**Assignment - 4 Docker and Kubernetes**

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| Assignment Date | November 10 |
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| Student Roll Number | 310119205016 |
| 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=abuthahir --email=ssnehasri178@gmail.com WARNING: login credentials saved in

/home/abuthahir/.docker/config.jsonLogin Succeeded

REPOSITORY TAG IMAGE ID CREATED SIZE

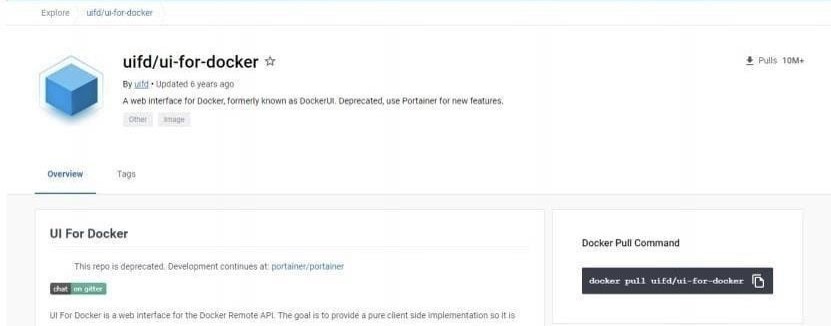
verse\_gapminder\_gsl latest 023ab91c6291 3 minutes ago 1.975 GB

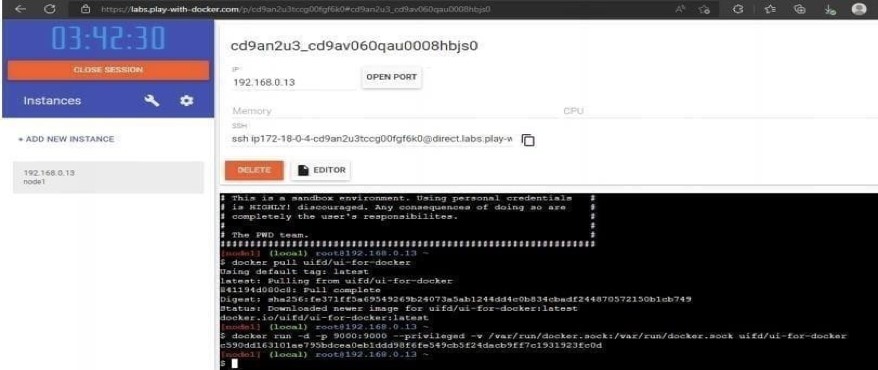
verse\_gapminder latest bb38976d03cf 13 minutes ago 1.955 GB rocker/verse latest

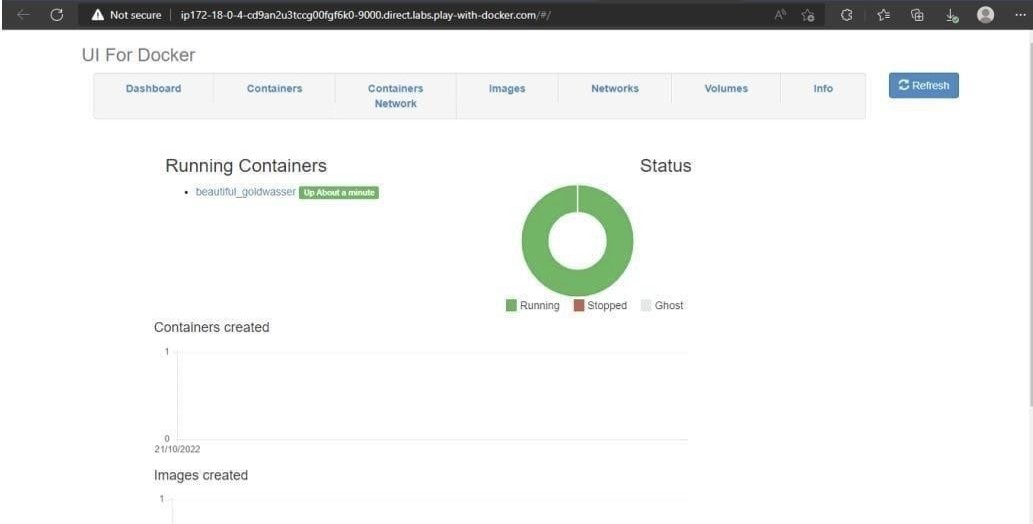
0168d115f220 3 days ago 1.954 GB docker tag bb38976d03cf abuthahir

/verse\_gapminder:firsttry docker push abuthahir /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



