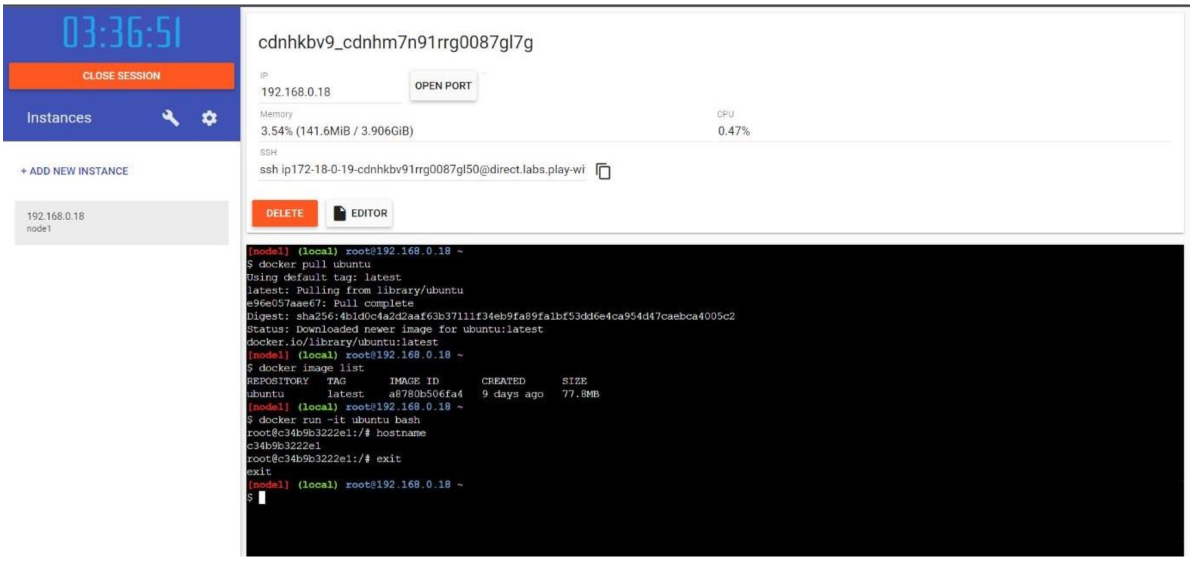
ASSIGNMENT-4

NAME:R.Aswin Vishal Kumar V M

REGNO:715519104303

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



cdnhkbv9_cdnhm7n91rrg0087gl7g

IP 192.168.0.18

Memory 3.54% (141.6MiB / 3.906GiB)

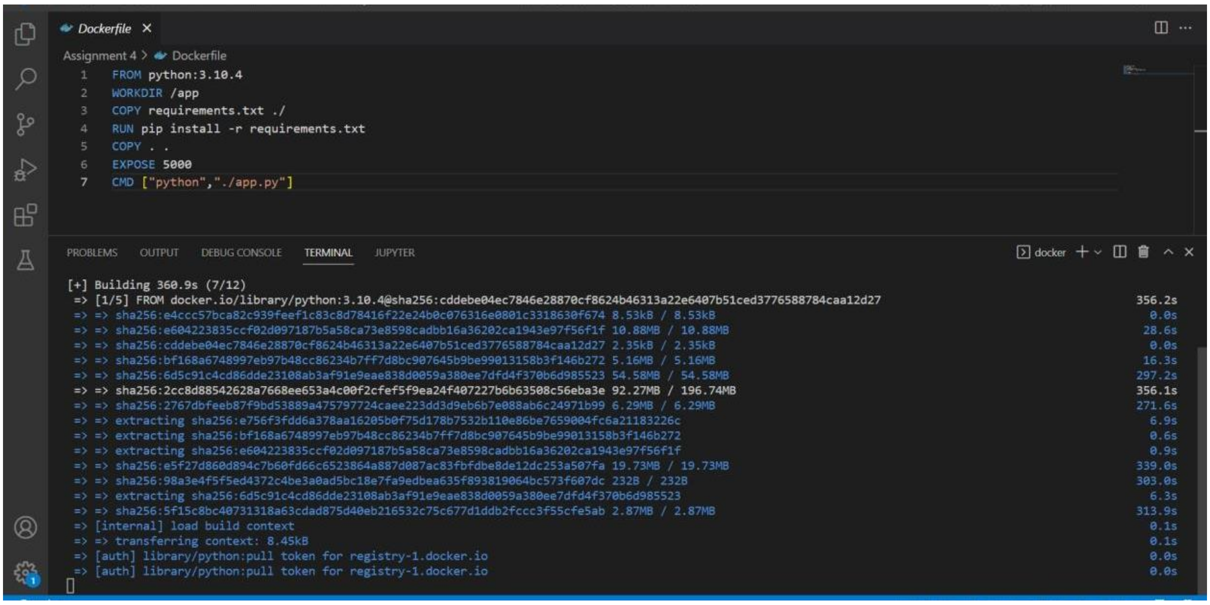
CPU 0.47%

SSH ssh ip172-18-0-19-cdnhkbv91rrg0087gl50@direct.labs.play-wi

```
[node1] (local) root@192.168.0.18 ~
$ docker pull ubuntu
Using default tag: latest
latest: Pulling from library/ubuntu
e96e057aae67: Pull complete
Digest: sha256:4b1d0c4a2d2aaf63b37111f34eb9fa89fa1bf53dd6e4ca954d47caebca4005c2
Status: Downloaded newer image for ubuntu:latest
docker.io/library/ubuntu:latest
[node1] (local) root@192.168.0.18 ~
$ docker image list
REPOSITORY   TAG       IMAGE ID       CREATED      SIZE
ubuntu       latest    a8780b506fa4   9 days ago   77.8MB
[node1] (local) root@192.168.0.18 ~
$ docker run -it ubuntu bash
root@c34b9b3222e1:/# hostname
c34b9b3222e1
root@c34b9b3222e1:/# exit
exit
[node1] (local) root@192.168.0.18 ~
$
```

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

*Create docker file. Name as Dockerfile (without exetension) in your website code location



