ASSIGNMENT 4

PROJECT TITLE	SKILL JOB RECOMENDER
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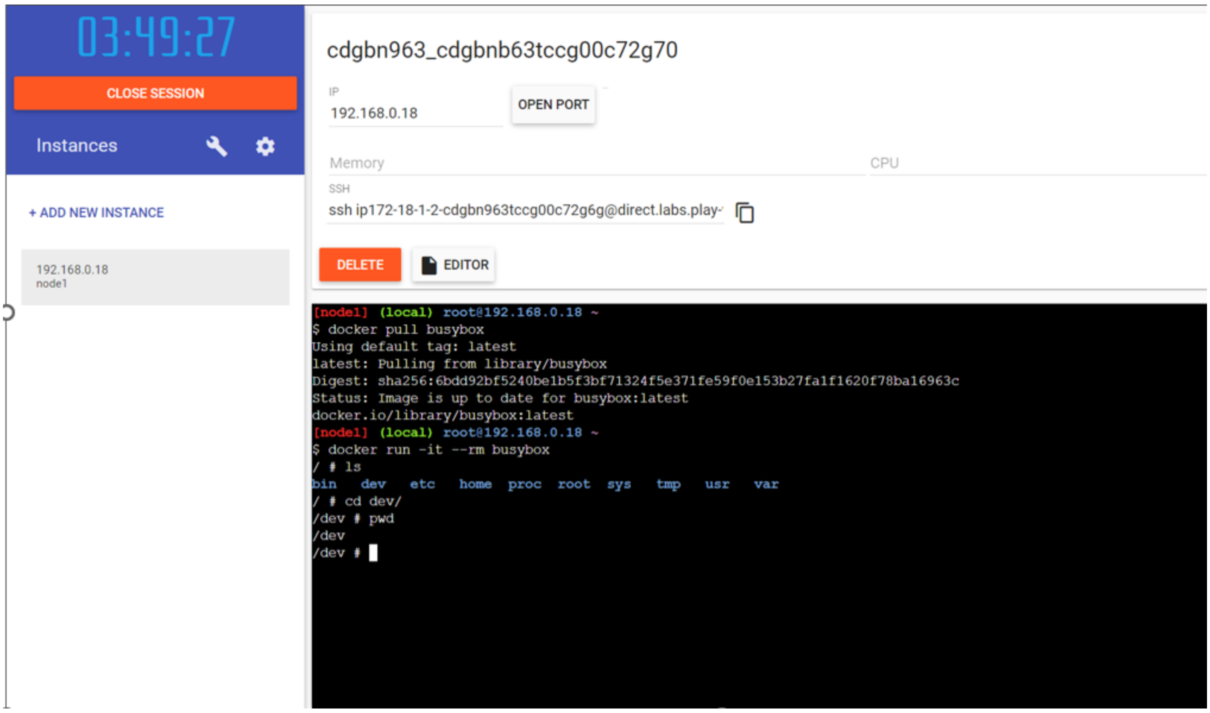
MARKS	2 MARKS

