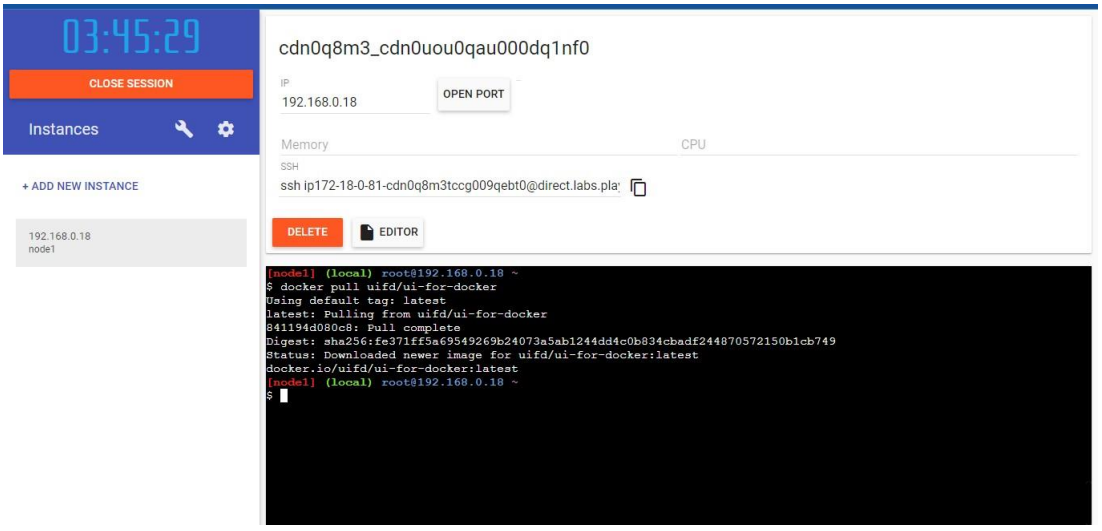
Assignment - 4

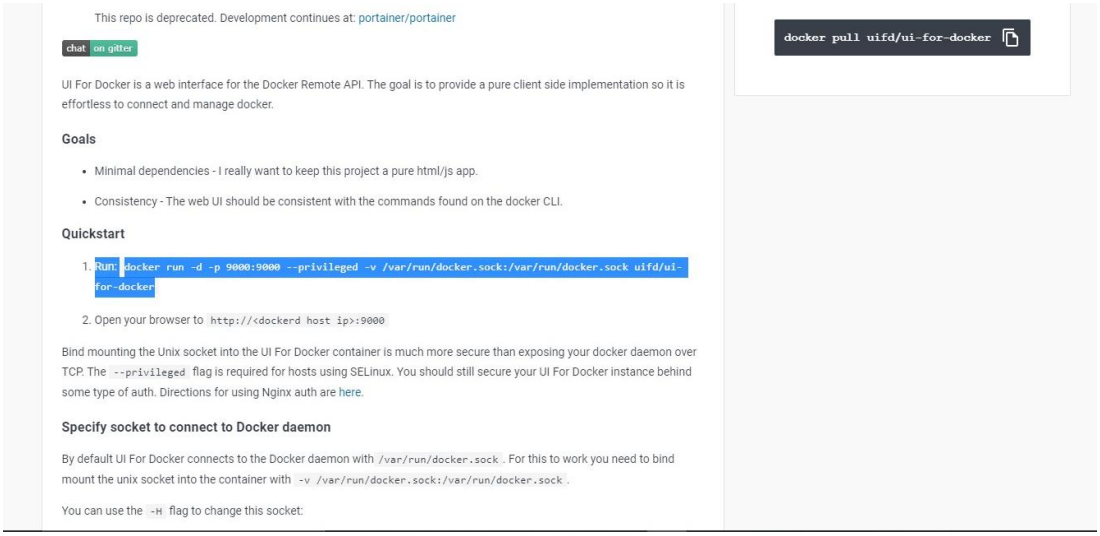
Kubernets/Docker

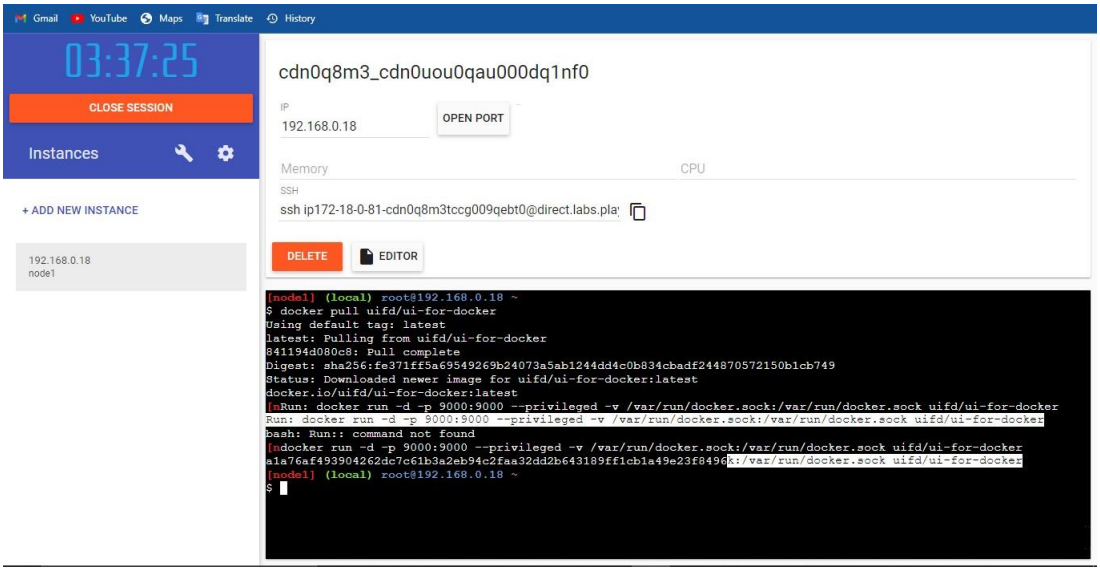
Assignment Date	19 November 2022
Student Name	Naren Shanmugam A
Student Roll Number	19TUEC131
Maximum Marks	2 Marks

