete
4071be97c256: Pull complete
79b586f1a54b: Extracting [>
0c9732f525d6: Downloading [=====>] 32.77kB/1.755MB
] 82527kB/2.042MB
```

## 2) runt 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>
```

**Docker Desktop** Update to latest stany20

**Containers** [Give feedback](#)

A container packages up code and its dependencies so the application runs quickly and reliably from one computing environment to another. [Learn more](#)

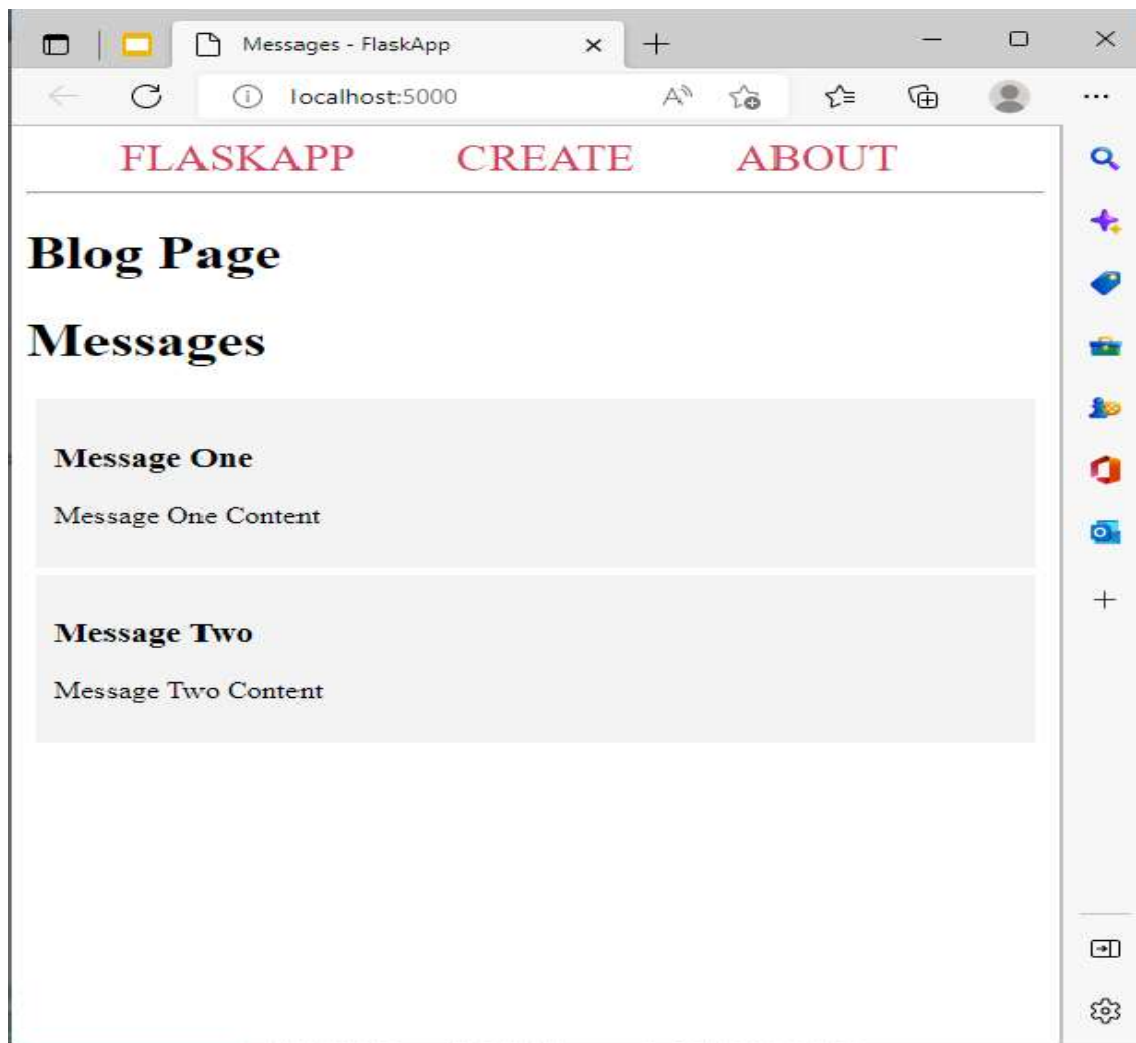
☒ Only show running containers

<input type="checkbox"/>	NAME	IMAGE	STATUS	PORT(S)	STARTED	ACTIONS
<input type="checkbox"/>	<b>bold_nash</b> 7802860635f7	<a href="#">docker/getting-started:late</a>	Running		4 minutes ago	
<input type="checkbox"/>	<b>epic_fermi</b> ec12f8857323	<a href="#">docker/getting-started:late</a>	Running	80:80	5 minutes ago	

