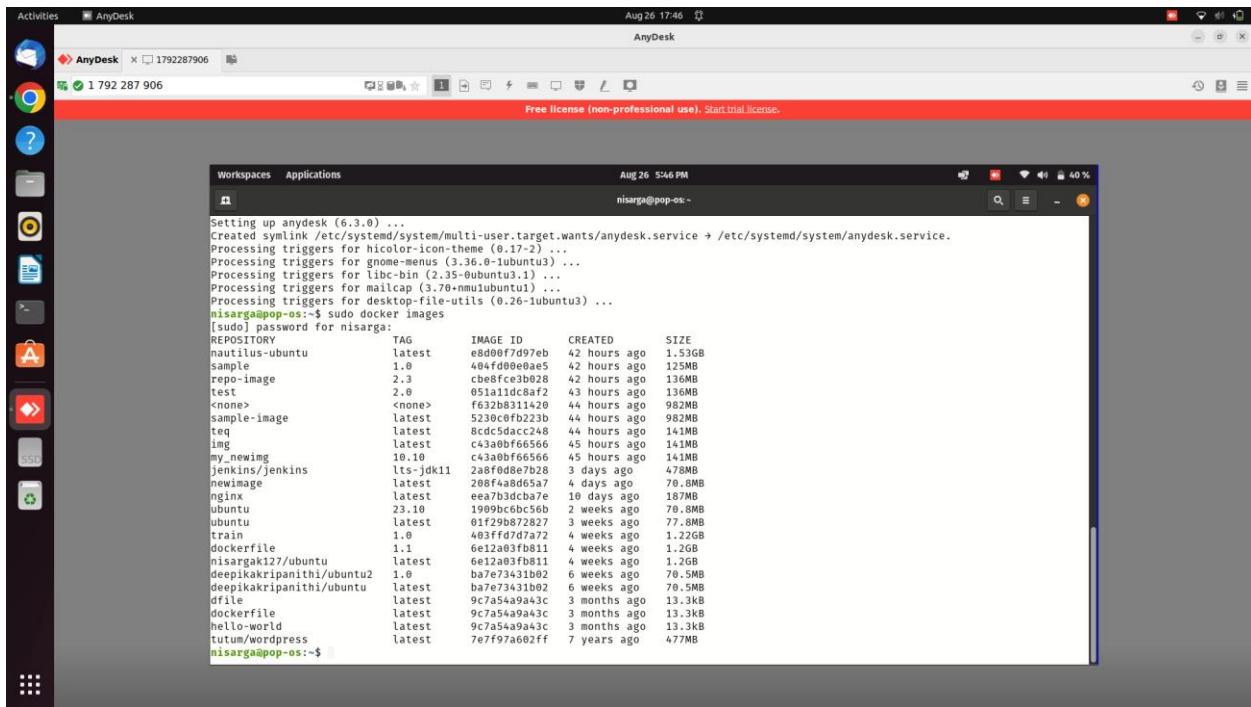


## Teq 15: The “Save Game” Approach - Cheap Source Control



The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is "nisarga@pop-os:~" and the date and time are "Aug 26 5:46 PM". The terminal displays the output of the command "sudo docker images", listing various Docker images with their repository names, tags, image IDs, creation times, and sizes. The terminal window is positioned over a desktop background featuring a dark theme with a red header bar.