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



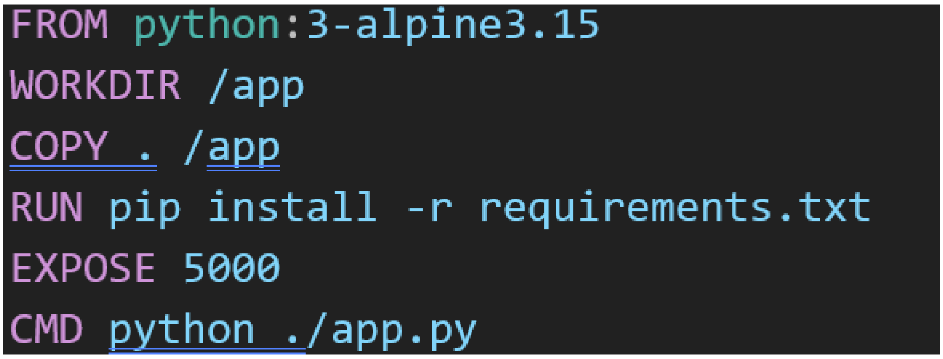
cdgbn963_cdgbnb63tccg00c72g70

IP: 192.168.0.18

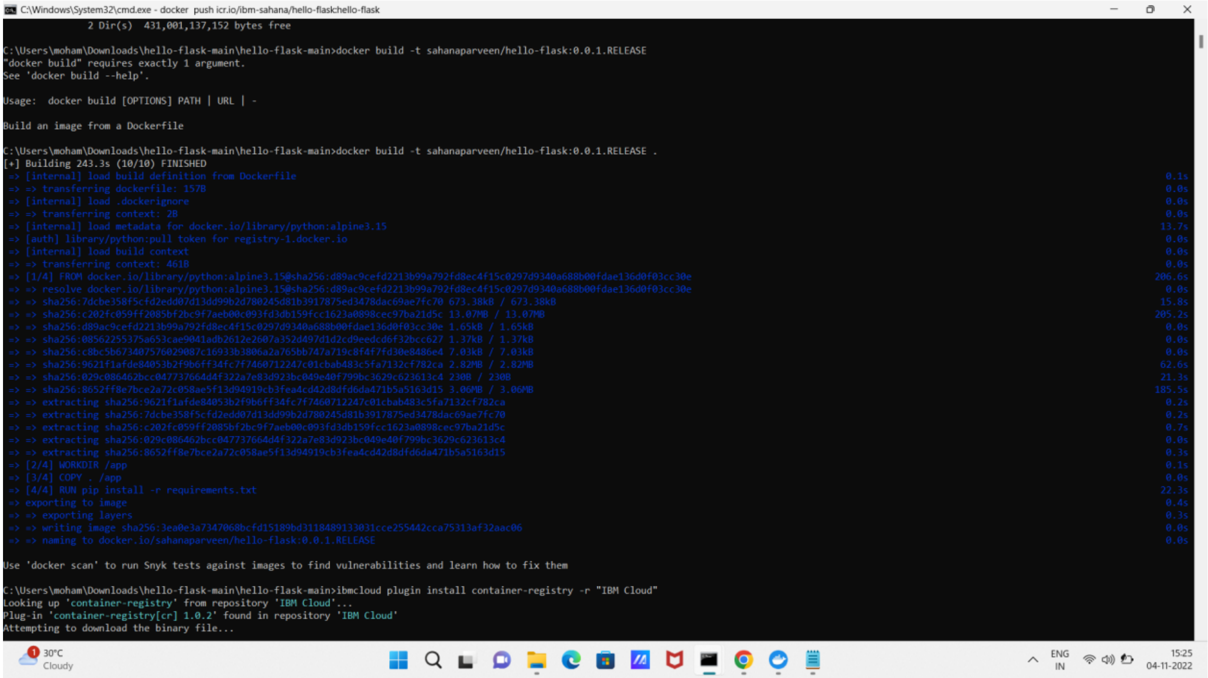
SSH: ssh ip172-18-1-2-cdgbn963tccg00c72g6g@direct.labs.play-

```
[node1] (local) root@192.168.0.18 ~
$ docker pull busybox
Using default tag: latest
latest: Pulling from library/busybox
Digest: sha256:6bdd92bf5240be1b5f3bf71324f5e371fe59f0e153b27fa1f1620f78ba16963c
Status: Image is up to date for busybox:latest
docker.io/library/busybox:latest
[node1] (local) root@192.168.0.18 ~
$ docker run -it --rm busybox
/ # ls
bin   dev   etc   home  proc  root  sys   tmp   usr   var
/ # cd dev/
/dev # pwd
/dev
/dev #
```