Showing 2 items

RAM 1.63GB CPU 0.00% Connected to Hub v4.14.0

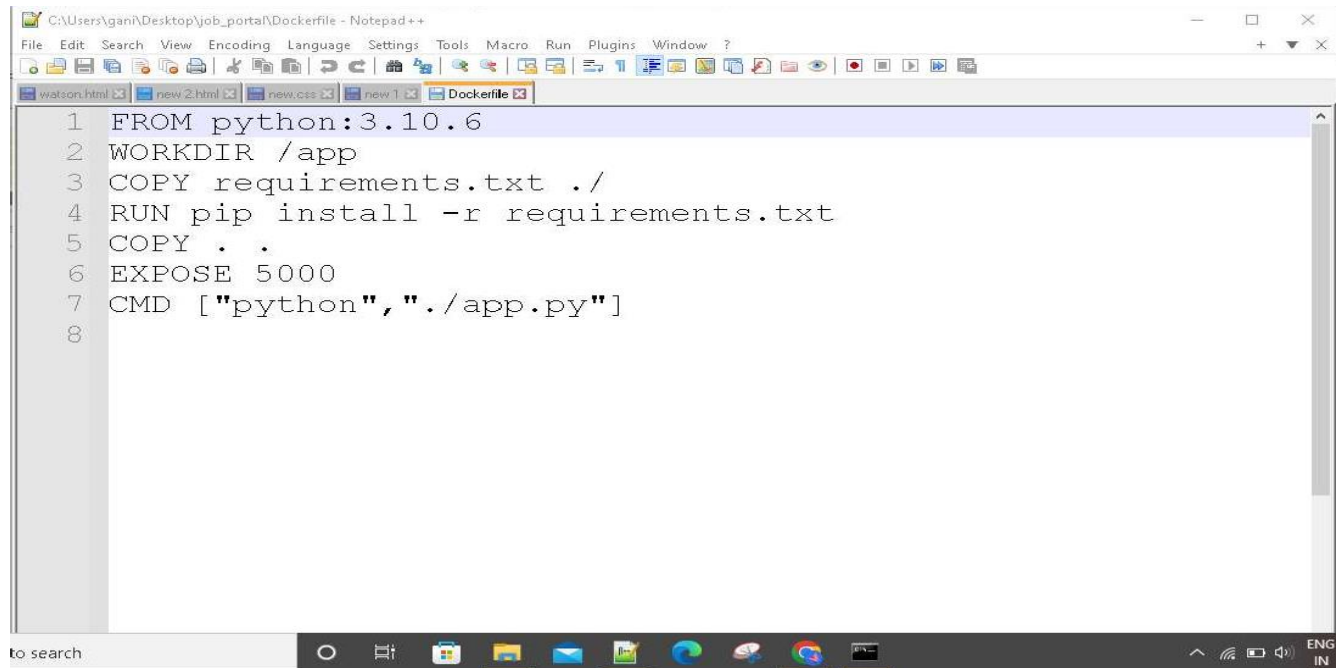
27°C Haze 11:10 18-11-2022



## 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

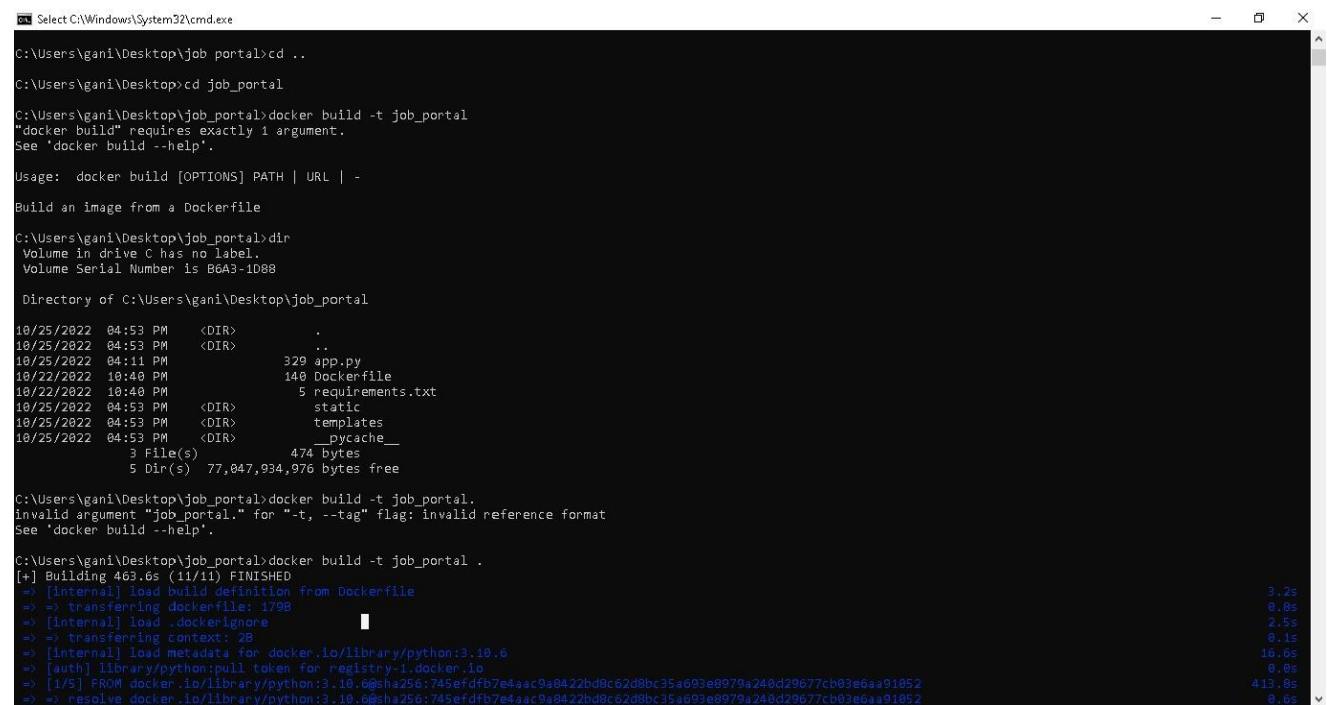


The screenshot shows a Notepad++ window titled "C:\Users\gani\Desktop\job\_portal\Dockerfile - Notepad++". The window contains a Dockerfile with the following content:

```
1 FROM python:3.10.6
2 WORKDIR /app
3 COPY requirements.txt ./
4 RUN pip install -r requirements.txt
5 COPY . .
6 EXPOSE 5000
7 CMD ["python", "./app.py"]
8
```