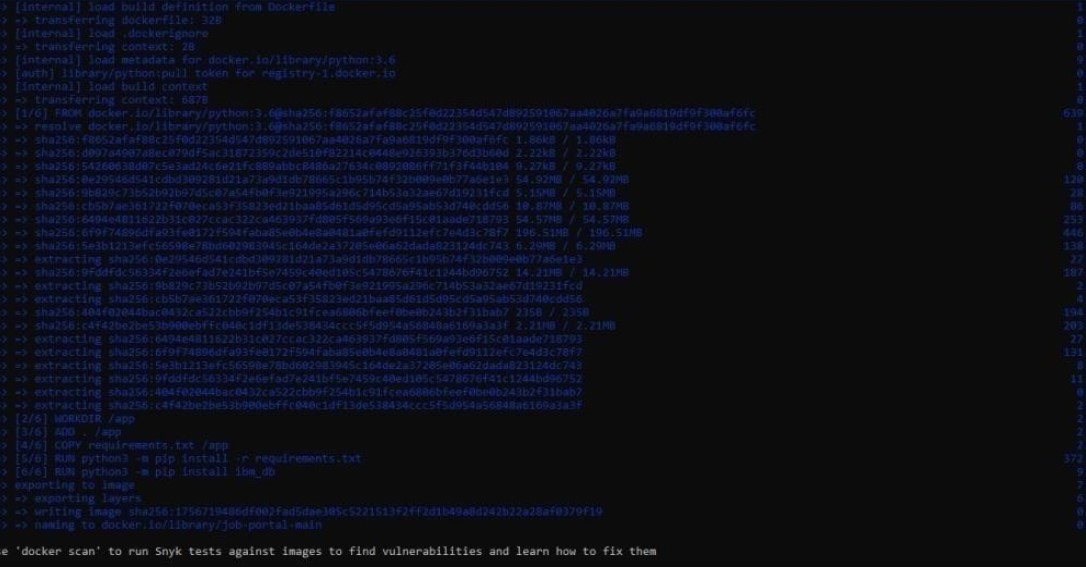


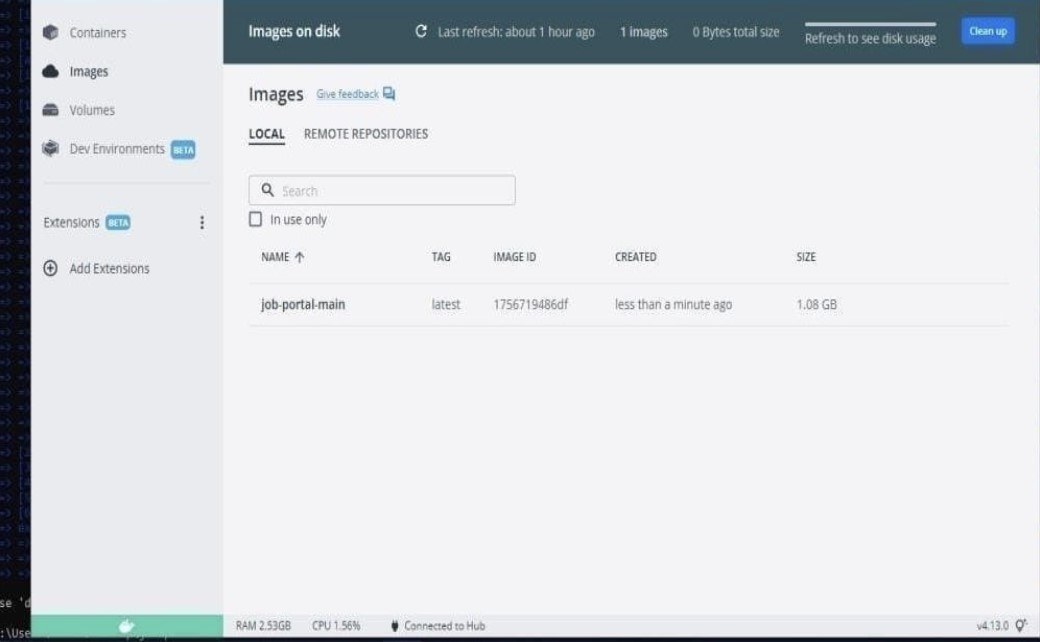


**Question-2:**

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

SOLUTION:





**\QUESTION-3:**

1. Create a IBM container registry and deploy helloworld app or jobportalapp. Solution:

<html>

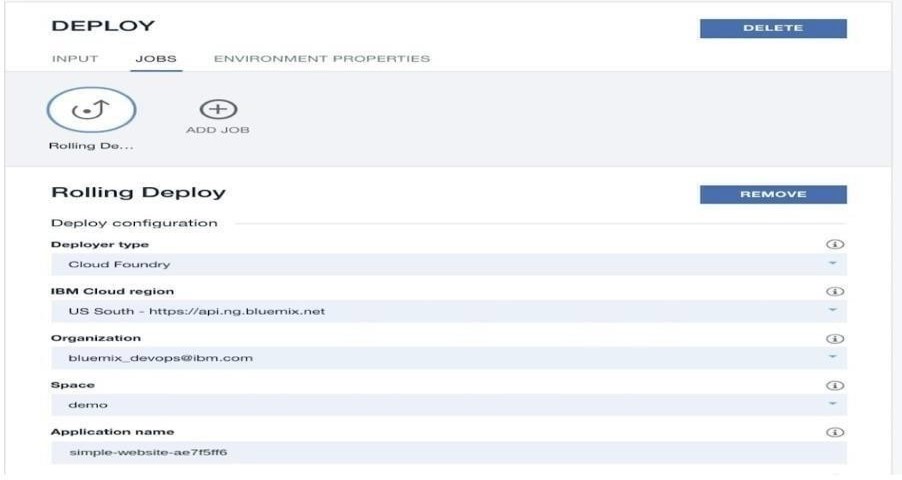
<body>

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





**QUESTION-4:**

1. 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 abuthahir-add

<your\_abuthahir>ibmcloudresource service-instance-create example-postgresql databases-forpostgresql 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>