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

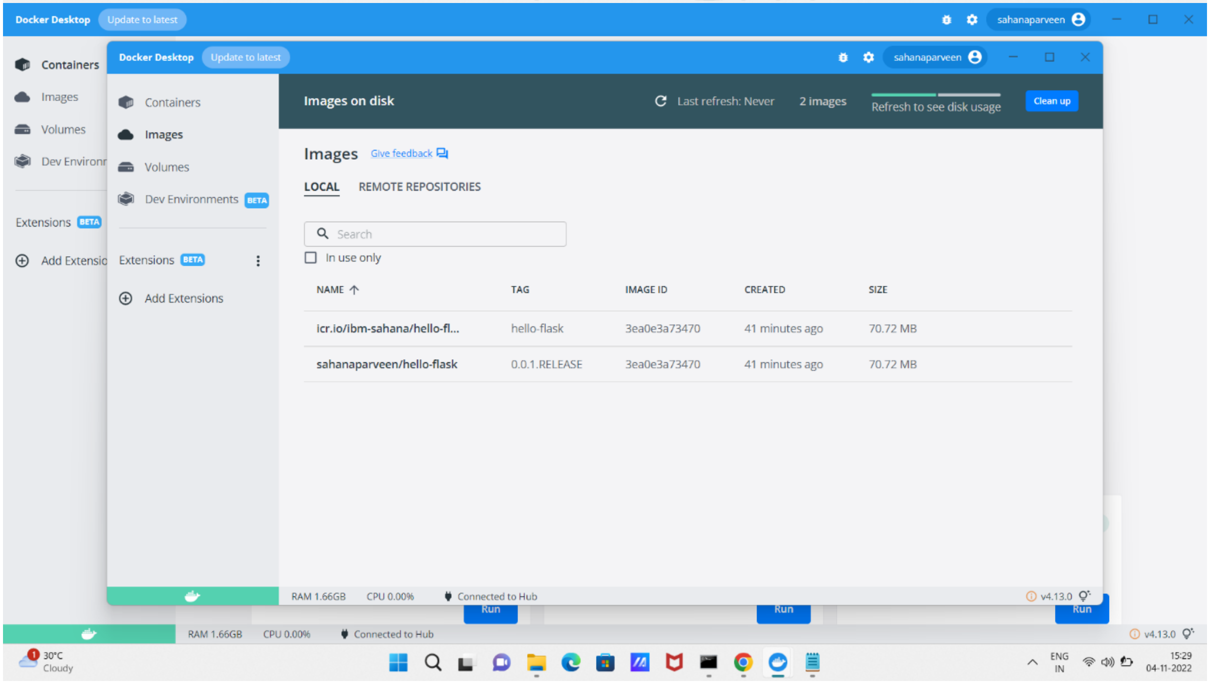


```
FROM python:3-alpine3.15
WORKDIR /app
COPY . /app
RUN pip install -r requirements.txt
EXPOSE 5000
CMD python ./app.py
```