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
nautilus-ubuntu	latest	e8df4f7d97eb	42 hours ago	1.51GB
sample	1.0	484fd4e89a5	42 hours ago	1.50GB
repo-image	2.3	cba8fc03bb28	42 hours ago	1.36MB
test	2.0	051a11dc8af2	43 hours ago	1.36MB
<none>	<none>	f623b8311a20	44 hours ago	982MB
sample-image	latest	5238c0fb223b	44 hours ago	982MB
teq	latest	8cd5dacc248	44 hours ago	141MB
img	latest	c43a0bf66566	45 hours ago	141MB
my_newimg	10.10	c43a0bf66566	45 hours ago	141MB
jenkins/jenkins	lts-jdk11	2a8f0d8e7b28	3 days ago	478MB
newimage	latest	208f4a8d65a7	4 days ago	70.6MB
nginx	latest	eeab7b3dcba7e	10 days ago	187MB
ubuntu	23.10	199b6c6bc56b	2 weeks ago	70.6MB
ubuntu	latest	01f29b672827	3 weeks ago	77.8MB
train	latest	4033a09a472	4 weeks ago	1.24GB
dockerfile	1.0	6e12a03fb01	4 weeks ago	1.26B
nisargak12/ubuntu	latest	6e12a03fb01	4 weeks ago	1.26B
deepikakripanithi/ubuntu2	1.0	ba7e73431b02	6 weeks ago	70.5MB
deepikakripanithi/ubuntu	latest	ba7e73431b02	6 weeks ago	70.5MB
dfile	latest	9c7a54a99a43c	3 months ago	13.3KB
dockerfile	latest	9c7a54a99a43c	3 months ago	13.3KB
hello-world	latest	9c7a54a99a43c	3 months ago	13.3KB
tutum/wordpress	latest	7e8f97a602ff	7 years ago	477MB

Aug 26 17:48

AnyDesk

Free license (non-professional use). Start trial license.

Workspaces Applications

Aug 26 5:48 PM

nisarga@pop-os:~\$

```

266ce945e870  hello-world:latest  "/hello"          4 days ago  Exited (0) 4 days ago  zealous_sharp
30c69449886a  hello-world:latest  "/hello"          4 days ago  Exited (0) 4 days ago  heuristic_cart
wright          train:1.0          "docker-entrypoint.s..."  4 weeks ago  Exited (0) 4 weeks ago  optimistic_gag
a702dddbbf    train:1.0          "docker-entrypoint.s..."  4 weeks ago  Exited (1) 4 weeks ago  sleepy_chatter
arin            train:1.0          "docker-entrypoint.s..."  4 weeks ago  Exited (1) 4 weeks ago  awesome_lichte
b6f3c8af6464  train:1.0          "docker-entrypoint.s..."  4 weeks ago  Exited (1) 4 weeks ago  suspicious_bro
jee             train:1.0          "docker-entrypoint.s..."  4 weeks ago  Exited (130) 4 weeks ago  determined_cha
rman            train:1.0          "docker-entrypoint.s..."  4 weeks ago  Exited (137) 4 weeks ago  condescending_
d13340a2b48b  train:1.0          "docker-entrypoint.s..."  4 weeks ago  Exited (137) 4 weeks ago  modest_banzai
wn               train:1.0          "docker-entrypoint.s..."  4 weeks ago  Exited (137) 4 weeks ago  trusting_wright
30b3f2673ee3  nisargak127/ubuntu:latest  "docker-entrypoint.s..."  4 weeks ago  Exited (137) 4 weeks ago  kind_taussig
um               train:1.0          "docker-entrypoint.s..."  4 weeks ago  Exited (137) 4 weeks ago  optimistic_hel
fdbb05684499  dockerfile:1.1    "docker-entrypoint.s..."  4 weeks ago  Exited (1) 4 weeks ago  confident_nobe
payne           dockerfile:1.1    "docker-entrypoint.s..."  4 weeks ago  Exited (1) 4 weeks ago  modest_banzai
89ac5e59d020  dockerfile:1.1    "docker-entrypoint.s..."  4 weeks ago  Exited (1) 4 weeks ago  trusting_wright
1d45a0db2c25  dockerfile:1.1    "docker-entrypoint.s..."  4 weeks ago  Exited (1) 4 weeks ago  sweet_abattan
lman            dockerfile:1.1    "bin/bash"         4 weeks ago  Created                fervent_swartz
760b4bb76a6b  dockerfile:latest  "bin/bash"         4 weeks ago  Created                blog1
a63694776c07  dockerfile:1.1    "docker-entrypoint.s..."  4 weeks ago  Exited (1) 4 weeks ago  exciting_keple
aaf71e98c919  dockerfile:1.1    "docker-entrypoint.s..."  4 weeks ago  Exited (137) 4 weeks ago  cranky_keller
t               dockerfile:1.1    "docker-entrypoint.s..."  4 weeks ago  Exited (1) 4 weeks ago  elegant_meitner
460bebfb4ad8  hello-world      "/hello"          5 weeks ago  Exited (0) 5 weeks ago  nisarga@pop-os:~$#
48ff832e27de  hello-world      "/hello"          5 weeks ago  Exited (0) 5 weeks ago  heuristics_cart
96b1456dc98   hello-world      "/run.sh"         5 weeks ago  Exited (137) 5 weeks ago  optimistic_gag
db3574146b98  tutum/wordpress  "/run.sh"         5 weeks ago  Exited (0) 5 weeks ago  sleepy_chatter
91b453caf06  hello-world      "/hello"          5 weeks ago  Exited (0) 5 weeks ago  awesome_lichte
r               hello-world      "/hello"          6 weeks ago  Exited (0) 6 weeks ago  suspicious_bro
b2ffdb659224  hello-world      "/hello"          7 weeks ago  Exited (0) 7 weeks ago  determined_cha
3b42db1f308a  hello-world      "/hello"          7 weeks ago  Exited (0) 7 weeks ago  condescending_
r               hello-world      "/hello"          7 weeks ago  Exited (0) 7 weeks ago  modest_banzai
nisarga@pop-os:~$ sudo docker run -it ubuntu:23.10 bin/bash
root@e548f31331e8:#

