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EXPERIMENT NO 10

Aim : To study and Implement Containerization using Docker

- 1) Create new running instance.
- 2) Check the files in container using ls command.
- 3) Create new container using nginx engine.

The screenshot displays the Docker Playground web interface. On the left, a sidebar shows a timer at 03:51:10, a 'CLOSE SESSION' button, and a list of instances including '192.168.0.13 node1'. The main panel shows details for the container 'cgej8d2e_cgej8eie69v000bvd2g0', including its IP (192.168.0.13), memory, CPU, and an SSH command. Below this, a terminal window shows the following commands and output:

```
# is HIGHLY! discouraged. Any consequences of doing so are
# completely the user's responsibilities.
#
# The FWD team.
#####
(node1) (local) root@192.168.0.13 ~
$ docker container ls
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
(node1) (local) root@192.168.0.13 ~
$ docker container run --public 8080:80 -d nginx
unknown flag: --public
See 'docker container run --help'.
(node1) (local) root@192.168.0.13 ~
$ docker container run --publish 8080:80 -d nginx
Unable to find image 'nginx:latest' locally
latest: Pulling from library/nginx
f1f26f570256: Pull complete
84191e80d10e: Pull complete
1ff0f94a8007: Pull complete
d776269cad10: Pull complete
e9427fca864: Pull complete
d4eeccbf269: Pull complete
Digest: sha256:617661ae7846a63de069a85333bb4778a822f853df67fe46a688b3f0e4d9cb87
Status: Downloaded newer image for nginx:latest
1ad08005bb9f742367212e98088983943ee581028b5532dalfc5f4c5fa9d1bb5
(node1) (local) root@192.168.0.13 ~
$
```

- 4) Check containers using ls command.
- 5) Stop the container using stop command.

The screenshot shows the Docker Playground interface. On the left, there's a sidebar with a clock showing 03:50:12, a 'CLOSE SESSION' button, and an 'Instances' section with a list of instances (192.168.0.13, node1). The main area displays the container 'cgej8d2e_cgej8eie69v000bvd2g0' with its IP (192.168.0.13), memory, CPU, and SSH details. Below this, there's a terminal window showing the following commands and output:

```
unknown flag: --public
See 'docker container run --help'.
[node1] (local) root@192.168.0.13 ~
$ docker container run --publish 8080:80 -d nginx
Unable to find image 'nginx:latest' locally
latest: Pulling from library/nginx
f1f26f570256: Pull complete
84181e80d10e: Pull complete
1ff0f94a8007: Pull complete
d776269cad10: Pull complete
e9427fcfa864: Pull complete
d4ceccbf269: Pull complete
Digest: sha256:617661ae7846a63de069a85333bb4778a822f853df67fe46a688b3f0e4d9cb87
Status: Downloaded newer image for nginx:latest
lad08005bb9f742367212e98088983943ee581028b5532da1fc5f4c5fa9d1bb5
[node1] (local) root@192.168.0.13 ~
$ docker container ls
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS                               NAMES
lad08005bb9f   nginx     "/docker-entrypoint. ..."  2 minutes ago  Up 2 minutes  0.0.0.0:8080->80/tcp               cranky_hellman
[node1] (local) root@192.168.0.13 ~
$ docker container stop lad0
lad0
[node1] (local) root@192.168.0.13 ~
$ docker container ls
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS                               NAMES
[node1] (local) root@192.168.0.13 ~
```

- 6) Start the container using start command and id of container.

The screenshot shows the Docker Playground interface. On the left, there's a sidebar with a clock showing 03:46:10, a 'CLOSE SESSION' button, and an 'Instances' section with a list of instances (192.168.0.13, node1). The main area displays the container 'cgej8d2e_cgej8eie69v000bvd2g0' with its IP (192.168.0.13), memory, CPU, and SSH details. Below this, there's a terminal window showing the following commands and output:

```
d4ceccbf269: Pull complete
Digest: sha256:617661ae7846a63de069a85333bb4778a822f853df67fe46a688b3f0e4d9cb87
Status: Downloaded newer image for nginx:latest
lad08005bb9f742367212e98088983943ee581028b5532da1fc5f4c5fa9d1bb5
[node1] (local) root@192.168.0.13 ~
$ docker container ls
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS                               NAMES
lad08005bb9f   nginx     "/docker-entrypoint. ..."  2 minutes ago  Up 2 minutes  0.0.0.0:8080->80/tcp               cranky_hellman
[node1] (local) root@192.168.0.13 ~
$ docker container stop lad0
lad0
[node1] (local) root@192.168.0.13 ~
$ docker container ls
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS                               NAMES
lad08005bb9f   nginx     "/docker-entrypoint. ..."  5 minutes ago  Exited (0) 2 minutes ago          cranky_hellman
[node1] (local) root@192.168.0.13 ~
$ docker container start lad0
lad0
[node1] (local) root@192.168.0.13 ~
$ docker container ls
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS                               NAMES
lad08005bb9f   nginx     "/docker-entrypoint. ..."  7 minutes ago  Up 5 seconds  0.0.0.0:8080->80/tcp               cranky_hellman
[node1] (local) root@192.168.0.13 ~
$
```

