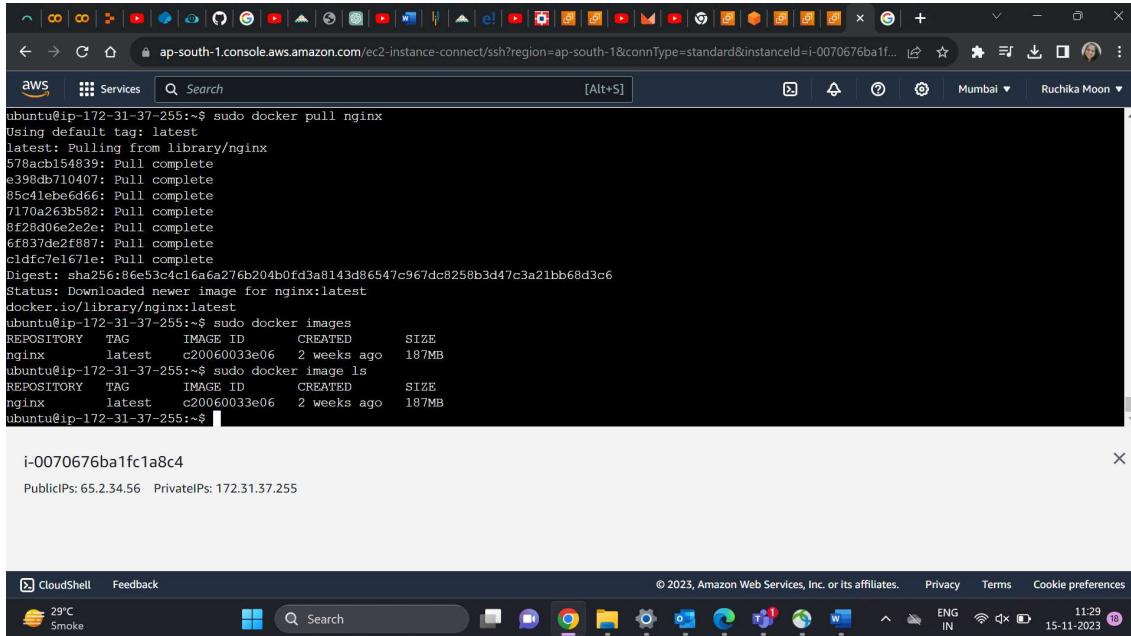


Docker

2. Find a image from dockerhub of your choice(recommened: nginx), don't use browser, pull the official image from dockerhub

3. List all the available images in your machine/vm, make sure you see recently pulled image in the list.



```
ubuntu@ip-172-31-37-255:~$ sudo docker pull nginx
Using default tag: latest
latest: Pulling from library/nginx
579acb154839: Pull complete
e398db710407: Pull complete
85c41be6d66: Pull complete
7170a263b582: Pull complete
8f28d06e2e2e: Pull complete
6fb37de2f887: Pull complete
cldfc7el671e: Pull complete
Digest: sha256:86e53c4c16a6a276b204b0fd3a8143d86547c967dc8258b3d47c3a21bb68d3c6
Status: Downloaded newer image for nginx:latest
docker.io/library/nginx:latest
ubuntu@ip-172-31-37-255:~$ sudo docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
nginx latest c20060033e06 2 weeks ago 187MB
ubuntu@ip-172-31-37-255:~$ sudo docker image ls
REPOSITORY TAG IMAGE ID CREATED SIZE
nginx latest c20060033e06 2 weeks ago 187MB
ubuntu@ip-172-31-37-255:~$
```

i-0070676ba1fc1a8c4
PublicIPs: 65.2.34.56 PrivateIPs: 172.31.37.255

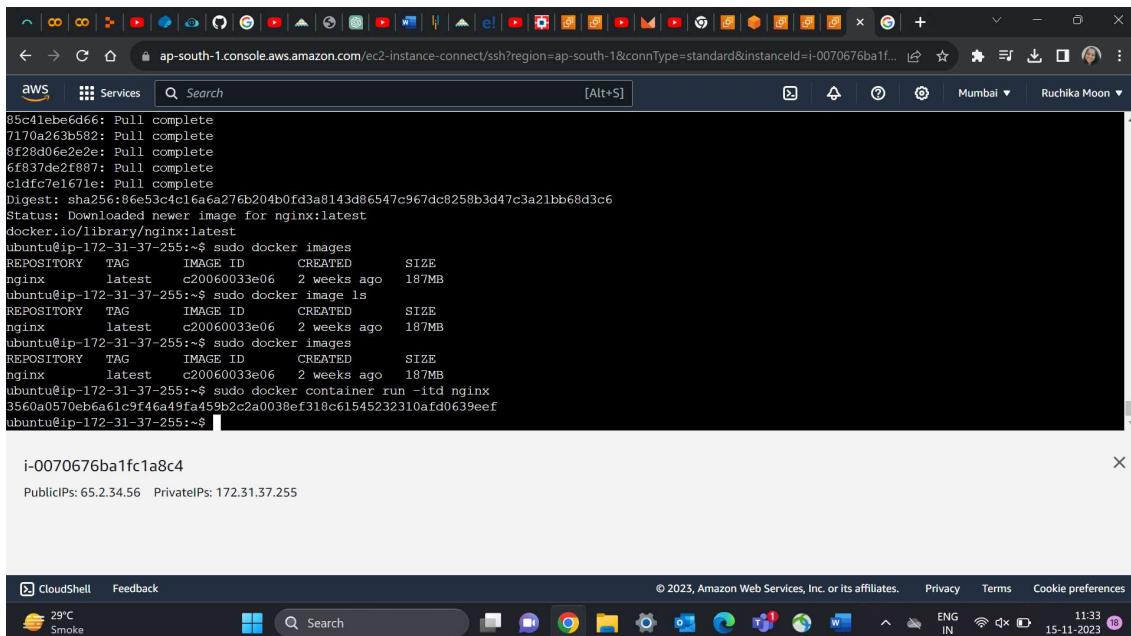


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29°C Smoke Search ENG IN 11:29 15-11-2023 18