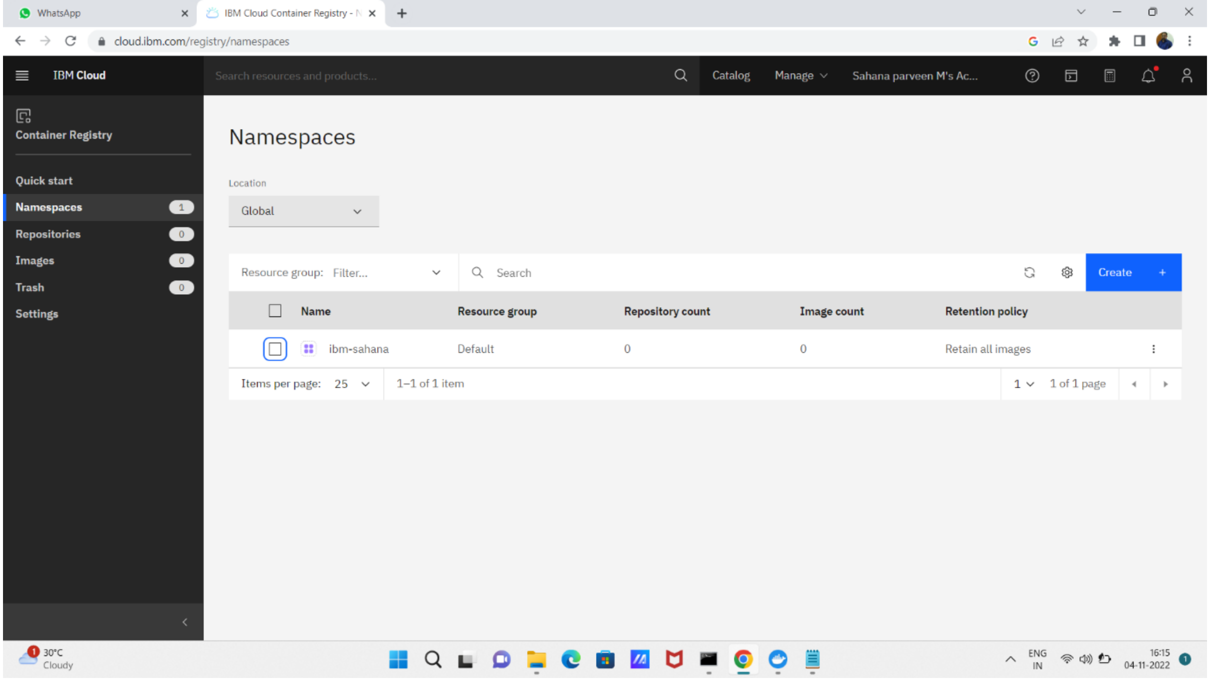
C:\Windows\System32\cmd.exe - docker push icr.io/ibm-sahana/hello-flask:hello-flask

```
               2 Dir(s)  431,001,137,152 bytes free

C:\Users\moham\Downloads\hello-flask-main\hello-flask-main>docker build -t sahanaparveen/hello-flask:0.0.1.RELEASE
"docker build" requires exactly 1 argument.
See 'docker build --help'.

Usage:  docker build [OPTIONS] PATH | URL | -

Build an image from a Dockerfile

C:\Users\moham\Downloads\hello-flask-main\hello-flask-main>docker build -t sahanaparveen/hello-flask:0.0.1.RELEASE .
[+] Building 243.3s (10/10) FINISHED
 => [internal] load build definition from Dockerfile                                                          0.1s
 => => transferring dockerfile: 157B                                                                          0.0s
 => [internal] load .dockerignore                                                                             0.0s
 => => transferring context: 2B                                                                               0.0s
 => [internal] load metadata for docker.io/library/python:alpine3.15                                         13.7s
 => [auth] library/python:pull token for registry-1.docker.io                                                 0.0s
 => [internal] load build context                                                                             0.0s
 => => transferring context: 461B                                                                             0.0s
 => [1/4] FROM docker.io/library/python:alpine3.15@sha256:d89ac9cefd2213b99a792fd8ec4f15c0297d9340a688b00fdae136d0f03cc30e  206.6s
 => => resolve docker.io/library/python:alpine3.15@sha256:d89ac9cefd2213b99a792fd8ec4f15c0297d9340a688b00fdae136d0f03cc30e    0.0s
 => => sha256:7dcbe358f5cfd2edd07d13dd99b2d780245d81b3917875ed3478dac69ae7fc70 673.38kB / 673.38kB           15.8s
 => => sha256:c202fc059ff2085bf2bc9f7aeb00c093fd3db159fcc1623a0898cec97ba21d5c 13.07MB / 13.07MB            205.2s
 => => sha256:d89ac9cefd2213b99a792fd8ec4f15c0297d9340a688b00fdae136d0f03cc30e 1.65kB / 1.65kB                0.0s
 => => sha256:08562255375a653cae9041adb2612e2607a352d497d1d2cd9eedcd6f32bcc627 1.37kB / 1.37kB                0.0s
 => => sha256:c8bc5b673407576029087c16933b3806a2a765bb747a719c8f4f7fd30e8486e4 7.03kB / 7.03kB                0.0s
 => => sha256:9621f1afde84053b2f9b6ff34fc7f7460712247c01cbab483c5fa7132cf782ca 2.82MB / 2.82MB               62.6s
 => => sha256:029c086462bcc047737664d4f322a7e83d923bc049e40f799bc3629c623613c4 230B / 230B                   21.3s
 => => sha256:8652ff8e7bce2a72c058ae5f13d94919cb3fea4cd42d8dfd6da471b5a5163d15 3.06MB / 3.06MB              185.5s
 => => extracting sha256:9621f1afde84053b2f9b6ff34fc7f7460712247c01cbab483c5fa7132cf782ca                     0.2s
 => => extracting sha256:7dcbe358f5cfd2edd07d13dd99b2d780245d81b3917875ed3478dac69ae7fc70                     0.2s
 => => extracting sha256:c202fc059ff2085bf2bc9f7aeb00c093fd3db159fcc1623a0898cec97ba21d5c                     0.7s
 => => extracting sha256:029c086462bcc047737664d4f322a7e83d923bc049e40f799bc3629c623613c4                     0.0s
 => => extracting sha256:8652ff8e7bce2a72c058ae5f13d94919cb3fea4cd42d8dfd6da471b5a5163d15                     0.3s
 => [2/4] WORKDIR /app                                                                                        0.1s
 => [3/4] COPY . /app                                                                                         0.0s
 => [4/4] RUN pip install -r requirements.txt                                                                22.3s
 => exporting to image                                                                                        0.4s
 => => exporting layers                                                                                       0.3s
 => => writing image sha256:3ea0e3a7347068bcfd15189bd3118489133031cce255442cca75313af32aac06                  0.0s
 => => naming to docker.io/sahanaparveen/hello-flask:0.0.1.RELEASE                                            0.0s

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

C:\Users\moham\Downloads\hello-flask-main\hello-flask-main>ibmcloud plugin install container-registry -r "IBM Cloud"
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...
```



