

ASSIGNMENT 4

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

03:48:16

CLOSE SESSION

Instances

+ ADD NEW INSTANCE

192.168.0.28
node1

cdmtu463_cdmtu8u3tccg009qe5fg

IP
192.168.0.28

OPEN PORT

Memory
28.97% (1.132GiB / 3.906GiB)

CPU
0.19%

SSH
ssh ip172-18-0-24-cdmtu463tccg009qe5dg@direct.labs.play-with-d

DELETE EDITOR

```
[node1] (local) root@192.168.0.28 ~
$ docker run -it --name "my-docker-container" node bash
Unable to find image 'node:latest' locally
latest: Pulling from library/node
17c9e6141fdb: Pull complete
de4a4c6caca8: Pull complete
4edeed8587e6: Pull complete
a7969cffbf46: Pull complete
74fbfde6af91: Pull complete
babbacf2d498: Pull complete
bd2943500448: Pull complete
98eaae01c196: Pull complete
61339482de65: Pull complete
Digest: sha256:6da4e30e3952e460fe4ad256e46a8b79acce46dd596bbe4ef882d5ec0d1ef6cb
Status: Downloaded newer image for node:latest
root@cab4c48a9779:/#
```

03:47:34

CLOSE SESSION

Instances

+ ADD NEW INSTANCE

192.168.0.28
node1

cdmtu463_cdmtu8u3tccg009qe5fg

IP
192.168.0.28

OPEN PORT

Memory
28.64% (1.119GiB / 3.906GiB)

CPU
0.12%

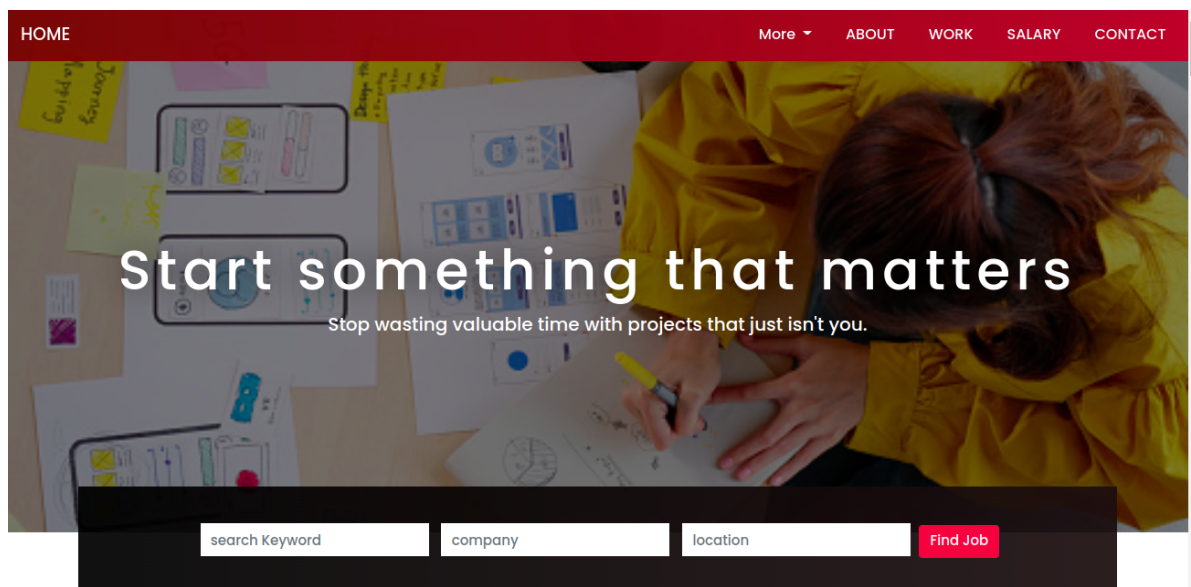
SSH
ssh ip172-18-0-24-cdmtu463tccg009qe5dg@direct.labs.play-with-d

DELETE EDITOR

```
a7969cffbf46: Pull complete
74fbfde6af91: Pull complete
babbacf2d498: Pull complete
bd2943500448: Pull complete
98eaae01c196: Pull complete
61339482de65: Pull complete
Digest: sha256:6da4e30e3952e460fe4ad256e46a8b79acce46dd596bbe4ef882d5ec0d1ef6cb
Status: Downloaded newer image for node:latest
root@cab4c48a9779:/# exit
exit
[node1] (local) root@192.168.0.28 ~
$ docker ps -a
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS   NAMES
MES           cab4c48a9779   node      "docker-entrypoint.s..."  54 seconds ago  Exited (0)  20 seconds ago  my
-docker-container
[node1] (local) root@192.168.0.28 ~
$
```