```

Activities AnyDesk Aug 26 17:49 39%

AnyDesk

AnyDesk 1792287906 Free license (non-professional use). Start trial license.

Workspaces Applications Aug 26 5:49 PM root@e548f31331e8:/

```
rman
d1334a2b48b train:1.0      "docker-entrypoint.s..." 4 weeks ago Exited (130) 4 weeks ago suspicious_bro
wn
30b3f2673ee3 nisargak127/ubuntu:latest "docker-entrypoint.s..." 4 weeks ago Exited (137) 4 weeks ago determined_cha
um
fdbb05684499 dockerfile:1.1   "docker-entrypoint.s..." 4 weeks ago Exited (137) 4 weeks ago condescending_
payne
89ac5e59d020 dockerfile:1.1   "docker-entrypoint.s..." 4 weeks ago Exited (1) 4 weeks ago kind_taussig
1d45aa0db2c25 dockerfile:1.1   "docker-entrypoint.s..." 4 weeks ago Exited (1) 4 weeks ago optimistic_hel
lman
760b4bb76a6b dockerfile:latest  "bin/bash"        4 weeks ago Created confident_nobe
l
a63694776c07 dockerfile:1.1   "docker-entrypoint.s..." 4 weeks ago Exited (1) 4 weeks ago modest_banzai
aaf71e90c919 dockerfile:1.1   "docker-entrypoint.s..." 4 weeks ago Exited (137) 4 weeks ago trusting_wright
t
400dbebf4ad8 hello-world    "/hello"          4 weeks ago Exited (0) 4 weeks ago kind_nobel
83ff832e27de hello-world    "/hello"          5 weeks ago Exited (0) 5 weeks ago sweet_albattan
i
96b1456dc90 hello-world    "/hello"          5 weeks ago Exited (0) 5 weeks ago fervent_swartz
db3574146b98 tutum/wordpress  "/run.sh"         5 weeks ago Exited (137) 5 weeks ago blog1
91b453caf06 hello-world    "/hello"          5 weeks ago Exited (0) 5 weeks ago exciting_keple
r
b2ffd659224 hello-world    "/hello"          6 weeks ago Exited (0) 6 weeks ago cranky_keller
3b42db1f308a hello-world    "/hello"          7 weeks ago Exited (0) 7 weeks ago elegant_meitne
r
misarga@pop-os:~$ sudo docker run -it ubuntu:23.10 bin/bash
root@e548f31331e8:/# apt-get update
Get:1 http://security.ubuntu.com/ubuntu mantic-security InRelease [90.7 kB]
Get:2 http://archive.ubuntu.com/ubuntu mantic InRelease [255 kB]
Get:3 http://archive.ubuntu.com/ubuntu mantic-updates InRelease [90.7 kB]
Get:4 http://archive.ubuntu.com/ubuntu mantic-backports InRelease [90.7 kB]
Get:5 http://archive.ubuntu.com/ubuntu mantic/universe amd64 Packages [18.9 MB]
38% [5 Packages 5022 kB/18.9 MB 27%] 366 kB/s 44s
```

