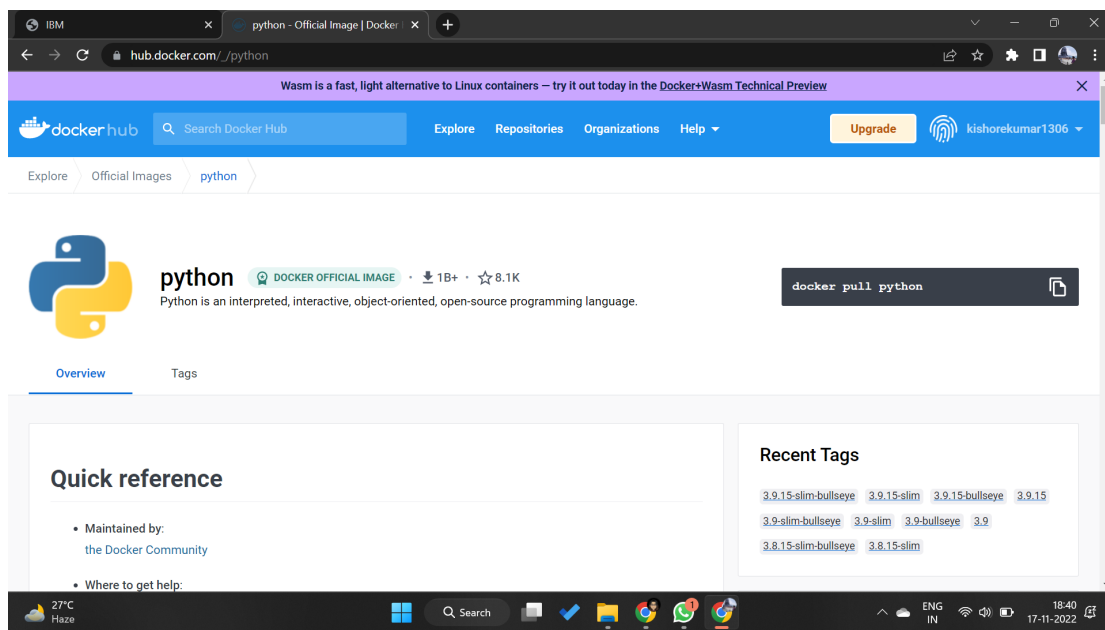


ASSIGNMENT 4

Team ID	PNT2022TMID17803
Project Name	Plasma Donor Application
Student ID	713319CS508
Student Name	Dinesh Kumar C

