Assignment 4

Cloud Application Development

Date	**31 October 2022**
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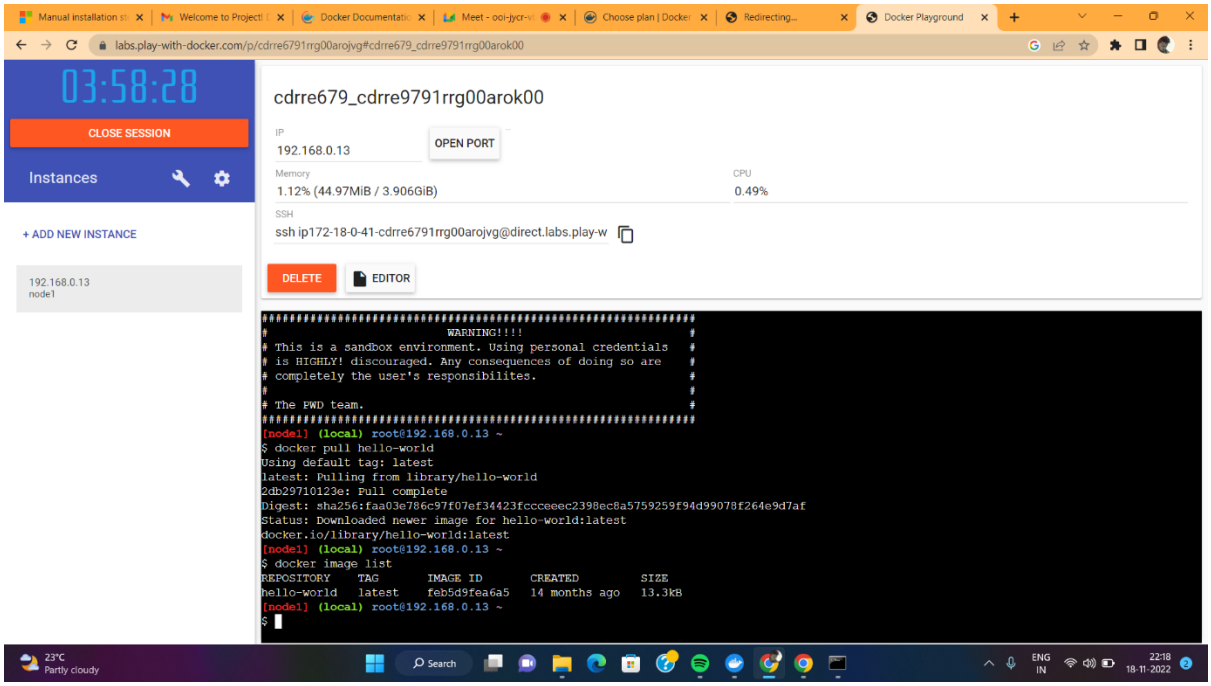
Maximum Marks	**2marks**

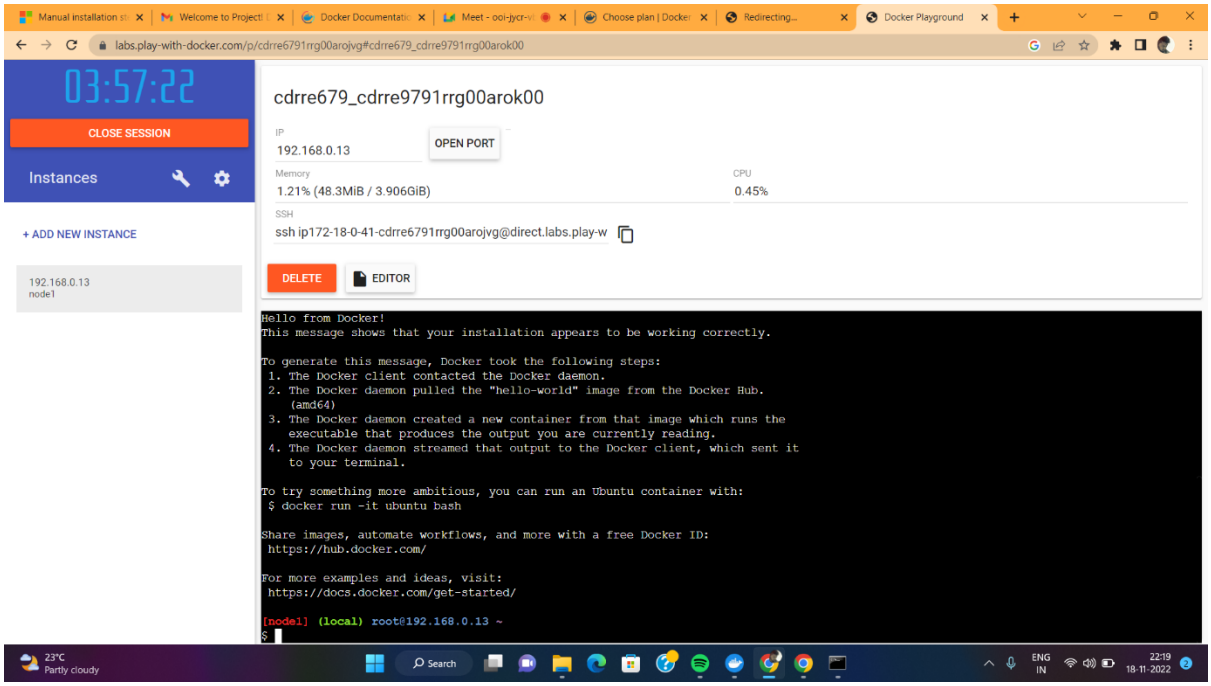
1.Pull an Image from docker hub and run it in docker playground.