Activities AnyDesk Aug 26 17:51 39%

AnyDesk

AnyDesk 1792287906 Free license (non-professional use). Start trial license.

Workspaces Applications Aug 26 5:51 PM root@e548f31331e8:/

```
misarga@pop-os:~$ sudo docker run -it ubuntu:23.10 bin/bash
root@e548f31331e8:/#
root@e548f31331e8:/# apt-get update
Get:1 http://security.ubuntu.com/ubuntu mantic-security InRelease [90.7 kB]
Get:2 http://archive.ubuntu.com/ubuntu mantic InRelease [255 kB]
Get:3 http://archive.ubuntu.com/ubuntu mantic-updates InRelease [90.7 kB]
Get:4 http://archive.ubuntu.com/ubuntu mantic-backports InRelease [90.7 kB]
Get:5 http://archive.ubuntu.com/ubuntu mantic/universe amd64 Packages [18.9 MB]
Get:6 http://archive.ubuntu.com/ubuntu mantic/restricted amd64 Packages [211 kB]
Get:7 http://archive.ubuntu.com/ubuntu mantic/multiverse amd64 Packages [298 kB]
Get:8 http://archive.ubuntu.com/ubuntu mantic/main amd64 Packages [1807 kB]
Fetched 0 B in 0s (0 B/s)
Reading package lists...
root@e548f31331e8:/# sudo apt-get install namp
bash: sudo: command not found
root@e548f31331e8:/# sudo apt-get install nmap
bash: sudo: command not found
root@e548f31331e8:/# apt-get install nmap
Reading package lists... Done
Building dependency tree... Done
Building state information... Done
The following additional packages will be installed:
  adduser dbus dbus-bin dbus-daemon dbus-session-bus-common dbus-system-bus-common libapparmor1 libblas3 libdbus-1-3 libexpat1
  liblinear4 libluaj5.4-0 libpcap0.8 libssh2-1 libssl3 lua-5.2 nmap nmap-common
Suggested packages:
  liblzo2-2 perl perl cron quota encryptfs-utils default-dbus-session-bus | dbus-session-bus liblinear-tools liblinear-dev
  ncat niff zmap
The following NEW packages will be installed:
  adduser dbus dbus-bin dbus-daemon dbus-session-bus-common dbus-system-bus-common libapparmor1 libblas3 libdbus-1-3 libexpat1
  liblinear4 libluaj5.4-0 libpcap0.8 libssh2-1 libssl3 lua-5.2 nmap nmap-common
0 upgraded, 18 newly installed, 0 to remove and 2 not upgraded.
Need to get 9204 kB of archives.
After this operation, 36.7 MB of additional disk space will be used.
Do you want to continue? [Y/n]
```

```

Aug 26 17:51 AnyDesk
AnyDesk
AnyDesk 1792287906
Free license (non-professional use). Start trial license.

Workspaces Applications Aug 26 5:51 PM
root@e548f31331e8:~# nmap --version
nmap 7.94SVN ( https://nmap.org )
Platform: x86_64-pc-linux-gnu
Compiled with: liblua-5.4.6 openssl-3.0.10 libssh2-1.11.0 libz-1.2.13 libpcre2-10.42 libpcap-1.10.4 nmap-libdnet-1.12 ipv6
Compiled without:
Available nsmap engines: epoll poll select
root@e548f31331e8:#