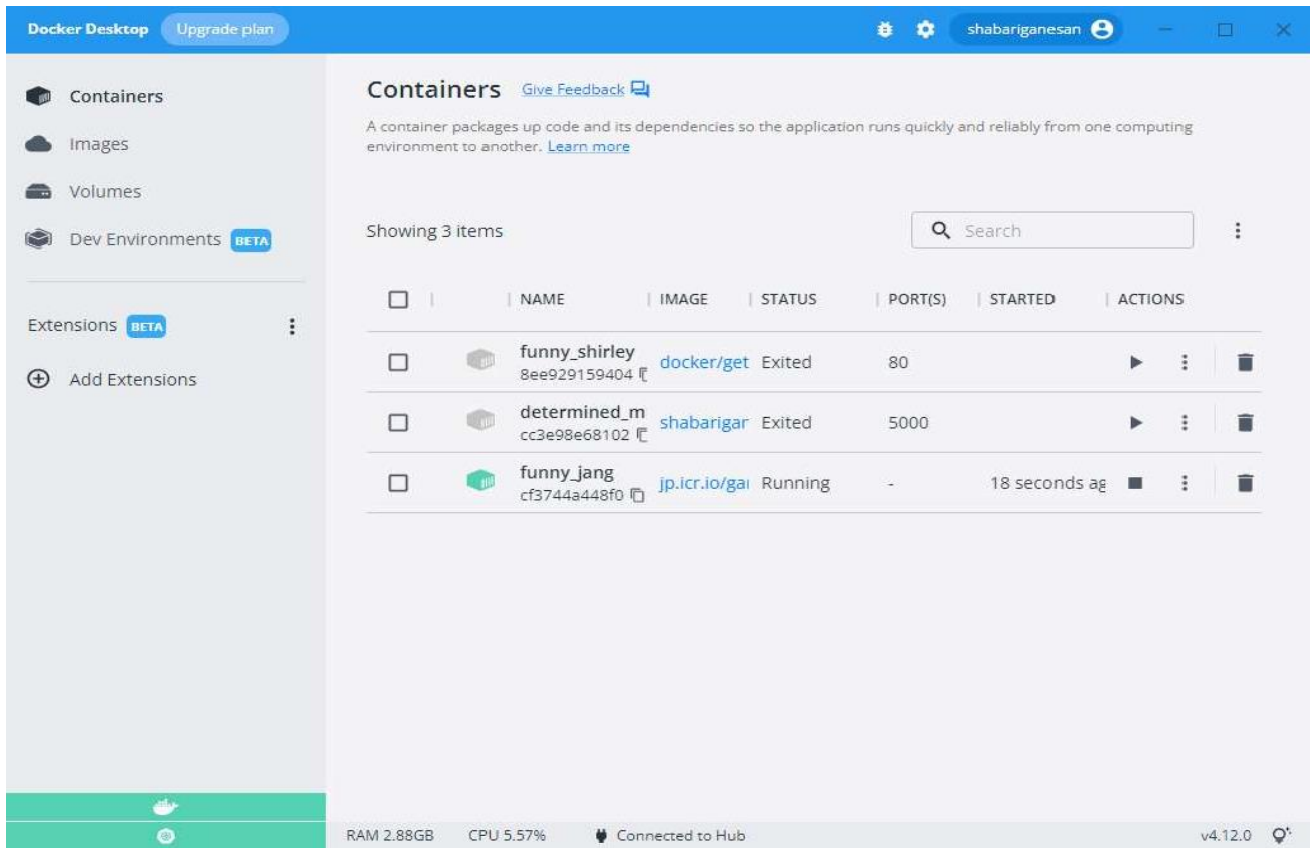
The taskbar at the bottom shows various application icons, including a search bar, file explorer, and web browsers.