Pushed my own Image to Docker Hub and used that for this assignment.

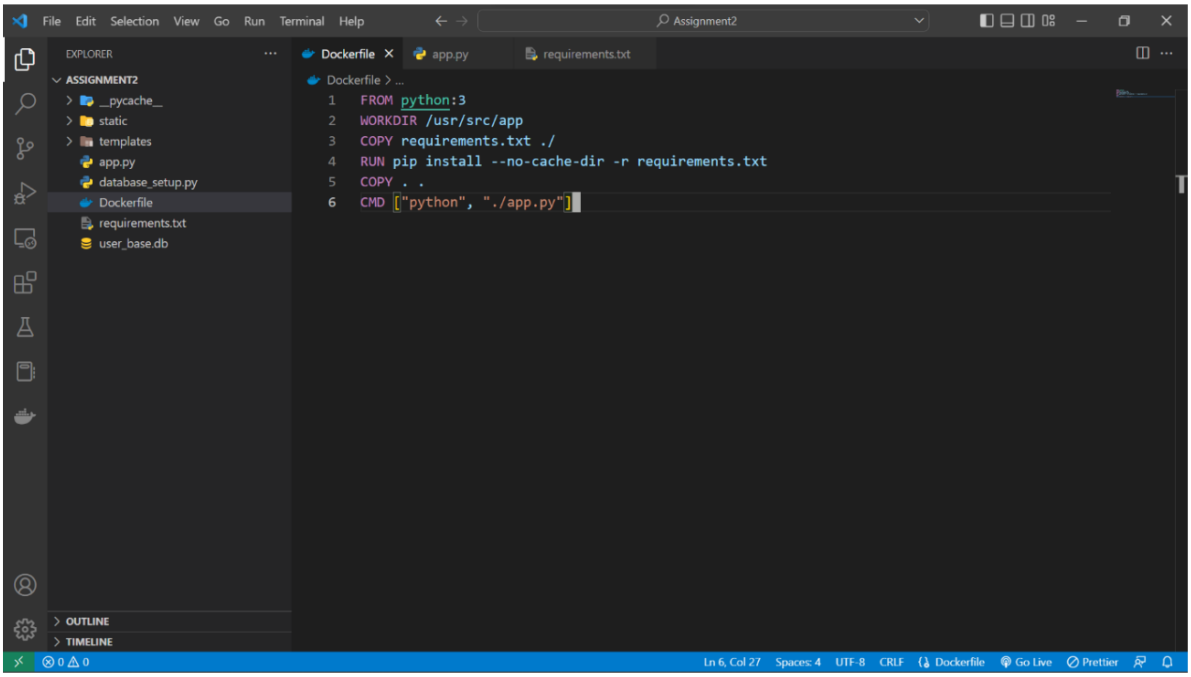
$docker pull hello-world

$docker image list