NAME ↑	TAG	IMAGE ID	CREATED	SIZE
icr.io/ibm-sahana/hello-fl...	hello-flask	3ea0e3a73470	41 minutes ago	70.72 MB
sahanaparveen/hello-flask	0.0.1.RELEASE	3ea0e3a73470	41 minutes ago	70.72 MB

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



Namespaces

Location: Global

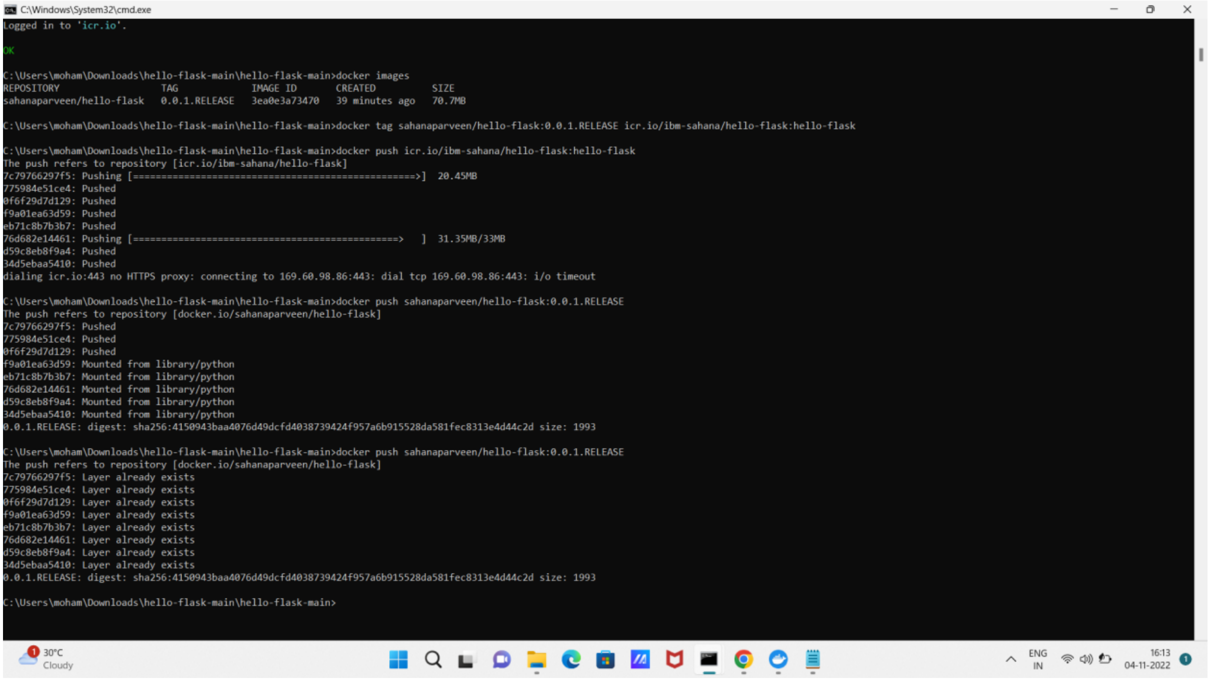
Resource group: Filter...