```

## Teq 16. Docker Tagging

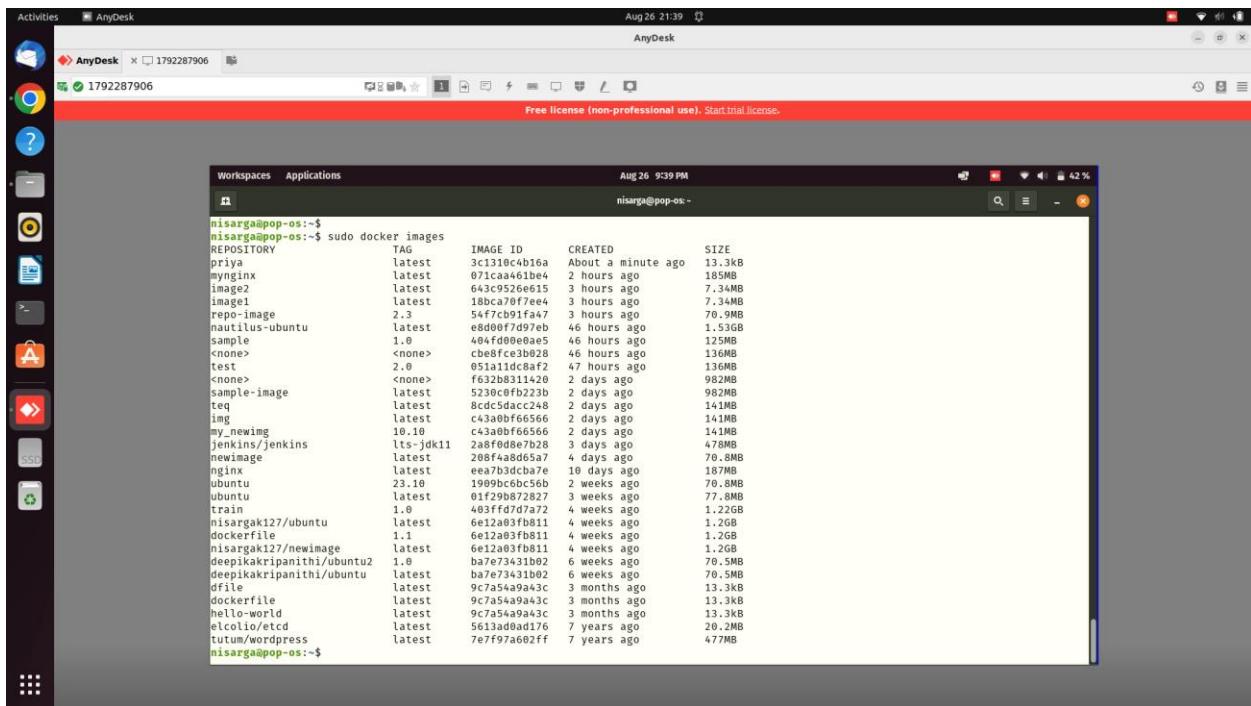
```

Aug 26 21:35 AnyDesk
AnyDesk
AnyDesk 1792287906
Free license (non-professional use). Start trial license.

Workspaces Applications Aug 26 9:35 PM
nisarga@pop-os:~$ sudo docker ps -a
[sudo] password for nisarga:
CONTAINER ID        IMAGE               COMMAND             CREATED            STATUS              PORTS
 NAMES
e8156323ddb8      ubuntu:latest       "/bin/bash"        35 minutes ago   Exited (137) 34 minutes ago
99bd973ee657      nginx              "admiring_chatterjee"    45 minutes ago   Exited (0) 39 minutes ago
97d53bafdf669     nginx              "cont"            47 minutes ago   Exited (0) 46 minutes ago
422eab9fe679      ubuntu:latest       "con"             51 minutes ago   Exited (0) 48 minutes ago
fdaed5ce8279      ubuntu:latest       "clever_panini"    55 minutes ago   Exited (0) 52 minutes ago
35ffcad1e45c      ubuntu:latest       "charming_pike"    About an hour ago   Exited (0) 59 minutes ago
9cbc16ca688d      ubuntu:latest       "bold_kilby"      About an hour ago   Exited (0) About an hour ago
0cff8daf5c4c      ubuntu:latest       "wizardly_visvesvaraya" "bin/bash"        About an hour ago   Exited (0) About an hour ago
02571cf589cf      elcolio/etcfd      "admiring_hugle"    2 hours ago      Up 2 hours          0.0.0.0:32771->2
379/tcp, :::32771->2379/tcp, 0.0.0.0:32770->2380/tcp, 0.0.0.0:32769->4001/tcp, :::32769->4001/tcp, 0.0.0.0:32768->7
001/tcp, :::32768->7081/tcp  etcd
3f4af4af1d3      ubuntu:23.10       "bin/bash"        2 hours ago      Exited (0) About an hour ago

