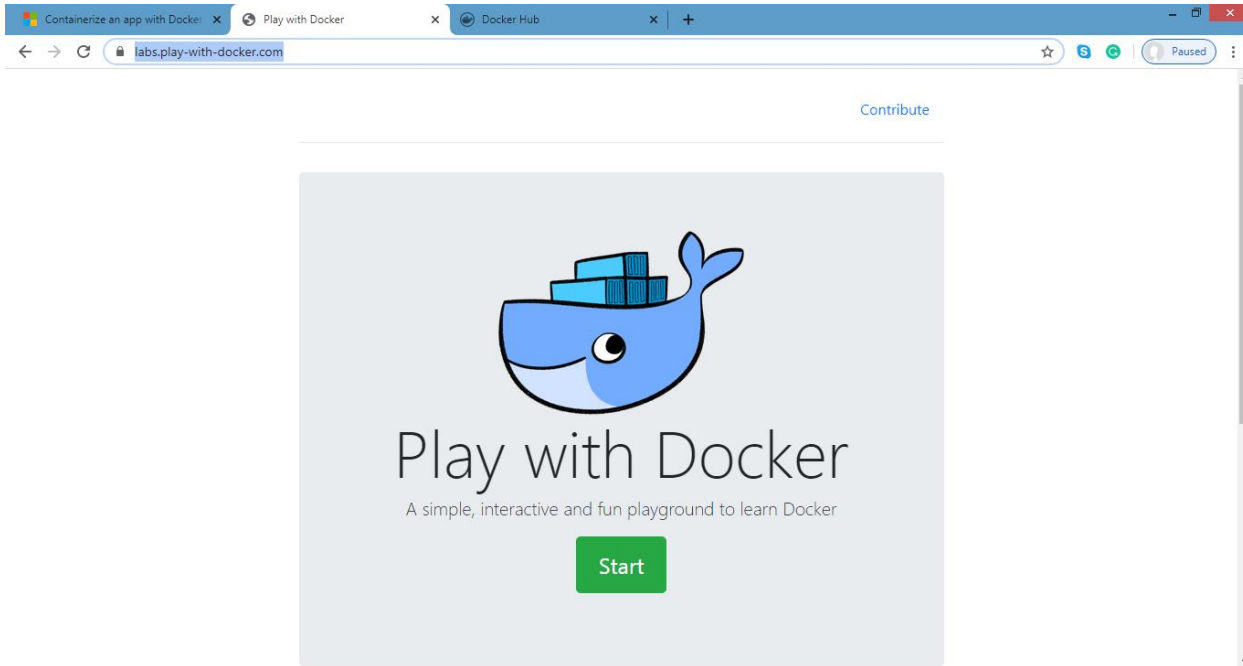


MA practical 3:

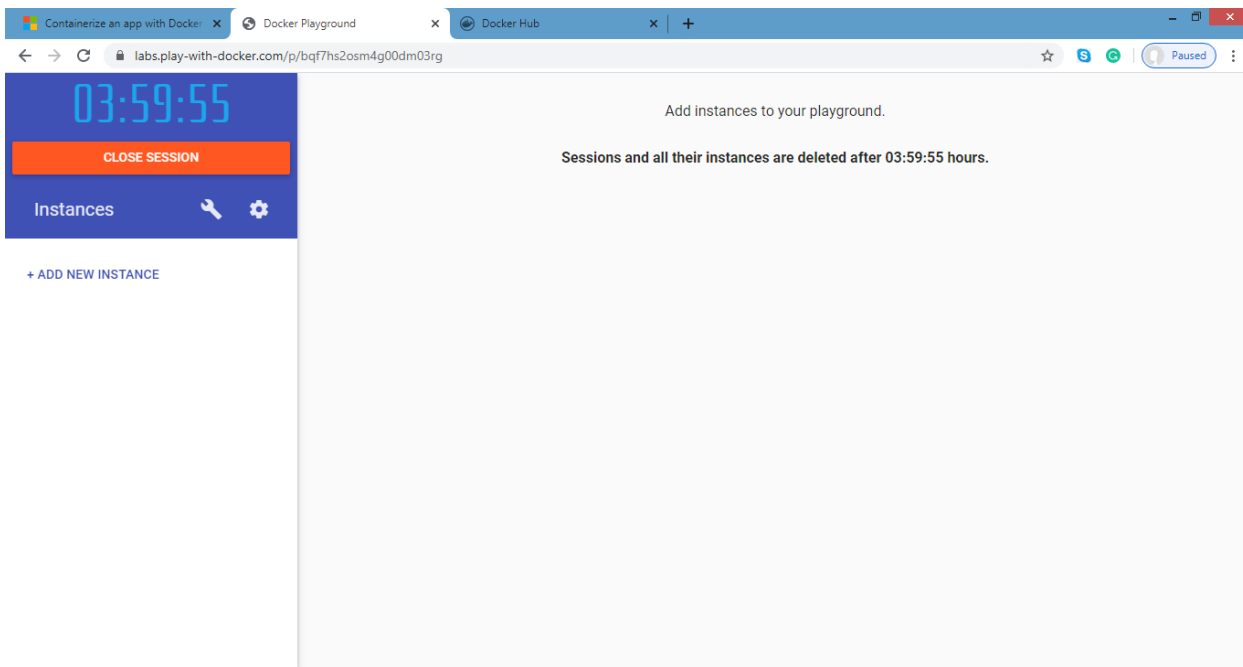
Working with Docker

- 1) create Docker Hub account (sign up)
- 2) login to <https://labs.play-with-docker.com/>



Click on start

- 3) add new instance



4)perform following:

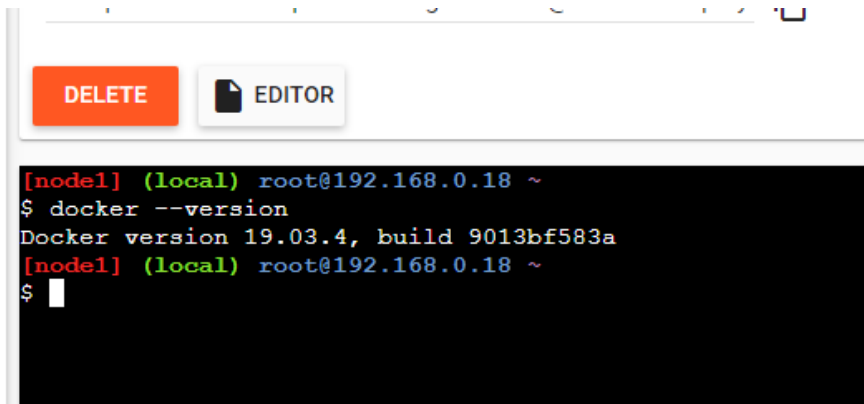
Method1:

To pull and push images using docker

Command: to check docker version

```
docker --version
```

output:

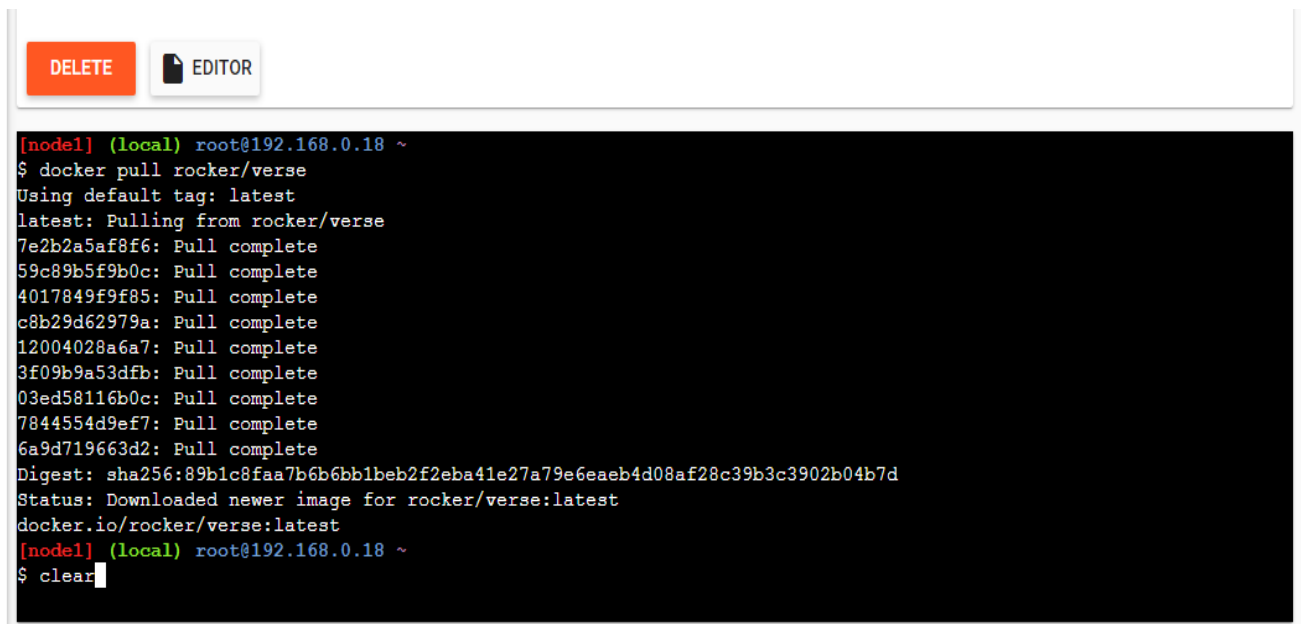


```
[node1] (local) root@192.168.0.18 ~  
$ docker --version  
Docker version 19.03.4, build 9013bf583a  
[node1] (local) root@192.168.0.18 ~  
$
```

Command: to pull readymade image

```
docker pull rocker/verse
```

output:



```
[node1] (local) root@192.168.0.18 ~  
$ docker pull rocker/verse  
Using default tag: latest  
latest: Pulling from rocker/verse  
7e2b2a5af8f6: Pull complete  
59c89b5f9b0c: Pull complete  
4017849f9f85: Pull complete  
c8b29d62979a: Pull complete  
12004028a6a7: Pull complete  
3f09b9a53dfb: Pull complete  
03ed58116b0c: Pull complete  
7844554d9ef7: Pull complete  
6a9d719663d2: Pull complete  
Digest: sha256:89b1c8faa7b6b6bb1beb2f2eba41e27a79e6eae4d08af28c39b3c3902b04b7d  
Status: Downloaded newer image for rocker/verse:latest  
docker.io/rocker/verse:latest  
[node1] (local) root@192.168.0.18 ~  
$ clear
```