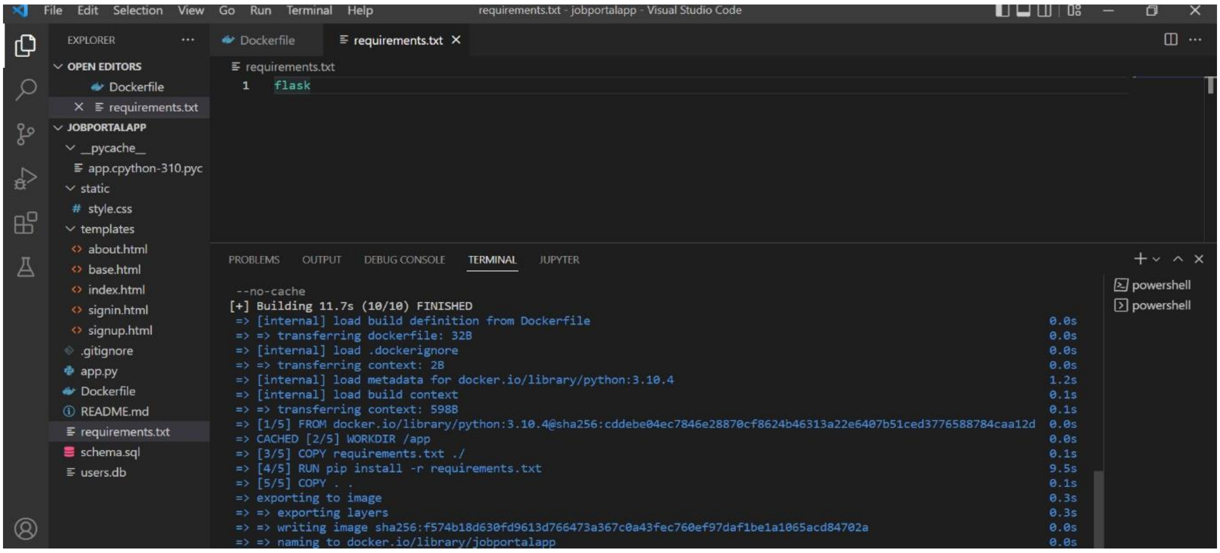
```
FROM python:3.10.4
WORKDIR /app
COPY requirements.txt ./
RUN pip install -r requirements.txt
COPY . .
EXPOSE 5000
CMD ["python","./app.py"]
```

```
[+] Building 360.9s (7/12)
 => [1/5] FROM docker.io/library/python:3.10.4@sha256:cddebe04ec7846e28870cf8624b46313a22e6407b51ced3776588784caa12d27     356.2s
 => => sha256:e4ccc57bca82c939feef1c83c8d78416f22e24b0c076316e0801c3318630f674 8.53kB / 8.53kB                                 0.0s
 => => sha256:e604223835ccf02d097187b5a58ca73e8598cadbb16a36202ca1943e97f56f1f 10.88MB / 10.88MB                              28.6s
 => => sha256:cddebe04ec7846e28870cf8624b46313a22e6407b51ced3776588784caa12d27 2.35kB / 2.35kB                                 0.0s
 => => sha256:bf168a6748997eb97b48cc86234b7ff7d8bc907645b9be99013158b3f146b272 5.16MB / 5.16MB                                16.3s
 => => sha256:6d5c91c4cd86dde23108ab3af91e9eae838d0059a380ee7dfd4f370b6d985523 54.58MB / 54.58MB                             297.2s
 => => sha256:2cc8d88542628a7668ee653a4c00f2cfef5f9ea24f407227b6b63508c56eba3e 92.27MB / 196.74MB                            356.1s
 => => sha256:2767dbfeeb87f9bd53889a475797724caee223dd3d9eb6b7e088ab6c24971b99 6.29MB / 6.29MB                               271.6s
 => => extracting sha256:e756f3fdd6a378aa16205b0f75d178b7532b110e86be7659004fc6a21183226c                                      6.9s
 => => extracting sha256:bf168a6748997eb97b48cc86234b7ff7d8bc907645b9be99013158b3f146b272                                      0.6s
 => => extracting sha256:e604223835ccf02d097187b5a58ca73e8598cadbb16a36202ca1943e97f56f1f                                      0.9s
 => => sha256:e5f27d860d894c7b60fd66c6523864a887d087ac83fbfdbe8de12dc253a507fa 19.73MB / 19.73MB                             339.0s
 => => sha256:98a3e4f5f5ed4372c4be3a0ad5bc18e7fa9edbea635f893819064bc573f607dc 232B / 232B                                   303.0s
 => => extracting sha256:6d5c91c4cd86dde23108ab3af91e9eae838d0059a380ee7dfd4f370b6d985523                                      6.3s
 => => sha256:5f15c8bc40731318a63cdad875d40eb216532c75c677d1ddb2fccc3f55cfe5ab 2.87MB / 2.87MB                               313.9s
 => [internal] load build context                                                                                              0.1s
 => => transferring context: 8.45kB                                                                                            0.1s
 => [auth] library/python:pull token for registry-1.docker.io                                                                  0.0s
 => [auth] library/python:pull token for registry-1.docker.io                                                                  0.0s
▯
```

*build images using this command

docker build -t (filename as you create) . --no-cahe

Example: ***docker build -t job-portal-app. --no-cahe***



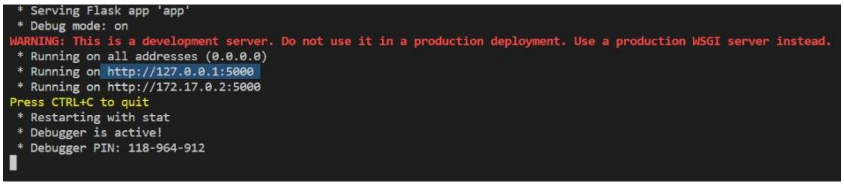
```
flask
```

```
 --no-cache
[+] Building 11.7s (10/10) FINISHED
 => [internal] load build definition from Dockerfile                                                          0.0s
 => => transferring dockerfile: 32B                                                                           0.0s
 => [internal] load .dockerignore                                                                             0.0s
 => => transferring context: 2B                                                                               0.0s
 => [internal] load metadata for docker.io/library/python:3.10.4                                              1.2s
 => [internal] load build context                                                                             0.1s
 => => transferring context: 598B                                                                             0.1s
 => [1/5] FROM docker.io/library/python:3.10.4@sha256:cddebe04ec7846e28870cf8624b46313a22e6407b51ced3776588784caa12d  0.0s
 => CACHED [2/5] WORKDIR /app                                                                                 0.0s
 => [3/5] COPY requirements.txt ./                                                                            0.1s
 => [4/5] RUN pip install -r requirements.txt                                                                 9.5s
 => [5/5] COPY . .                                                                                            0.1s
 => exporting to image                                                                                        0.3s
 => => exporting layers                                                                                       0.3s
 => => writing image sha256:f574b18d630fd9613d766473a367c0a43fec760ef97daf1be1a1065acd84702a                  0.0s
 => => naming to docker.io/library/jobportalapp                                                               0.0s
```

