Assignment - 4
Docker and Kubernetes

Assignment Date	19.11.2022
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Student Roll Number	913019104003
Maximum Marks	2 Marks

Question-1:

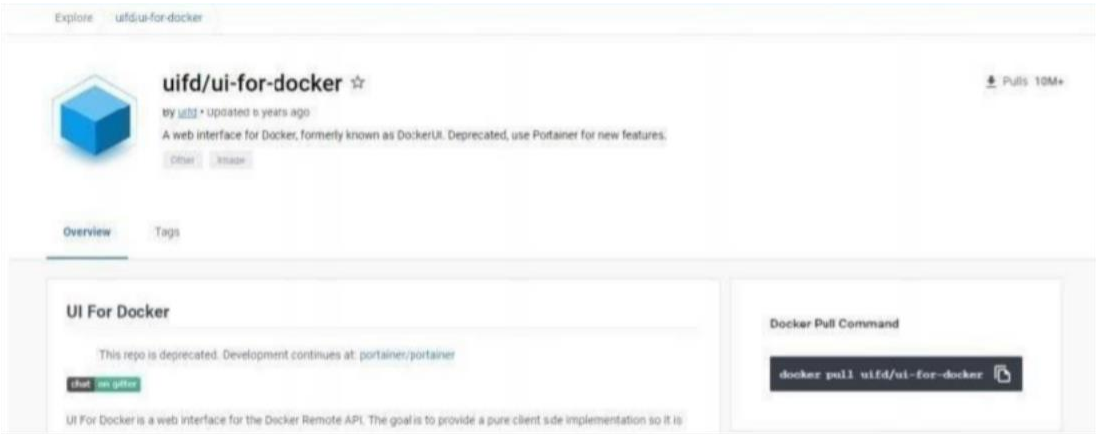
1. Pull an Image from docker hub and run it in docker playground.

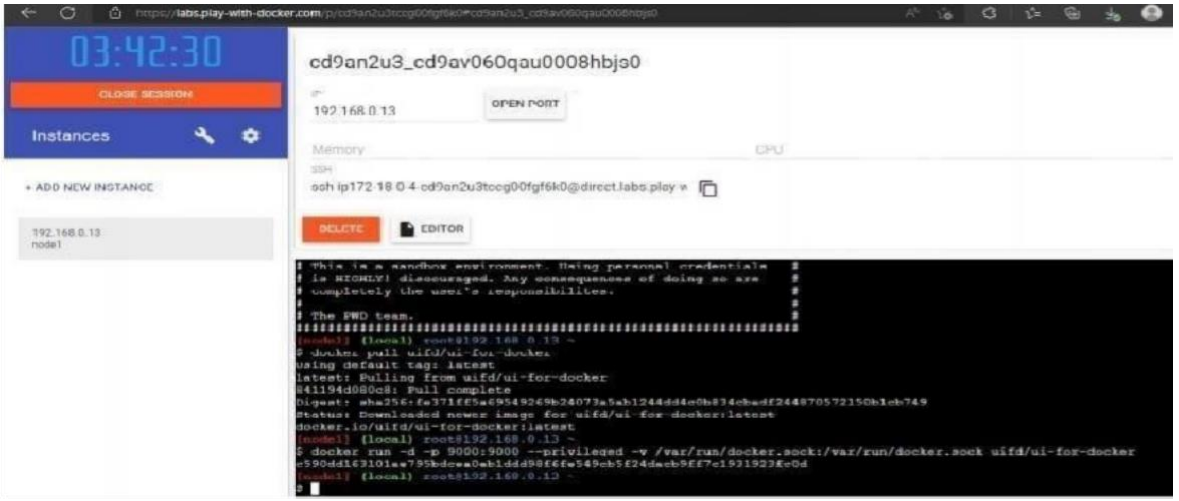
Solution:

docker run --rm -p 8787:8787 rocker/verse
docker pull rocker/verse
docker login --username=nishanthc --email=ssnehasri178@gmail.com
WARNING: login credentials saved in
/home/nishanthc/.docker/config.jsonLogin Succeeded