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

Selecting Python to be the the image to run on docker

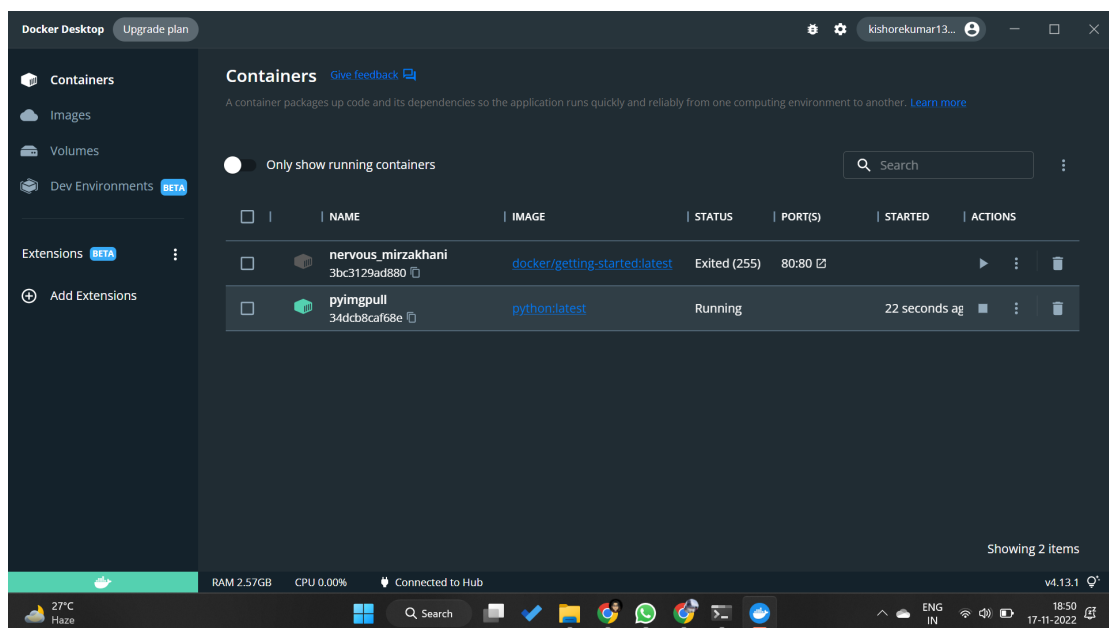
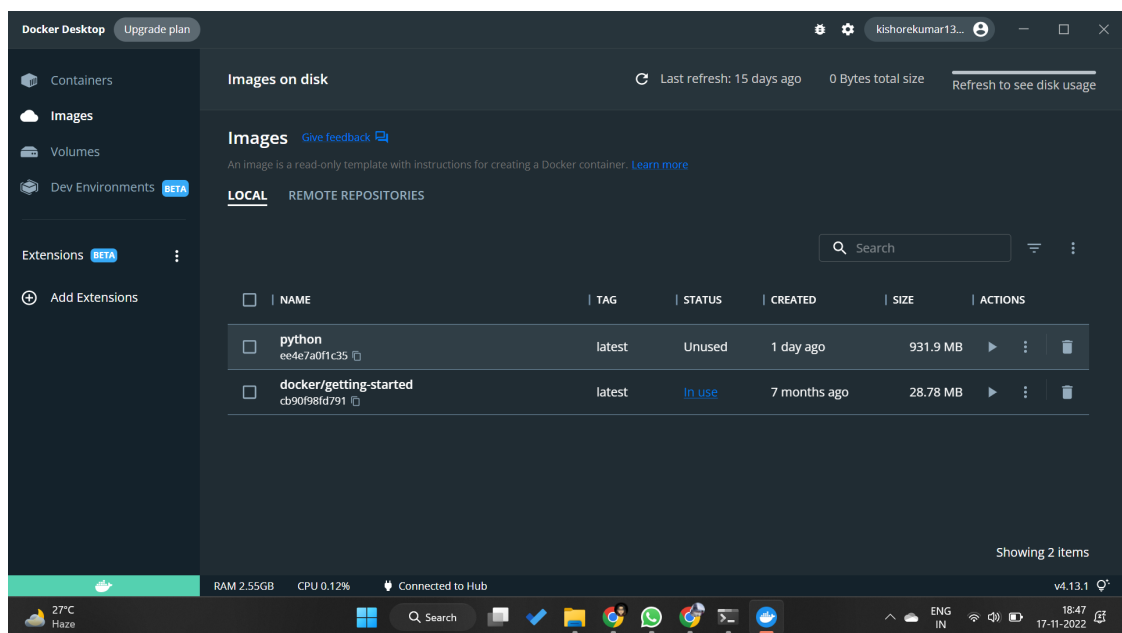


```
Command Prompt
C:\Users\abhis>docker -v
Docker version 20.10.20, build 9fdeb9c

C:\Users\abhis>docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
docker/getting-started latest             cb90f98fd791       7 months ago       28.8MB

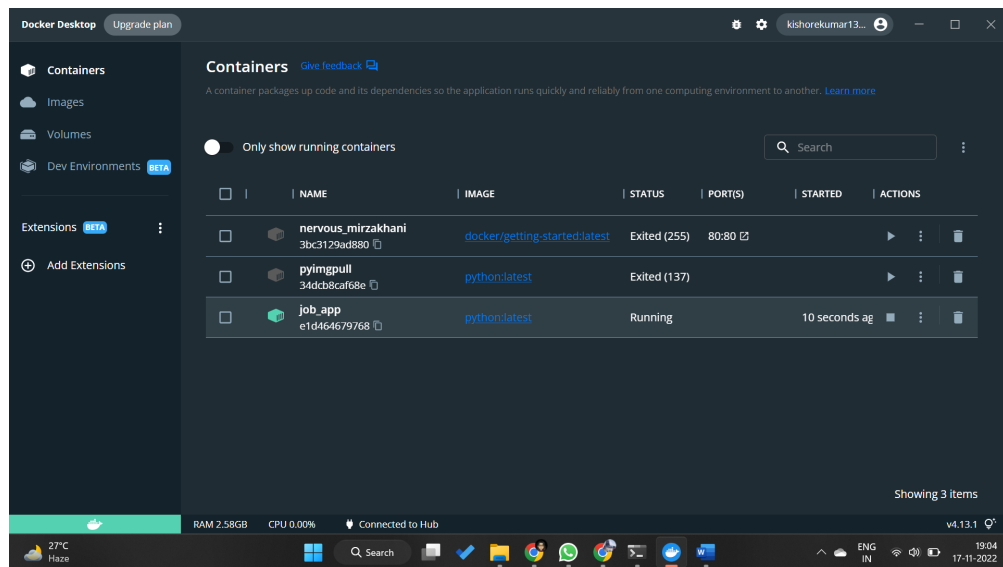
C:\Users\abhis>docker pull python
Using default tag: latest
latest: Pulling from library/python
a8ca11554fce: Downloading [=====>] 3.238MB/54.59MB
a8ca11554fce: Pull complete
e4e46864aba2: Pull complete
c85a0be79bfb: Pull complete
195ea6a58ca8: Pull complete
157f16ed0a0c: Pull complete
884b144bec28: Pull complete
1c469643b609: Pull complete
4c0ac982aa89: Pull complete
049db2c7eb8a: Pull complete
Digest: sha256:10fc14aa6ae69f69e4c953cfff9b0964843d8c163950491d2138af891377bc1d
Status: Downloaded newer image for python:latest
docker.io/library/python:latest

C:\Users\abhis>
```