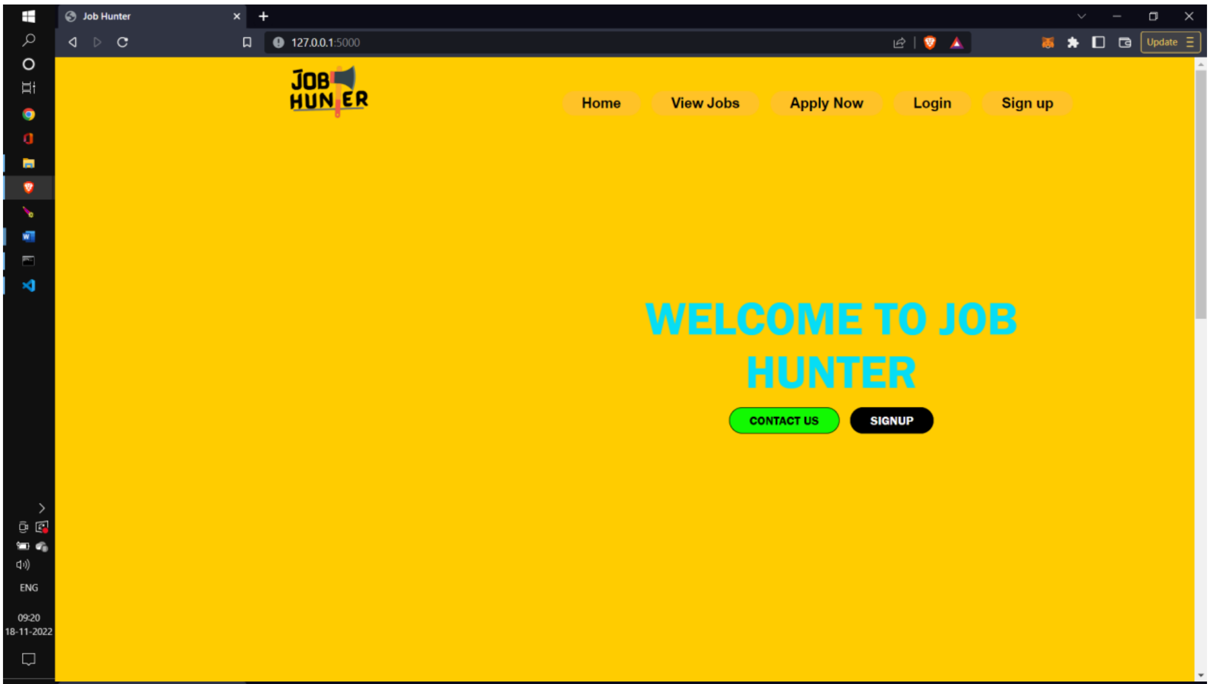
*run dockerfile using command

docker run -p 3000:5000 job-portal-app

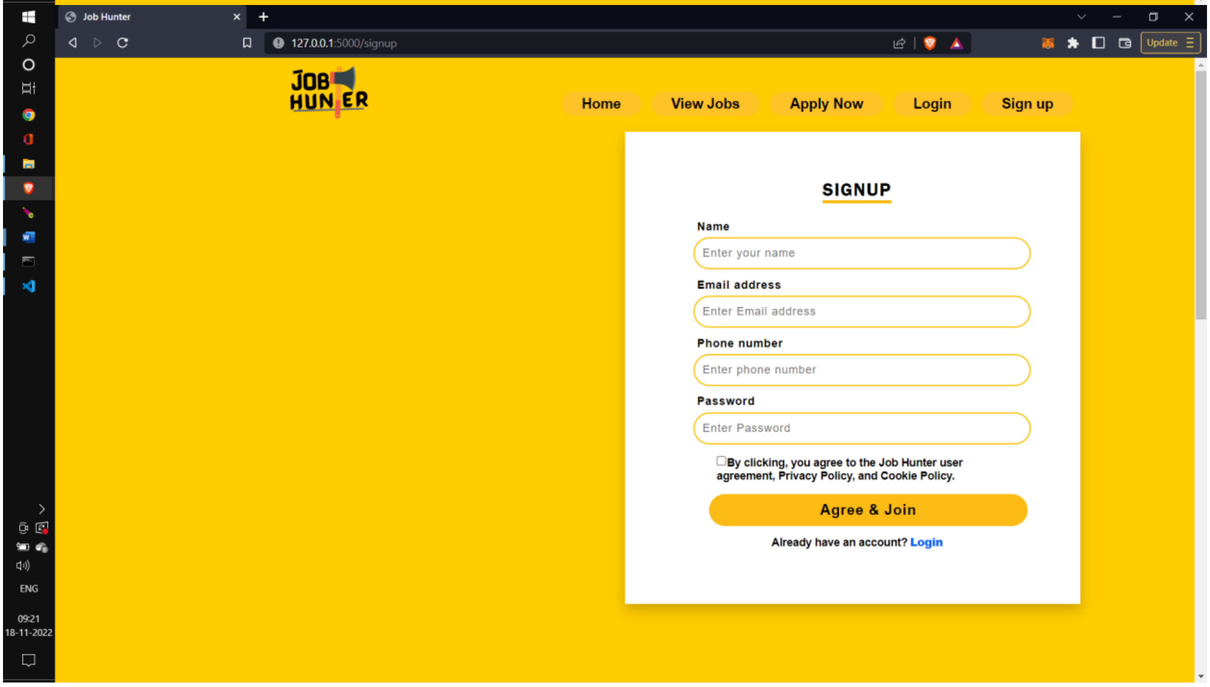
* you will get output in browser type "***localhost:3000***"



```
 * Serving Flask app 'app'
 * Debug mode: on
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://127.0.0.1:5000
 * Running on http://172.17.0.2:5000
Press CTRL+C to quit
 * Restarting with stat
 * Debugger is active!
 * Debugger PIN: 118-964-912
```



WELCOME TO JOB HUNTER



SIGNUP

Name

Enter your name

Email address

Enter Email address

Phone number

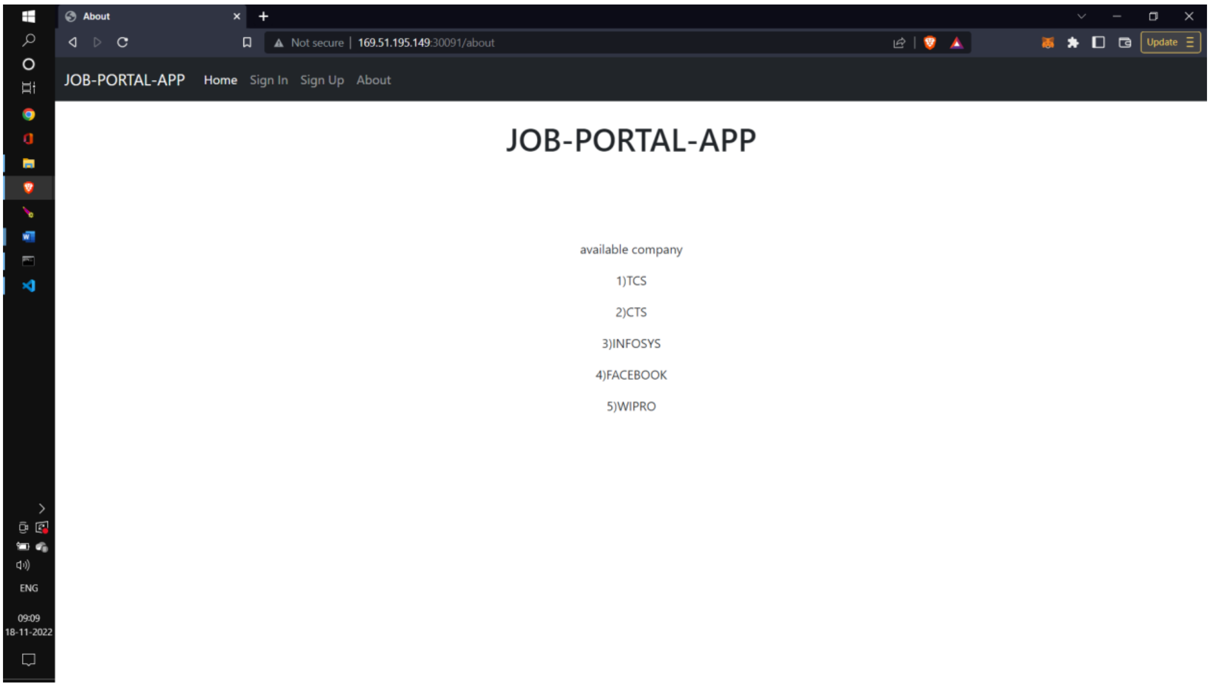
Enter phone number

Password

Enter Password

□ By clicking, you agree to the Job Hunter user agreement, Privacy Policy, and Cookie Policy.