Command: to check images in docker

```
docker images
```

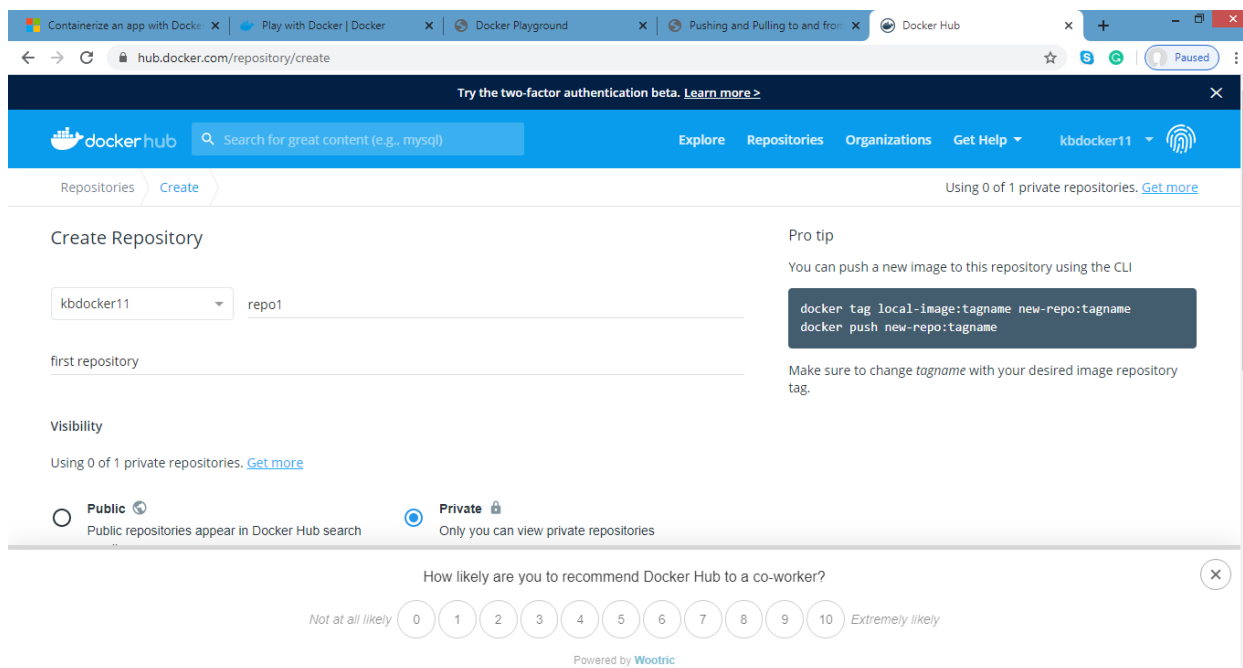
output:

```
DELETED EDITOR

[node1] (local) root@192.168.0.18 ~
$ docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
rocker/verse        latest             85c3e4e2c35e       4 days ago         3.15GB
[node1] (local) root@192.168.0.18 ~
$
```

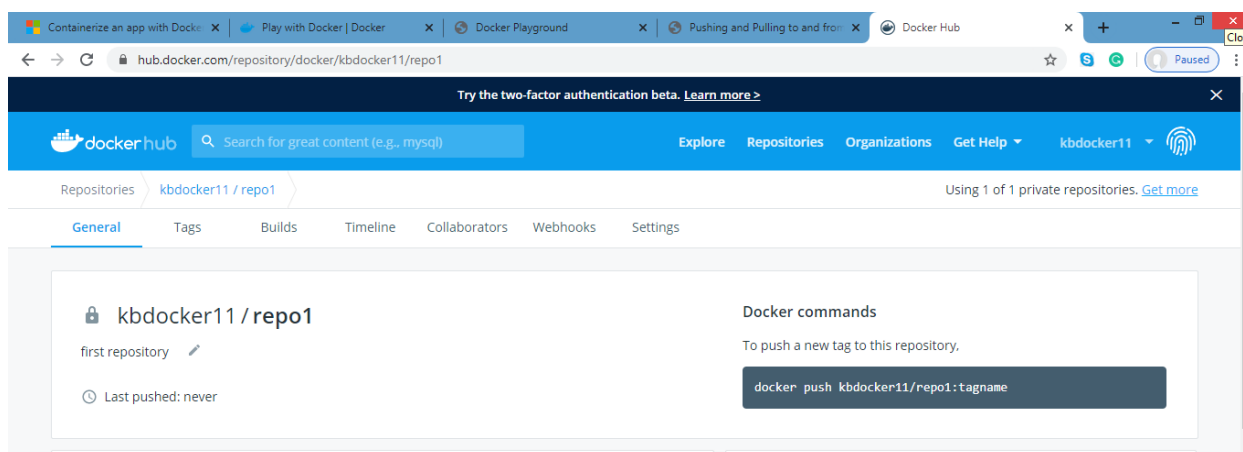
Now Login to docker hub and create repository

Output:



Click on Create button

Now check repository created



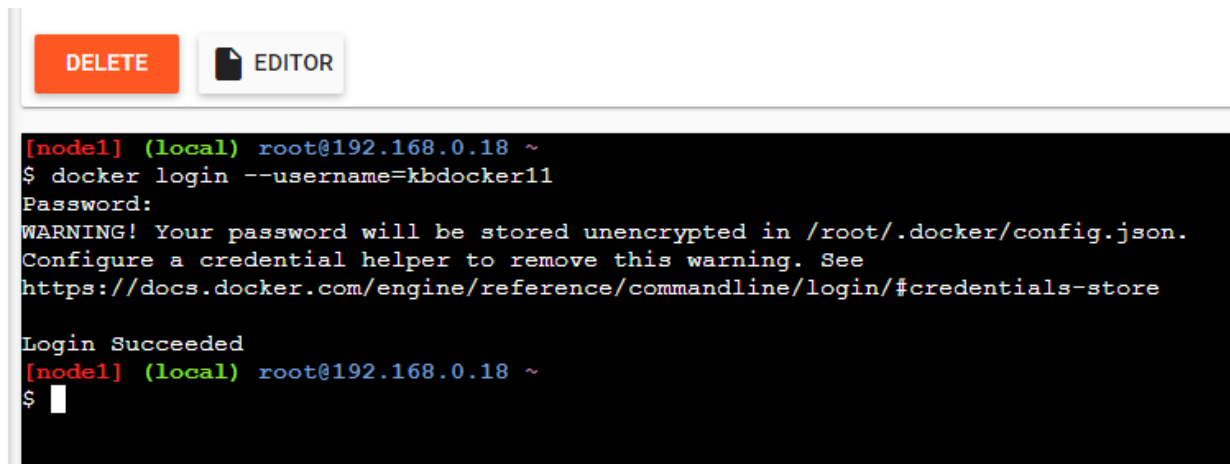
Command: to login to your docker account

```
docker login --username=kbdocker11
```

password:

note: kbdocker11 is my docker ID . You will use your docker ID here. And enter your password .

Output:



A terminal window with a dark background. At the top, there are two buttons: 'DELETE' (orange) and 'EDITOR' (white with a notepad icon). The terminal text shows a user logging in to Docker. The prompt is [node1] (local) root@192.168.0.18 ~. The user enters \$ docker login --username=kbdocker11. The prompt changes to Password:. The user enters their password. A warning message appears: WARNING! Your password will be stored unencrypted in /root/.docker/config.json. Configure a credential helper to remove this warning. See https://docs.docker.com/engine/reference/commandline/login/#credentials-store. The output then says Login Succeeded. The prompt returns to [node1] (local) root@192.168.0.18 ~. The user enters \$ and the cursor is at the end of the line.

```
[node1] (local) root@192.168.0.18 ~
$ docker login --username=kbdocker11
Password:
WARNING! Your password will be stored unencrypted in /root/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

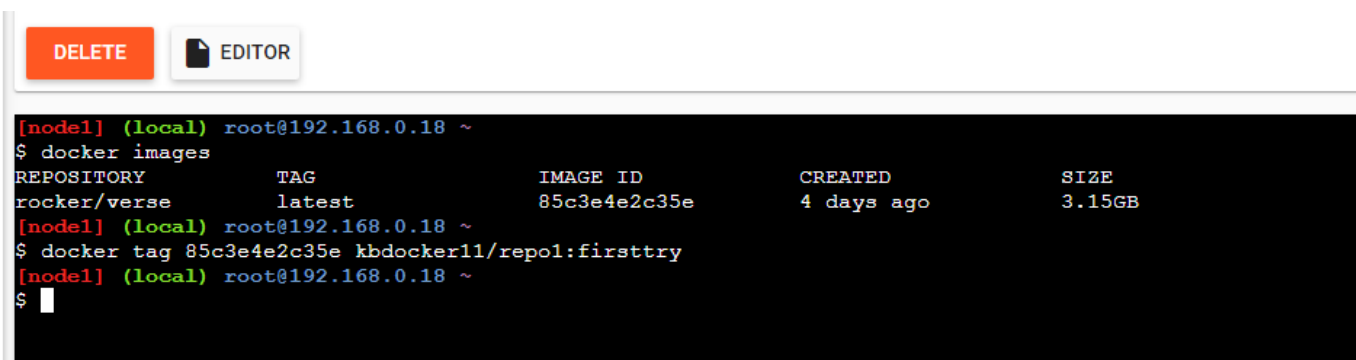
Login Succeeded
[node1] (local) root@192.168.0.18 ~
$
```

Command : to tag image

```
docker tag 8c3e4e2c3e kbdocker11/repo1:firsttry
```

note: here 8c3e4e2c3e this is image id which you can get from docker images command.