Search

Create +

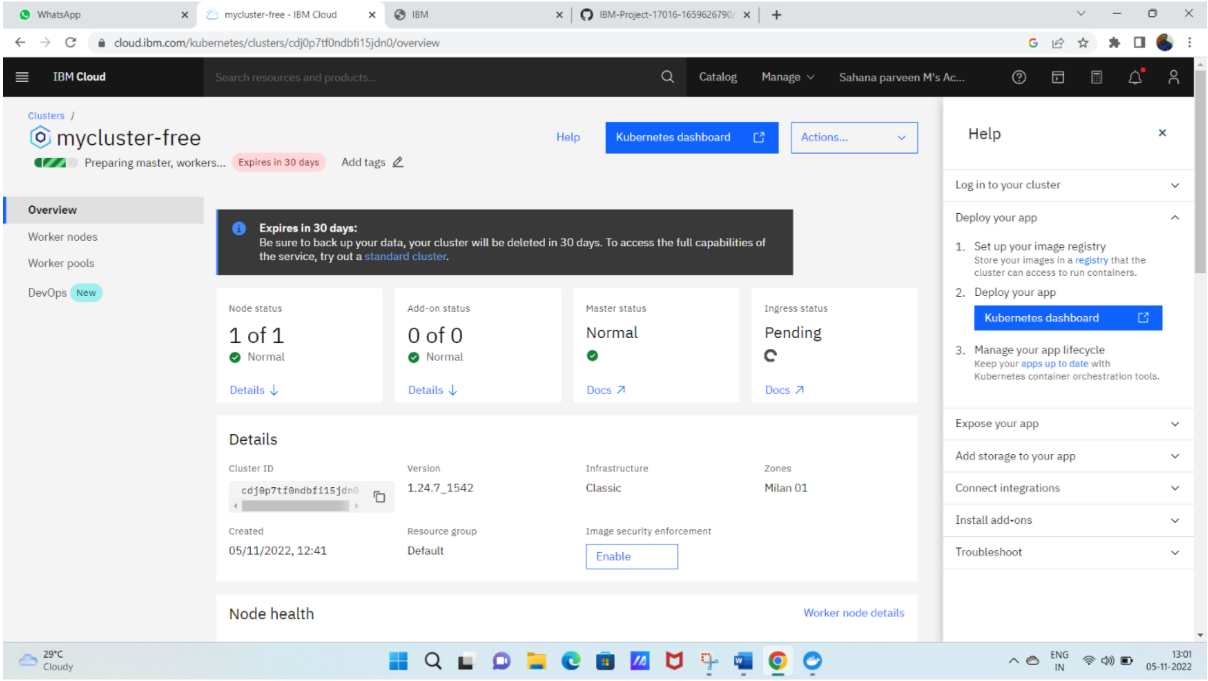
Name	Resource group	Repository count	Image count	Retention policy
ibm-sahana	Default	0	0	Retain all images

Items per page: 25 | 1–1 of 1 item | 1 | 1 of 1 page



```
Logged in to 'icr.io'.

OK

C:\Users\moham\Downloads\hello-flask-main\hello-flask-main>docker images
REPOSITORY               TAG             IMAGE ID       CREATED          SIZE
sahanaparveen/hello-flask   0.0.1.RELEASE   3ea0e3a73470   39 minutes ago   70.7MB

C:\Users\moham\Downloads\hello-flask-main\hello-flask-main>docker tag sahanaparveen/hello-flask:0.0.1.RELEASE icr.io/ibm-sahana/hello-flask:hello-flask

C:\Users\moham\Downloads\hello-flask-main\hello-flask-main>docker push icr.io/ibm-sahana/hello-flask:hello-flask
The push refers to repository [icr.io/ibm-sahana/hello-flask]
7c79766297f5: Pushing [==================================================>]  20.45MB
775984e51ce4: Pushed
0f6f29d7d129: Pushed
f9a01ea63d59: Pushed
eb71c8b7b3b7: Pushed
76d682e14461: Pushing [================================================>   ]  31.35MB/33MB
d59c8eb8f9a4: Pushed
34d5ebaa5410: Pushed
dialing icr.io:443 no HTTPS proxy: connecting to 169.60.98.86:443: dial tcp 169.60.98.86:443: i/o timeout

C:\Users\moham\Downloads\hello-flask-main\hello-flask-main>docker push sahanaparveen/hello-flask:0.0.1.RELEASE
The push refers to repository [docker.io/sahanaparveen/hello-flask]
7c79766297f5: Pushed
775984e51ce4: Pushed
0f6f29d7d129: Pushed
f9a01ea63d59: Mounted from library/python
eb71c8b7b3b7: Mounted from library/python
76d682e14461: Mounted from library/python
d59c8eb8f9a4: Mounted from library/python
34d5ebaa5410: Mounted from library/python
0.0.1.RELEASE: digest: sha256:4150943baa4076d49dcfd4038739424f957a6b915528da581fec8313e4d44c2d size: 1993

C:\Users\moham\Downloads\hello-flask-main\hello-flask-main>docker push sahanaparveen/hello-flask:0.0.1.RELEASE
The push refers to repository [docker.io/sahanaparveen/hello-flask]
7c79766297f5: Layer already exists
775984e51ce4: Layer already exists
0f6f29d7d129: Layer already exists
f9a01ea63d59: Layer already exists
eb71c8b7b3b7: Layer already exists
76d682e14461: Layer already exists
d59c8eb8f9a4: Layer already exists
34d5ebaa5410: Layer already exists
0.0.1.RELEASE: digest: sha256:4150943baa4076d49dcfd4038739424f957a6b915528da581fec8313e4d44c2d size: 1993

C:\Users\moham\Downloads\hello-flask-main\hello-flask-main>
```

