

## ASSIGNMENT-4

### DOCKER AND KUBERNETES

Assignment Date	30 October 2022
Student Name	JUHAIF AHAMED
Student Roll Number	820419104027
Maximum Marks	2 Marks

- 1.Pull an Image from docker hub and run it in docker playground.
- 2.Create a docker file for the jobportal application and deploy it in Docker desktop application.
- 3.Create a IBM container registry and deploy helloworld app or jobportalapp.
- 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.

```
C:\Users\Admin>ibmcloud cr region
You are targeting region 'global', the registry is 'icr.io'.

OK

C:\Users\Admin>docker tag hello-world:latest uk.icr.io/namespace1/hw_repo:1

C:\Users\Admin>docker tag hello-world:latest icr.io/elizabeth/helloworld:1

C:\Users\Admin>docker push icr.io/elizabeth/helloworld:1
The push refers to repository [icr.io/elizabeth/helloworld]
e07ee1baac5f: Preparing
unauthorized: The login credentials are not valid, or your IBM Cloud account is not active.

C:\Users\Admin>ibmcloud cr login --client docker
Logging 'docker' in to 'icr.io'...
Logged in to 'icr.io'.

OK

C:\Users\Admin>docker push icr.io/elizabeth/helloworld:1
The push refers to repository [icr.io/elizabeth/helloworld]
e07ee1baac5f: Pushed
1: digest: sha256:f54a58bc1aac5ea1a25d796ae155dc228b3f0e11d046ae276b39c4bf2f13d8c4 size: 525

C:\Users\Admin>
```

```
[node1] (local) root@192.168.0.8 ~
$ docker pull hello-world:latest
latest: Pulling from library/hello-world
2db29710123e: Pull complete
Digest: sha256:e18f0a777aefabe047a671ab3ec3eed05414477c951ab1a6f352a06974245fe7
Status: Downloaded newer image for hello-world:latest
docker.io/library/hello-world:latest
[node1] (local) root@192.168.0.8 ~
$ docker run hello-world
```

Hello from Docker!  
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:

1. The Docker client contacted the Docker daemon.
2. The Docker daemon pulled the "hello-world" image from the Docker Hub.  
(amd64)
3. The Docker daemon created a new container from that image which runs the executable that produces the output you are currently reading.
4. The Docker daemon streamed that output to the Docker client, which sent it to your terminal.

to your terminal.

To try something more ambitious, you can run an Ubuntu container with:

```
$ docker run -it ubuntu bash
```

Share images, automate workflows, and more with a free Docker ID:

<https://hub.docker.com/>

For more examples and ideas, visit:

<https://docs.docker.com/get-started/>

```
[node1] (local) root@192.168.0.8 ~
$
```

```
#####
#                               WARNING!!!!                               #
# This is a sandbox environment. Using personal credentials               #
# is HIGHLY! discouraged. Any consequences of doing so are               #
# completely the user's responsibilities.                                  #
#                                                                           #
# The PWD team.                                                            #
#####
[node1] (local) root@192.168.0.8 ~
$ docker pull hello-world:latest
latest: Pulling from library/hello-world
2db29710123e: Pull complete
Digest: sha256:e18f0a777aefabe047a671ab3ec3eed05414477c951ab1a6f352a06974245fe7
Status: Downloaded newer image for hello-world:latest
docker.io/library/hello-world:latest
[node1] (local) root@192.168.0.8 ~
$ docker run hello-world
```

Hello from Docker!  
This message shows that your installation appears to be working correctly.

**DOCKER FILE:**  
**FROM** nginx  
**COPY** . /usr/share/nginx/html  
**EXPOSE** 80

Docker Desktop

Upgrade plan

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Containers

Images

Volumes

Dev Environments BETA

Extensions BETA

⊕ Add Extensions

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🏠 jobportal icr.io/elizabeth/jobportal:1

RUNNING

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Logs

Inspect

Terminal

Stats

/docker-entrypoint.sh: /docker-entrypoint.d/ is not empty, will attempt to perform configuration

/docker-entrypoint.sh: Looking for shell scripts in /docker-entrypoint.d/

/docker-entrypoint.sh: Launching /docker-entrypoint.d/10-listen-on-ipv6-by-default.sh

10-listen-on-ipv6-by-default.sh: info: Getting the checksum of /etc/nginx/conf.d/default.conf

10-listen-on-ipv6-by-default.sh: info: Enabled listen on IPv6 in /etc/nginx/conf.d/default.conf

/docker-entrypoint.sh: Launching /docker-entrypoint.d/20-envsubst-on-templates.sh

/docker-entrypoint.sh: Launching /docker-entrypoint.d/30-tune-worker-processes.sh