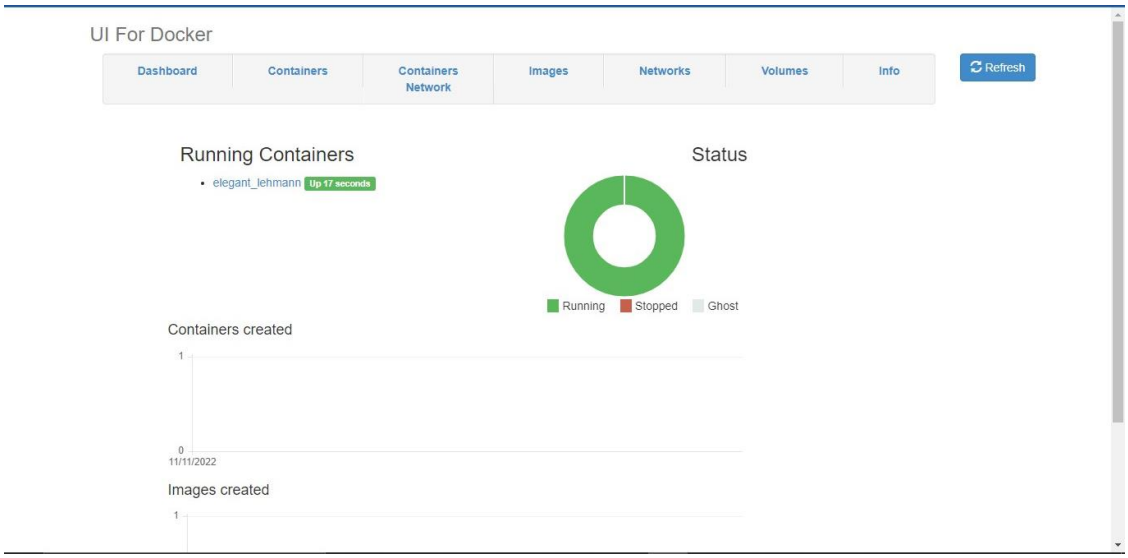
1. Pull an image from docker hub and run it on docker playground.



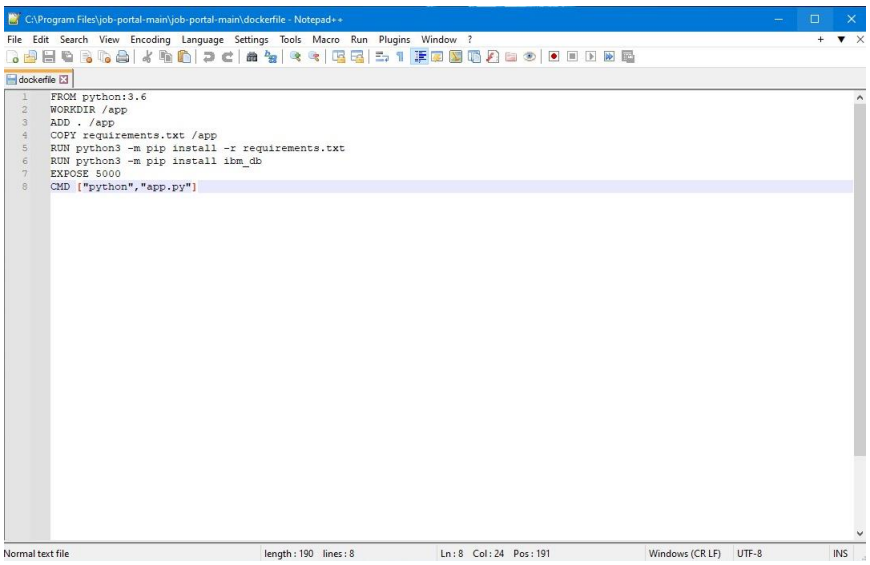
To run a pulled image in docker playground, copy the run command of the pulled image.