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.



mycluster-free

Preparing master, workers... Expires in 30 days Add tags

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	Add-on status	Master status	Ingress status
1 of 1 Normal	0 of 0 Normal	Normal	Pending
Details	Details	Docs	Docs

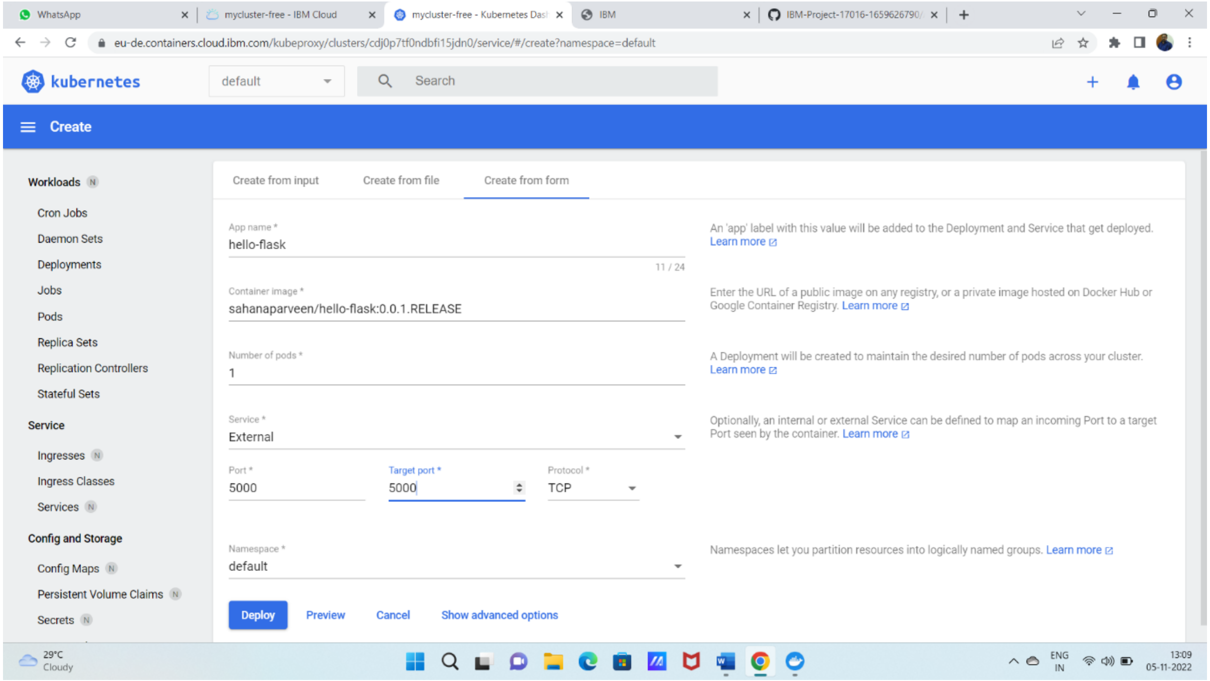
Details

Cluster ID	Version	Infrastructure	Zones
cdj0p7tf0ndbfi15jdn0	1.24.7_1542	Classic	Milan 01
Created	**Resource group**	**Image security enforcement**	
05/11/2022, 12:41	Default	Enable	