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

```
Command Prompt - docker t x + v
C:\Users\abhis\OneDrive\Desktop\plasmadonor>docker build -t plasmadonor .
[+] Building 105.9s (5/11)
=> [internal] load build definition from Dockerfile                                0.1s
=> => transferring dockerfile: 231B                                              0.0s
=> [internal] load .dockerignore                                                  0.0s
=> => transferring context: 2B                                                    0.0s
=> [internal] load metadata for docker.io/library/python:3.7                    3.3s
=> [auth] library/python-pull token for registry-1.docker.io                    0.0s
=> [1/6] FROM docker.io/library/python:3.7@sha256:cb158b66aaaf68b642eea2246a9a4dccc6bc39bc634dccc43812ae44807c70765 102.3s
=> resolve docker.io/library/python:3.7@sha256:cb158b66aaaf68b642eea2246a9a4dccc6bc39bc634dccc43812ae44807c70765 0.0s
=> sha256:3a36461b4ff4bafba3bf307fce984e1eac3abb1fb8cd55a651b807ce5569297 9.28kB / 9.28kB 0.0s
=> sha256:a8ca11554fce0d9177da2d76307bdc86df7faeb84529755c648ac4886192ed1 55.84MB / 55.84MB 47.3s
=> sha256:cb158b66aaaf68b642eea2246a9a4dccc6bc39bc634dccc43812ae44807c70765 1.86kB / 1.86kB 0.0s
=> sha256:d41170782e7b8af8a0516fd2eb0c9a7a5b421b2db9f9ae784ac4bd187e62d5ac 2.22kB / 2.22kB 0.0s
=> sha256:e4e46864aba2e62ba7c75965e4aa33ec856ee1b1074dda6b478101c577b63abd 5.16MB / 5.16MB 7.7s
=> sha256:c85a0be79bfba389d1f05dc40b447aa82b604593531fed1e7e12e4bef63483a5 10.88MB / 10.88MB 6.0s
=> sha256:195ea6a58ca87a18477965a6e6a8623112bde82c5b568a29c56ce4581b6e6695 54.59MB / 54.59MB 47.7s
=> sha256:157f16ed0a0c119e5015d22d95fd158bf9e85654611b870b79cca3987442948b 196.87MB / 196.87MB 100.0s
=> sha256:884bf144bc286b456b1cd694cc6ad0c07c3619b3b84069c4ec575fe213e94a7e 6.29MB / 6.29MB 53.5s
=> sha256:a8f174ae68ca6d7778ef4d377ec338a1a68db064e2685a0f7c6a8e5004b861 15.48MB / 15.48MB 60.4s
=> extracting sha256:a8ca11554fce0d9177da2d76307bdc86df7faeb84529755c648ac4886192ed1 5.1s
=> extracting sha256:e4e46864aba2e62ba7c75965e4aa33ec856ee1b1074dda6b478101c577b63abd 0.5s
=> sha256:94104985f76f2a8ed7293507864cf92fbbf60c291b4e6ffffbdca99172ac21bda 232B / 232B 53.9s
=> extracting sha256:c85a0be79bfba389d1f05dc40b447aa82b604593531fed1e7e12e4bef63483a5 0.5s
=> sha256:cdda08bedd6608f9b956ae1dc1cfa708a2f205d66f75bce5b1a3844b85976 2.89MB / 2.89MB 57.2s
=> extracting sha256:195ea6a58ca87a18477965a6e6a8623112bde82c5b568a29c56ce4581b6e6695 9.0s
=> extracting sha256:157f16ed0a0c119e5015d22d95fd158bf9e85654611b870b79cca3987442948b 2.0s
=> [internal] load build context                                                19.4s
=> => transferring context: 109.47MB                                           19.4s
```