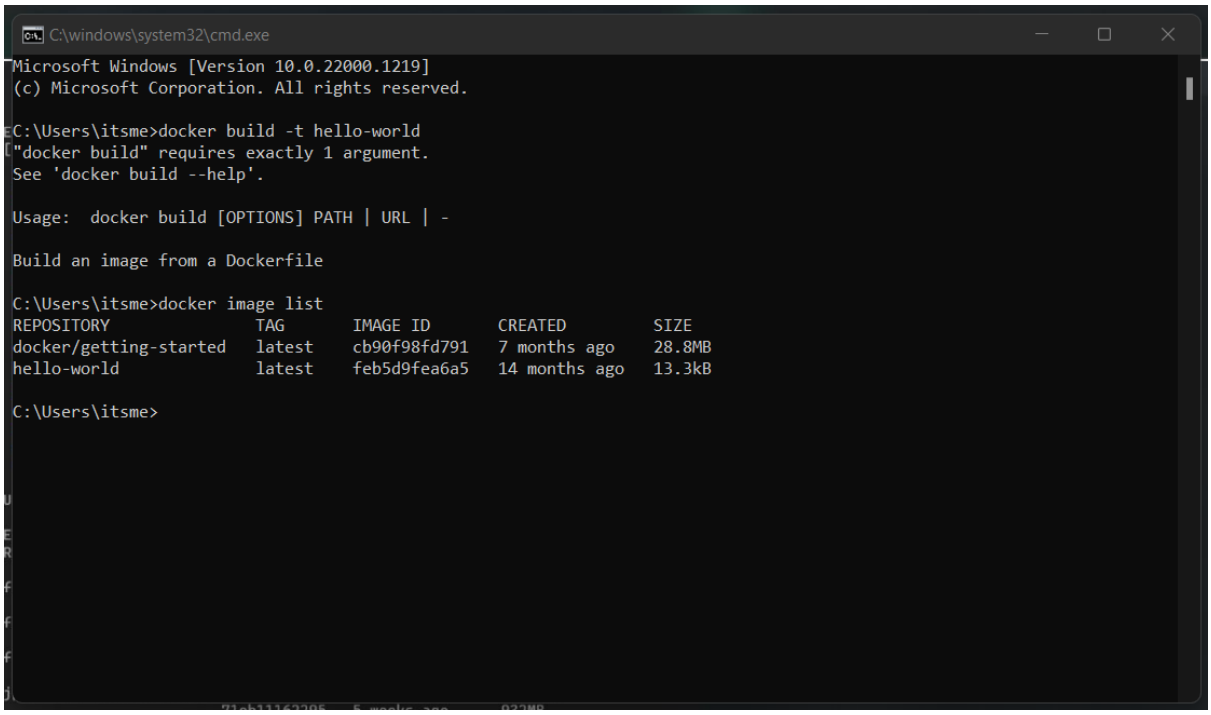


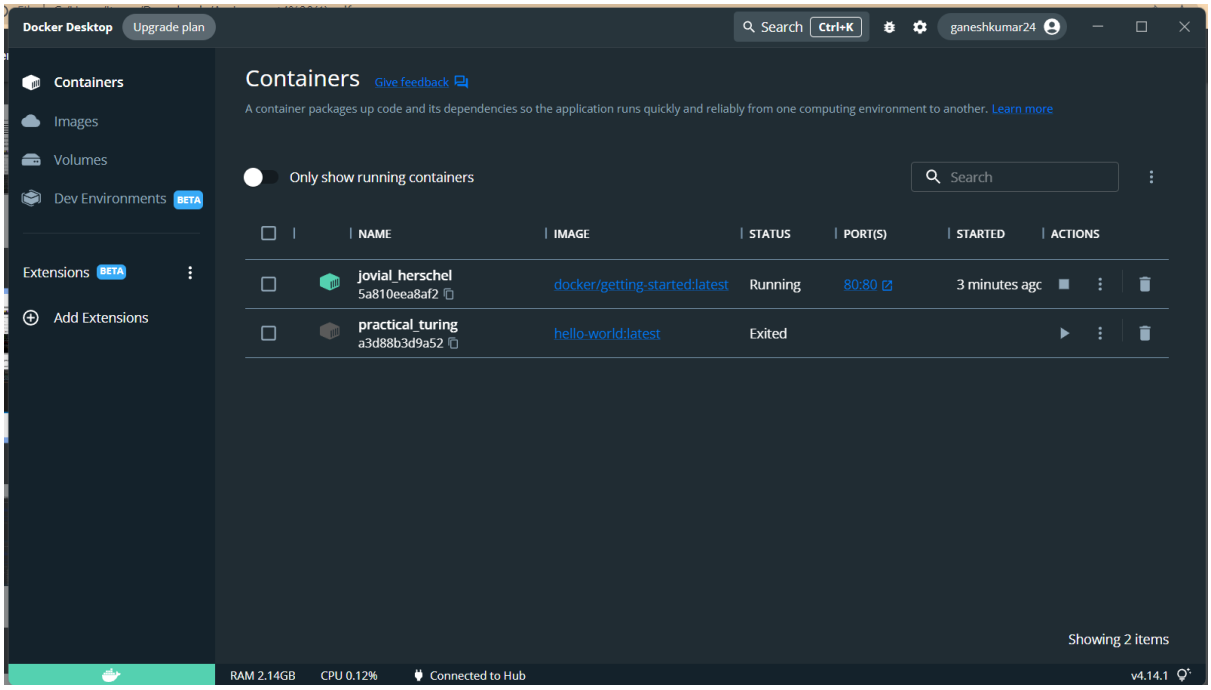
2.Create a docker file for the jobportal application and deploy it in Docker desktop application.