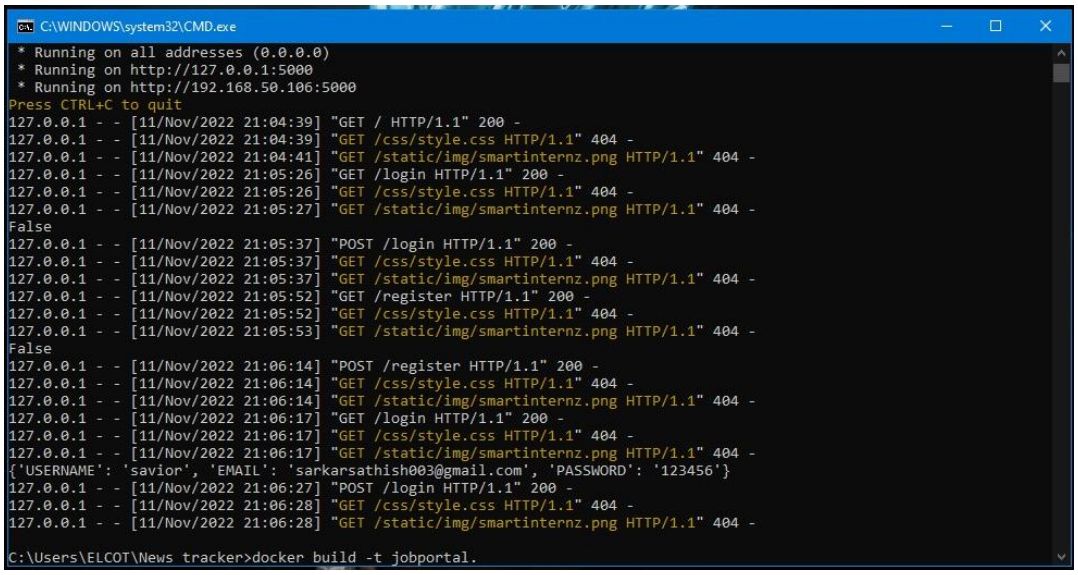


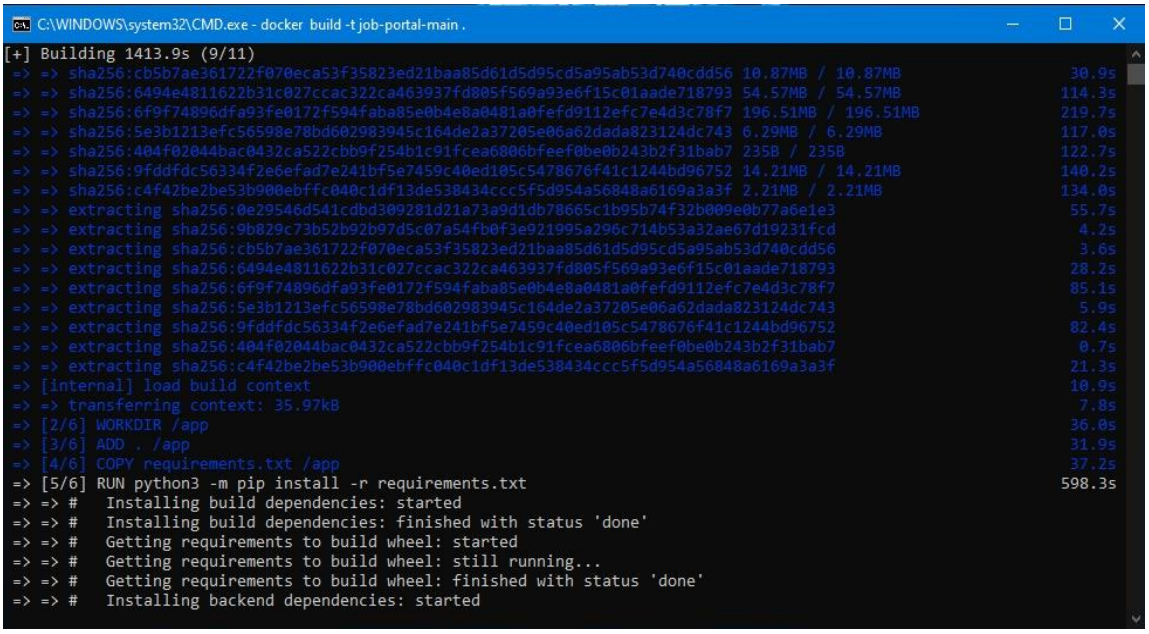


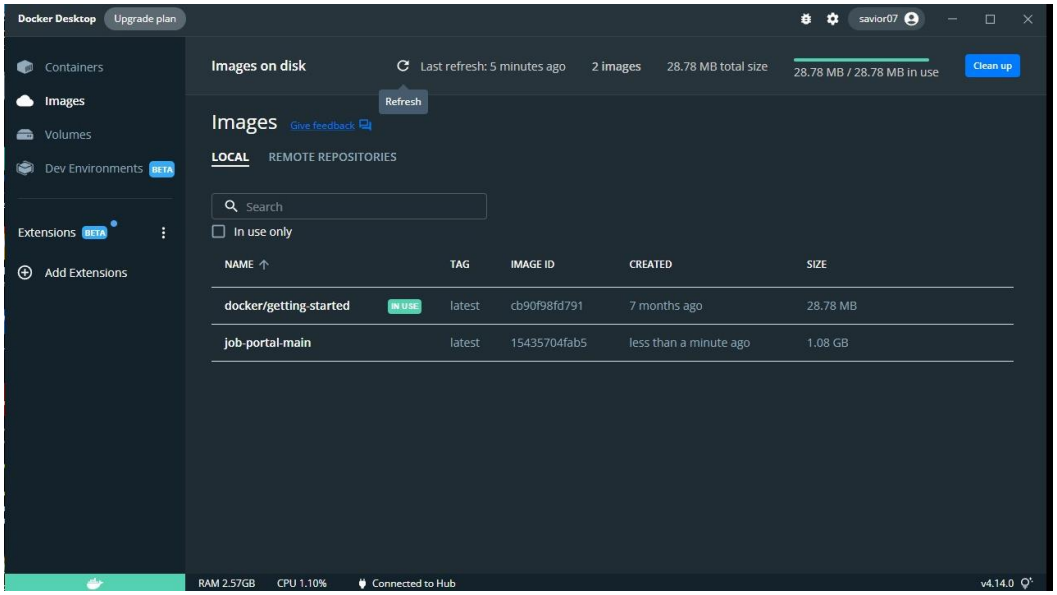


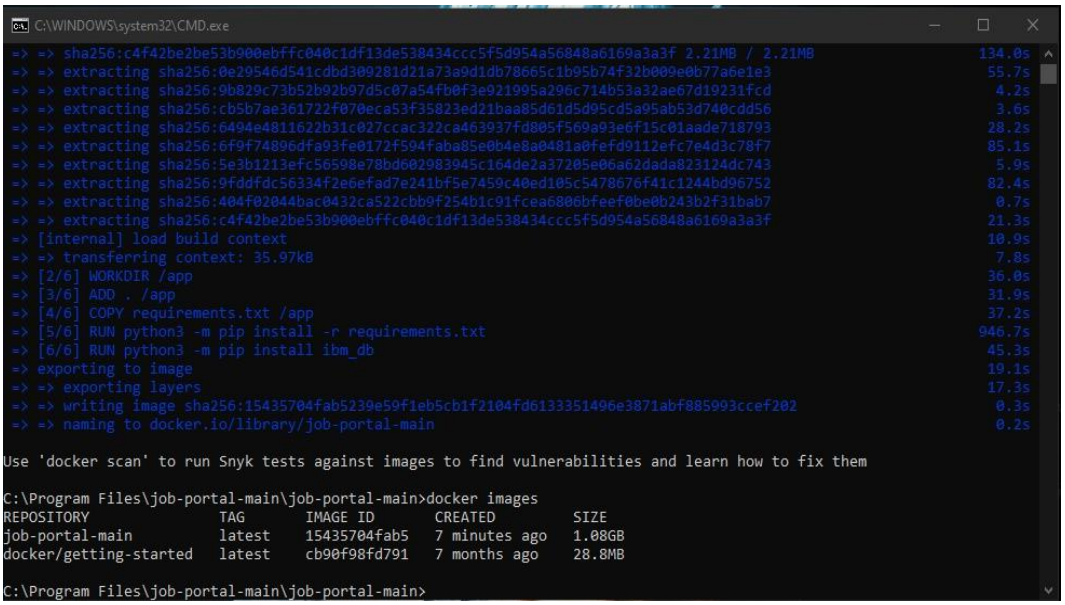
2. Create a docker file for the job portal application and deploy it inDocker desktop application.