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

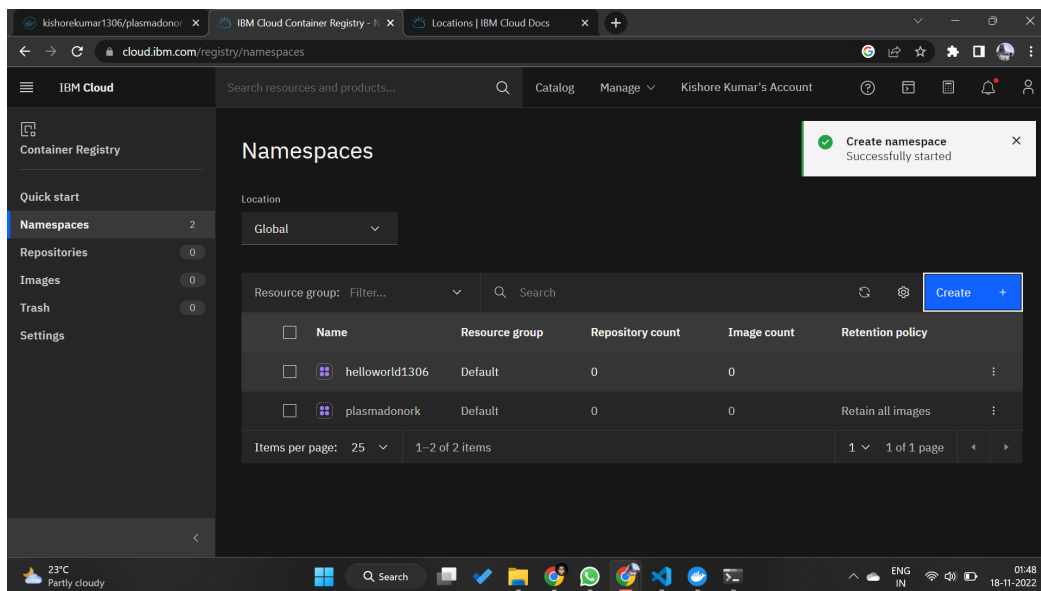
```
Command Prompt
regions      List all the regions
resource     Manage resource groups and resources
resources    List all resources
sl           Manage Classic infrastructure services
target       Set or view the targeted region, account, resource group, org or space
update       Update CLI to the latest version
version      Print the version
help, h      Show help

Enter 'ibmcloud help [command]' for more information about a command.

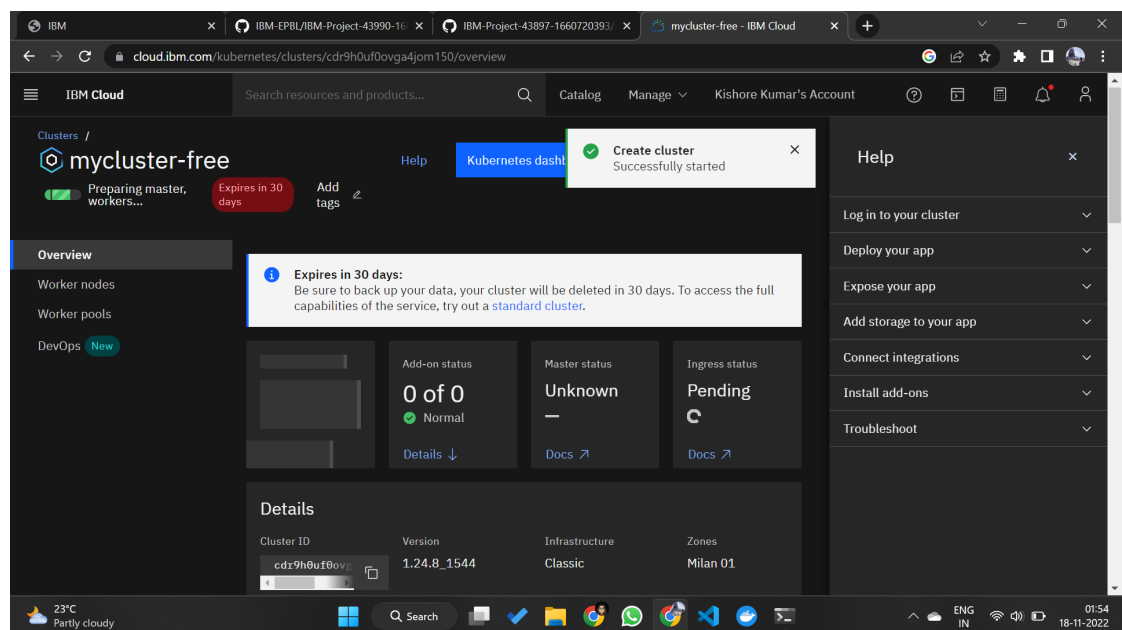
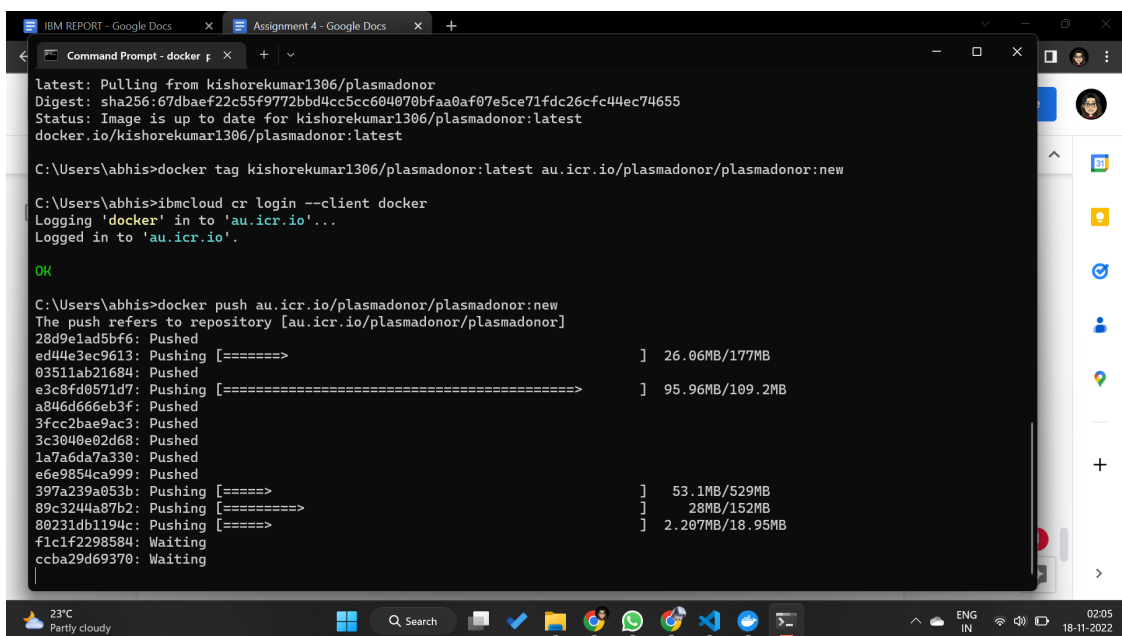
ENVIRONMENT VARIABLES:
IBMCLCLOUD_COLOR=false          Do not colorize output
IBMCLCLOUD_VERSION_CHECK=false  Do not check latest version for update
IBMCLCLOUD_HTTP_TIMEOUT=5       A time limit for HTTP requests
IBMCLCLOUD_API_KEY=key_value    API Key used for login
IBMCLCLOUD_CR_VPC_URL=url_value The custom server URL to use when obtaining an instance identity token and IAM token as a VPC VSI compute resource. This value will replace the default server endpoint of the VPC VSI instance identity token service.
IBMCLCLOUD_CR_TOKEN=cr_token_value Compute resource token used for login. Can either be a token string or a path to a @file.
IBMCLCLOUD_CR_PROFILE=profile_value The name, ID, or CRN of the linked trusted IAM profile to be used when obtaining the IAM access token. If authenticating as a VPC VSI compute resource, only specifying a trusted profile CRN or ID is supported.
IBMCLCLOUD_TRACE=true           Print API request diagnostics to stdout
IBMCLCLOUD_TRACE=path/to/trace.log Append API request diagnostics to a log file
IBMCLCLOUD_HOME=path/to/dir     Path to config directory

GLOBAL OPTIONS:
--version, -v          Print the version
--help, -h            Show help

C:\Users\abhis>ibmcloud cr namespace-add helloworld1306
```