4. Find out the "Full" ImageId of the image that you pulled and write it below.

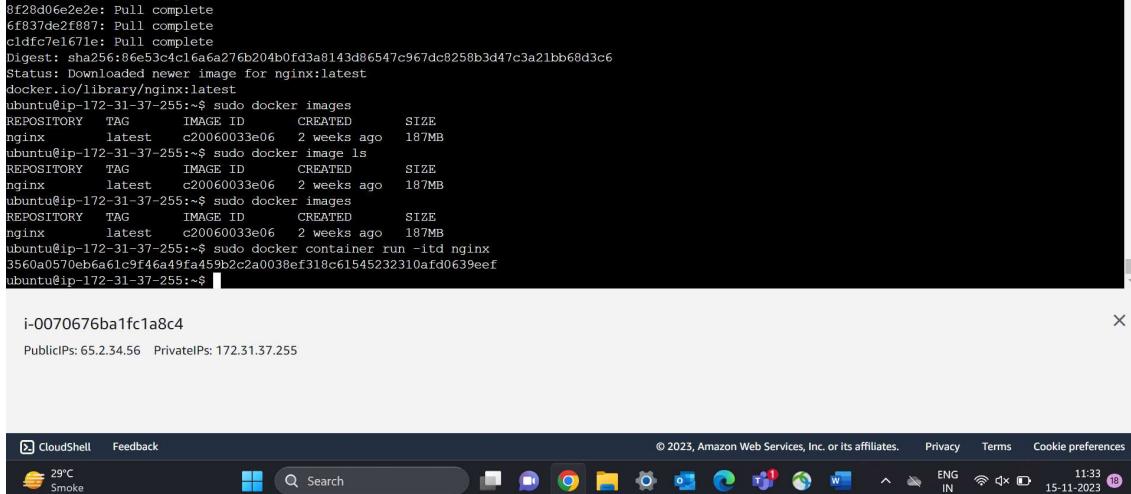
c20060033e06

5. Create a container of your image



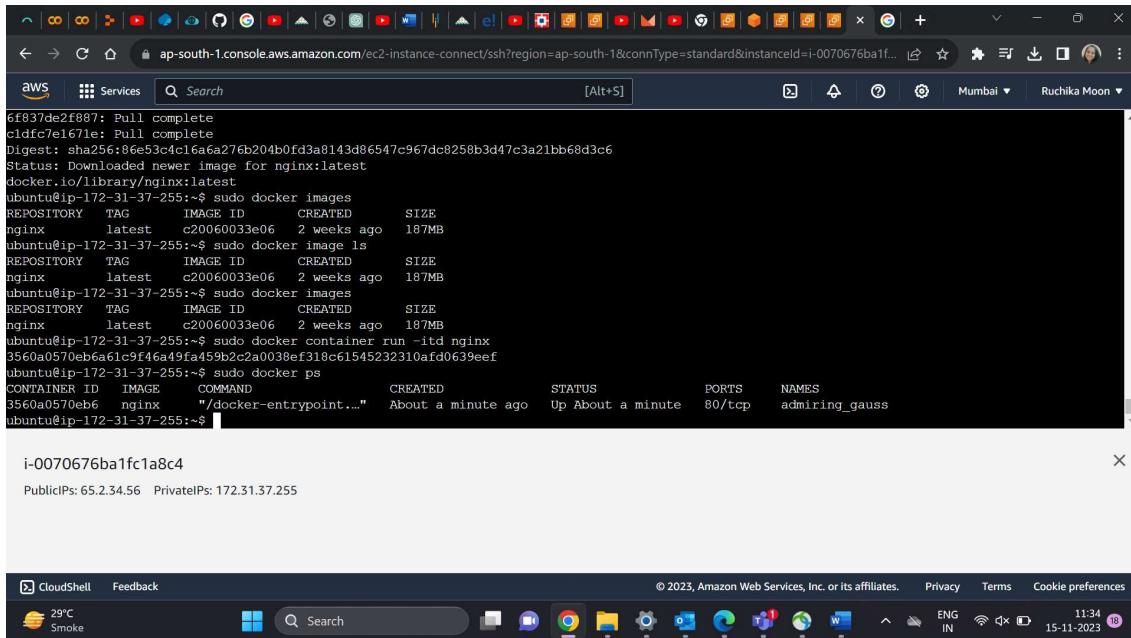
```
85c41be6d66: Pull complete
7170a263b582: Pull complete
8f28d06e2e2e: Pull complete
6fb37de2f887: Pull complete
cldfc7el671e: Pull complete
Digest: sha256:86e53c4c16a6a276b204b0fd3a8143d86547c967dc8258b3d47c3a21bb68d3c6
Status: Downloaded newer image for nginx:latest
docker.io/library/nginx:latest
ubuntu@ip-172-31-37-255:~$ sudo docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
nginx latest c20060033e06 2 weeks ago 187MB
ubuntu@ip-172-31-37-255:~$ sudo docker image ls
REPOSITORY TAG IMAGE ID CREATED SIZE
nginx latest c20060033e06 2 weeks ago 187MB
ubuntu@ip-172-31-37-255:~$ sudo docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
nginx latest c20060033e06 2 weeks ago 187MB
ubuntu@ip-172-31-37-255:~$ sudo docker container run -itd nginx
3560a0570eb6a61c9f46a49fa459b2c2a0038ef318c61545232310af0d639eef
ubuntu@ip-172-31-37-255:~$
```

i-0070676ba1fc1a8c4
PublicIPs: 65.2.34.56 PrivateIPs: 172.31.37.255



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29°C Smoke Search ENG IN 11:33 15-11-2023 18