7) Remove the container using -rm command.

The screenshot shows the Docker Playground interface. On the left, there's a sidebar with a timer at 03:40:36, a 'CLOSE SESSION' button, and an 'Instances' section showing a single instance named 'node1' with IP 192.168.0.13. The main panel displays the container 'cgej8d2e_cgej8eie69v000bvd2g0' with its IP (192.168.0.13), memory, CPU, and SSH access details. Below this, a terminal window shows the following commands and output:

```
$ docker container ls
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
[node1] (local) root@192.168.0.13 ~
$ docker container ls -a
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
lad08005bb9f   nginx    "/docker-entrypoint..." 5 minutes ago   Exited (0) 2 minutes ago   8080->80/tcp   cranky_hellman
$ docker container start lad0
lad0
[node1] (local) root@192.168.0.13 ~
$ docker container ls
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
lad08005bb9f   nginx    "/docker-entrypoint..." 7 minutes ago   Up 5 seconds   0.0.0.0:8080->80/tcp   cranky_hellman
$ docker container stop lad0
lad0
[node1] (local) root@192.168.0.13 ~
$ docker container rm lad0
lad0
[node1] (local) root@192.168.0.13 ~
$ docker container ls
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
[node1] (local) root@192.168.0.13 ~
$ docker container ls -a
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
[node1] (local) root@192.168.0.13 ~
```

8) forcefully remove container using -f command.

The screenshot shows the Docker Playground interface with a timer at 03:38:31. The main panel displays the container 'cgej8d2e_cgej8eie69v000bvd2g0'. The terminal window shows the following commands and output:

```
$ docker container rm lad0
lad0
[node1] (local) root@192.168.0.13 ~
$ docker container ls
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
[node1] (local) root@192.168.0.13 ~
$ docker container ls -a
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
[node1] (local) root@192.168.0.13 ~
$ docker container run --publish 8080:80 -d nginx
fb1a64cda96646457e379f3a43b8cf37d3e5a1ec9e450e98a3b7de890ff48064
[node1] (local) root@192.168.0.13 ~
$ docker container ls
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
fb1a64cda966   nginx    "/docker-entrypoint..." 9 seconds ago   Up 8 seconds   0.0.0.0:8080->80/tcp   nice_poitras
$ docker container rm fb1a
Error response from daemon: You cannot remove a running container fb1a64cda96646457e379f3a43b8cf37d3e5a1ec9e450e98a3b7de890ff48064. Stop the container before attempting removal or force remove
[node1] (local) root@192.168.0.13 ~
$ docker container rm -f fb1a
fb1a
[node1] (local) root@192.168.0.13 ~
$ docker container ls
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
[node1] (local) root@192.168.0.13 ~
```

9) Check docker image.

