

Assignment - 4
Docker and Kubernetes

Assignment Date	24 October 2022
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Maximum Marks	2 Marks

Question-1:

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

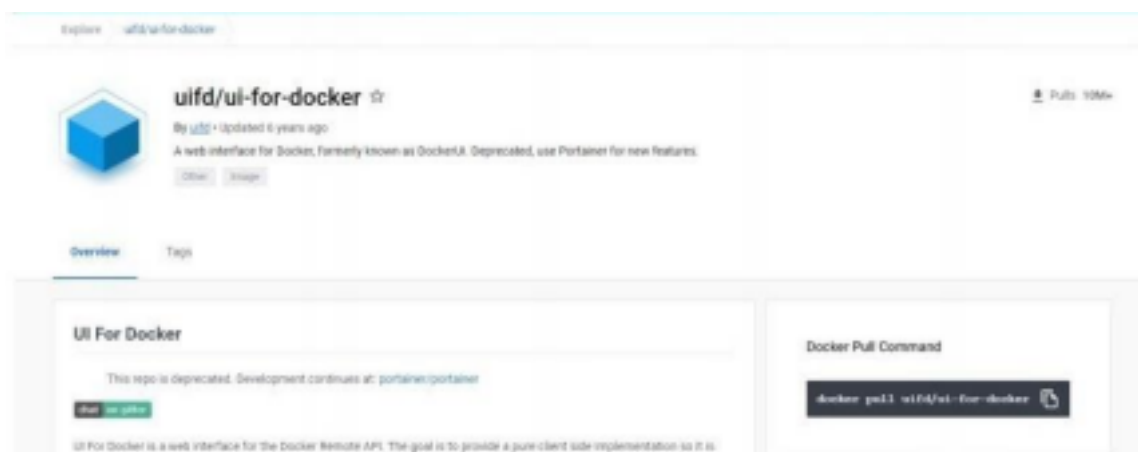
Solution:

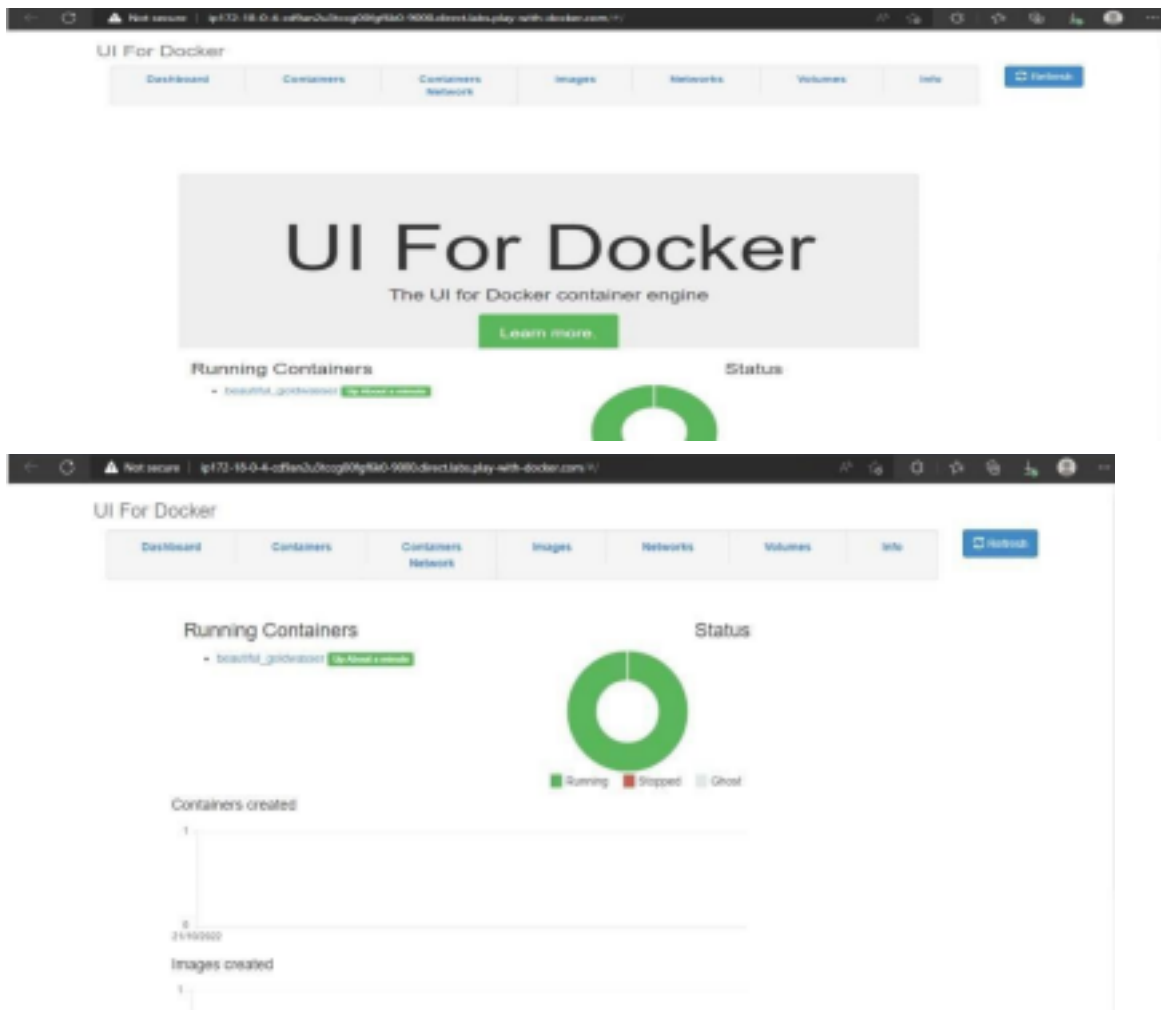
```
docker run --rm -p 8787:8787 rocker/verse
docker pull rocker/verse
docker login
--username=punithavennilan--email=punithavennila025@gmail.com WARNING:
login credentials saved in /home/punithavennilan/.docker/config.json Login
Succeeded
```

```
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 punithavennilan
/verse_gapminder:firsttry
docker push
punithavennilan/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
```





SOLUTION:

[illegible]

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

Deploy configuration	
Deployer type	Cloud Foundry
IBM Cloud region	US South - https://api.ng.bluemix.net
Organization	bluemix_devops@ibm.com
Space	demo
Application name	simple-website-ae7ff6

```

1  {
2    "ServiceId": "com.ibm.cloudoe.orion.client.deploy",
3    "Params": {
4      "Target": {
5        "Url": "https://api.ng.bluemix.net",
6        "Org": "bluemix_devops@ibm.com",
7        "Space": "demo"
8      },
9      "Name": "simple-website-ae7ff6",
10     "Instrumentation": {}
11   },
12   "Path": "manifest.yml",
13   "Type": "Cloud Foundry"
14 }

```

Hello, IBM Cloud World!

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 punithavennilan-add
 <your_punithavennilan>ibmcloud resource 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/cloudatabases-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>
```

Hello World!

Thanks for creating an [IBM Cloud Databases for PostgreSQL](#) database.

Add a word to the database

The word is defined as

Database output

```
The word bye is defined as a goodbye
The word bye is defined as a farewell
The word hello is defined as a greeting
The word hello is defined as a greeting
The word hello bob is defined as a greeting
The word hello bob is defined as a greeting
```