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

```
PROBLEMS OUTPUT TERMINAL GITLENS JUPYTER DEBUG CONSOLE
Remote branch:
main tracked
● user@user-Latitude-3520:~/Desktop/IBM/assignment-4/task 2/JobApplication$ cd ..
○ user@user-Latitude-3520:~/Desktop/IBM/assignment-4/task 2$ docker compose up --build
[+] Building 11.9s (8/8) FINISHED
=> [internal] load build definition from Dockerfilenginx 0.0s
=> => transferring dockerfile: 138B 0.0s
=> [internal] load .dockerignore 0.0s
=> => transferring context: 2B 0.0s
=> [internal] load metadata for docker.io/library/nginx:latest 4.3s
=> [1/3] FROM docker.io/library/nginx:latest@sha256:943c25b4b66b332184d5ba6bb18234273551593016c0e0ae906bab 6.9s
=> resolve docker.io/library/nginx:latest@sha256:943c25b4b66b332184d5ba6bb18234273551593016c0e0ae906bab 0.0s
=> sha256:96aa2038b42f1502b59b3a862b1f5980d3478063028d8e968f0810b9b0502380 1.57kB / 1.57kB 0.0s
=> sha256:76c69feac34e85768b284f84416c3546b240e8cb4f68acbbe5ad261a8b36f39f 7.66kB / 7.66kB 0.0s
=> sha256:e9995326b091af7b3ce352fad4d76cf3a3cb62b7a0c35cc5f625e8e649d23c50 31.42MB / 31.42MB 5.4s
=> sha256:943c25b4b66b332184d5ba6bb18234273551593016c0e0ae906bab111548239f 1.86kB / 1.86kB 0.0s
=> sha256:71689475aec267fae8891b2b3d2bef78c6b3d57c077129ff9cd69b6e5253dfa7 25.41MB / 25.41MB 2.1s
=> sha256:f88a23025338bc64e97dc350efac90275df227949d7c835b8b1f6fbc4d2439c0 627B / 627B 1.2s
=> sha256:0df440342e265c89de536643c3376dadf44c810fe2fb2b2ee44711f8661ce531 959B / 959B 1.6s
=> sha256:eef26ceb3309d6e72a4402c3f16b047416adecaf91bc5360ebd4205d1ef5e310 774B / 774B 2.4s
=> sha256:8e3ed6a9e43aaf17bc2175fa2c7ae2ee24c4ff4d32bf82adfilea689db4dcf15e1 1.40kB / 1.40kB 2.4s
=> extracting sha256:e9995326b091af7b3ce352fad4d76cf3a3cb62b7a0c35cc5f625e8e649d23c50 0.7s
=> extracting sha256:71689475aec267fae8891b2b3d2bef78c6b3d57c077129ff9cd69b6e5253dfa7 0.4s
=> extracting sha256:f88a23025338bc64e97dc350efac90275df227949d7c835b8b1f6fbc4d2439c0 0.0s
=> extracting sha256:0df440342e265c89de536643c3376dadf44c810fe2fb2b2ee44711f8661ce531 0.0s
=> extracting sha256:eef26ceb3309d6e72a4402c3f16b047416adecaf91bc5360ebd4205d1ef5e310 0.0s
```