03:36:02

CLOSE SESSION

Instances

+ ADD NEW INSTANCE

192.168.0.13
node1

cgej8d2e_cgej8eie69v000bvd2g0

IP
192.168.0.13

OPEN PORT

Memory

CPU

SSH
ssh ip172-18-0-156-cgej8d2e69v000bvd2eg@direct.labs.pla

DELETE EDITOR

```
[node1] (local) root@192.168.0.13 ~
$ docker container ls
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
[node1] (local) root@192.168.0.13 ~
$ docker image ls
REPOSITORY    TAG       IMAGE ID       CREATED      SIZE
nginx         latest   ac232364af84   14 hours ago  142MB
[node1] (local) root@192.168.0.13 ~
$ docker image history nginx
IMAGE          CREATED      CREATED BY                                      SIZE      COMMENT
ac232364af84   14 hours ago /bin/sh -c #(nop) CMD ["nginx" "-g" "daemon-  0B
<missing>      14 hours ago /bin/sh -c #(nop) STOPSIGNAL SIGQUIT          0B
<missing>      14 hours ago /bin/sh -c #(nop) EXPOSE 80                    0B
<missing>      14 hours ago /bin/sh -c #(nop) ENTRYPOINT ["/docker-entr-  0B
<missing>      14 hours ago /bin/sh -c #(nop) COPY file:e57eef017a414ca7~  4.62kB
<missing>      14 hours ago /bin/sh -c #(nop) COPY file:abbcfb84dc17ee44~  1.27kB
<missing>      14 hours ago /bin/sh -c #(nop) COPY file:5c18272734349488~  2.12kB
<missing>      14 hours ago /bin/sh -c #(nop) COPY file:7b307b62e82255f0~  1.62kB
<missing>      14 hours ago /bin/sh -c set -x   && addgroup --system --  61.3MB
<missing>      14 hours ago /bin/sh -c #(nop) ENV PKG_RELEASE=1-bullseye  0B
<missing>      14 hours ago /bin/sh -c #(nop) ENV NJS_VERSION=0.7.9       0B
<missing>      14 hours ago /bin/sh -c #(nop) ENV NGINX_VERSION=1.23.3     0B
<missing>      14 hours ago /bin/sh -c #(nop) LABEL maintainer=NGINX Do-  0B
<missing>      28 hours ago /bin/sh -c #(nop) CMD ["bash"]                 0B
<missing>      28 hours ago /bin/sh -c #(nop) ADD file:60911afdacfdc216e~  80.5MB
[node1] (local) root@192.168.0.13 ~
```

10) Curl the google's address in index.html

11) Create the dockerfile.