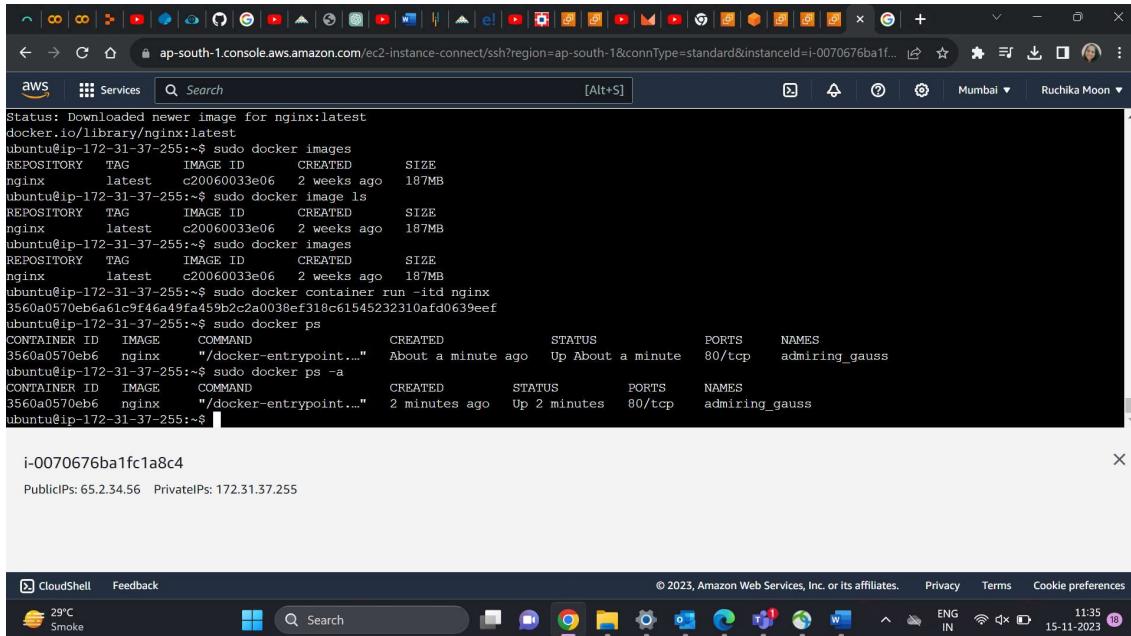
6. List all the running containers



```
6f837de2f887: Pull complete
c1dfc7e1671e: Pull complete
Digest: sha256:86e53c4c16a6a276b204b0fd3a8143d86547c967dc8258b3d47c3a21bb68d3c6
Status: Downloaded newer image for nginx:latest
docker.io/library/nginx:latest
ubuntu@ip-172-31-37-255:~$ sudo docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
nginx latest c20060033e06 2 weeks ago 187MB
ubuntu@ip-172-31-37-255:~$ sudo docker image ls
REPOSITORY TAG IMAGE ID CREATED SIZE
nginx latest c20060033e06 2 weeks ago 187MB
ubuntu@ip-172-31-37-255:~$ sudo docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
nginx latest c20060033e06 2 weeks ago 187MB
ubuntu@ip-172-31-37-255:~$ sudo docker container run -itd nginx
3560a0570eb6a61c9f46a49fa459b2c2a0038ef318c61545232310af0d639eeef
ubuntu@ip-172-31-37-255:~$ sudo docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
3560a0570eb6 nginx "/docker-entrypoint..." About a minute ago Up About a minute 80/tcp admiring_gauss
ubuntu@ip-172-31-37-255:~$ 
```

i-0070676ba1fc1a8c4
PublicIPs: 65.2.34.56 PrivateIPs: 172.31.37.255

7. List all the running and stopped containers



```
Status: Downloaded newer image for nginx:latest
docker.io/library/nginx:latest
ubuntu@ip-172-31-37-255:~$ sudo docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
nginx latest c20060033e06 2 weeks ago 187MB
ubuntu@ip-172-31-37-255:~$ sudo docker image ls
REPOSITORY TAG IMAGE ID CREATED SIZE
nginx latest c20060033e06 2 weeks ago 187MB
ubuntu@ip-172-31-37-255:~$ sudo docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
nginx latest c20060033e06 2 weeks ago 187MB
ubuntu@ip-172-31-37-255:~$ sudo docker container run -itd nginx
3560a0570eb6a61c9f46a49fa459b2c2a0038ef318c61545232310af0d639eeef
ubuntu@ip-172-31-37-255:~$ sudo docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
3560a0570eb6 nginx "/docker-entrypoint..." About a minute ago Up About a minute 80/tcp admiring_gauss
ubuntu@ip-172-31-37-255:~$ sudo docker ps -a
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
3560a0570eb6 nginx "/docker-entrypoint..." 2 minutes ago Up 2 minutes 80/tcp admiring_gauss
ubuntu@ip-172-31-37-255:~$ 
```

i-0070676ba1fc1a8c4
PublicIPs: 65.2.34.56 PrivateIPs: 172.31.37.255

8. Find out the "Full" containerId of the container and write it below.

```
aws Services Search [Alt+S] Mumbai Ruchika Moon
ubuntu@ip-172-31-37-255:~$ sudo docker ps -q
3560a0570eb6
ubuntu@ip-172-31-37-255:~$
```