Already have an account? Login



JOB-PORTAL-APP

available company

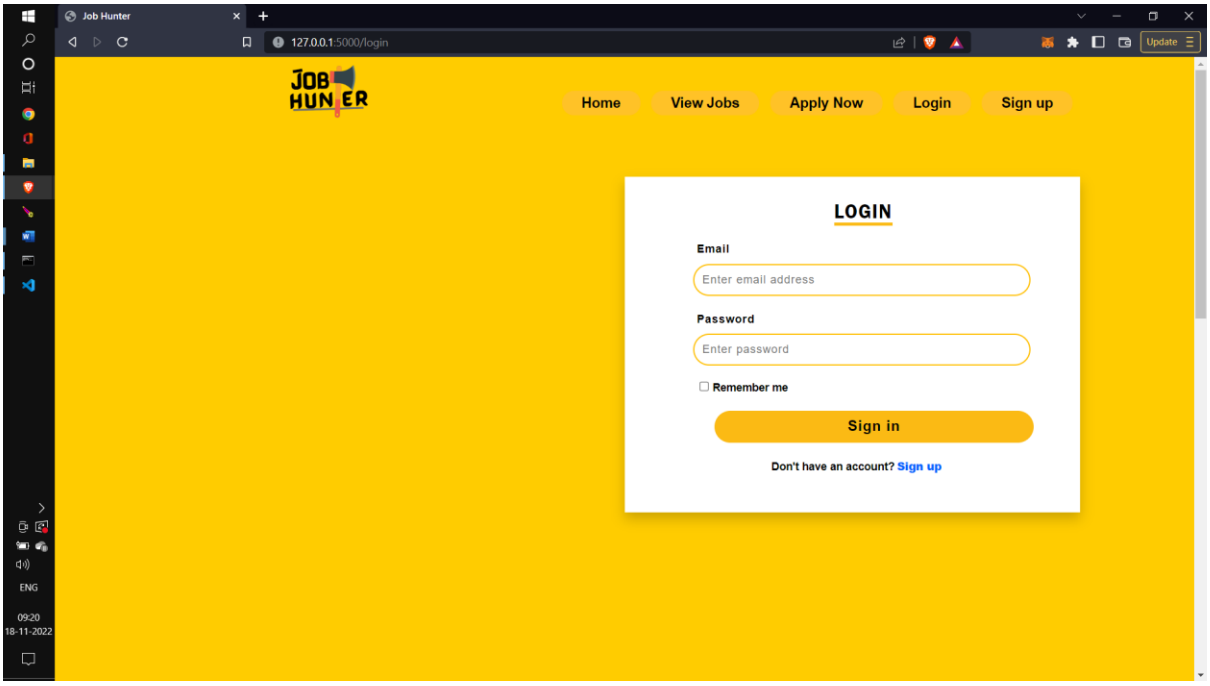
1)TCS

2)CTS

3)INFOSYS

4)FACEBOOK

5)WIPRO



LOGIN

Email

Enter email address

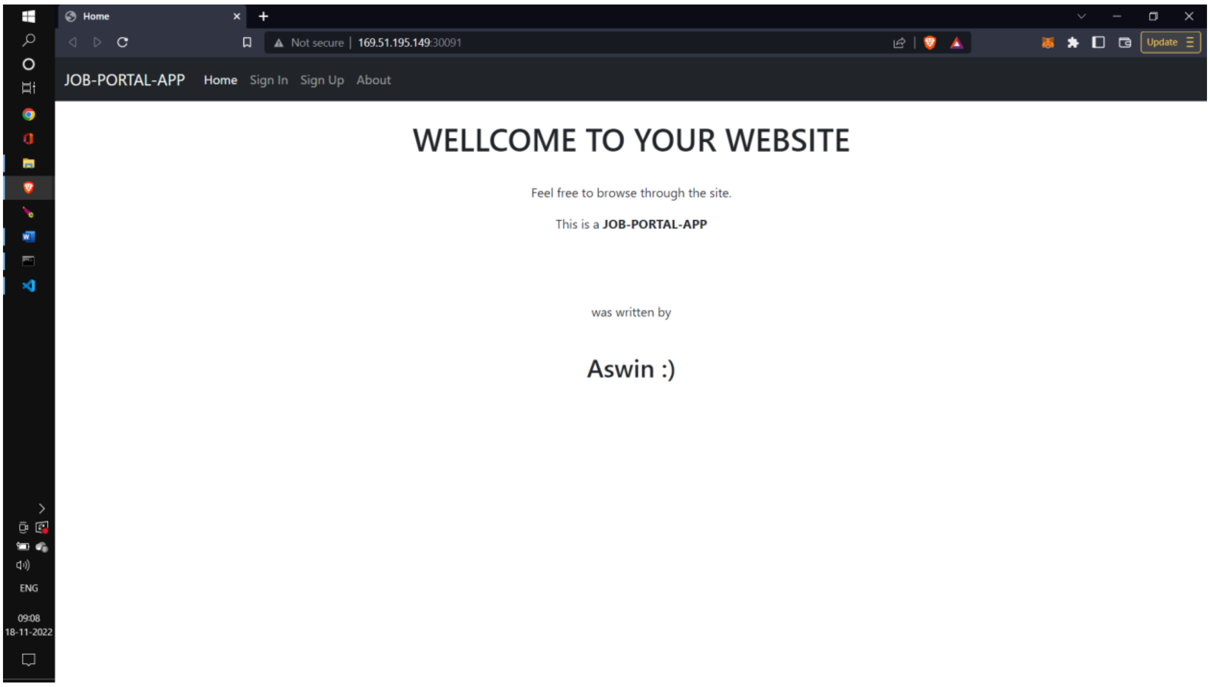
Password

Enter password

□ Remember me

Sign in

Don't have an account? Sign up



JOB-PORTAL-APP Home Sign In Sign Up About

WELLCOME TO YOUR WEBSITE

Feel free to browse through the site.