$docker build -t hello-world

$docker image list





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

Pushed the image to ibm container registry.

ibmcloud login

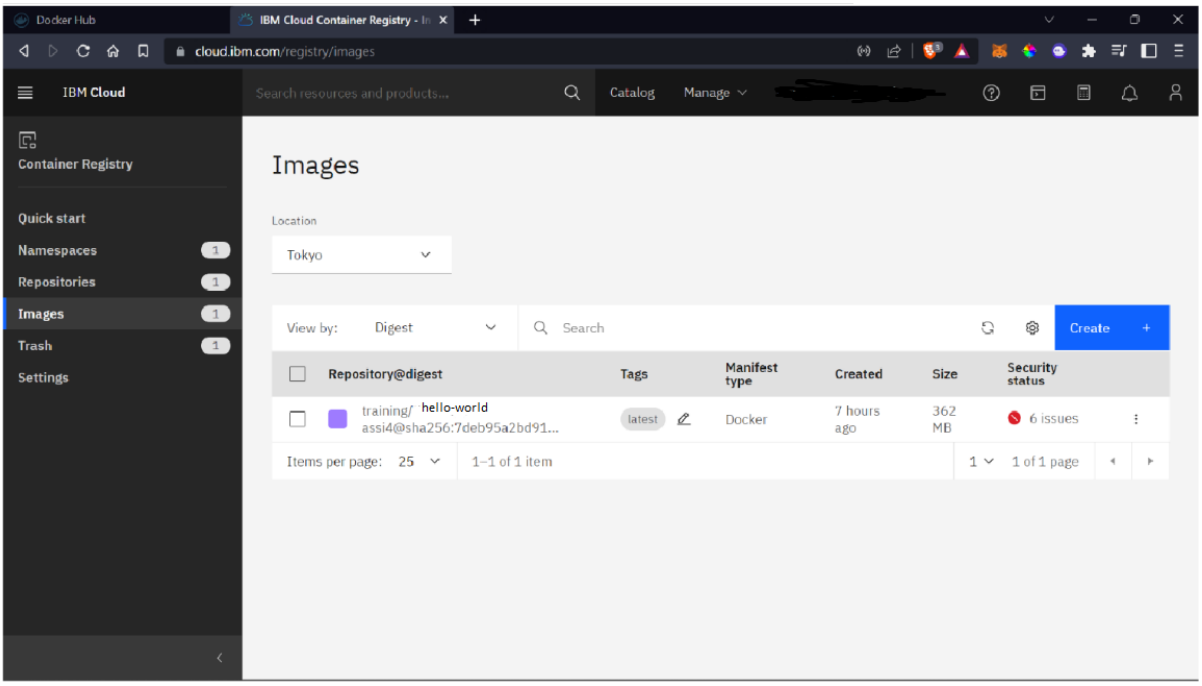
ibmcloud plugin install container-registry -r “IBM Cloud”