i-0070676ba1fc1a8c4
PublicIPs: 65.2.34.56 PrivateIPs: 172.31.37.255

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3560a0570eb6

9. Find out how many image layers are used to build this image.

```
aws Services Search [Alt+S] Mumbai Ruchika Moon
nginx      latest   c20060033e06  2 weeks ago  187MB
ubuntu@ip-172-31-37-255:~$ sudo docker history c20060033e06
IMAGE        CREATED     CREATED BY               SIZE      COMMENT
c20060033e06  2 weeks ago /bin/sh -c #(nop)  CMD ["nginx" "-g" "daemon... 0B
<missing>    2 weeks ago /bin/sh -c #(nop)  STOP SIGNAL SIGQUIT 0B
<missing>    2 weeks ago /bin/sh -c #(nop)  EXPOSE 80 0B
<missing>    2 weeks ago /bin/sh -c #(nop)  ENTRYPOINT ["docker-entr... 0B
<missing>    2 weeks ago /bin/sh -c #(nop) COPY file:9e3b2b63db9f8fc7... 4.62kB
<missing>    2 weeks ago /bin/sh -c #(nop) COPY file:57846632accc8975... 3.02kB
<missing>    2 weeks ago /bin/sh -c #(nop) COPY file:3b1b9915b7d898a... 2.98kB
<missing>    2 weeks ago /bin/sh -c #(nop) COPY file:caec368f5a54f70a... 2.12kB
<missing>    2 weeks ago /bin/sh -c #(nop) COPY file:01e75c6dd0ce317d... 1.62kB
<missing>    2 weeks ago /bin/sh -c set -x && groupadd --system ... 112MB
<missing>    2 weeks ago /bin/sh -c #(nop) ENV PKG_RELEASE=1-bookworm 0B
<missing>    2 weeks ago /bin/sh -c #(nop) ENV NJJS VERSION=0.8.2 0B
<missing>    2 weeks ago /bin/sh -c #(nop) ENV NGINX VERSION=1.25.3 0B
<missing>    2 weeks ago /bin/sh -c #(nop) LABEL maintainer=NGINX Do... 0B
<missing>    2 weeks ago /bin/sh -c #(nop) CMD ["bash"] 0B
<missing>    2 weeks ago /bin/sh -c #(nop) ADD file:fbd8521c24ed75802... 74.9MB
ubuntu@ip-172-31-37-255:~$
```

i-0070676ba1fc1a8c4
PublicIPs: 65.2.34.56 PrivateIPs: 172.31.37.255

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10. Get the Apache Tomcat 7 server image from the docker hub.

```

<missing> 2 weeks ago /bin/sh -c #(nop) ENV NGINX VERSION=1.25.3 0B
<missing> 2 weeks ago /bin/sh -c #(nop) LABEL maintainer=NGINX Do... 0B
<missing> 2 weeks ago /bin/sh -c #(nop) CMD ["bash"] 0B
<missing> 2 weeks ago /bin/sh -c #(nop) ADD file:fbd8521c24ed75802... 74.9MB
ubuntu@ip-172-31-37-255:~$ sudo docker pull tomcat:7
7: Pulling from library/tomcat
0bc3020d05f1: Pull complete
a110e5871660: Pull complete
83d3c0fa203a: Pull complete
a8fd09c11b02: Pull complete
96ebf1506069: Pull complete
26b72ffca293: Pull complete
0bffa2ea17aa: Pull complete
d880cebcc7a6: Pull complete
d19ab8b039b36: Pull complete
5057492dc495: Pull complete
Digest: sha256:f7d37d248d0eacecle5995736234c9c22155626fc2b27ea3ead13b9db24e698f7
Status: Downloaded newer image for tomcat:7
docker.io/library/tomcat:7
ubuntu@ip-172-31-37-255:~$ 

```

i-0070676ba1fc1a8c4
PublicIPs: 65.2.34.56 PrivateIPs: 172.31.37.255

11. Run the Apache Tomcat 7, I mean create a container of Apache Tomcat.

```

0bc3020d05f1: Pull complete
a110e5871660: Pull complete
83d3c0fa203a: Pull complete
a8fd09c11b02: Pull complete
96ebf1506069: Pull complete
26b72ffca293: Pull complete
0bffa2ea17aa: Pull complete
d880cebcc7a6: Pull complete
d19ab8b039b36: Pull complete
5057492dc495: Pull complete
Digest: sha256:f7d37d248d0eacecle5995736234c9c22155626fc2b27ea3ead13b9db24e698f7
Status: Downloaded newer image for tomcat:7
docker.io/library/tomcat:7
ubuntu@ip-172-31-37-255:~$ sudo docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
nginx latest c20060033e06 2 weeks ago 187MB
tomcat 7 9df74e6bc2f 2 years ago 533MB
ubuntu@ip-172-31-37-255:~$ sudo docker run -itd tomcat:7
4b52b734333d526fea5c08dc1456e3df053217c8915d8d2f1db07e5af0cc0eb
ubuntu@ip-172-31-37-255:~$ 

```

i-0070676ba1fc1a8c4
PublicIPs: 65.2.34.56 PrivateIPs: 172.31.37.255

12. Find out what is the IP Address of the Apache Tomcat Container that it is running on

```
ubuntu@ip-172-31-37-255:~$ [REDACTED]
] i-0070676ba1fc1a8c4
PublicIPs: 65.2.34.56 PrivateIPs: 172.31.37.255
```

The screenshot shows a terminal window within an AWS CloudShell session. The command `aws ec2 describe-instances --instance-ids i-0070676ba1fc1a8c4` has been run, displaying detailed network configuration for the specified EC2 instance. The output includes fields like NetworkID, EndpointID, Gateway, IP address, and subnet information.

13. Which Port it is using?

```
i-0070676ba1fc1a8c4
PublicIPs: 65.2.34.56 PrivateIPs: 172.31.37.255
```

The screenshot shows a terminal window within an AWS CloudShell session. The command `aws ec2 describe-instances --instance-ids i-0070676ba1fc1a8c4` has been run, displaying detailed network configuration for the specified EC2 instance. The output includes fields like NetworkID, EndpointID, Gateway, IP address, and subnet information. The "Ports" section is highlighted, showing that port 8080/tcp is assigned.

14. Try to access the Tomcat's home page from your machine/vm.

```

sh: 1: ifconfig: not found
# exit
ubuntu@ip-172-31-37-255:~$ sudo docker exec -it 4b5
"docker exec" requires at least 2 arguments.
See 'docker exec --help'.

Usage: docker exec [OPTIONS] CONTAINER COMMAND [ARG...]

Execute a command in a running container
ubuntu@ip-172-31-37-255:~$ sudo ping 172.17.0.3
PING 172.17.0.3 (172.17.0.3) 56(84) bytes of data.
64 bytes from 172.17.0.3: icmp_seq=1 ttl=64 time=0.074 ms
64 bytes from 172.17.0.3: icmp_seq=2 ttl=64 time=0.056 ms
64 bytes from 172.17.0.3: icmp_seq=3 ttl=64 time=0.046 ms
64 bytes from 172.17.0.3: icmp_seq=4 ttl=64 time=0.045 ms
^C
--- 172.17.0.3 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3018ms
rtt min/avg/max/mdev = 0.045/0.055/0.074/0.011 ms
ubuntu@ip-172-31-37-255:~$ 
```