This is a **JOB-PORTAL-APP**

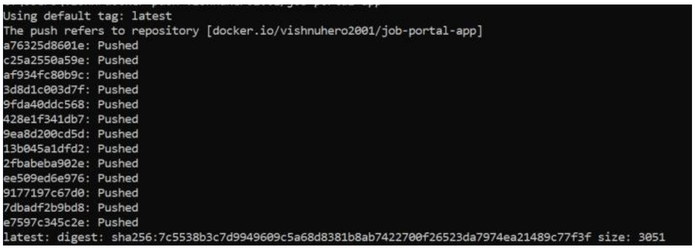
was written by

Aswin :)

*push the file into docker use this command

docker push repositroyname/imagename

example:docker vishnuhero2001/job-portal-app



```
Using default tag: latest
The push refers to repository [docker.io/vishnuhero2001/job-portal-app]
a76325d8601e: Pushed
c25a2550a59e: Pushed
af934fc80b9c: Pushed
3d8d1c003d7f: Pushed
9fda40ddc568: Pushed
428e1f341db7: Pushed
9ea8d200cd5d: Pushed
13b045a1dfd2: Pushed
2fbabeba902e: Pushed
ee509ed6e976: Pushed
9177197c67d0: Pushed
7dbadf2b9bd8: Pushed
e7597c345c2e: Pushed
latest: digest: sha256:7c5538b3c7d9949609c5a68d8381b8ab7422700f26523da7974ea21489c77f3f size: 3051
```

*Login to dockerhub and see the docker pushed file

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

*open command promt and follow the command in below images

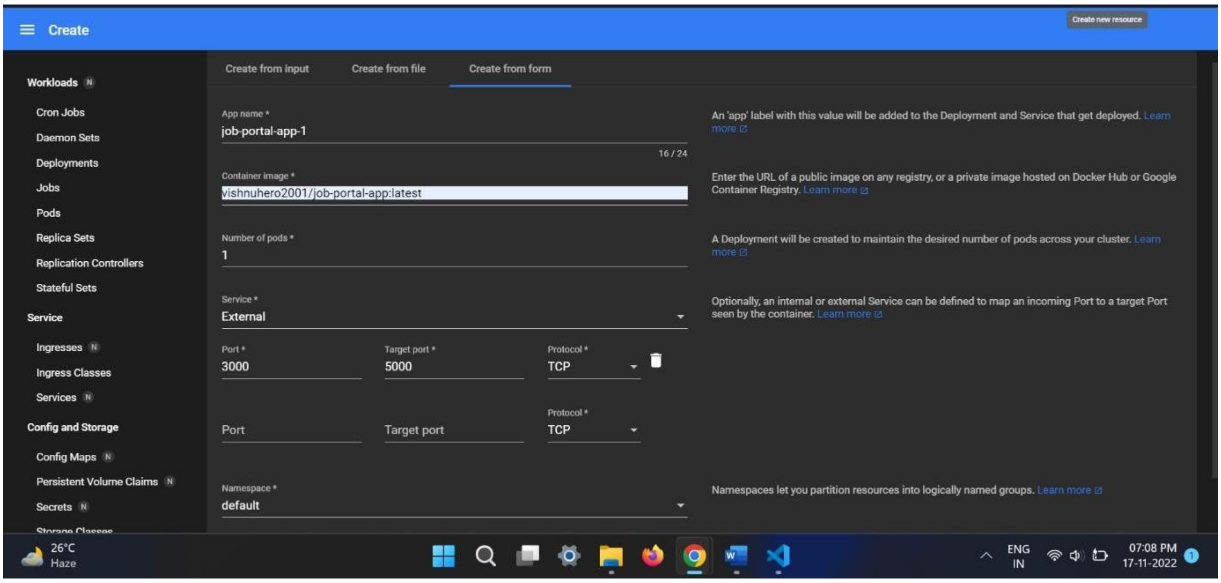
4.Create a Kubernetes cluster in IBM cloud and deploy helloworld image or jobportal image and also expose the same app to run in nodeport.

*login to ibmcloud

* Create a Kubernetes cluster

*go to Kubernetes dashboard

*create a new one



App name *
job-portal-app-1
16 / 24

An 'app' label with this value will be added to the Deployment and Service that get deployed. Learn more

Container image *
vishnuhero2001/job-portal-app:latest

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

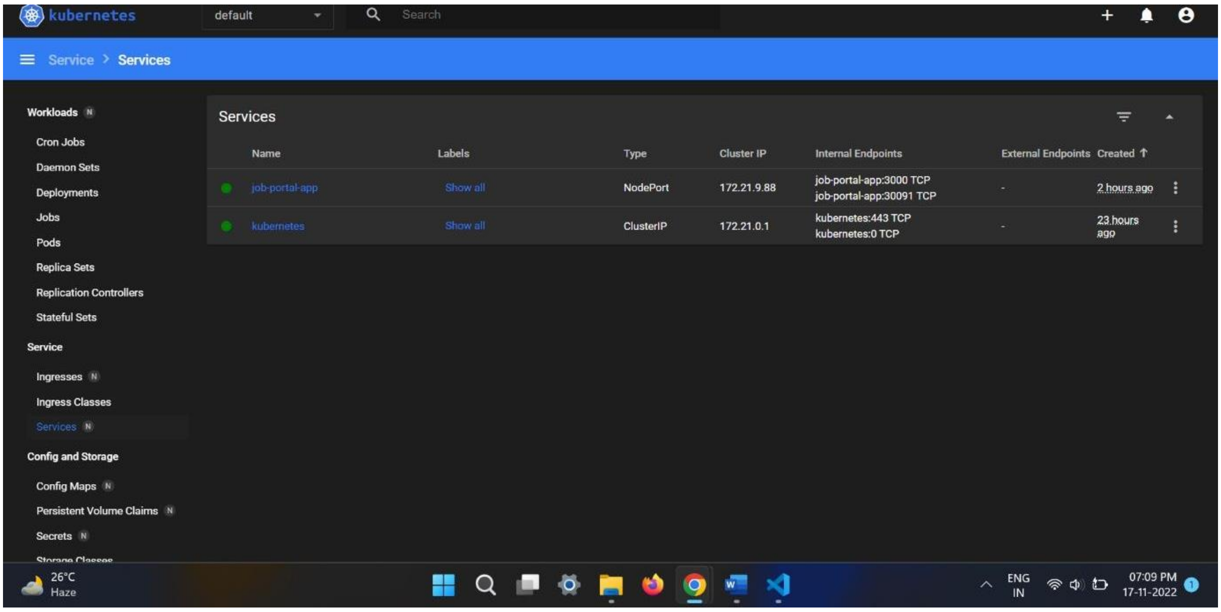
Port * 3000 | Target port * 5000 | Protocol * TCP