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

```
user@user-Latitude-3520:~$ ibmcloud login -a https://cloud.ibm.com
API endpoint: https://cloud.ibm.com

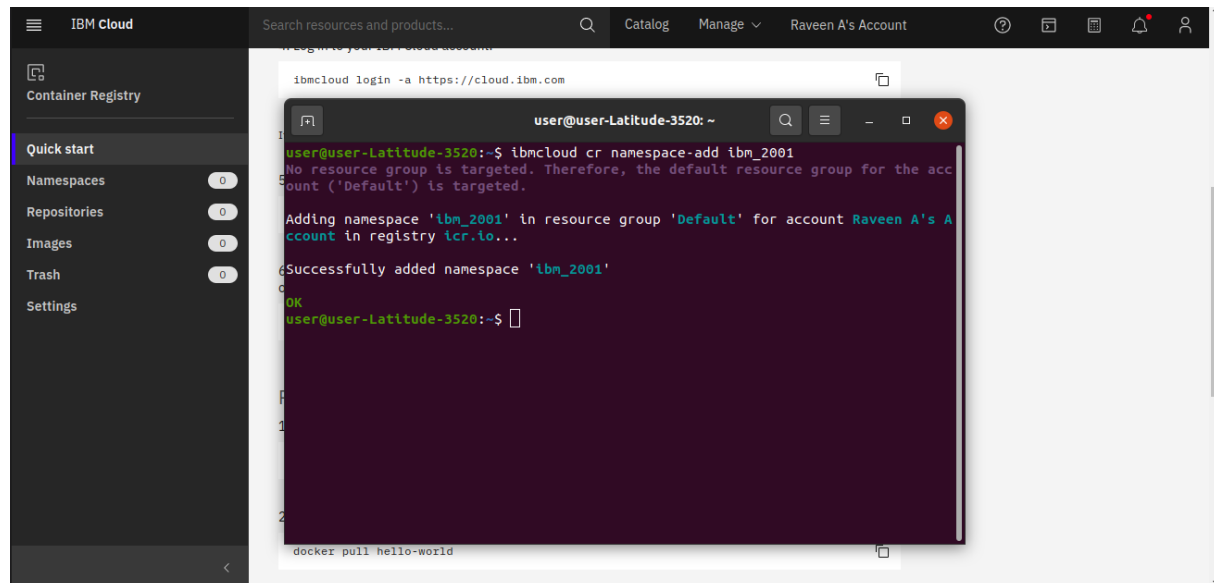
Email> raveenanbarasan@gmail.com

Password>
Authenticating...
OK

Targeted account Raveen A's Account (4e67cfbdfc1b48acac6485dc21043451)

Select a region (or press enter to skip):
1. au-syd
2. ln-che
3. jp-osa
4. jp-tok
5. kr-seo
6. eu-de
7. eu-gb
8. ca-tor
9. us-south
10. us-east
11. br-sao
Enter a number> 4
Targeted region jp-tok

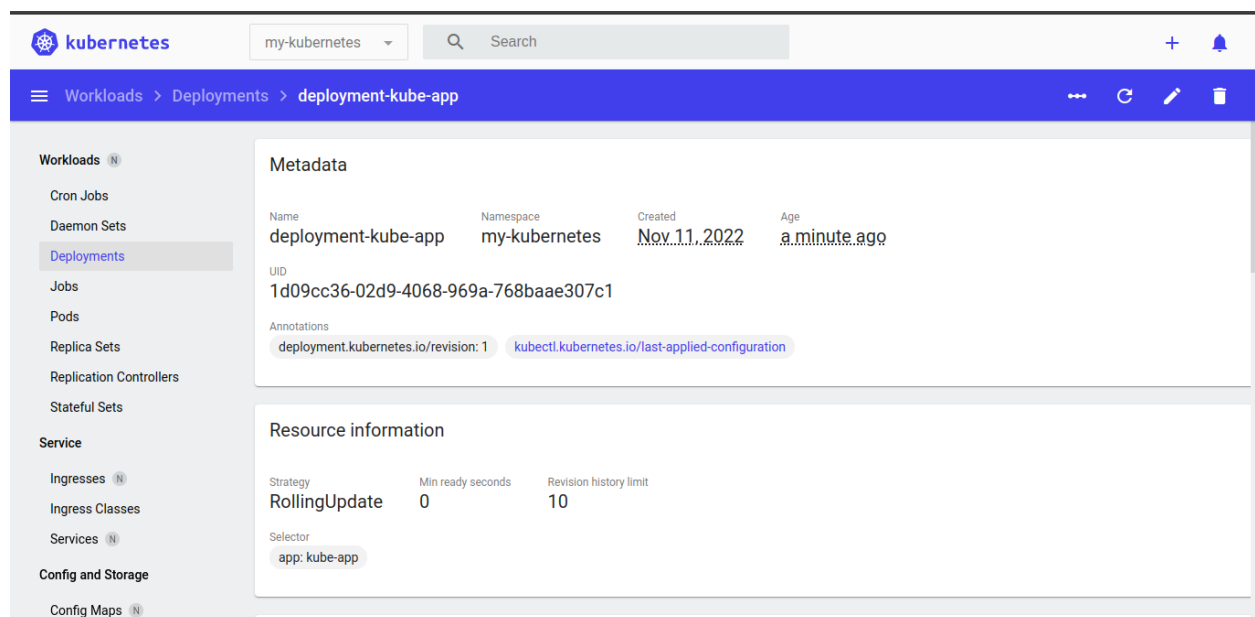
API endpoint: https://cloud.ibm.com
Region: jp-tok
User: raveenanbarasan@gmail.com
Account: Raveen A's Account (4e67cfbdfc1b48acac6485dc21043451)
Resource group: No resource group targeted, use 'ibmcloud target -g RESOURCE_GROUP'
CF API endpoint:
Org:
Space:
user@user-Latitude-3520:~$
```



```
File Edit Selection View Go Run Terminal Help
EXPLORER: ASSI... PROBLEMS OUTPUT TERMINAL GITLENS JUPYTER DEBUG CONSOLE
task 1
task 2
task 3
JobApplication
Dockerfile
readme.txt
task 4

user@user-Latitude-3520:~/Desktop/IBM/assignment-4/task 3$ docker build . --tag icr.io/ibm_2001/job_application
Sending build context to Docker daemon 14.82MB
Step 1/2 : FROM ubuntu:latest
--> a8780b506fa4
Step 2/2 : COPY ./JobApplication /JobApplication
--> Using cache
--> b089ac55d409
Successfully built b089ac55d409
Successfully tagged icr.io/ibm_2001/job_application:latest
user@user-Latitude-3520:~/Desktop/IBM/assignment-4/task 3$ docker push icr.io/ibm_2001/job_application
Using default tag: latest
The push refers to repository [icr.io/ibm_2001/job_application]
d2e29492a61c: Pushed
f4a670ac65b6: Pushed
latest: digest: sha256:3a5cc79bd5c5580738b49f27d41b62e39ddd4893ecf00f9639f1238fe2e9a4ff size: 741
user@user-Latitude-3520:~/Desktop/IBM/assignment-4/task 3$ docker images
REPOSITORY          TAG          IMAGE ID          CREATED           SIZE
icr.io/ibm_2001/job_application  latest      b089ac55d409     28 minutes ago   92.6MB
icr.io/ibm_2022/job_application  latest      b089ac55d409     28 minutes ago   92.6MB
task2-nginx-image             latest      7e69d52f22cf     47 minutes ago   157MB
node                          latest      cb9aad9080ca     2 days ago       994MB
ubuntu                       latest      a8780b506fa4     8 days ago       77.8MB
hello-world                   latest      feb5d9fea6a5     13 months ago    13.3kB
user@user-Latitude-3520:~/Desktop/IBM/assignment-4/task 3$
```