/docker-entrypoint.sh: Configuration complete; ready for start up

2022/10/29 16:55:54 [notice] 1#1: using the "epoll" event method

2022/10/29 16:55:54 [notice] 1#1: nginx/1.23.2

2022/10/29 16:55:54 [notice] 1#1: built by gcc 10.2.1 20210110 (Debian 10.2.1-6)

2022/10/29 16:55:54 [notice] 1#1: OS: Linux 5.10.16.3-microsoft-standard-WSL2

2022/10/29 16:55:54 [notice] 1#1: getrlimit(RLIMIT\_NOFILE): 1048576:1048576

2022/10/29 16:55:54 [notice] 1#1: start worker processes

2022/10/29 16:55:54 [notice] 1#1: start worker process 29

2022/10/29 16:55:54 [notice] 1#1: start worker process 30

2022/10/29 16:55:54 [notice] 1#1: start worker process 31

2022/10/29 16:55:54 [notice] 1#1: start worker process 32

172.17.0.1 ~ - [29/Oct/2022:16:56:05 +0000] "GET / HTTP/1.1" 200 2166 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/107.0.0.0 Safari/537.36 Edg/107.0.1418.24" "-"

2022/10/29 16:56:16 [error] 29#29: \*1 open() "/usr/share/nginx/html/favicon.ico" failed (2: No such file or directory), client: 172.17.0.1, server: localhos

t, request: "GET /favicon.ico HTTP/1.1", host: "localhost:8080", referer: "http://localhost:8080/"

172.17.0.1 ~ - [29/Oct/2022:16:56:16 +0000] "GET /favicon.ico HTTP/1.1" 404 555 "http://localhost:8080/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWeb

Kit/537.36 (KHTML, like Gecko) Chrome/107.0.0.0 Safari/537.36 Edg/107.0.1418.24" "-"

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RAM 1.72GB CPU 0.61% 📶 Connected to Hub

v4.13.0 🏠

Docker Desktop

Upgrade plan

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Containers

Give feedback

A container packages up code and its dependencies so the application runs quickly and reliably from one computing environment to another. [Learn more](#)

🔍 Only show running containers

🔍 Search

⋮

<input type="checkbox"/>	NAME	IMAGE	STATUS	PORT(S)	STARTED	ACTIONS
<input type="checkbox"/>	<div>🏠 jobportal</div> <div>66814dca3f54 🗑️</div>	<a href="#">getting-started:latest</a>	Running	<a href="#">8080:80</a> 🗑️	52 seconds ag 📄 ⋮ 🗑️	

Showing 1 items

🐳

RAM 1.72GB CPU 0.42% 📶 Connected to Hub

v4.13.0 🏠

←↻🔒https://eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdem890f06aoio4mggvg/service/#/deployment?namespace=default

(3) WhatsApp🗨️Build an Awesome...🌱Digital to Analog E...📄Untitled document...📄R ESP8266 NodeMCU...🔔Reminder: FABLAB...🌐https://www.skillrac...📄Submission form : F...

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Workloads > Deployments

Workloads (1)  
Cron Jobs  
Daemon Sets  
Deployments  
Jobs  
Pods  
Replica Sets  
Replication Controllers  
Stateful Sets  
Service  
Ingresses (1)  
Ingress Classes  
Services (1)

CPU Usage

Waiting for more data to display chart...

Memory Usage

Waiting for more data to display chart...

Deployments

Name	Images	Labels	Pods	Created
🟢 jobportal	Show all	Show all	1 / 1	4.m...

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Workloads

Workloads (1)  
Cron Jobs  
Daemon Sets  
Deployments  
Jobs  
Pods  
Replica Sets  
Replication Controllers  
Stateful Sets  
Service  
Ingresses (1)  
Ingress Classes  
Services (1)  
Config and Storage

Workload Status

Running: 1

Deployments

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Running: 1

Pods

🟢

Running: 1

Replica Sets


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Deployments

Name	Images	Labels	Pods	Created ↑
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←↻🔒https://eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdem890f06aoio4mggvg/service/#/discovery?namespace=default

(3) WhatsApp🗨️Build an Awesome...🌱Digital to Analog E...📄Untitled document...📄ESP8266 NodeMCU...🔔Reminder: FABLAB...🌐https://www.skillrac...📄Submission form : F...>

kubernetes

default

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Service

Jobs

Pods

Replica Sets

Replication Controllers

Stateful Sets

Service

Ingresses

Ingress Classes

Services

Config and Storage

Config Maps

Persistent Volume Claims

Secrets

Services

Name	Labels	Type	Cluster IP	Internal Endpoints	External Endpoints
jobportal	Show all	NodePort	172.21.202.31	jobportal:80 TCP jobportal:30380 TCP	-
kubernetes	Show all	ClusterIP	172.21.0.1	kubernetes:443 TCP kubernetes:0 TCP	-

https://eu-de.containers.cloud.ibm.com/kubeproxy/clusters/cdem890f06aoio4mggvg/service/#/pod?namespace=default