Port | Target port | Protocol * TCP

Namespace *
default

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

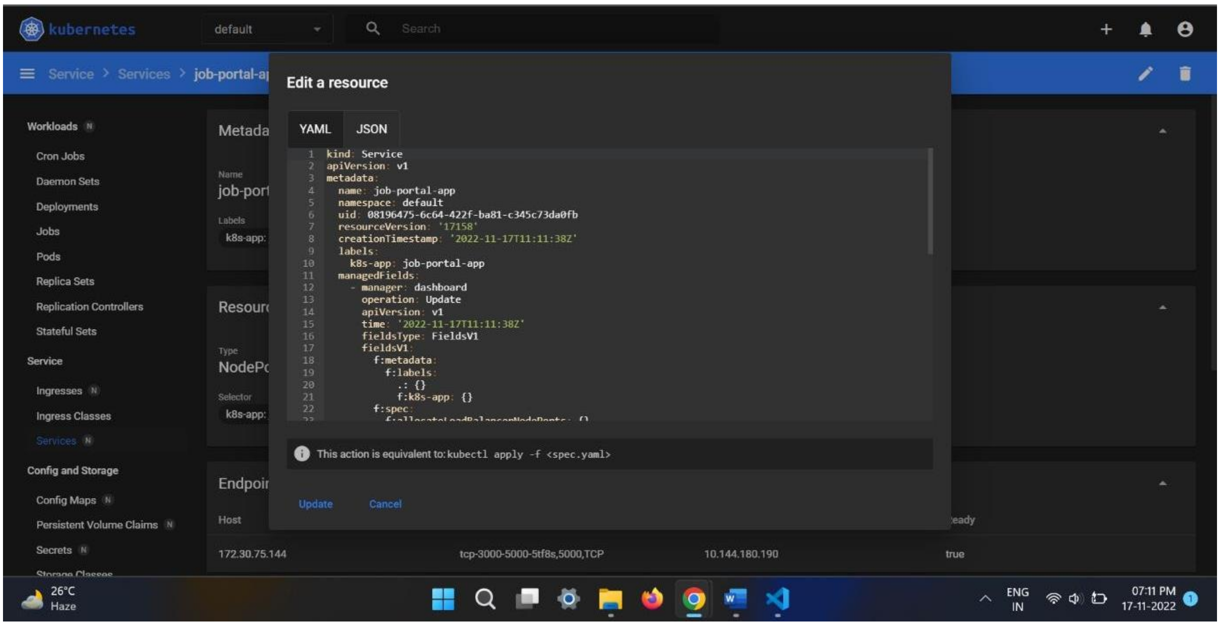
*go to services



Services

Name	Labels	Type	Cluster IP	Internal Endpoints	External Endpoints	Created ↑
job-portal-app	Show all	NodePort	172.21.9.88	job-portal-app:3000 TCP job-portal-app:30091 TCP	-	2 hours ago
kubernetes	Show all	ClusterIP	172.21.0.1	kubernetes:443 TCP kubernetes:0 TCP	-	23 hours ago

*click edit option to see the yaml file



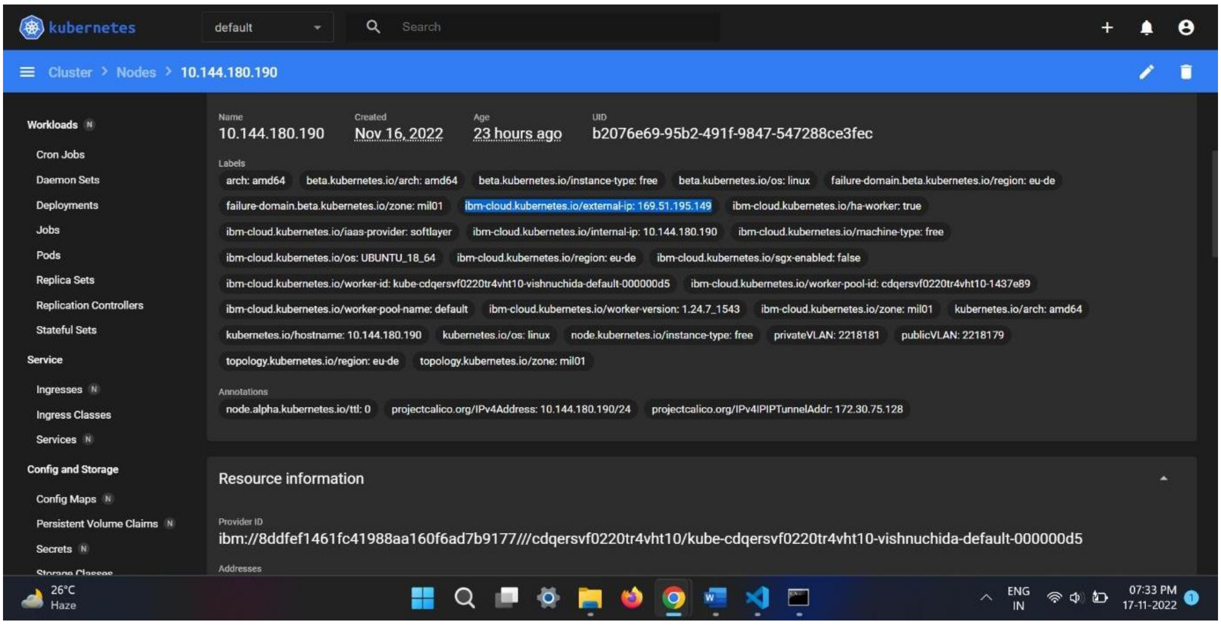
Edit a resource

```
kind: Service
apiVersion: v1
metadata:
  name: job-portal-app
  namespace: default
  uid: 08196475-6c64-422f-ba81-c345c73da0fb
  resourceVersion: '17158'
  creationTimestamp: '2022-11-17T11:11:38Z'
  labels:
    k8s-app: job-portal-app
  managedFields:
    - manager: dashboard
      operation: Update
      apiVersion: v1
      time: '2022-11-17T11:11:38Z'
      fieldsType: FieldsV1
      fieldsV1:
        f:metadata:
          f:labels:
            .: {}
            f:k8s-app: {}
        f:spec:
```

This action is equivalent to: `kubectl apply -f <spec.yaml>`

Host			Ready
172.30.75.144	tcp-3000-5000-5tf8s,5000,TCP	10.144.180.190	true

*delopyment id



Name	Created	Age	UID
10.144.180.190	Nov 16, 2022	23 hours ago	b2076e69-95b2-491f-9847-547288ce3fec

Labels

arch: amd64 · beta.kubernetes.io/arch: amd64 · beta.kubernetes.io/instance-type: free · beta.kubernetes.io/os: linux · failure-domain.beta.kubernetes.io/region: eu-de · failure-domain.beta.kubernetes.io/zone: mil01 · ibm-cloud.kubernetes.io/external-ip: 169.51.195.149 · ibm-cloud.kubernetes.io/ha-worker: true · ibm-cloud.kubernetes.io/iaas-provider: softlayer · ibm-cloud.kubernetes.io/internal-ip: 10.144.180.190 · ibm-cloud.kubernetes.io/machine-type: free · ibm-cloud.kubernetes.io/os: UBUNTU_18_64 · ibm-cloud.kubernetes.io/region: eu-de · ibm-cloud.kubernetes.io/sgx-enabled: false · ibm-cloud.kubernetes.io/worker-id: kube-cdqersvf0220tr4vht10-vishnuchida-default-000000d5 · ibm-cloud.kubernetes.io/worker-pool-id: cdqersvf0220tr4vht10-1437e89 · ibm-cloud.kubernetes.io/worker-pool-name: default · ibm-cloud.kubernetes.io/worker-version: 1.24.7_1543 · ibm-cloud.kubernetes.io/zone: mil01 · kubernetes.io/arch: amd64 · kubernetes.io/hostname: 10.144.180.190 · kubernetes.io/os: linux · node.kubernetes.io/instance-type: free · privateVLAN: 2218181 · publicVLAN: 2218179 · topology.kubernetes.io/region: eu-de · topology.kubernetes.io/zone: mil01