i-0070676ba1fc1a8c4
PublicIPs: 65.2.34.56 PrivateIPs: 172.31.37.255

15. What is the disk size of Apache Tomcat image?

```

Commands:
build      Build an image from a Dockerfile
history    Show the history of an image
import     Import the contents from a tarball to create a filesystem image
inspect   Display detailed information on one or more images
load       Load an image from a tar archive or STDIN
ls         List images
prune     Remove unused images
pull       Download an image from a registry
push       Upload an image to a registry
rm        Remove one or more images
save      Save one or more images to a tar archive (streamed to STDOUT by default)
tag       Create a tag TARGET_IMAGE that refers to SOURCE_IMAGE

Run 'docker image COMMAND --help' for more information on a command.
ubuntu@ip-172-31-37-255:~$ sudo docker images
REPOSITORY      TAG      IMAGE ID      CREATED      SIZE
nginx           latest   c20060033e06  2 weeks ago   187MB
tomcat          7        9dfdf74e6bc2f  2 years ago   533MB
ubuntu@ip-172-31-37-255:~$ 
```

i-0070676ba1fc1a8c4
PublicIPs: 65.2.34.56 PrivateIPs: 172.31.37.255

Size: 533 MB

16. Find out list of all environment variables that is configured for tomcat image, can you see JAVA_HOME and CATALINA_HOME? What did you notice about it?

```

"OpenStdin": false,
"StdinOnce": false,
"Env": [
    "PATH=/usr/local/tomcat/bin:/usr/local/openjdk-8/bin:/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin",
    "JAVA_HOME=/usr/local/openjdk-8",
    "LANG=C.UTF-8",
    "JAVA VERSION=8u292",
    "CATALINA_HOME=/usr/local/tomcat",
    "TOMCAT_NATIVE_LIBDIR=/usr/local/tomcat/native-jni-lib",
    "LD_LIBRARY_PATH=/usr/local/tomcat/native-jni-lib",
    "GPG KEYS=05AB33110949707C93A279E3DNEFB66867BA6 07E4B665A34DCAF522E5E6266191C37C037D4 47309207D810FFDD0CD3F83F1931D684307A1
0A5 541FBE7D8F7BB25E055DDE13C370389288584E7 61B832AC2FC15A90F0F9B00A1C506407564C17A3 713DA88E50911535FF716F520BBD0B1D63011C7 79F7026C690BA50B9
2CD8B66A3AD3F4F22C4FED 9BA44C2621385CB966E6A586F72C284D731FABEE A27677289986DB50844682F8ACB77FC2E66E29AC A95CDF4D22E99998D9875A5110C01C5A2F6059E7
DCFD35E0BF8CA7344752DE8B6FB21E933C60243 F3A04C595DB5B6A5F1ECA43E3B7BBB100D811BBE F7DA48B64BCB84ECBA7EE6935CD23C10D498E23",
    "TOMCAT_MAJOR=7",
    "TOMCAT_VERSION=7.0.109",
    "TOMCAT_SHA512=612e830913bf1401bc9540e2273e465b0ee7f63750a9969a00f1e9da9edb4888aa621fcccfa5ba23cff94a40e91eb97e3f969b8064dabd49b
2d0ea29e59b57e"
],
"Cmd": [
    "i-0070676ba1fc1a8c4"
]

```

i-0070676ba1fc1a8c4
PublicIPs: 65.2.34.56 PrivateIPs: 172.31.37.255

JAVA_HOME: This variable specifies the installation directory of the Java Runtime Environment (JRE) or Java Development Kit (JDK) within the container. In this case, it points to "/usr/local/openjdk-8", indicating that OpenJDK 8 is installed in that directory.

CATALINA_HOME: This variable specifies the installation directory of the Apache Tomcat server within the container. In this case, it points to "/usr/local/tomcat".

17. Find out which port is exposed for tomcat?

```

"sha256:9d48355da13b8a355aaaf6c479d386dc4280cbe491271490e9f85d88831adb9b",
"sha256:9a7d423f0aca6fe94d7589b8bbd1f0ea7ba312ccac407a5a6fdcce1f0728ed4e",
"sha256:0eaefafbf498bae9e3be40bd9d93bd4d8aca4cf8fe281e97fe56ed3f598e45e4"
],
"Metadata": {
    "LastTagTime": "0001-01-01T00:00:00Z"
}
]
ubuntu@ip-172-31-37-255:~$ sudo docker port f95
Error response from daemon: No such container: f95
ubuntu@ip-172-31-37-255:~$ sudo docker ls
docker: 'ls' is not a docker command.
See 'docker --help'.
ubuntu@ip-172-31-37-255:~$ sudo docker container ls
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
4b52b7343333 tomcat:7 "catalina.sh run" 41 minutes ago Up 41 minutes 8080/tcp great_rubin
3560a0570e66 nginx "/docker-entrypoint..." 56 minutes ago Up 56 minutes 80/tcp admiring_gauss
ubuntu@ip-172-31-37-255:~$ i-0070676ba1fc1a8c4

