Assignment - 4 Docker and Kubernetes

Assignment Date

November 3

Student Name

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Student Roll Number

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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=dinesh --email=dineshrs2002@gmail.com WARNING: login credentials saved in

/home/dinesh/.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 first

/verse\_gapminder:firsttry docker push first

/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:

• 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:

• 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 example-add

<your\_example>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>