Annotations

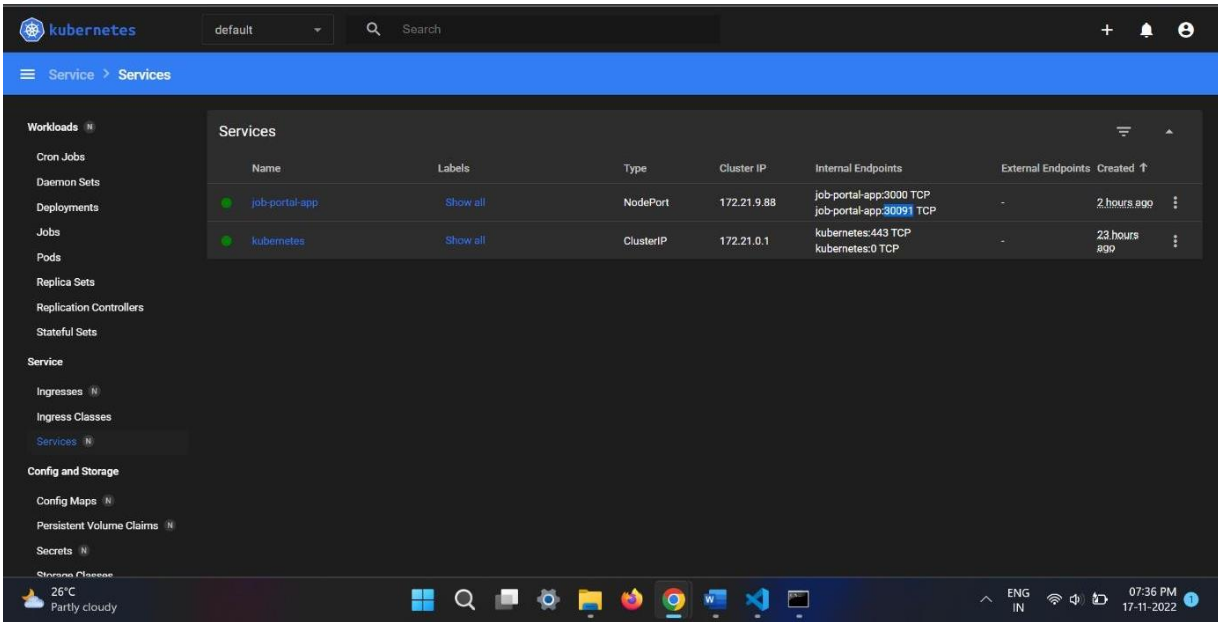
node.alpha.kubernetes.io/ttl: 0 · projectcalico.org/IPv4Address: 10.144.180.190/24 · projectcalico.org/IPv4IPIPTunnelAddr: 172.30.75.128

Resource information

Provider ID
ibm://8ddfef1461fc41988aa160f6ad7b9177///cdqersvf0220tr4vht10/kube-cdqersvf0220tr4vht10-vishnuchida-default-000000d5

Addresses

Copy the ip and port numer

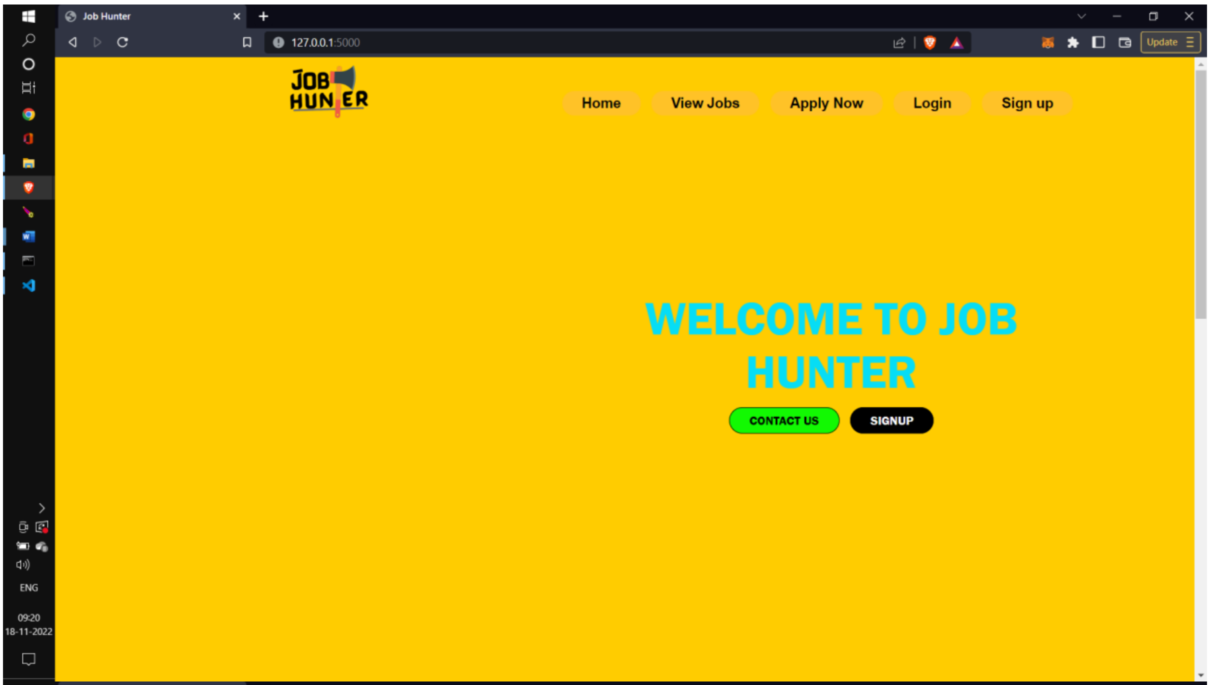


Services

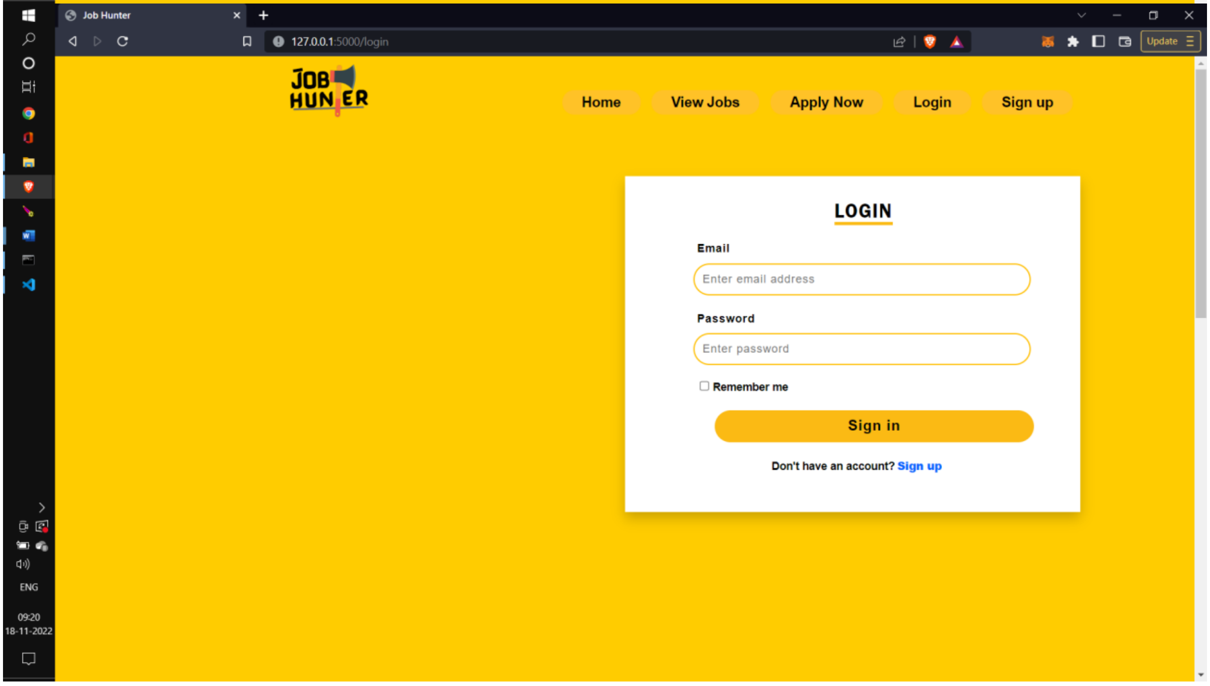
	Name	Labels	Type	Cluster IP	Internal Endpoints	External Endpoints	Created ↑
●	job-portal-app	Show all	NodePort	172.21.9.88	job-portal-app:3000 TCP job-portal-app:30091 TCP	-	2 hours ago
●	kubernetes	Show all	ClusterIP	172.21.0.1	kubernetes:443 TCP kubernetes:0 TCP	-	23 hours ago