Node health Worker node details

Help

- Log in to your cluster
- Deploy your app
  1. Set up your image registry
     Store your images in a registry that the cluster can access to run containers.
  2. Deploy your app
     Kubernetes dashboard
  3. Manage your app lifecycle
     Keep your apps up to date with Kubernetes container orchestration tools.
- Expose your app
- Add storage to your app
- Connect integrations
- Install add-ons
- Troubleshoot



Create from input | Create from file | Create from form

App name * hello-flask 11 / 24
An 'app' label with this value will be added to the Deployment and Service that get deployed. Learn more

Container image * sahanaparveen/hello-flask:0.0.1.RELEASE
Enter the URL of a public image on any registry, or a private image hosted on Docker Hub or Google Container Registry. Learn more

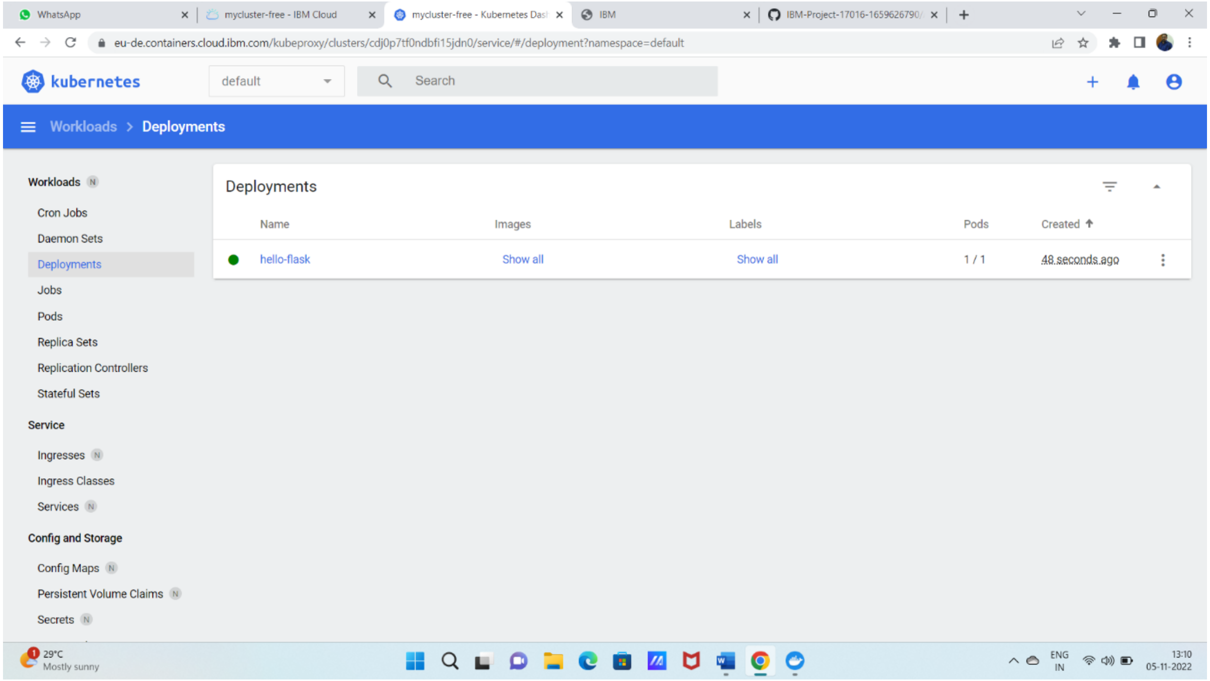
Number of pods * 1
A Deployment will be created to maintain the desired number of pods across your cluster. Learn more

Service * External
Optionally, an internal or external Service can be defined to map an incoming Port to a target Port seen by the container. Learn more

Port * 5000 Target port * 5000 Protocol * TCP

Namespace * default
Namespaces let you partition resources into logically named groups. Learn more

Deploy Preview Cancel Show advanced options



Deployments

	Name	Images	Labels	Pods	Created ↑
●	hello-flask	Show all	Show all	1 / 1	48 seconds ago