```

# Teq. 19 Environments as Processes



The screenshot shows a Linux desktop environment with a dark theme. A terminal window is open, displaying the output of a command run in a root shell. The command is:

```
nisarga@pop-os:~$ nisarga@pop-os:~$ sudo docker images
```

The output lists various Docker images along with their details:

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
priya	latest	3c1310c4b16a	About a minute ago	13.3kB
mynginx	latest	071caa461be4	2 hours ago	185MB
image2	latest	643c9526e615	3 hours ago	7.34MB
image1	latest	18bcfa70f7ee4	3 hours ago	7.34MB
repo-image	2.3	54fc7c19d947	3 hours ago	70.9MB
natusus-ubuntu	latest	e80ff77097eb	40 hours ago	1.36GB
sample	1.0	4e9fd00ea055	46 hours ago	12.5MB
<none>		cbe8fc0ca3b28	46 hours ago	13.6MB
test	2.0	051a11dc8af2	47 hours ago	13.6MB
<none>		f632b8311420	2 days ago	982MB
sample-image	latest	5238c0ff223b	2 days ago	982MB
teq	latest	8cd5cdaacc248	2 days ago	14.1MB
img	latest	c43a0bf66566	2 days ago	14.1MB
my_newimg	10.10	c43a0bf66566	2 days ago	14.1MB
jenkins/jenkins	lts-jdk11	2a8f0d8e7b28	3 days ago	47.8MB
newimage	latest	208f4a8ad65a7	4 days ago	70.8MB
nginx	latest	eea7b3dcba7e	10 days ago	18.7MB
ubuntu	23.10	1999bc60bc56b	2 weeks ago	70.8MB
ubuntu	latest	01f2929a3827	3 weeks ago	77.8MB
trial	1.0	4e9fd00ea055	46 hours ago	1.36GB
nisargak127/ubuntu	latest	6e12a03fb811	4 weeks ago	1.26GB
dockerfile	1.1	6e12a03fb811	4 weeks ago	1.26GB
nisargak127/newimage	latest	6e12a03fb811	4 weeks ago	1.26GB
deepikakarpanithi/ubuntu2	1.0	b7e73431b02	6 weeks ago	70.5MB
deepikakarpanithi/ubuntu	latest	b7e73431b02	6 weeks ago	70.5MB
dfile	latest	9c7a54a99a43c	3 months ago	13.3kB
dockerfile	latest	9c7a54a99a43c	3 months ago	13.3kB
hello-world	latest	9c7a54a99a43c	3 months ago	13.3kB
elcolio/etcđ	latest	5613ad0ad176	7 years ago	20.2MB
tutum/wordpress	latest	7e7f97a602ff	7 years ago	477MB