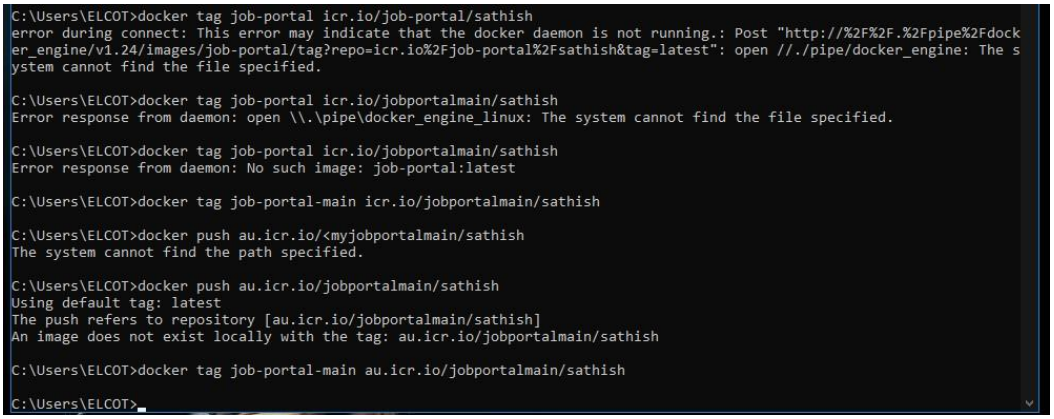

C:\WINDOWS\system32\CMD.exe
* Running on all addresses (0.0.0.0)
* Running on http://127.0.0.1:5000
* Running on http://192.168.50.106:5000
Press CTRL+C to quit
127.0.0.1 - - [11/Nov/2022 21:04:39] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [11/Nov/2022 21:04:39] "GET /css/style.css HTTP/1.1" 404 -
127.0.0.1 - - [11/Nov/2022 21:04:41] "GET /static/img/smartinternz.png HTTP/1.1" 404 -
127.0.0.1 - - [11/Nov/2022 21:05:26] "GET /login HTTP/1.1" 200 -
127.0.0.1 - - [11/Nov/2022 21:05:26] "GET /css/style.css HTTP/1.1" 404 -
127.0.0.1 - - [11/Nov/2022 21:05:27] "GET /static/img/smartinternz.png HTTP/1.1" 404 -
False
127.0.0.1 - - [11/Nov/2022 21:05:37] "POST /login HTTP/1.1" 200 -
127.0.0.1 - - [11/Nov/2022 21:05:37] "GET /css/style.css HTTP/1.1" 404 -
127.0.0.1 - - [11/Nov/2022 21:05:37] "GET /static/img/smartinternz.png HTTP/1.1" 404 -
127.0.0.1 - - [11/Nov/2022 21:05:52] "GET /register HTTP/1.1" 200 -
127.0.0.1 - - [11/Nov/2022 21:05:52] "GET /css/style.css HTTP/1.1" 404 -
127.0.0.1 - - [11/Nov/2022 21:05:53] "GET /static/img/smartinternz.png HTTP/1.1" 404 -
False
127.0.0.1 - - [11/Nov/2022 21:06:14] "POST /register HTTP/1.1" 200 -
127.0.0.1 - - [11/Nov/2022 21:06:14] "GET /css/style.css HTTP/1.1" 404 -
127.0.0.1 - - [11/Nov/2022 21:06:14] "GET /static/img/smartinternz.png HTTP/1.1" 404 -
127.0.0.1 - - [11/Nov/2022 21:06:17] "GET /login HTTP/1.1" 200 -
127.0.0.1 - - [11/Nov/2022 21:06:17] "GET /css/style.css HTTP/1.1" 404 -
127.0.0.1 - - [11/Nov/2022 21:06:17] "GET /static/img/smartinternz.png HTTP/1.1" 404 -
{'USERNAME': 'savior', 'EMAIL': 'sarkarsathish003@gmail.com', 'PASSWORD': '123456'}
127.0.0.1 - - [11/Nov/2022 21:06:27] "POST /login HTTP/1.1" 200 -
127.0.0.1 - - [11/Nov/2022 21:06:28] "GET /css/style.css HTTP/1.1" 404 -
127.0.0.1 - - [11/Nov/2022 21:06:28] "GET /static/img/smartinternz.png HTTP/1.1" 404 -
C:\Users\ELCOT\News tracker>docker build -t jobportal.

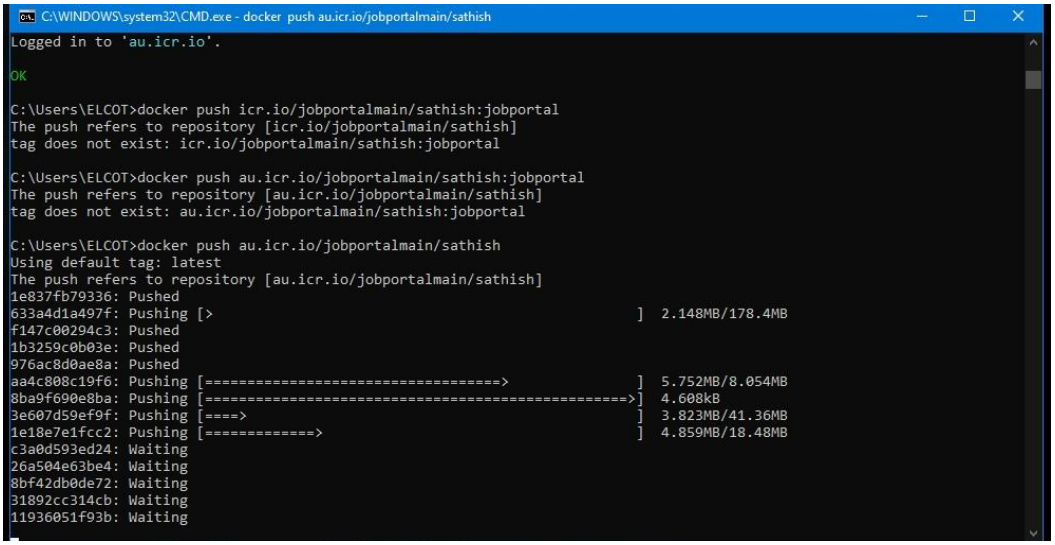

C:\WINDOWS\system32\CMD.exe - docker build -t job-portal-main .
[+] Building 1413.9s (9/11)
=> => sha256:cb5b7ae361722f070eca53f35823ed21baa85d61d5d95cd5a95ab53d740cdd56 10.87MB / 10.87MB 30.9s
=> => sha256:6494e4811622b31c027ccac322ca463937fd805f569a93e6f15c01aade718793 54.57MB / 54.57MB 114.3s
=> => sha256:6f9f74896dfa93fe0172f594faba85e0b4e8a0481a0fefd9112efc7e4d3c78f7 196.51MB / 196.51MB 219.7s
=> => sha256:5e3b1213efc56598e78bd602983945c164de2a37205e06a62dada823124dc743 6.29MB / 6.29MB 117.0s
=> => sha256:404f02044bac0432ca522cbb9f254b1c91fcea6806bfeef0be0b243b2f31bab7 235B / 235B 122.7s
=> => sha256:9fddfdc56334f2e6efad7e241bf5e7459c40ed105c5478676f41c1244bd96752 14.21MB / 14.21MB 140.2s
=> => sha256:c4f42be2be53b900ebffc040c1df13de538434ccc5f5d954a56848a6169a3a3f 2.21MB / 2.21MB 134.0s
=> => extracting sha256:0e29546d541cdbd309281d21a73a9d1db78665c1b95b74f32b009e0b77a6e1e3 55.7s
=> => extracting sha256:9b829c73b52b92b97d5c07a54fb0f3e921995a296c714b53a32ae67d19231fcd 4.2s
=> => extracting sha256:cb5b7ae361722f070eca53f35823ed21baa85d61d5d95cd5a95ab53d740cdd56 3.6s
=> => extracting sha256:6494e4811622b31c027ccac322ca463937fd805f569a93e6f15c01aade718793 28.2s
=> => extracting sha256:6f9f74896dfa93fe0172f594faba85e0b4e8a0481a0fefd9112efc7e4d3c78f7 85.1s
=> => extracting sha256:5e3b1213efc56598e78bd602983945c164de2a37205e06a62dada823124dc743 5.9s
=> => extracting sha256:9fddfdc56334f2e6efad7e241bf5e7459c40ed105c5478676f41c1244bd96752 82.4s
=> => extracting sha256:404f02044bac0432ca522cbb9f254b1c91fcea6806bfeef0be0b243b2f31bab7 0.7s
=> => extracting sha256:c4f42be2be53b900ebffc040c1df13de538434ccc5f5d954a56848a6169a3a3f 21.3s
=> [internal] load build context 10.9s
=> => transferring context: 35.97kB 7.8s
=> [2/6] WORKDIR /app 36.0s
=> [3/6] ADD . /app 31.9s
=> [4/6] COPY requirements.txt /app 37.2s
=> [5/6] RUN python3 -m pip install -r requirements.txt 598.3s
=> => # Installing build dependencies: started
=> => # Installing build dependencies: finished with status 'done'
=> => # Getting requirements to build wheel: started
=> => # Getting requirements to build wheel: still running...
=> => # Getting requirements to build wheel: finished with status 'done'
=> => # Installing backend dependencies: started