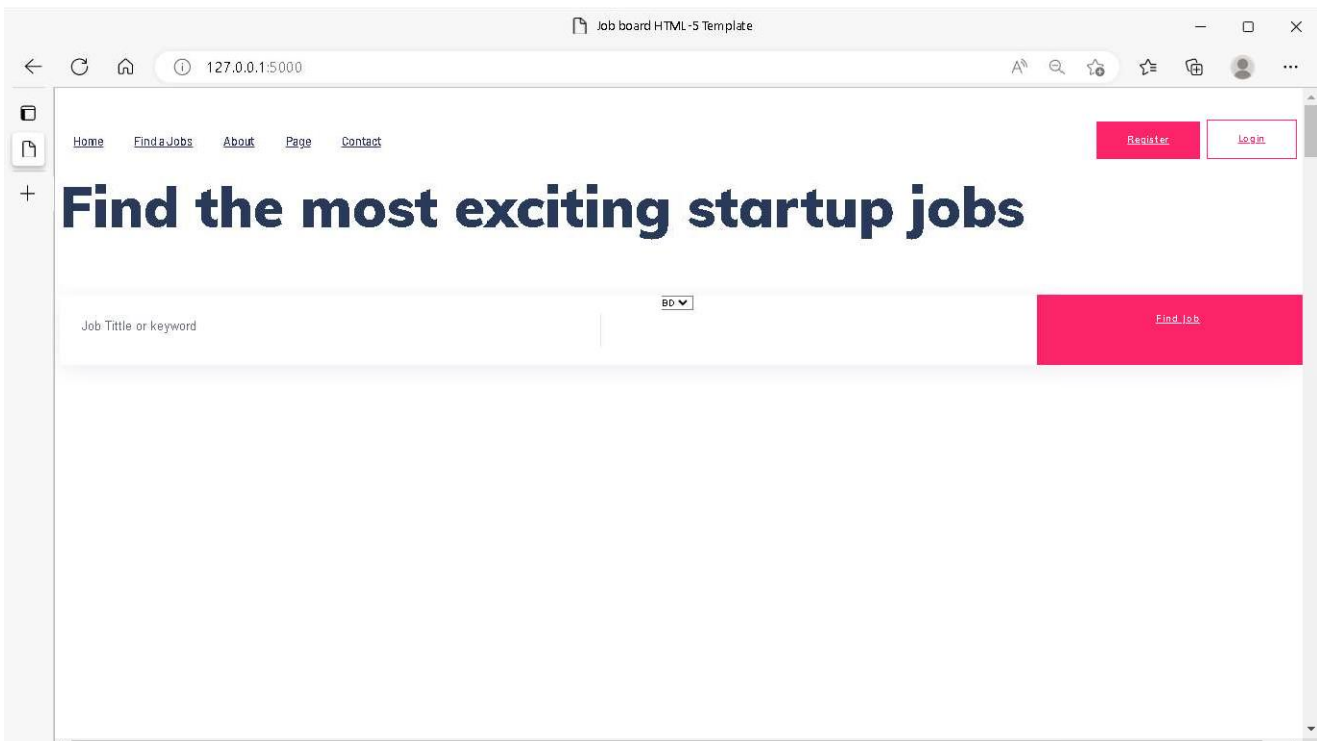
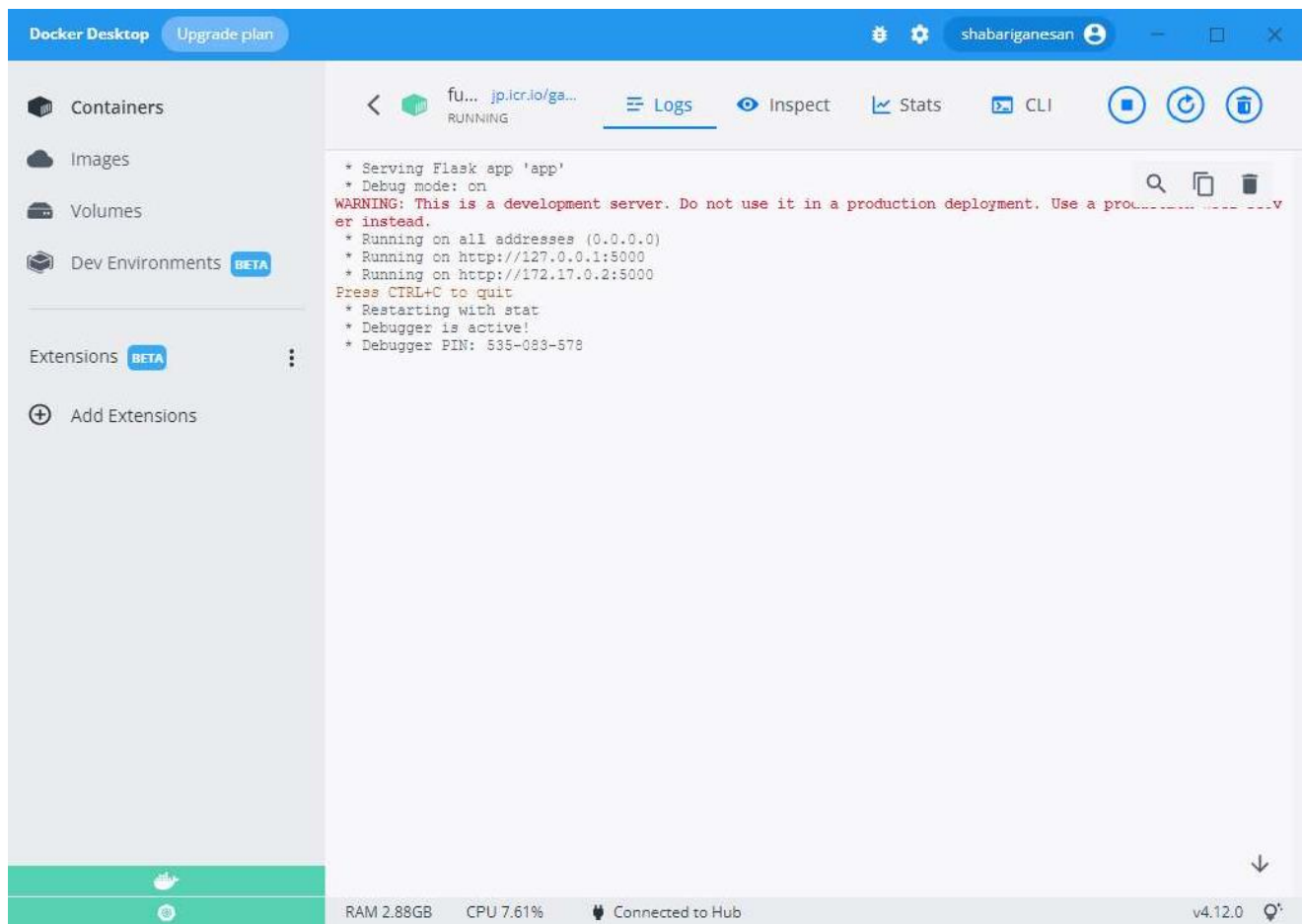
### 2) deploy in in dokcer application