```
nisarga@pop-os:~$
```

```
Aug 26 21:40 AnyDesk
AnyDesk
1792287906
1792287906
Free license (non-professional use). Start trial license.

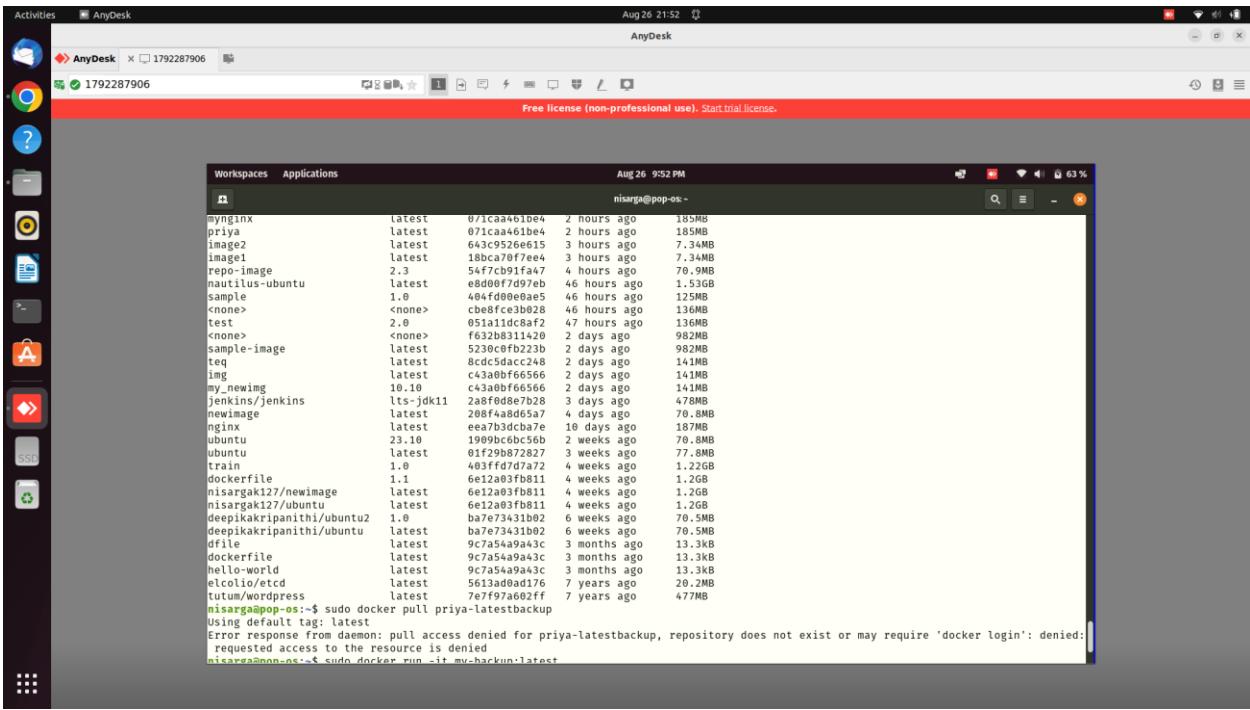
Workspaces Applications Aug 26 9:40 PM
nisarga@pop-os:~$ sudo docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
priya latest 3c1310c4b16a About a minute ago 13.3KB
mynginx latest 071caa16be4 2 hours ago 185MB
image2 latest 643c95266e15 3 hours ago 7.34MB
image1 latest 180ca70f7fe4 3 hours ago 7.34MB
repo1_image 2.3 54f7cb91fa7 3 hours ago 70.9MB
natives-ubuntu latest 88060a0a545 46 hours ago 1.93GB
sample 1.0 404fd08e0ae5 46 hours ago 125MB
<none> <none> cb82fc32b028 46 hours ago 136MB
test 2.0 051al11dc8af2 47 hours ago 136MB
<none> f63208311420 2 days ago 982MB
sample-image latest 5230c0fb223b 2 days ago 982MB
teq latest 8cdc5dacc248 2 days ago 141MB
img latest c43ab0ff66566 2 days ago 141MB
my_newimg 10.10 c43ab0ff66566 2 days ago 141MB
jenkins/jenkins lts-jdk11 2a8fd8e7eb28 3 days ago 478MB
newimage latest 208f4ab0d5a7 4 days ago 70.8MB
nginx latest 9e7a7b3dcb7a7e 10 days ago 187MB
ubuntu 23.10 5999c0b73330 2 weeks ago 70.9MB
ubuntu latest 01f29c672827 3 weeks ago 77.8MB
train 1.0 403ffdf7d7a72 4 weeks ago 1.22GB
nisargak127/ubuntu latest 6e12a03fb811 4 weeks ago 1.2GB
dockerfile 1.1 6e12a03fb811 4 weeks ago 1.2GB
nisargak127/newimage latest 6e12a03fb811 4 weeks ago 1.2GB
deepikaripanithi/ubuntu2 1.0 ba7e73431b02 6 weeks ago 70.5MB
deepikaripanithi/ubuntu latest ba7e73431b02 6 weeks ago 70.5MB
dfile latest 9c7a54a94a3c 3 months ago 13.3KB
dockerfile latest 9c7a54a94a3c 3 months ago 13.3KB
hello-world latest 9c7a54a94a3c 3 months ago 13.3KB
elciolio/etcd latest 5613dadad176 7 years ago 20.2MB
tutum/wordpress latest 7e7f97a662ff 7 years ago 477MB
nisarga@pop-os:~$ sudo docker tag 071caa16be4 priya
nisarga@pop-os:~$
```

```
AnyDesk
```