Docker Desktop
Upgrade plan
savior07
Containers
Images
Volumes
Dev Environments
BETA
Extensions
BETA
Add Extensions
Images on disk
Last refresh: 5 minutes ago
Refresh
2 images
28.78 MB total size
28.78 MB / 28.78 MB in use
Clean up
Images
Give feedback
LOCAL
REMOTE REPOSITORIES
Search
In use only
NAME
TAG
IMAGE ID
CREATED
SIZE
docker/getting-started
IN USE
latest
cb90f98fd791
7 months ago
28.78 MB
job-portal-main
latest
15435704fab5
less than a minute ago
1.08 GB
RAM 2.57GB
CPU 1.10%
Connected to Hub
v4.14.0

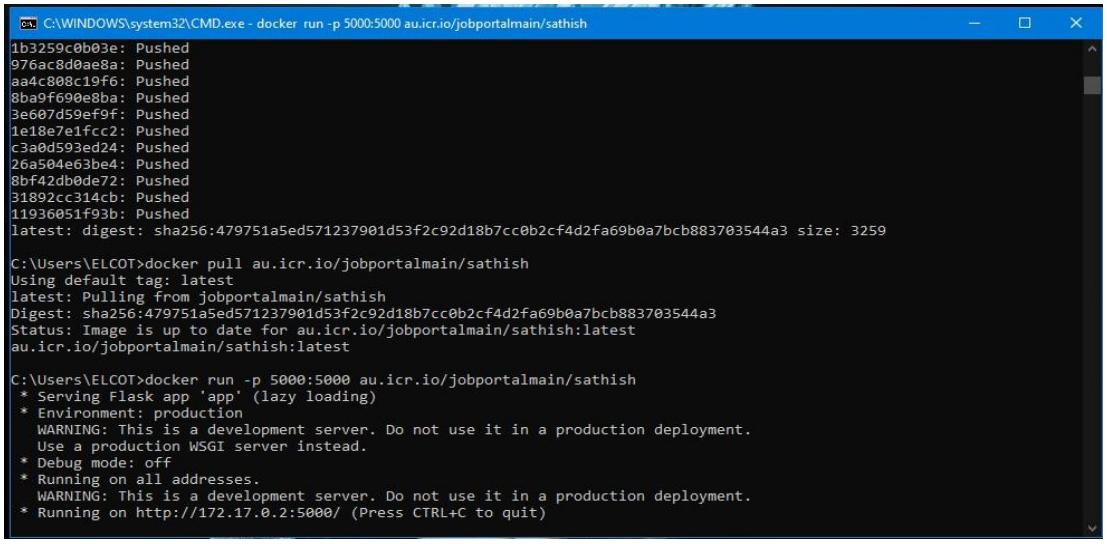

C:\WINDOWS\system32\CMD.exe
=> => sha256:c4f42be2be53b900ebffc040c1df13de538434ccc5f5d954a56848a6169a3a3f 2.21MB / 2.21MB 134.0s
=> => extracting sha256:0e29546d541cdbd309281d21a73a9d1db78665c1b95b74f32b009e0b77a6e1e3 55.7s
=> => extracting sha256:9b829c73b52b92b97d5c07a54fb0f3e921995a296c714b53a32ae67d19231fcd 4.2s
=> => extracting sha256:cb5b7ae361722f070eca53f35823ed21baa85d61d5d95cd5a95ab53d740cdd56 3.6s
=> => extracting sha256:6494e4811622b31c027ccac322ca463937fd805f569a93e6f15c01aade718793 28.2s
=> => extracting sha256:6f9f74896dfa93fe0172f594faba85e0b4e8a0481a0fefd9112efc7e4d3c78f7 85.1s
=> => extracting sha256:5e3b1213efc56598e78bd602983945c164de2a37205e06a62dada823124dc743 5.9s
=> => extracting sha256:9fddfdc56334f2e6efad7e241bf5e7459c40ed105c5478676f41c1244bd96752 82.4s
=> => extracting sha256:404f02044bac0432ca522cbb9f254b1c91fcea6806bfeef0be0b243b2f31bab7 0.7s
=> => extracting sha256:c4f42be2be53b900ebffc040c1df13de538434ccc5f5d954a56848a6169a3a3f 21.3s
=> [internal] load build context 10.9s
=> => transferring context: 35.97kB 7.8s
=> [2/6] WORKDIR /app 36.0s
=> [3/6] ADD . /app 31.9s
=> [4/6] COPY requirements.txt /app 37.2s
=> [5/6] RUN python3 -m pip install -r requirements.txt 946.7s
=> [6/6] RUN python3 -m pip install ibm_db 45.3s
=> exporting to image 19.1s
=> => exporting layers 17.3s
=> => writing image sha256:15435704fab5239e59f1eb5cb1f2104fd6133351496e3871abf885993ccef202 0.3s
=> => naming to docker.io/library/job-portal-main 0.2s
Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them
C:\Program Files\job-portal-main\job-portal-main>docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
job-portal-main latest 15435704fab5 7 minutes ago 1.08GB
docker/getting-started latest cb90f98fd791 7 months ago 28.8MB
C:\Program Files\job-portal-main\job-portal-main>