03:33:19

CLOSE SESSION

Instances

+ ADD NEW INSTANCE

192.168.0.13
node1

cgej8d2e_cgej8eie69v000bvd2g0

IP
192.168.0.13

OPEN PORT

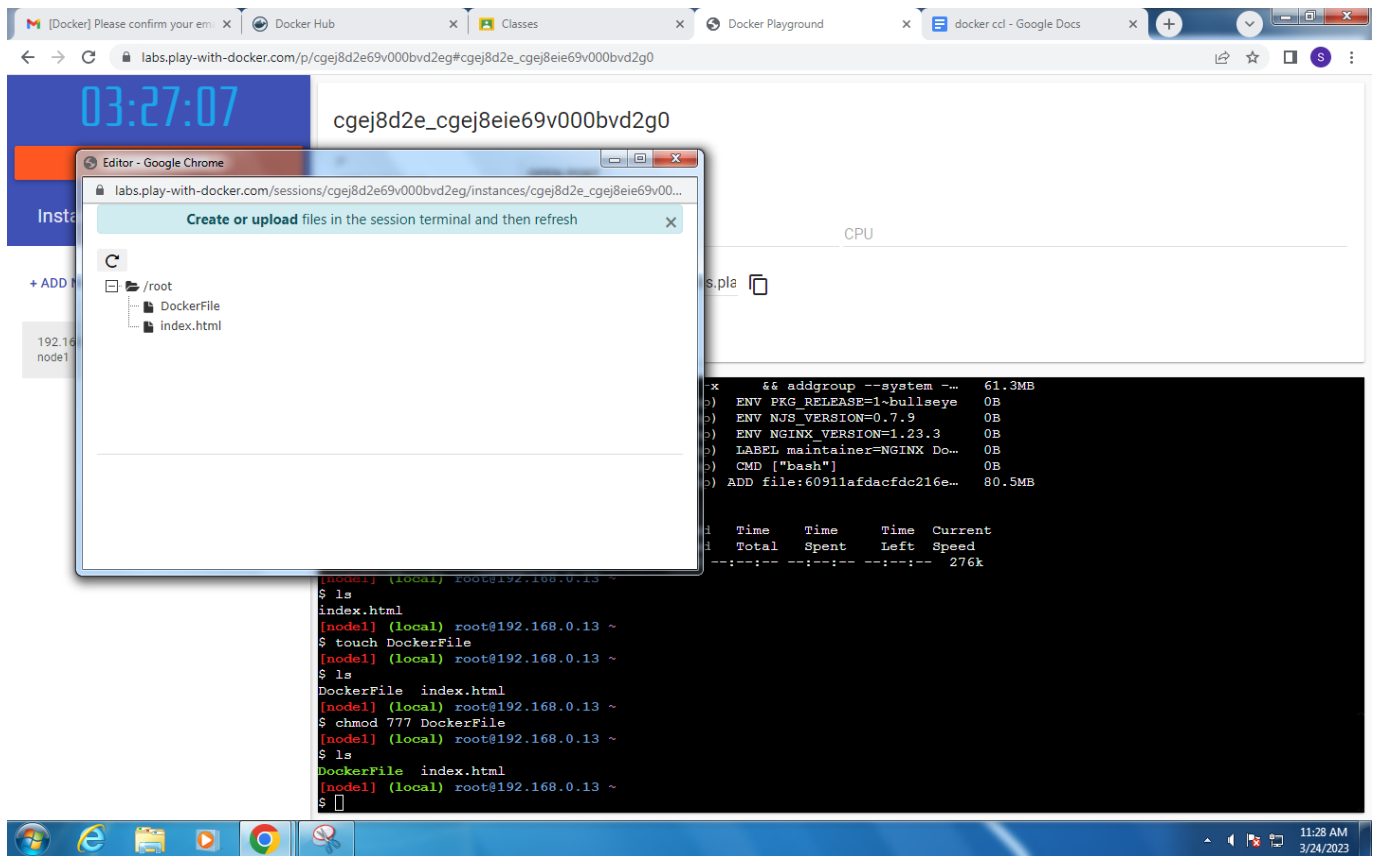
Memory

CPU

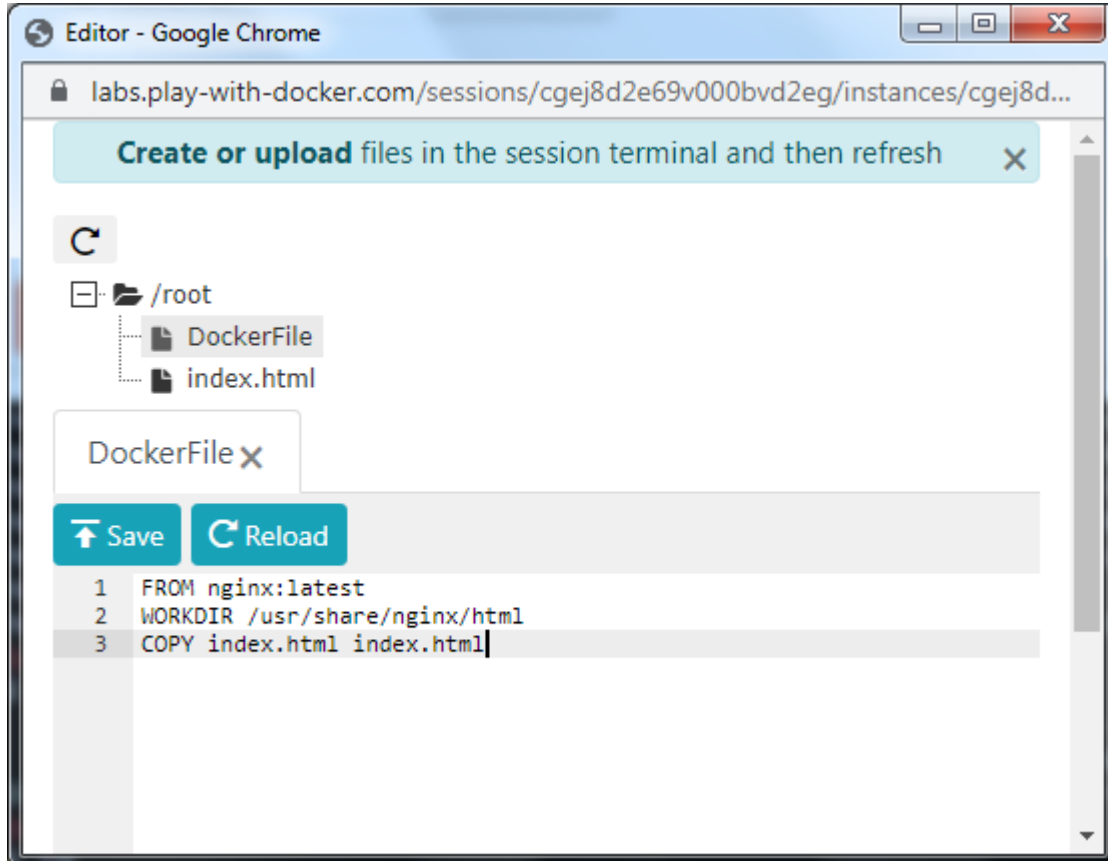
SSH
ssh ip172-18-0-156-cgej8d2e69v000bvd2eg@direct.labs.pla