*paste the ip and port numer in browser

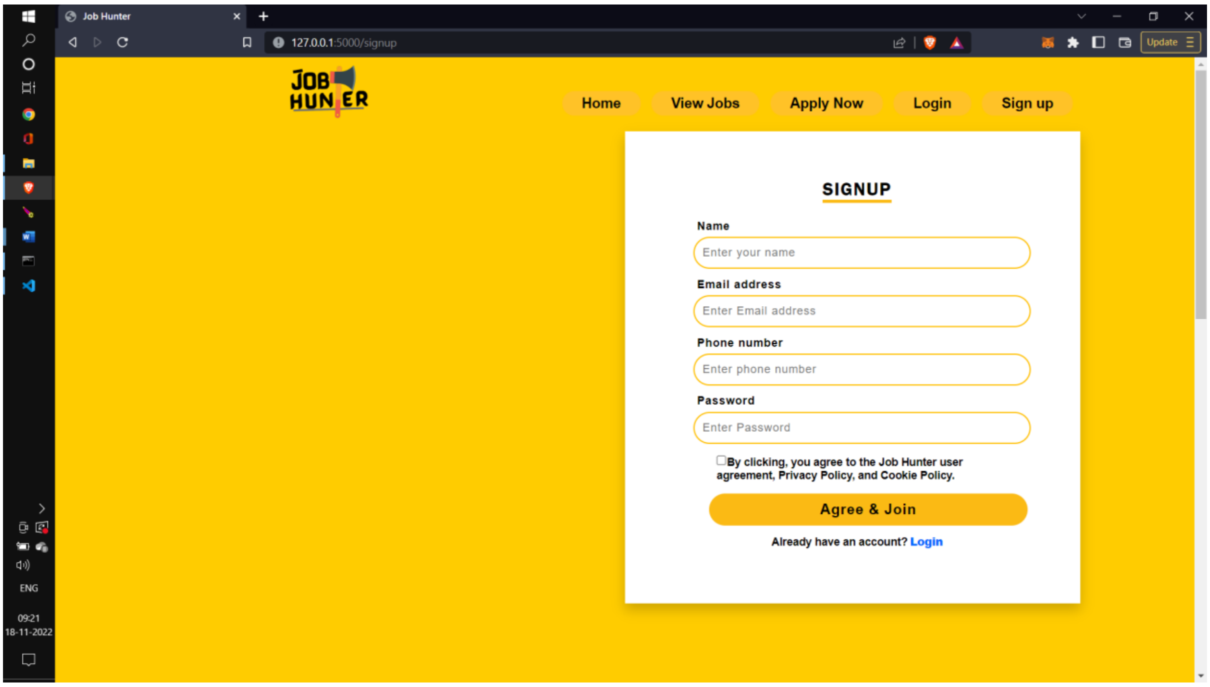
output screen



WELCOME TO JOB HUNTER



Don't have an account? Sign up



SIGNUP

Name

Enter your name

Email address

Enter Email address

Phone number

Enter phone number

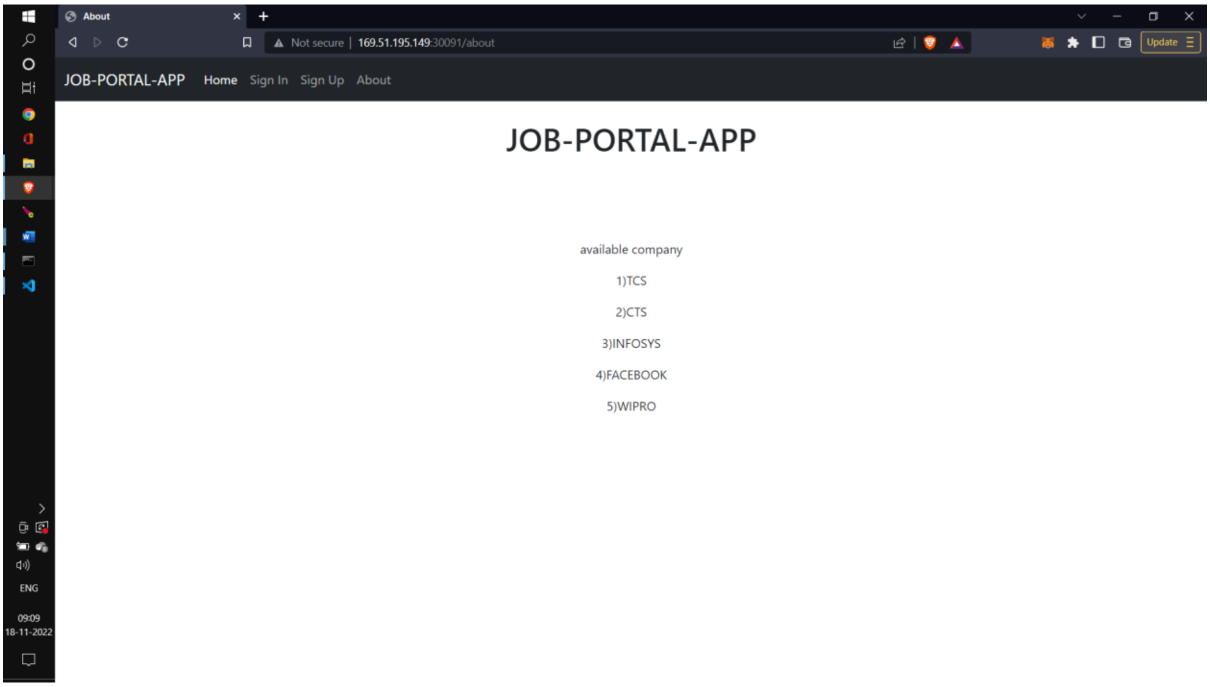
Password

Enter Password

□ By clicking, you agree to the Job Hunter user agreement, Privacy Policy, and Cookie Policy.

Agree & Join

Already have an account? Login



JOB-PORTAL-APP

available company

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2)CTS

3)INFOSYS

4)FACEBOOK

5)WIPRO