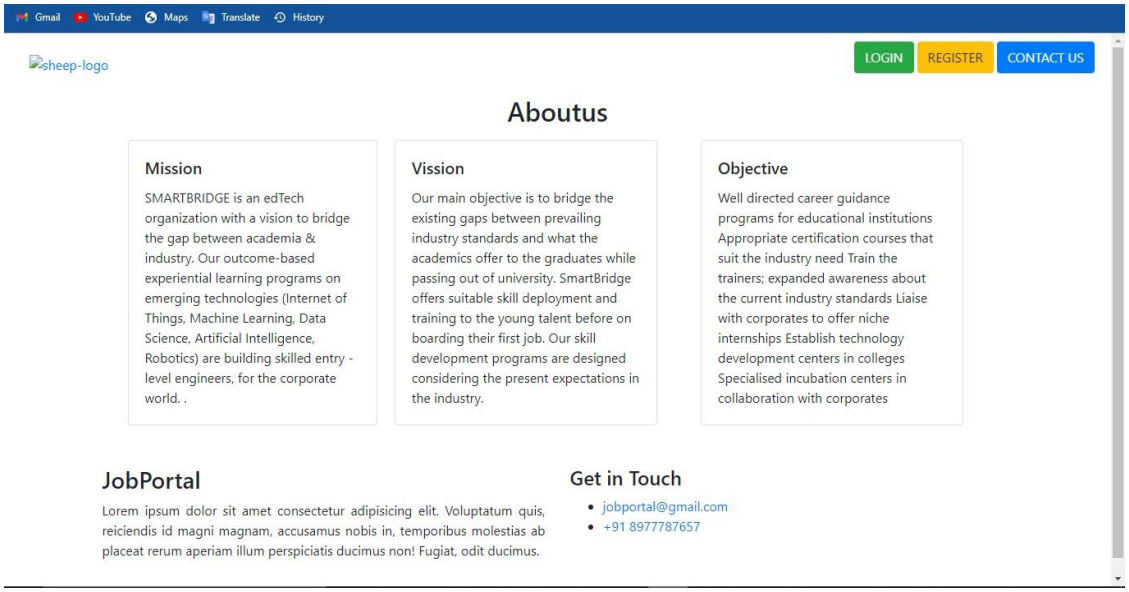
Pushing the image to repository

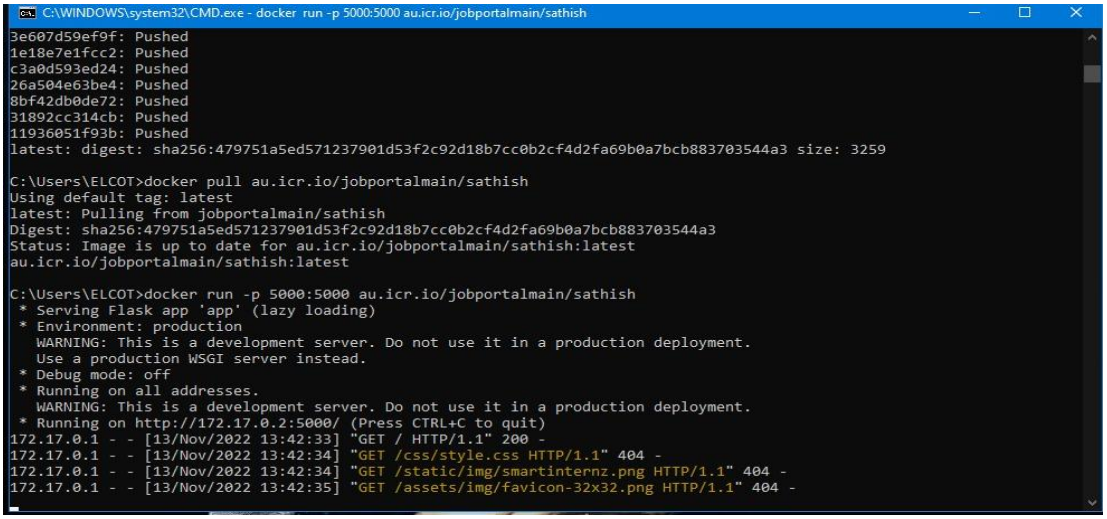




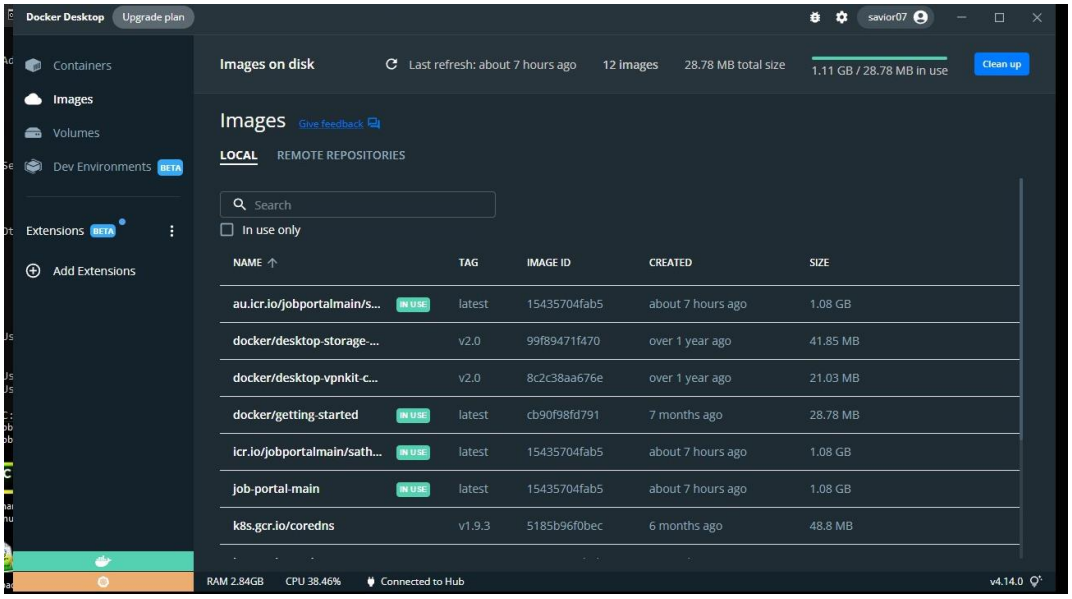
Pulling the image from IBM container and runnig it.