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.



The screenshot shows a VS Code editor with three files open: `deployment.yaml`, `service.yaml`, and `namespace.yaml`. The `deployment.yaml` file contains the following content:

```
1 apiVersion: apps/v1
2 kind: Deployment
3 metadata:
4   name: deployment-kube-app
5   namespace: my-kubernetes
6 spec:
7   template:
8     metadata:
9       labels:
10        app: kube-app
11     spec:
12       containers:
13         - name: my-app-job
14           image: icr.io/ibm_2002/ovya
15           ports:
16             - containerPort: 80
17               protocol: TCP
18       selector:
19         matchLabels:
```

The terminal at the bottom shows the following commands and output:

```
balaji@codingmart-latitude-3520:~/Documents/0/task 4$ kubectl apply -f namespace.yaml
namespace/my-kubernetes created
balaji@codingmart-latitude-3520:~/Documents/0/task 4$ kubectl apply -f deployment.yaml
deployment.apps/deployment-kube-app created
balaji@codingmart-latitude-3520:~/Documents/0/task 4$ kubectl apply -f service.yaml
service/service.yaml file created
balaji@codingmart-latitude-3520:~/Documents/0/task 4$
```

IBM CLOUD CONTAINER REGISTRY

The screenshot shows the IBM Cloud Container Registry interface. The left sidebar contains a 'Quick start' menu with the following items:

- Namespaces (1)
- Repositories (1)
- Images (1)
- Trash (0)
- Settings

The main content area is titled 'Namespaces' and shows a table of namespaces. The table has the following columns: Name, Resource group, Repository count, Image count, and Retention policy. The table contains one row for the namespace 'ibm_2001'.

Name	Resource group	Repository count	Image count	Retention policy
ibm_2001	Default	1	1	Retain all images

The table also includes a 'Create' button and a 'Filter...' dropdown. The bottom of the table shows pagination information: 'Items per page: 25', '1-1 of 1 item', and '1 1 of 1 page'.

IBM Cloud

Search resources and products...

Catalog

Manage

Raveen A's Account

Container Registry

Quick start

Namespaces1

Repositories1

Images1

Trash0

Settings

Repositories

Location

Global

Search

Create

	Name	Image count	Namespace	Last updated	
	job_application icr.io/ibm_2001/job_application	1	ibm_2001	29 minutes ago	

Items per page: 251-1 of 1 item

11 of 1 page

https://cloud.ibm.com/registry/repos

IBM Cloud

Search resources and products...

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Container Registry

Quick start

Namespaces1

Repositories1

Images1

Trash0

Settings

Images

Location

Global

View by: Digest

Search

Create

	Repository@digest	Tags	Manifest type	Created	Size	Security status
	ibm_2001/job_application@sha256:3a5cc79bd5c5...	latest	Docker	29 minutes ago	45 MB	No issues

Items per page: 251-1 of 1 item

11 of 1 page

https://cloud.ibm.com/registry/images