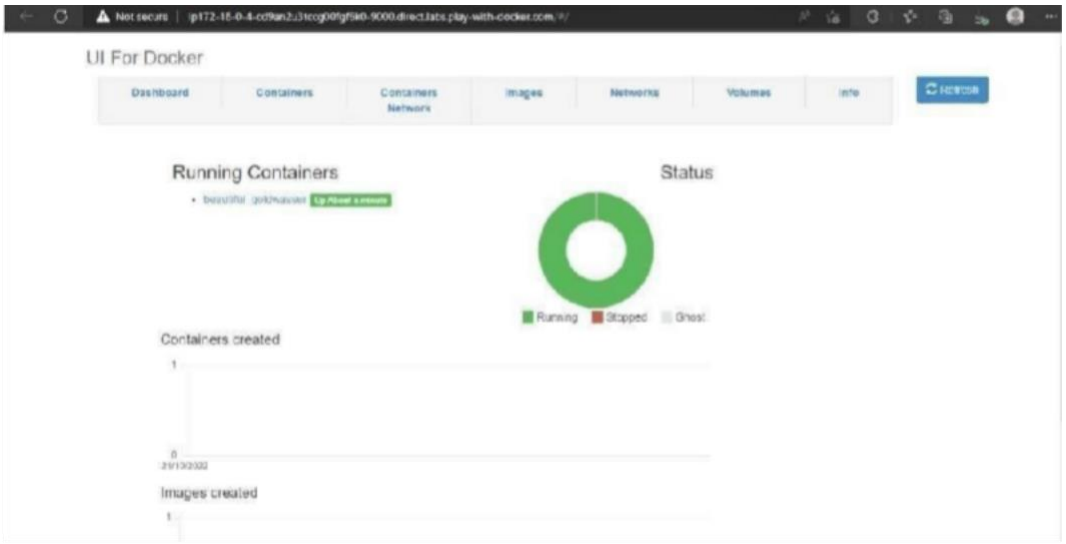
REPOSITORY TAG IMAGE ID CREATED SIZE
verse_gapminder_gsl latest 023ab91c6291 3 minutes ago 1.975 GB
verse_gapminder latest bb38976d03cf 13 minutes ago 1.955 GB
rocker/verse latest 0168d115f220 3 days ago 1.954 GB
docker tag bb38976d03cf nishanthc
/verse_gapminder:firsttry
docker push nishanthc
/verse_gapminder

Saving and loading images
docker save
verse_gapminder
docker save verse_gapminder > verse_gapminder.tar
docker load --input verse_gapminder.tar
docker load --input verse_gapminder.tar




03:42:30
CLOSE SESSION
Instances
+ ADD NEW INSTANCE
192.168.0.13
node1
cd9an2u3_cd9av060qau0008hbjs0
192.168.0.13
OPEN PORT
Memory
CPU
DELETE
EDITOR
$ docker pull uifd/ui-for-docker
Using default tag: latest
latest: Pulling from uifd/ui-for-docker
Digest: sha256:fe371ff5a69549269b24073a5ab1244dd4e0b834cbadf244870572150b1cb749
Status: Downloaded newer image for uifd/ui-for-docker:latest
docker.io/uifd/ui-for-docker:latest
$ docker run -d -p 9000:9000 --privileged -v /var/run/docker.sock:/var/run/docker.sock uifd/ui-for-docker