```

i-0070676ba1fc1a8c4
PublicIPs: 65.2.34.56 PrivateIPs: 172.31.37.255

Ans : 8080

18. Run multiple containers of tomcat on different port and access its home page

```

aws Services Search [Alt+S] Mumbai Ruchika Moon
ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=ap-south-1&connType=standard&instanceId=i-0070676ba1fc1a8c4&o... 🔍 ⓘ
docker: Error response from daemon: driver failed programming external connectivity on endpoint tomcat1 (53dbc0907b6e5dfe35bca7f153ad42b48d4f6a7E)
dbff2d2e86a9455db2dfc55): Bind for 0.0.0.0:8080 failed: port is already allocated.
ubuntu@ip-172-31-37-255:~$ sudo docker run -itd -p 8081:80 tomcat1 tomcat:7
Unable to find image 'tomcat1:latest' locally
docker: Error response from daemon: pull access denied for tomcat1, repository does not exist or may require 'docker login': denied: requested access to the resource has been denied.
See 'docker run --help'.
ubuntu@ip-172-31-37-255:~$ sudo docker run -itd -p 8082:80 --name=tomcat2 tomcat:7
0cf0de7a5371b88f25b723d57bd94e2b7a5e89ff62c039bd5eee9ab3b4eb7f8
ubuntu@ip-172-31-37-255:~$ sudo docker run -itd -p 8003:80 --name=tomcat3 tomcat:7
d5553acd532aa29b81b6c0993e14e453a2f00c2e9a7c2bc7ddaf90d61424930
ubuntu@ip-172-31-37-255:~$ sudo docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
d5553acd532aa29b81b6c0993e14e453a2f00c2e9a7c2bc7ddaf90d61424930
tomcat:7 "catalina.sh run" 12 seconds ago Up 8 seconds 8080/tcp, 0.0.0.0:8003->80/tcp, :::8003->80/tcp tomcat3
0cf0de7a5371b88f25b723d57bd94e2b7a5e89ff62c039bd5eee9ab3b4eb7f8
tomcat:7 "catalina.sh run" About a minute ago Up 59 seconds 8080/tcp, 0.0.0.0:8082->80/tcp, :::8082->80/tcp tomcat2
4b52b7343333
tomcat:7 "catalina.sh run" 2 hours ago Up 48 minutes 8080/tcp great_r
ubuntu@ip-172-31-37-255:~$ sudo docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
3560a0570eb6 nginx "/docker-entrypoint..." 3 hours ago Up 53 minutes 80/tcp admirlin
g_gauss
ubuntu@ip-172-31-37-255:~$ 

```

i-0070676ba1fc1a8c4
PublicIPs: 13.232.190.231 PrivateIPs: 172.31.37.255

19. Pull ubuntu os from dockerhub, try to pull 2 images of ubuntu, Except the latest one.

```

aws Services Search [Alt+S] Mumbai Ruchika Moon
q_gauss
ubuntu@ip-172-31-37-255:~$ sudo docker pull ubuntu:focal
focal: Pulling from library/ubuntu
96d54c3075c9: Pull complete
Digest: sha256:eda442283d943135ed87d4ee34e542f7f5ad9ecf2f244870e23122f703f91c2
Status: Downloaded newer image for ubuntu:focal
docker.io/library/ubuntu:focal
ubuntu@ip-172-31-37-255:~$ sudo docker pull ubuntu:rolling
rolling: Pulling from library/ubuntu
d1cf823cf1f0: Pull complete
Digest: sha256:4c32aacd0f7d1d3a29e82bee76f892ba9bb6a63f17f9327ca0d97c3d39b9b0ee
Status: Downloaded newer image for ubuntu:rolling
docker.io/library/ubuntu:rolling
ubuntu@ip-172-31-37-255:~$ sudo docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
nginx latest c20060033e06 2 weeks ago 187MB
ubuntu rolling fe7a3960a97e 4 weeks ago 71.2MB
ubuntu focal bf40b7bc7a11 6 weeks ago 72.9MB
tomcat 7 9dfd74e6bc2f 2 years ago 533MB
ubuntu@ip-172-31-37-255:~$ 

```

i-0070676ba1fc1a8c4
PublicIPs: 13.232.190.231 PrivateIPs: 172.31.37.255

20. Run the container of ubuntu in attached mode.

```
aws Services Search [Alt+S] Mumbai Ruchika Moon
docker.io/library/ubuntu:focal
ubuntu@ip-172-31-37-255:~$ sudo docker pull ubuntu:rolling
rolling: Pulling from library/ubuntu
d1cf823cff10: Pull complete
Digest: sha256:4c32aaacd0f7d1d3a29e82bee76f892ba9bb6a63f17f9327ca0d97c3d39b9b0ee
Status: Downloaded newer image for ubuntu:rolling
docker.io/library/ubuntu:rolling
ubuntu@ip-172-31-37-255:~$ sudo docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
nginx latest c20060033e06 2 weeks ago 197MB
ubuntu rolling fe7a3960a97e 4 weeks ago 71.2MB
ubuntu focal bf40b7bc4all 6 weeks ago 72.8MB
tomcat 7 9df74e6bc2f 2 years ago 533MB
ubuntu@ip-172-31-37-255:~$ sudo docker run -it ubuntu
Unable to find image 'ubuntu:latest' locally
latest: Pulling from library/ubuntu
aece8493d397: Pull complete
Digest: sha256:2b7412e6465c3c7fc5bb21d3e6f1917c167358449fecac8176c6e496e5clf05f
Status: Downloaded newer image for ubuntu:latest
root@0a1d5f439de6:~#
```

i-0070676ba1fc1a8c4
PublicIPs: 13.232.190.231 PrivateIPs: 172.31.37.255

21. Run the container of another ubuntu in detached mode.

```
aws Services Search [Alt+S] Mumbai Ruchika Moon
ubuntu@ip-172-31-37-255:~$ sudo docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
d5553acd532a tomcat:7 "catalina.sh run" 8 minutes ago Up 8 minutes 8080/tcp, 0.0.0.0:8003->80/tcp, :::8003->80/tcp tomcat3
0cf0de7a5371 tomcat:7 "catalina.sh run" 9 minutes ago Up 9 minutes 8080/tcp, 0.0.0.0:8082->80/tcp, :::8082->80/tcp tomcat2
3560a0570eb6 nginx "/docker-entrypoint..." 3 hours ago Up About an hour 80/tcp admiring_gauss
ubuntu@ip-172-31-37-255:~$ sudo docker run -itd ubuntu:rolling
6ab7e5741540ee1bbb2fdafdc8215alcc795d71675081bb0046d4389f62030ea
ubuntu@ip-172-31-37-255:~$ sudo docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
6ab7e5741540 ubuntu:rolling "/bin/bash" 27 seconds ago Up 23 seconds
gilant_joliot d5553acd532a tomcat:7 "catalina.sh run" 11 minutes ago Up 11 minutes 8080/tcp, 0.0.0.0:8003->80/tcp, :::8003->80/tcp tomcat3
0cf0de7a5371 tomcat:7 "catalina.sh run" 11 minutes ago Up 11 minutes 8080/tcp, 0.0.0.0:8082->80/tcp, :::8082->80/tcp tomcat2
3560a0570eb6 nginx "/docker-entrypoint..." 3 hours ago Up About an hour 80/tcp admiring_gauss
ubuntu@ip-172-31-37-255:~$
```