Output:



A terminal window with a dark background. At the top, there are two buttons: 'DELETE' (orange) and 'EDITOR' (white with a notepad icon). The terminal text shows the user listing Docker images. The prompt is [node1] (local) root@192.168.0.18 ~. The user enters \$ docker images. The output is a table with columns: REPOSITORY, TAG, IMAGE ID, CREATED, and SIZE. The first row shows rocker/verse, latest, 85c3e4e2c35e, 4 days ago, and 3.15GB. The prompt returns to [node1] (local) root@192.168.0.18 ~. The user enters \$ docker tag 85c3e4e2c35e kbdocker11/repo1:firsttry. The prompt returns to [node1] (local) root@192.168.0.18 ~. The user enters \$ and the cursor is at the end of the line.

```
[node1] (local) root@192.168.0.18 ~
$ docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
rocker/verse        latest             85c3e4e2c35e       4 days ago         3.15GB
[node1] (local) root@192.168.0.18 ~
$ docker tag 85c3e4e2c35e kbdocker11/repo1:firsttry
[node1] (local) root@192.168.0.18 ~
$
```

Command: to push image to docker hub account

```
docker push kbdocker11/repo1:firsttry
```

note: firsttry is tag name created above.

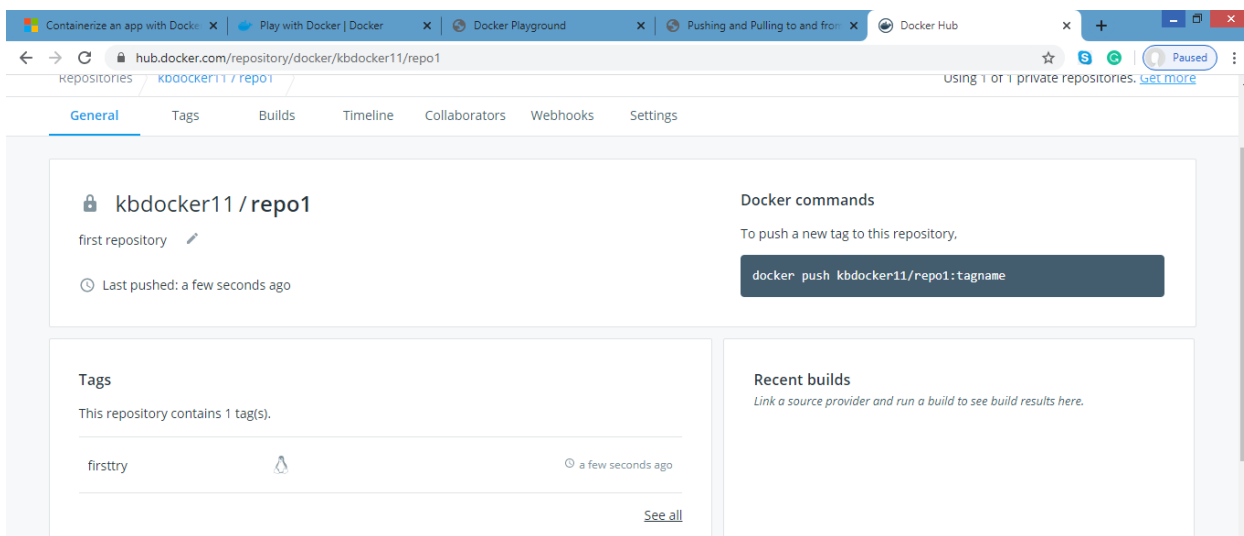
Output

DELETE EDITOR

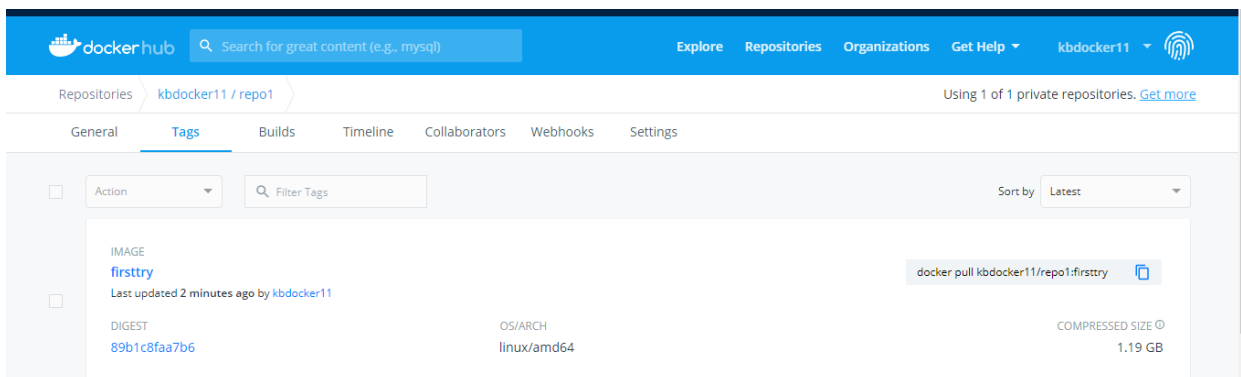
```
REPOSITORY          TAG                IMAGE ID           CREATED            SIZE
rocker/verse         latest             85c3e4e2c35e      4 days ago        3.15GB