DELETE EDITOR

```
<missing>      14 hours ago /bin/sh -c #(nop) ENTRYPOINT ["/docker-entr-  0B
<missing>      14 hours ago /bin/sh -c #(nop) COPY file:e57eef017a414ca7~  4.62kB
<missing>      14 hours ago /bin/sh -c #(nop) COPY file:abbcfb84dc17ee44~  1.27kB
<missing>      14 hours ago /bin/sh -c #(nop) COPY file:5c18272734349488~  2.12kB
<missing>      14 hours ago /bin/sh -c #(nop) COPY file:7b307b62e82255f0~  1.62kB
<missing>      14 hours ago /bin/sh -c set -x   && addgroup --system --  61.3MB
<missing>      14 hours ago /bin/sh -c #(nop) ENV PKG_RELEASE=1-bullseye  0B
<missing>      14 hours ago /bin/sh -c #(nop) ENV NJS_VERSION=0.7.9       0B
<missing>      14 hours ago /bin/sh -c #(nop) ENV NGINX_VERSION=1.23.3     0B
<missing>      14 hours ago /bin/sh -c #(nop) LABEL maintainer=NGINX Do-  0B
<missing>      28 hours ago /bin/sh -c #(nop) CMD ["bash"]                 0B
<missing>      28 hours ago /bin/sh -c #(nop) ADD file:60911afdacfdc216e~  80.5MB
[node1] (local) root@192.168.0.13 ~
$ curl www.google.com > index.html
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left   Speed
100 15302    0 15302    0     0    271k      0 --:--:-- --:--:-- --:--:-- 276k
[node1] (local) root@192.168.0.13 ~
$ ls
index.html
[node1] (local) root@192.168.0.13 ~
$ touch DockerFile
[node1] (local) root@192.168.0.13 ~
$ ls
DockerFile  index.html
[node1] (local) root@192.168.0.13 ~
```



12) Update the dockerfile contents.



labs.play-with-docker.com/p/cgej8d2e69v000bvd2eg#cgej8d2e_cgej8eie69v000bvd2g0

03:15:58

CLOSE SESSION

Instances

+ ADD NEW INSTANCE

192.168.0.13
node1

cgej8d2e_cgej8eie69v000bvd2g0

IP
192.168.0.13

OPEN PORT

Memory

CPU

SSH
ssh ip172-18-0-156-cgej8d2e69v000bvd2eg@direct.labs.pla

DELETE EDITOR

```
[node1] (local) root@192.168.0.13 ~
$ ls
DockerFile  index.html
[node1] (local) root@192.168.0.13 ~
$ chmod 777 DockerFile
[node1] (local) root@192.168.0.13 ~
$ ls
DockerFile  index.html
[node1] (local) root@192.168.0.13 ~
$ docker image build -t custom-nginx-html -f DockerFile .
Sending build context to Docker daemon 26.62kB
Error response from daemon: the Dockerfile (DockerFile) cannot be empty
[node1] (local) root@192.168.0.13 ~
$ docker image build -t custom-nginx-html -f DockerFile .
Sending build context to Docker daemon 27.14kB
Step 1/3 : FROM nginx:latest
----> ac232364af84
Step 2/3 : WORKDIR /usr/share/nginx/html
----> Running in 246e8079551f
Removing intermediate container 246e8079551f
----> afd361256116
Step 3/3 : COPY index.html index.html
----> b2f5ba89f667
Successfully built b2f5ba89f667
Successfully tagged custom-nginx-html:latest
[node1] (local) root@192.168.0.13 ~
$
```

11:39 AM
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13) Create nginx container on other port with custom name.

labs.play-with-docker.com/p/cgej8d2e69v000bvd2eg#cgej8d2e_cgej8eie69v000bvd2g0

02:52:56

CLOSE SESSION

Instances

+ ADD NEW INSTANCE

192.168.0.13
node1

cgej8d2e_cgej8eie69v000bvd2g0

IP
192.168.0.13

OPEN PORT 8081 8080

Memory
2.55% (101.9MiB / 3.906GiB)