i-0070676ba1fc1a8c4
PublicIPs: 13.232.190.231 PrivateIPs: 172.31.37.255

22. Check how many ubuntu containers are running and stopped

```

aws Services Search [Alt+S] Mumbai Ruchika Moon
gauss
ubuntu@ip-172-31-37-255:~$ sudo docker run -itd ubuntu:rolling
6ab7e5741540ee1bbb2fdfafdc8215alcc795d7167508bb0046d4389f62030ea
ubuntu@ip-172-31-37-255:~$ sudo docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
6ab7e5741540 ubuntu:rolling "/bin/bash" 27 seconds ago Up 23 seconds vi
giant_joliot d5553acd532a tomcat:7 "catalina.sh run" 11 minutes ago Up 11 minutes 8080/tcp, 0.0.0.0:8003->80/tcp, :::8003->80/tcp to
mcat3 0cf0de7a5371 tomcat:7 "catalina.sh run" 11 minutes ago Up 11 minutes 8080/tcp, 0.0.0.0:8082->80/tcp, :::8082->80/tcp to
mcat2 3560a0570eb6 nginx "/docker-entrypoint..." 3 hours ago Up About an hour 80/tcp ad
miring_gauss
ubuntu@ip-172-31-37-255:~$ sudo docker ps -q
6ab7e5741540
d5553acd532a
0cf0de7a5371
3560a0570eb6
ubuntu@ip-172-31-37-255:~$ 

```

i-0070676ba1fc1a8c4
PublicIPs: 13.232.190.231 PrivateIPs: 172.31.37.255

23. Is the tomcat container running? If no, start one.

Ans : Yes Running

```

aws Services Search [Alt+S] Mumbai Ruchika Moon
d5553acd532a tomcat:7 "catalina.sh run" 11 minutes ago Up 11 minutes 8080/tcp, 0.0.0.0:8003->80/tcp, :::8003->80/tcp to
mcat3 0cf0de7a5371 tomcat:7 "catalina.sh run" 11 minutes ago Up 11 minutes 8080/tcp, 0.0.0.0:8082->80/tcp, :::8082->80/tcp to
mcat2 3560a0570eb6 nginx "/docker-entrypoint..." 3 hours ago Up About an hour 80/tcp ad
miring_gauss
ubuntu@ip-172-31-37-255:~$ sudo docker ps -q
6ab7e5741540
d5553acd532a
0cf0de7a5371
3560a0570eb6
ubuntu@ip-172-31-37-255:~$ sudo docker ps -aq
6ab7e5741540
81ddff439de6
d5553acd532a
0cf0de7a5371
0f345c592862
4b52b7343333
3560a0570eb6
ubuntu@ip-172-31-37-255:~$ 

```

i-0070676ba1fc1a8c4
PublicIPs: 13.232.190.231 PrivateIPs: 172.31.37.255

24. Check the logs, generated by tomcat container(don't forget to make request to tomcat's home page to see the log).

```

aws Services Search [Alt+S] Mumbai Ruchika Moon
start Start one or more stopped containers
stats Display a live stream of container(s) resource usage statistics
stop Stop one or more running containers
top Display the running processes of a container
unpause Unpause all processes within one or more containers
update Update configuration of one or more containers
wait Block until one or more containers stop, then print their exit codes

Run 'docker container COMMAND --help' for more information on a command.
ubuntu@ip-172-31-37-255:~$ sudo docker log 0cf
docker: 'log' is not a docker command.
See 'docker --help'.
ubuntu@ip-172-31-37-255:~$ sudo docker logs 0cf
Using CATALINA_BASE: /usr/local/tomcat
Using CATALINA_HOME: /usr/local/tomcat
Using CATALINA_TMPDIR: /usr/local/tomcat/temp
Using JRE_HOME: /usr/local/openjdk-8
Using CLASSPATH: /usr/local/tomcat/bin/bootstrap.jar:/usr/local/tomcat/bin/tomcat-juli.jar
Using CATALINA_OPTS:
Nov 15, 2023 0:41:19 AM org.apache.catalina.startup.VersionLoggerListener log
INFO: Server version name: Apache Tomcat/7.0.109
Nov 15, 2023 0:41:19 AM org.apache.catalina.startup.VersionLoggerListener log
INFO: Server built: Apr 22 2021 18:43:38 UTC
Nov 15, 2023 0:41:19 AM org.apache.catalina.startup.VersionLoggerListener log
INFO: Server version number: 7.0.109.0
Nov 15, 2023 0:41:19 AM org.apache.catalina.startup.VersionLoggerListener log
INFO: OS Name: Linux

```

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25. Check if ubuntu conatiner is running? If no, start one in attached mode to the terminal.