[node1] (local) root@192.168.0.18 ~
$ docker tag 85c3e4e2c35e kbdocker11/repo1:firsttry
[node1] (local) root@192.168.0.18 ~
$ docker push kbdocker11/repo1:firsttry
The push refers to repository [docker.io/kbdocker11/repo1]
3e43a21d810a: Mounted from rocker/verse
8fdb254334fd: Mounted from rocker/verse
6611ef73af7c: Mounted from rocker/verse
7ec16b3cc818: Mounted from rocker/verse
a2f3120be52c: Mounted from rocker/verse
beb6bc4429d0: Mounted from rocker/verse
828281284548: Mounted from rocker/verse
61fb5e16e303: Mounted from rocker/verse
461719022993: Mounted from rocker/verse
firsttry: digest: sha256:89b1c8faa7b6b6bb1beb2f2eba41e27a79e6eae4d08af28c39b3c3902b04b7d size: 2211
[node1] (local) root@192.168.0.18 ~
$
```

Check it in docker hub now



Click on tags and check



Method 2:

Build an image then push it to docker and run it

Command : to create docker file

1. cat > Dockerfile <<EOF
2. FROM busybox
3. CMD echo "Hello world! This is my first Docker image."
4. EOF

Output:



```
[node1] (local) root@192.168.0.18 ~
$ cat > Dockerfile <<EOF
> FROM busybox
> CMD echo "Hello world! This is my first Docker image."
> EOF
[node1] (local) root@192.168.0.18 ~
$ docker build -t kbdocker11/repo2
"docker build" requires exactly 1 argument.
See 'docker build --help'.

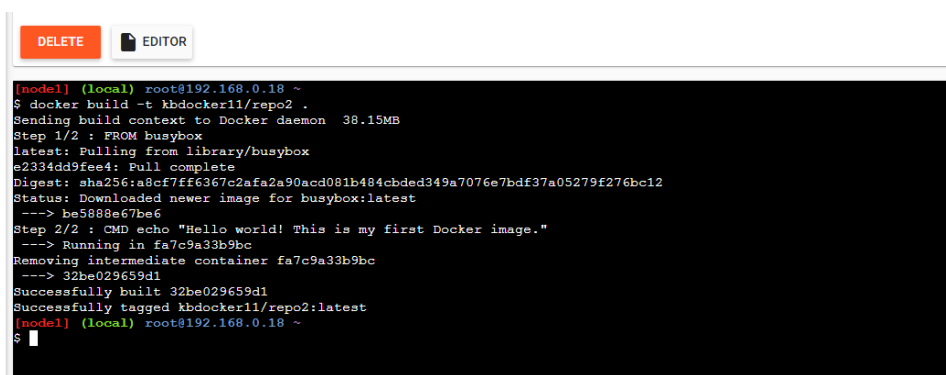
Usage:  docker build [OPTIONS] PATH | URL | -

Build an image from a Dockerfile
[node1] (local) root@192.168.0.18 ~
$
```