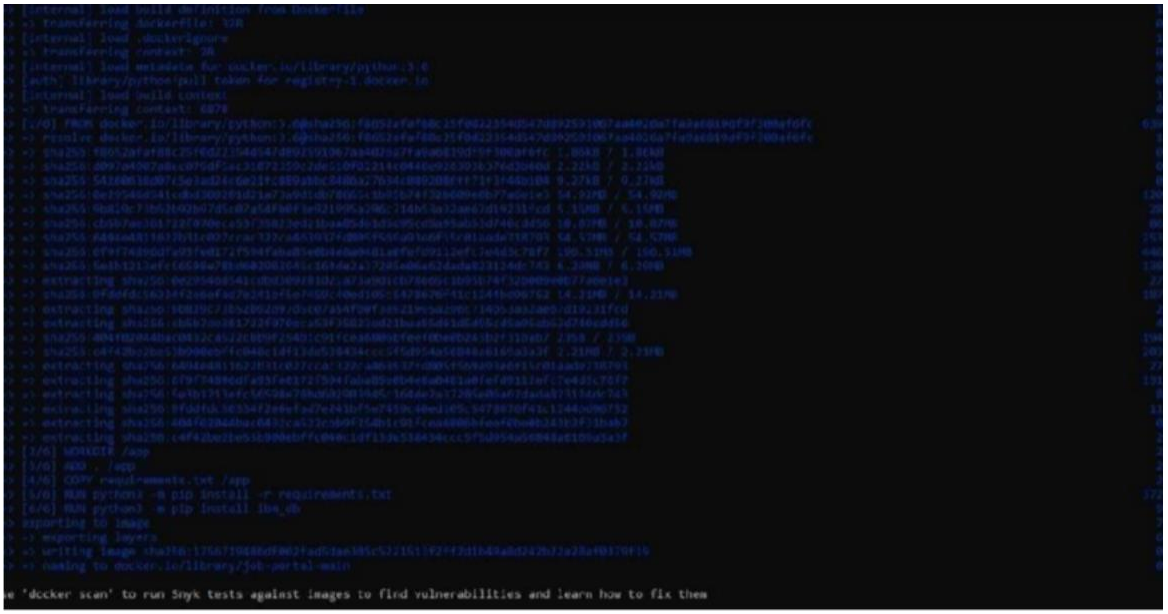

UI For Docker
Dashboard
Containers
Containers Network
Images
Networks
Volumes
Info
Refresh
UI For Docker
The UI for Docker container engine
Learn more
Running Containers
Status

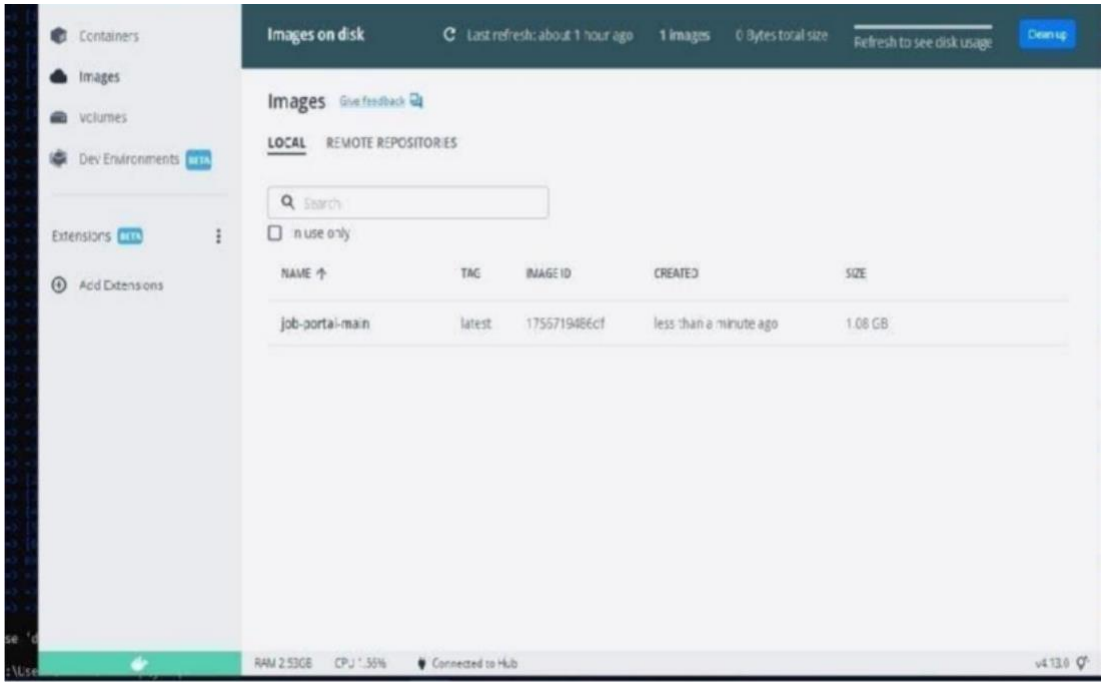

UI For Docker
Dashboard
Containers
Containers Network
Images
Networks
Volumes
Info
Refresh
Running Containers
Status
Running
Stopped
Ghost
Containers created
Images created

Question-2:

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

SOLUTION:



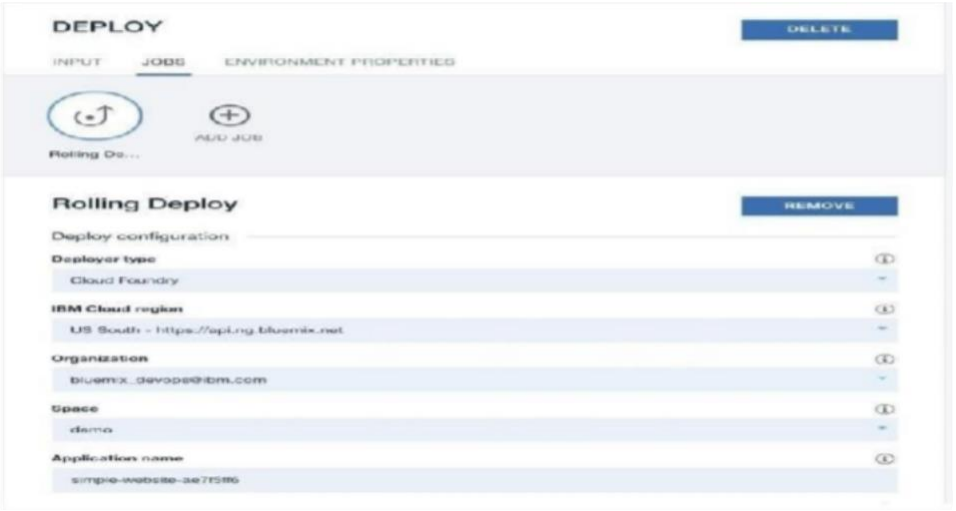


QUESTION-3:

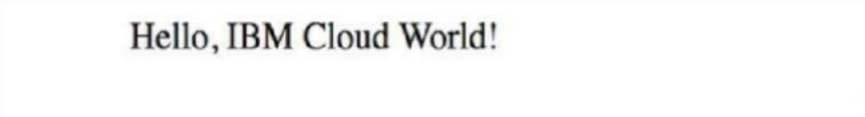
3. Create a IBM container registry and deploy helloworld app or jobportalapp.

Solution:

```
        <html>
    <body>
        Hello, IBM Cloud World!
    </body>
</html>---
applications:
- buildpack: https://github.com/cloudfoundry/staticfile-buildpack.git
  host: simple-website-${random}
  name: simple-website-${random}
  memory: 64M
  stack: cflinuxfs2
```




```
{
  "ServiceId": "com.ibm.cloudoe.orion.client.deploy",
  "Params": {
    "Target": {
      "Url": "https://api.ng.bluemix.net",
      "Org": "bluemix_devops@ibm.com",
      "Space": "demo"
    },
    "Name": "simple-website-ae7f5ff6",
    "Instrumentation": {}
  },
  "Path": "manifest.yml",
  "Type": "Cloud Foundry"
}
```

QUESTION-4:

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.

Solution:

ibmcloud target -g <resource_group_name>ibmcloud cr nishanthc-add <your_nishanthc>ibmcloudresource service-instance-create example-postgresql databases-for-postgresql standard us- southibmcloud ks cluster-service-bind mycluster default example-postgresqlgit clone -b node git@github.com:IBM-Cloud/clouddatabases-helloworld-kubernetes-examples.gitspec:

replicas: 3name: cloudpostgres-nodejs-app

image: "registry.<region>.bluemix.net/<namespace>/icdpg" # Edit me

imagePullPolicy: Alwaysibmcloud cr regionYou are targeting region 'us-south', the registry is 'registry.ng.bluemix.net'.ibmcloud cr build -t registry.ng.bluemix.net/<namespace>/icdpg .ibmcloud cr images

env:

- name: BINDING

valueFrom:

secretKeyRef:

name: <postgres-secret-name> # Edit me

key: binding

apiVersion: v1

kind: Service

metadata:

name: cloudpostgres-service

labels:

run: clouddb-demo

spec:

type: NodePort

selector:

run: clouddb-demo

ports:

- protocol: TCP

port: 8080

nodePort: 30081

kubectl apply -f clouddb-deployment.yml

deployment.apps/icdpostgres-app created

service/cloudpostgres-service created

kubectl get pods -o wideibmcloud ks workers <your_cluster_name>