4.Container registry and Kubernetes deployment



```
C:\Users\abhis>kubectcl create deployment plasmadonor --image=ay.icr.io/plasmadonor/plasmadonor:latest
deployment.apps/plasmadonor created

C:\Users\abhis>kubectcl expose deployment/plasmadonor --type=NodePort --name=plasmadonor --port=5000 --target-port=5000
service/plasmadonor exposed

C:\Users\abhis>kubectcl describe service plasmadonor
Name:                plasmadonor
Namespace:           default
Labels:              app=plasmadonor
Annotations:         <none>
Selector:            app=plasmadonor
Type:               NodePort
IP Family Policy:    SingleStack
IP Families:        IPv4
IP:                 10.111.220.37
IPs:                10.111.220.37
LoadBalancer Ingress: localhost
Port:               <unset> 5000/TCP
TargetPort:         5000/TCP
NodePort:           <unset> 30964/TCP
Endpoints:          <none>
Session Affinity:   None
External Traffic Policy: Cluster
Events:             <none>

C:\Users\abhis>
```

The screenshot shows the Kubernetes Dashboard interface. The top navigation bar is blue with the 'kubernetes' logo and a search bar. The left sidebar contains a list of resources: Workloads (selected), Cron Jobs, Daemon Sets, Deployments, Jobs, Pods, Replica Sets, Replication Controllers, Stateful Sets, Service, Ingresses, Ingress Classes, and Services. The main content area is divided into two sections: 'Deployments' and 'Pods'.

Deployments Table:

Name	Images	Labels	Pods	Created
plasmadonor-minikube	docker.io/nginx:1.23	app: plasmadonor-minikube	1 / 1	7m
hello-minikube	docker.io/nginx:1.23	app: hello-minikube	1 / 1	8m

Pods Table:

Name	Images	Labels	Node	Status	Restarts	CPU Usage (cores)	Memory Usage (bytes)
plasmadonor-minikube-94bbf6d77-sbzgl	docker.io/nginx:1.23	app: plasmadonor-minikube pod-template-hash: 94bbf6d77	minikube	Running	0	-	-
hello-minikube-65d6c6e8d1-lm66f	docker.io/nginx:1.23	app: hello-minikube	minikube	Running	0	-	-