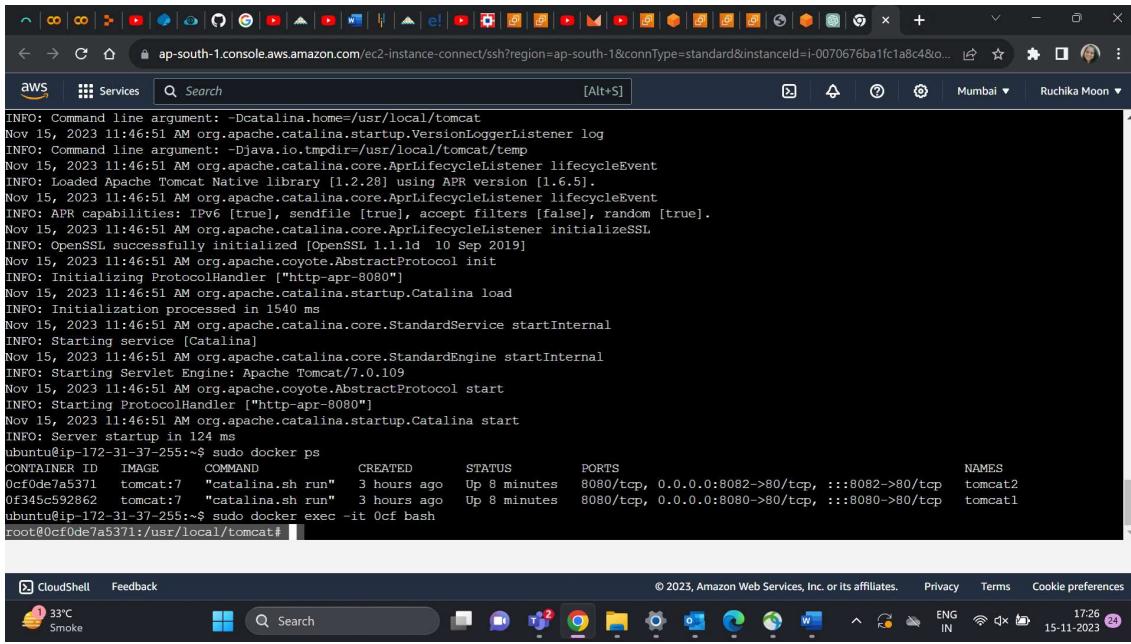
Ans : Running

```

aws Services Search [Alt+S] Mumbai Ruchika Moon
Nov 15, 2023 11:46:51 AM org.apache.catalina.startup.VersionLoggerListener log
INFO: Command line argument: -Dcatalina.home=/usr/local/tomcat
Nov 15, 2023 11:46:51 AM org.apache.catalina.startup.VersionLoggerListener log
INFO: Command line argument: -Djava.io.tmpdir=/usr/local/tomcat/temp
Nov 15, 2023 11:46:51 AM org.apache.catalina.core.AprLifecycleListener lifecycleEvent
INFO: Loaded Apache Tomcat Native library [1.2.28] using APR version [1.6.5].
Nov 15, 2023 11:46:51 AM org.apache.catalina.core.AprLifecycleListener lifecycleEvent
INFO: APR capabilities: IPv6 [true], sendfile [true], accept filters [false], random [true].
Nov 15, 2023 11:46:51 AM org.apache.catalina.core.AprLifecycleListener initializeSSL
INFO: OpenSSL successfully initialized [OpenSSL 1.1.1d 10 Sep 2019]
Nov 15, 2023 11:46:51 AM org.apache.coyote.AbstractProtocol init
INFO: Initializing ProtocolHandler ["http-apr-8080"]
Nov 15, 2023 11:46:51 AM org.apache.catalina.startup.Catalina load
INFO: Initialization processed in 1540 ms
Nov 15, 2023 11:46:51 AM org.apache.catalina.core.StandardService startInternal
INFO: Starting service [Catalina]
Nov 15, 2023 11:46:51 AM org.apache.catalina.core.StandardEngine startInternal
INFO: Starting Servlet Engine: Apache Tomcat/7.0.109
Nov 15, 2023 11:46:51 AM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler ["http-apr-8080"]
Nov 15, 2023 11:46:51 AM org.apache.catalina.startup.Catalina start
INFO: Server startup in 124 ms
ubuntu@ip-172-31-37-255:~$ sudo docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
0cf0de7a5371 tomcat:7 "catalina.sh run" 3 hours ago Up 8 minutes 8080/tcp, 0.0.0.0:8082->80/tcp, :::8082->80/tcp tomcat2
0f345c592862 tomcat:7 "catalina.sh run" 3 hours ago Up 8 minutes 8080/tcp, 0.0.0.0:8080->80/tcp, :::8080->80/tcp tomcat1
ubuntu@ip-172-31-37-255:~$ 
```

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26. Login as root user in ubuntu container



```
INFO: Command line argument: -Dcatalina.home=/usr/local/tomcat
Nov 15, 2023 11:46:51 AM org.apache.catalina.startup.VersionLoggerListener log
INFO: Command line argument: -Djava.io.tmpdir=/usr/local/tomcat/temp
Nov 15, 2023 11:46:51 AM org.apache.catalina.core.AprLifecycleListener lifecycleEvent
INFO: Loaded Apache Tomcat Native library [1.2.28] using APR version [1.6.5].
Nov 15, 2023 11:46:51 AM org.apache.catalina.core.AprLifecycleListener lifecycleEvent
INFO: APR capabilities: IPv6 [true], sendfile [true], accept filters [false], random [true].
Nov 15, 2023 11:46:51 AM org.apache.catalina.core.AprLifecycleListener initializeSSL
INFO: OpenSSL successfully initialized [OpenSSL 1.1.1d 10 Sep 2019]
Nov 15, 2023 11:46:51 AM org.apache.coyote.AbstractProtocol init
INFO: Initializing ProtocolHandler ["http-apr-8080"]
Nov 15, 2023 11:46:51 AM org.apache.catalina.startup.Catalina load
INFO: Initialization processed in 1540 ms
Nov 15, 2023 11:46:51 AM org.apache.catalina.core.StandardService startInternal
INFO: Starting service [Catalina]
Nov 15, 2023 11:46:51 AM org.apache.catalina.core.StandardEngine startInternal
INFO: Starting Servlet Engine: Apache Tomcat/7.0.109
Nov 15, 2023 11:46:51 AM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler ["http-apr-8080"]
Nov 15, 2023 11:46:51 AM org.apache.catalina.startup.Catalina start
INFO: Server startup in 124 ms
ubuntu@ip-172-31-37-255:~$ sudo docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
0cf0de7a5371 tomcat:7 "catalina.sh run" 3 hours ago Up 8 minutes 8080/tcp, 0.0.0.0:8082->80/tcp, :::8082->80/tcp tomcat2
0f345c592862 tomcat:7 "catalina.sh run" 3 hours ago Up 8 minutes 8080/tcp, 0.0.0.0:8080->80/tcp, :::8080->80/tcp tomcat1
ubuntu@ip-172-31-37-255:~$ sudo docker exec -it 0cf bash
root@0cf0de7a5371:/usr/local/tomcat#
```

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27. Create a file with any name in root directory