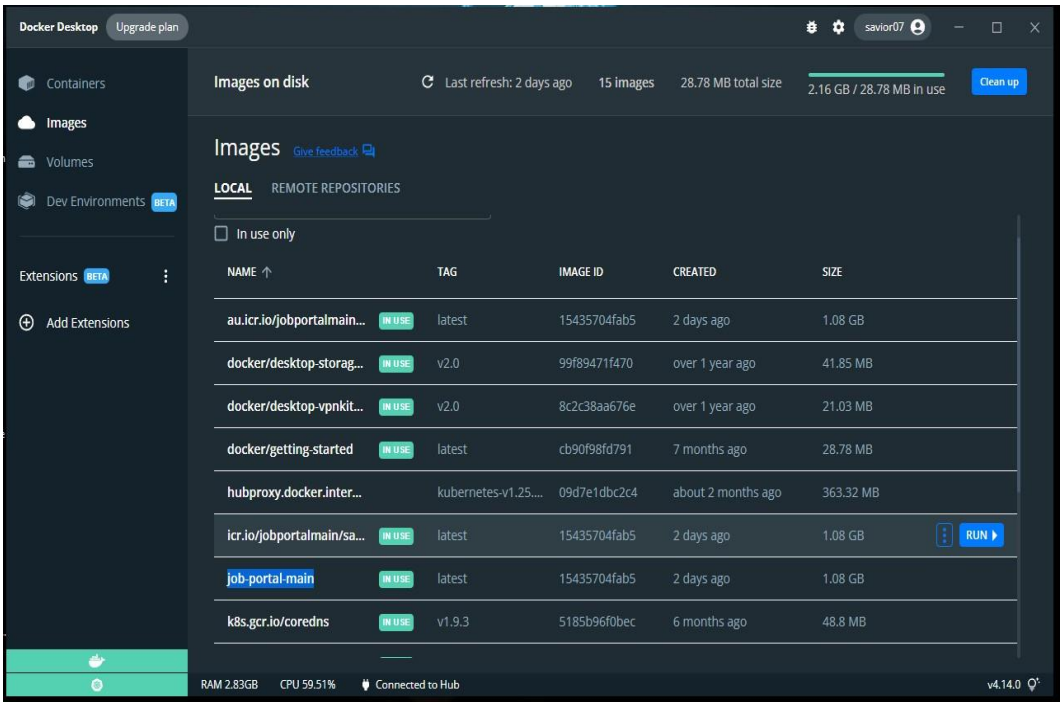


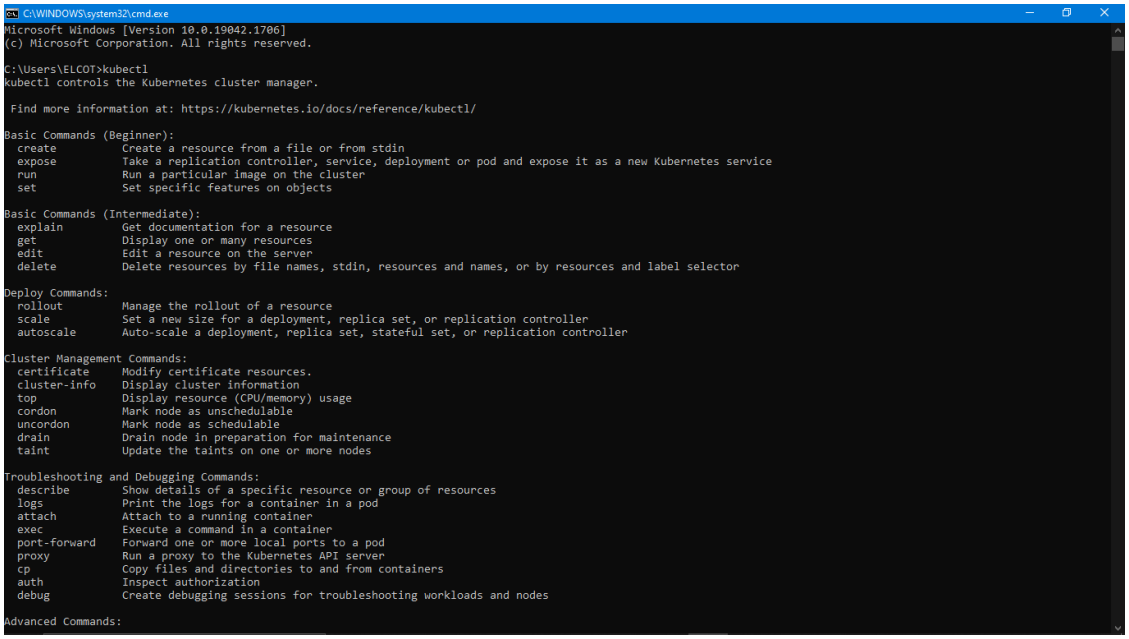


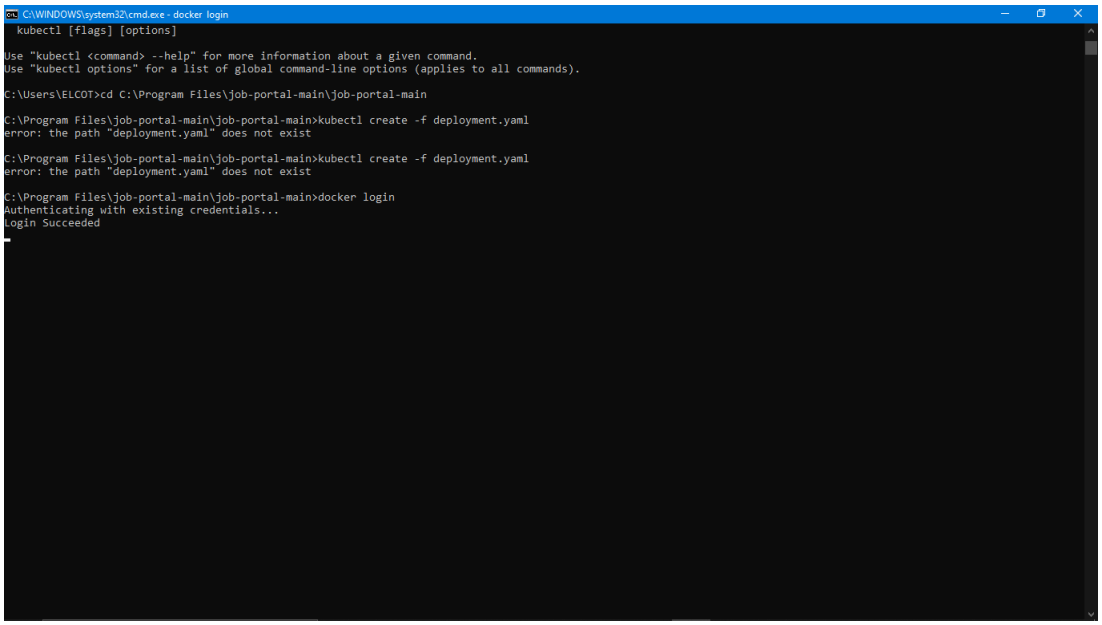


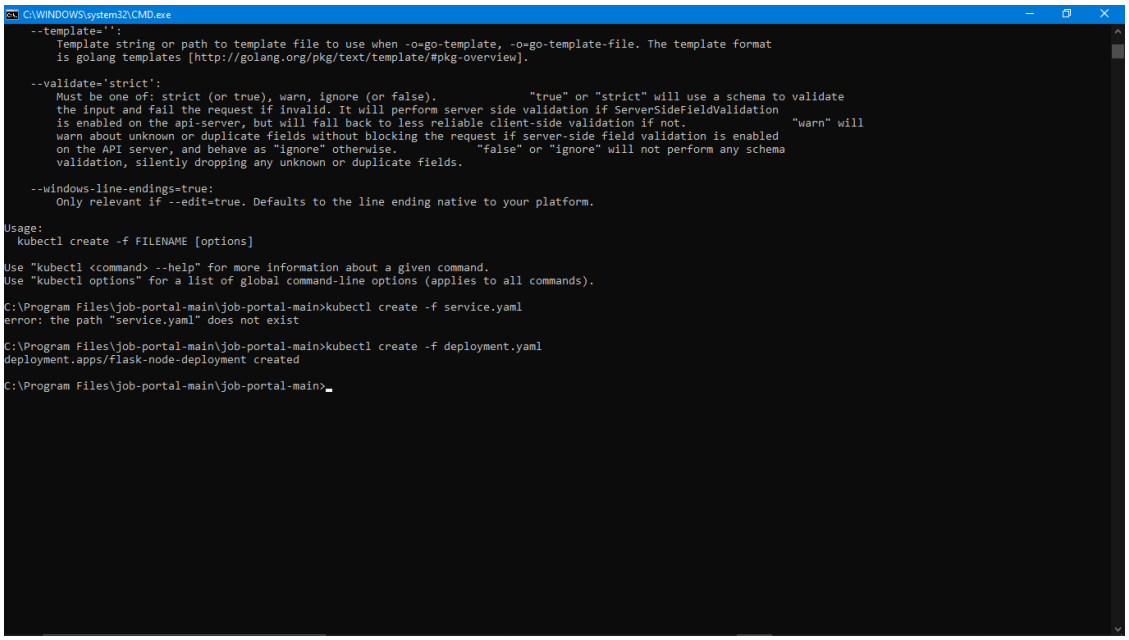
3. Create a Kubernets Cluster in IBM cloud and deploy hello world image or job portal image.