The screenshot shows a Windows command prompt window titled "Select C:\Windows\System32\cmd.exe". The user is in the directory "C:\Users\gani\Desktop\job\_portal". The user enters the command "docker build -t job\_portal", which results in an error: "docker build requires exactly 1 argument. See 'docker build --help'". The user then enters "Usage: docker build [OPTIONS] PATH | URL | -" and "Build an image from a Dockerfile". The user then enters "C:\Users\gani\Desktop\job\_portal>dir", which shows the directory contents: "Volume in drive C has no label. Volume Serial Number is B6A3-1D88. Directory of C:\Users\gani\Desktop\job\_portal. 10/25/2022 04:53 PM <DIR> . 10/25/2022 04:53 PM <DIR> .. 10/25/2022 04:11 PM 329 app.py 10/22/2022 10:40 PM 140 Dockerfile 10/22/2022 10:40 PM 5 requirements.txt 10/22/2022 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". The user then enters "C:\Users\gani\Desktop\job\_portal>docker build -t job\_portal.", which results in an error: "invalid argument 'job\_portal.' for '-t, --tag' flag: invalid reference format. See 'docker build --help'". The user then enters "C:\Users\gani\Desktop\job\_portal>docker build -t job\_portal .", which results in the following output: "[+] Building 463.6s (11/11) FINISHED => [internal] load build definition from Dockerfile 3.2s => => transferring dockerfile: 179B 0.8s => [internal] load .dockerignore 2.5s => => transferring context: 2B 0.1s => [internal] load metadata for docker.io/library/python:3.10.6 16.6s => [auth] library/python:pull token for registry-1.docker.io 0.0s => [1/5] FROM docker.io/library/python:3.10.6@sha256:745e9dfb7e44ac9a9422bd8c62d8bc35a693e9979a248d29677cb03e6aa91052 413.8s => => resolve docker.io/library/python:3.10.6@sha256:745e9dfb7e44ac9a9422bd8c62d8bc35a693e9979a248d29677cb03e6aa91052 0.0s".

```
Select C:\Windows\System32\cmd.exe
[internal] load build definition from Dockerfile
=> transferring dockerfile: 179B
[internal] load .dockerignore
=> transferring context: 2B
[internal] load metadata for docker.io/library/python:3.10.6
[auth] library/python:pull token for registry-1.docker.io
[1/5] FROM docker.io/library/python:3.10.6@sha256:745efdfb7e4aac9a0422bd8c62d8bc35a693e0979a246d29677cb03e6aa91052
=> resolve docker.io/library/python:3.10.6@sha256:745efdfb7e4aac9a0422bd8c62d8bc35a693e0979a246d29677cb03e6aa91052
=> sha256:745efdfb7e4aac9a0422bd8c62d8bc35a693e0979a246d29677cb03e6aa91052 2.35kB / 2.35kB
=> sha256:8d1f943ceaa7f3b3ce95df5c0926e795081db040b70b176bf9c56d0f37ac13fca 2.22kB / 2.22kB
=> sha256:d25e6908b10281693f4696d7770ba5c0b0126f0b07d11009574040bcf8a 8.53kB / 8.53kB
=> sha256:1671565cc8df8c365c0b61d3fbc164e73d01f1b0430c6179508420f99a9da2e 55.81MB / 55.81MB
=> sha256:fa0c7528c685216129e0e67bf36217703e7b1da5961b05546a41508830657d0 10.80MB / 10.80MB
=> sha256:3e94d12e5e7a4ef17ff21376f57fb95c7e1706931f8704a309260968d81f6e4 5.16MB / 5.16MB
=> sha256:53ad072f9cd16fc0eb93b182b20e758e11acc0ef60babef0bf1043c08de1901a 54.58MB / 54.58MB
=> sha256:d6b983117533b718374f1701ef593dd22fa6613c7908c6553be8e2a150e6448a 196.79MB / 196.79MB
=> sha256:d8092d56ded5476fe7c302256eb4dc6ff495ae0fb4dd28aa18dbcb7581e24a6c 6.29MB / 6.29MB
=> extracting sha256:1671565cc8df8c365c0b61d3fbc164e73d01f1b0430c6179508420f99a9da2e 23.4s
=> sha256:c71afc637d59adc44c5fd3c348504df82b35bbb204f0057ea22c6ac8a1d285a5 20.02MB / 20.02MB
=> sha256:864a10b3c704553e08cb5fcd12fbaee1c07049f6365f0fa35e84a285413da40b 234B / 234B
=> sha256:4334b2fe8293d19ddc1c3550093aae08f21601a7c85a31c6da6c0dc40fb0ed3c 3.04MB / 3.04MB
=> extracting sha256:3e94d12e5e7a4ef17ff21376f57fb95c7e1706931f8704a309260968d81f6e4 2.3s
=> extracting sha256:fa9c7528c685216129e0e67bf36217703e7b1da5961b05546a41508830657d0 3.0s
=> extracting sha256:53ad072f9cd16fc0eb93b182b20e758e11acc0ef60babef0bf1043c08de1901a 21.2s
=> extracting sha256:d6b983117533b718374f1701ef593dd22fa6613c7908c6553be8e2a150e6448a 30.8s
=> extracting sha256:d8092d56ded5476fe7c302256eb4dc6ff495ae0fb4dd28aa18dbcb7581e24a6c 3.3s
=> extracting sha256:c71afc637d59adc44c5fd3c348504df82b35bbb204f0057ea22c6ac8a1d285a5 3.4s
=> extracting sha256:864a10b3c704553e08cb5fcd12fbaee1c07049f6365f0fa35e84a285413da40b 0.8s
=> extracting sha256:4334b2fe8293d19ddc1c3550093aae08f21601a7c85a31c6da6c0dc40fb0ed3c 1.2s
[internal] load build context
=> transferring context: 526.95kB
[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:c450817622a28f1173f9d9da336f8fce5d470a73c535863d970081ba398152d7
=> naming to docker.io/library/job_portal
Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them
C:\Users\ganil\Desktop\job_portal>
```