ibmcloud cr namespace-add training

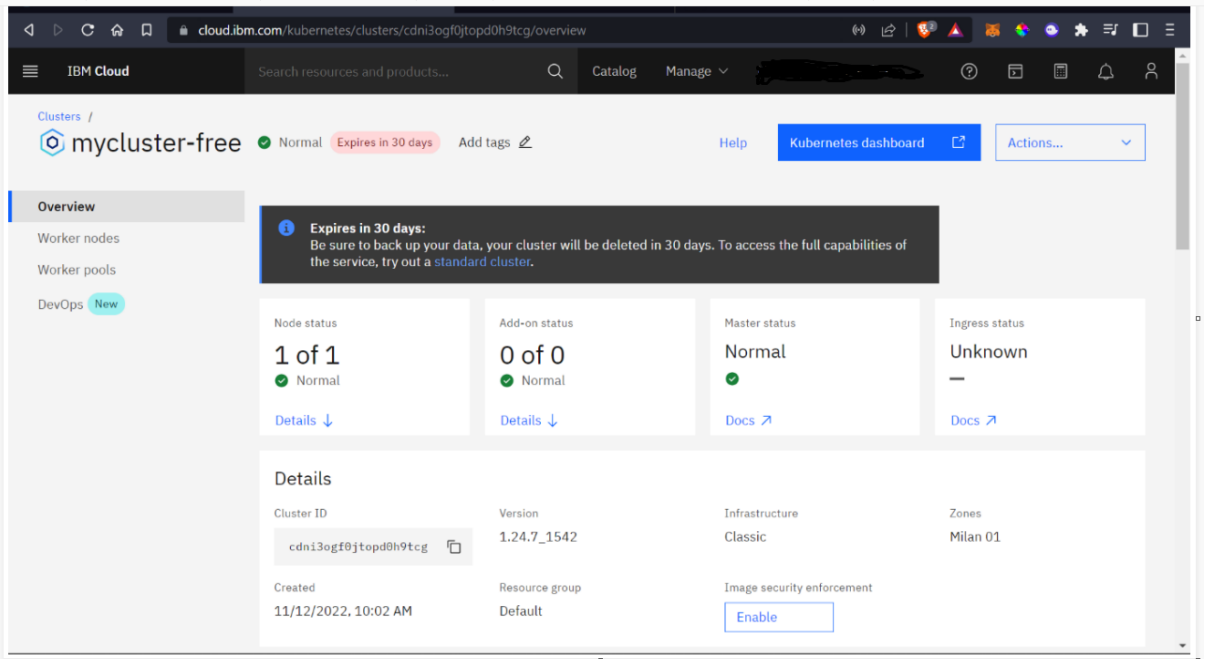
ibmcloud cr login

docker tag hello-world jp.icr.io/training/hello-world:latest

docker push jp.icr.io/training/hello-world:latest



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.



ibmcloud plugin install container-service

ibmcloud ks cluster config --cluster cdni3ogf0jtopd0h9tcg

kubectl config current-context

ibm_deployment.yaml

```
apiVersion: apps/v1
kind: Deployment
metadata:
 name: hello-world
spec:
 replicas: 5
 selector:
 matchLabels:
 app: hello-world
 template:
 metadata:
 labels:
 app: hello-world

 spec:
 containers:
 - name: hello-world-container
 image: jp.icr.io/training/hello-world
 imagePullPolicy: Always
 ports:
 - containerPort: 5000
 protocol: TCP
```

hello-world_service.yaml

```
apiVersion: v1
kind: Service
metadata:
 name: hello-world-service
spec:
 type: ClusterIP
 ports:
 - port: 5000
 selector:
 app: hello-world
```

hello-world_ingress.yaml

```
apiVersion: networking.k8s.io/v1
kind: Ingress
metadata:
 name: hello-world-ingress
 annotations:
 kubernetes.io/ingress.class: nginx
 nginx.ingress.kubernetes.io/ssl-redirect: "false"
spec:
 # ingressClassName: nginx
 rules:
 - http:
 paths:
 - backend:
 service:
 name: hello-world-service
```

```
 port:
 number: 5000
 path: /
 pathType: Prefix
kubectl apply -f kubernetes/ibm_deployment.yaml
kubectl apply -f kubernetes/hello-world_service.yaml
kubectl apply -f kubernetes/hello-world_ingress.yaml
kubectl expose deployment hello-world --type=NodePort --name=hello-world
```