CPU
0.12%

SSH
ssh ip172-18-0-156-cgej8d2e69v000bvd2eg@direct.labs.pla

DELETE EDITOR

```
Step 3/3 : COPY index.html index.html
----> b2f5ba89f667
Successfully built b2f5ba89f667
Successfully tagged custom-nginx-html:latest
[node1] (local) root@192.168.0.13 ~
$ docker container run --publish 8080:80 -d nginx
f9742052861a0caa3332af9aa7253bfb2036d2698473c2ef5f6f3ee52a14366
[node1] (local) root@192.168.0.13 ~
$ docker container ls
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS                               NAMES
f9742052861a   nginx    "/docker-entrypoint..." 40 seconds ago Up 38 seconds 0.0.0.0:8080->80/tcp   priceless_galileo
[node1] (local) root@192.168.0.13 ~
$ docker container run --publish 8081:80 -d --name nginx-demo nginx
5a09b7870482883e1edc6f125493b1d88cf446afb930236db327178dc457bb3a
[node1] (local) root@192.168.0.13 ~
$ docker container ls
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS                               NAMES
5a09b7870482   nginx    "/docker-entrypoint..." 6 seconds ago  Up 5 seconds  0.0.0.0:8081->80/tcp   nginx-demo
f9742052861a   nginx    "/docker-entrypoint..." 2 minutes ago  Up 2 minutes  0.0.0.0:8080->80/tcp   priceless_galileo
[node1] (local) root@192.168.0.13 ~
$ docker image ls
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
custom-nginx-html  latest   b2f5ba89f667   22 minutes ago  142MB
nginx          latest   ac232364af84   15 hours ago   142MB
[node1] (local) root@192.168.0.13 ~
$
```

12:02 PM
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labs.play-with-docker.com/p/cgej8d2e69v000bvd2eg#cgej8d2e_cgej8eie69v000bvd2g0

02:45:51
CLOSE SESSION

Instances

+ ADD NEW INSTANCE

192.168.0.13
node1

cgej8d2e_cgej8eie69v000bvd2g0

IP
192.168.0.13
OPEN PORT 8082 8081 8080

Memory
2.91% (116.3MiB / 3.906GiB)

CPU
0.42%

SSH
ssh ip172-18-0-156-cgej8d2e69v000bvd2eg@direct.labs.pla

DELETE EDITOR

```
$ docker container run --publish 8081:80 -d --name nginx-demo nginx
5a09b7870482883e1edc6f125493b1d88cf446afb930236db327178dc457bb3a
[node1] (local) root@192.168.0.13 ~
$ docker container ls
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS                               NAMES
5a09b7870482   nginx    "/docker-entrypoint..." 6 seconds ago  Up 5 seconds  0.0.0.0:8081->80/tcp               nginx-demo
f9742052861a   nginx    "/docker-entrypoint..." 2 minutes ago  Up 2 minutes  0.0.0.0:8080->80/tcp               priceless_galileo
[node1] (local) root@192.168.0.13 ~
$ docker image ls
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
custom-nginx-html  latest   b2f5ba89f667   22 minutes ago  142MB
nginx          latest   ac232364af84   15 hours ago   142MB
[node1] (local) root@192.168.0.13 ~
$ docker container run --publish 8082:80 --name swapnil -d custom-nginx-html
48d7a3681d69a54eb1a130916b76b28600c6c4506906e078406be0a8c0d7f676
[node1] (local) root@192.168.0.13 ~
$ docker container ls
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS                               NAMES
48d7a3681d69   custom-nginx-html  "/docker-entrypoint..." About a minute ago  Up About a minute  0.0.0.0:8082->80/tcp               swapnil
5a09b7870482   nginx    "/docker-entrypoint..." 20 minutes ago  Up 20 minutes  0.0.0.0:8081->80/tcp               nginx-demo
f9742052861a   nginx    "/docker-entrypoint..." 23 minutes ago  Up 23 minutes  0.0.0.0:8080->80/tcp               priceless_galileo
[node1] (local) root@192.168.0.13 ~
$
```

12:09 PM
3/24/2023

14) go to respective port to check the google is running or not.

Not secure | ip172-18-0-156-cgej8d2e69v000bvd2eg-8082.directlabs.play-with-docker.com

Search Images Maps Play YouTube News Gmail Drive More

Kitty O'Neil's 77th Birthday

Advanced search

Google Search I'm Feeling Lucky

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12:11 PM
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