Command : to build image from docker file

`docker build -t kbdocker11/repo2 .`

Output:



```
[node1] (local) root@192.168.0.18 ~
$ docker build -t kbdocker11/repo2 .
Sending build context to Docker daemon  38.15MB
Step 1/2 : FROM busybox
latest: Pulling from library/busybox
2334dd9fe4f: Pull complete
Digest: sha256:a8cf7ff6367c2afa2a90acd081b484cbded349a7076e7bdf37a05279f276bc12
Status: Downloaded newer image for busybox:latest
--> ba5888e67be6
Step 2/2 : CMD echo "Hello world! This is my first Docker image."
--> Running in fa7c9a33b9bc
Removing intermediate container fa7c9a33b9bc
--> 32be029659d1
Successfully built 32be029659d1
Successfully tagged kbdocker11/repo2:latest
[node1] (local) root@192.168.0.18 ~
$
```

Command: to check docker images

`docker images`

output:

```
$ docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
kbdocker11/repo2    latest             32be029659d1       About a minute ago 1.22MB
kbdocker11/repo1    firsttry           85c3e4e2c35e       4 days ago         3.15GB
rocker/verse        latest             85c3e4e2c35e       4 days ago         3.15GB
busybox             latest            be5888e67be6       6 days ago         1.22MB
```

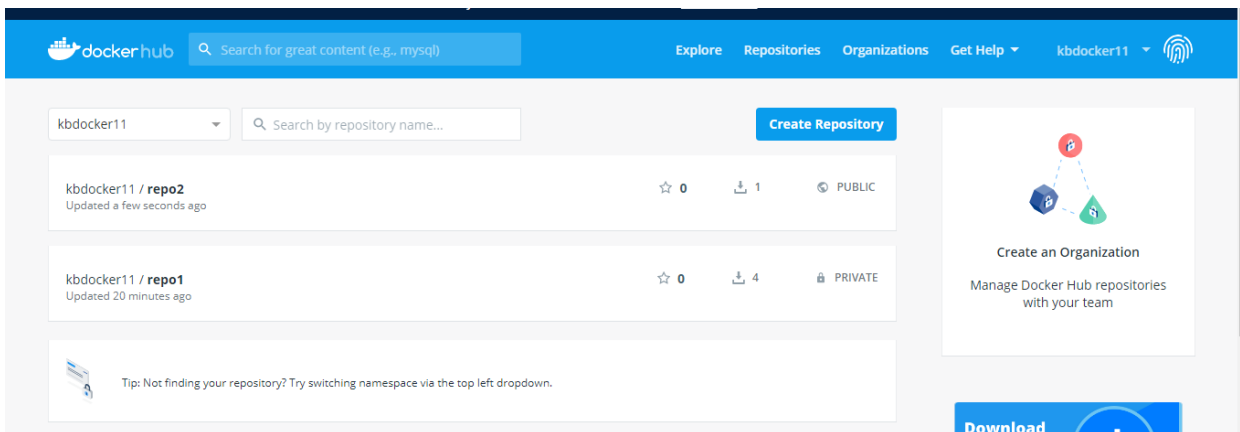
Command: to push image to docker hub

```
docker push kbdocker11/repo2 .
```

Output:

```
[node1] (local) root@192.168.0.18 ~
$ docker push kbdocker11/repo2
The push refers to repository [docker.io/kbdocker11/repo2]
5b0d2d635df8: Mounted from library/busybox
latest: digest: sha256:afa7a4103608d128764a15889501141a10eb9e733f19e4f57645a5ac01c85407 size: 527
[node1] (local) root@192.168.0.18 ~
$
```

Now check it on docker hub



command: to run docker image:

```
docker run kbdocker11/repo2
```

output:

```
[node1] (local) root@192.168.0.18 ~
$ docker run kbdocker11/repo2
Hello world! This is my first Docker image.
[node1] (local) root@192.168.0.18 ~
$
```

Now close session.