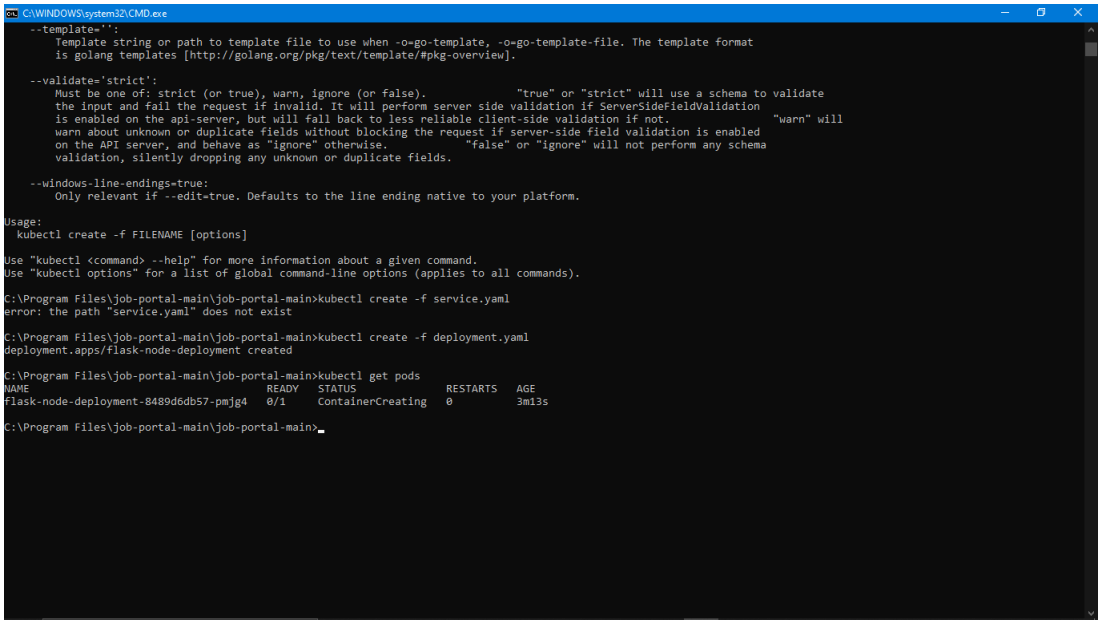





C:\WINDOWS\system32\cmd.exe
Microsoft Windows [Version 10.0.19042.1706]
(c) Microsoft Corporation. All rights reserved.
C:\Users\ELCOT>kubectl
kubectl controls the Kubernetes cluster manager.
Find more information at: https://kubernetes.io/docs/reference/kubectl/
Basic Commands (Beginner):
create Create a resource from a file or from stdin
expose Take a replication controller, service, deployment or pod and expose it as a new Kubernetes service
run Run a particular image on the cluster
set Set specific features on objects
Basic Commands (Intermediate):
explain Get documentation for a resource
get Display one or many resources
edit Edit a resource on the server
delete Delete resources by file names, stdin, resources and names, or by resources and label selector
Deploy Commands:
rollout Manage the rollout of a resource
scale Set a new size for a deployment, replica set, or replication controller
autoscale Auto-scale a deployment, replica set, stateful set, or replication controller
Cluster Management Commands:
certificate Modify certificate resources.
cluster-info Display cluster information
top Display resource (CPU/memory) usage
cordon Mark node as unschedulable
uncordon Mark node as schedulable
drain Drain node in preparation for maintenance
taint Update the taints on one or more nodes
Troubleshooting and Debugging Commands:
describe Show details of a specific resource or group of resources
logs Print the logs for a container in a pod
attach Attach to a running container
exec Execute a command in a container
port-forward Forward one or more local ports to a pod
proxy Run a proxy to the Kubernetes API server
cp Copy files and directories to and from containers
auth Inspect authorization
debug Create debugging sessions for troubleshooting workloads and nodes
Advanced Commands:


C:\WINDOWS\system32\cmd.exe - docker login
kubectl [flags] [options]
Use "kubectl <command> --help" for more information about a given command.
Use "kubectl options" for a list of global command-line options (applies to all commands).
C:\Users\ELCOT>cd C:\Program Files\job-portal-main\job-portal-main
C:\Program Files\job-portal-main\job-portal-main>kubectl create -f deployment.yaml
error: the path "deployment.yaml" does not exist
C:\Program Files\job-portal-main\job-portal-main>kubectl create -f deployment.yaml
error: the path "deployment.yaml" does not exist
C:\Program Files\job-portal-main\job-portal-main>docker login
Authenticating with existing credentials...
Login Succeeded


C:\WINDOWS\system32\CMD.exe
--template='':
Template string or path to template file to use when -o=go-template, -o=go-template-file. The template format
is golang templates [http://golang.org/pkg/text/template/#pkg-overview].
--validate='strict':
Must be one of: strict (or true), warn, ignore (or false). "true" or "strict" will use a schema to validate
the input and fail the request if invalid. It will perform server side validation if ServerSideFieldValidation
is enabled on the api-server, but will fall back to less reliable client-side validation if not. "warn" will
warn about unknown or duplicate fields without blocking the request if server-side field validation is enabled
on the API server, and behave as "ignore" otherwise. "false" or "ignore" will not perform any schema
validation, silently dropping any unknown or duplicate fields.
--windows-line-endings=true:
Only relevant if --edit=true. Defaults to the line ending native to your platform.
Usage:
kubectl create -f FILENAME [options]
Use "kubectl <command> --help" for more information about a given command.
Use "kubectl options" for a list of global command-line options (applies to all commands).
C:\Program Files\job-portal-main\job-portal-main>kubectl create -f service.yaml
error: the path "service.yaml" does not exist
C:\Program Files\job-portal-main\job-portal-main>kubectl create -f deployment.yaml
deployment.apps/flask-node-deployment created
C:\Program Files\job-portal-main\job-portal-main>


C:\WINDOWS\system32\CMD.exe
--template='':
Template string or path to template file to use when -o=go-template, -o=go-template-file. The template format
is golang templates [http://golang.org/pkg/text/template/#pkg-overview].
--validate='strict':
Must be one of: strict (or true), warn, ignore (or false). "true" or "strict" will use a schema to validate
the input and fail the request if invalid. It will perform server side validation if ServerSideFieldValidation
is enabled on the api-server, but will fall back to less reliable client-side validation if not. "warn" will
warn about unknown or duplicate fields without blocking the request if server-side field validation is enabled
on the API server, and behave as "ignore" otherwise. "false" or "ignore" will not perform any schema
validation, silently dropping any unknown or duplicate fields.
--windows-line-endings=true:
Only relevant if --edit=true. Defaults to the line ending native to your platform.
Usage:
kubectl create -f FILENAME [options]
Use "kubectl <command> --help" for more information about a given command.
Use "kubectl options" for a list of global command-line options (applies to all commands).
C:\Program Files\job-portal-main\job-portal-main>kubectl create -f service.yaml
error: the path "service.yaml" does not exist
C:\Program Files\job-portal-main\job-portal-main>kubectl create -f deployment.yaml
deployment.apps/flask-node-deployment created
C:\Program Files\job-portal-main\job-portal-main>kubectl get pods
NAME READY STATUS RESTARTS AGE
flask-node-deployment-8489d6db57-pmjg4 0/1 ContainerCreating 0 3m13s
C:\Program Files\job-portal-main\job-portal-main>