running in docker desktop 1



### Question-3: Create albm 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% 2s
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% 1s
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

54acb5a6fa0b: Retrying in 1 second
8d51c618126f: Retrying in 1 second
9ff6e4d46744: Waiting
a89d1d47b5a1: Waiting
655ed1b7a428: Waiting
Failed to lookup host: jp.icr.io

C:\Users\gan1\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]
15e3b158a025: Layer already exists
8be94fb5e186: Pushed
48c2a7a4c12b: Layer already exists
9b72c7835466: Layer already exists
bfc1deb8136e: Layer already exists
1f123186824c: Layer already exists
3d6eb1152931: Pushed
100796cdf3b1: Pushed
54acb5a6fa0b: Retrying in 1 second
8d51c618126f: Pushed
9ff6e4d46744: Pushed
a89d1d47b5a1: Pushed
655ed1b7a428: Pushing [=====] 89.98MB/124MB
^C
C:\Users\gan1\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]
15e3b158a025: Layer already exists
8be94fb5e186: Layer already exists
48c2a7a4c12b: Layer already exists
9b72c7835466: Layer already exists
bfc1deb8136e: Layer already exists
1f123186824c: Layer already exists
3d6eb1152931: Layer already exists
100796cdf3b1: Layer already exists
54acb5a6fa0b: Pushed
8d51c618126f: Layer already exists
9ff6e4d46744: Layer already exists
a89d1d47b5a1: Layer already exists
655ed1b7a428: Pushed
latest: digest: sha256:e93189a7c97eeb09d86668a54e896cf61aa6eda039998c8c7a2147a7963fc287 size: 3052

C:\Users\gan1\Desktop\job_portal>
C:\Users\gan1\Desktop\job_portal>
```

IBM Cloud

Container Registry

Quick start

Namespaces 6

**Repositories 2**

Images 2

Trash 0

Settings

## 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/newnamtspace/docker_with_flask_form	1	newnamtspace	4 days

Items per page: 25 1-2 of 2 items 1 1 of 1 page

IBM\_Cloud\_CLI\_2.1....exe Show all

IBM Cloud

Search resources and products...

Container Registry

Quick start

Namespaces 6

Repositories 2

**Images 2**

Trash 0

Settings

## Images

Location: Tokyo

View by: Digest Search

Create +

Repository@digest	Tags	Manifest type	Created	Size	Security status
ganeshjob/job_portal@sha256:e93189a7c97e...	latest	Docker	1 day ago	356 MB	23 issues
newnamtspace/docker_with_flask_form@sha256:c61f28873bf1...	latest	Docker	4 days ago	356 MB	23 issues

Items per page: 25 1-2 of 2 items 1 1 of 1 page

IBM\_Cloud\_CLI\_2.1....exe Show all



#### Question-4: Create a kubernetes cluster in ibm cloud

The screenshot displays the IBM Cloud Kubernetes dashboard. The top navigation bar includes the IBM Cloud logo, a search icon, and links to 'Catalog', 'Manage', and 'Ganesan S's Account'. The main header shows the cluster name 'mycluster-free' with a status of 'Normal' and a warning 'Expires in 29 days'. A 'Kubernetes dashboard' button is visible. On the left sidebar, 'Worker nodes' is selected under the 'Overview' section. The main content area shows a table of worker nodes with the following data:

Name	Status	Worker pool	Zone	Private IP	Public IP	Version
00000069	Normal	default	Milan 01	10.144.214.76	159.122.175.138	1.23.12_1548

At the bottom of the dashboard, there are controls for 'Items per page' (set to 25) and pagination (showing '1 of 1 item'). The Windows taskbar at the very bottom shows the time as 8:49 PM on 10/25/2022.