Free license (non-professional use). Start trial license.

```
Aug 26 9:50 PM
```

```
nisarga@pop-os:~$ docker export e8156323ddbae> priya.tar
Permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Get "http://>Fvar%2Frun%2Fdocker.sock/v1.24/containers/e8156323ddbae/export": dial unix /var/run/docker.sock: connect: permission denied
nisarga@pop-os:~$ sudo docker export e8156323ddbae > priya.tar
Error response from daemon: No such container: e8156323ddbae
nisarga@pop-os:~$ sudo docker load -i ~/priya.tar
open /var/lib/docker/tmp/docker-import-342891446/boot/json: no such file or directory
nisarga@pop-os:~$ sudo docker load -i priya.tar
open /var/lib/docker/tmp/docker-import-766661728/boot/json: no such file or directory
nisarga@pop-os:~$ sudo docker images
REPOSITORY          TAG      IMAGE ID      CREATED       SIZE
<none>            <none>   e8156323ddbae  12 hours ago  185MB
nginx              latest   071caa61be4   2 hours ago  185MB
priya              latest   071caa61be4   2 hours ago  185MB
image2              latest   643c9526e615  3 hours ago  7.34MB
image1              latest   18bc870f7fe4  3 hours ago  7.34MB
repo-image          2.3     54f7cb91fa47  4 hours ago  70.9MB
nautilus-ubuntu    latest   e8d0d0f7d97eb  46 hours ago  1.53GB
sample             1.0     404fd00e9ae5  46 hours ago  125MB
<none>            <none>   cbe8fce3b082  46 hours ago  136MB
test               2.0     051a11dc8af2  47 hours ago  136MB
<none>            <none>   f632b8311420  2 days ago   982MB
sample-image        latest   5230c0fb223b  2 days ago   982MB
teq                latest   82cd5dac248  2 days ago   14.1MB
img                latest   c43ab0bf66566  2 days ago   14.1MB
my_newimg          10.18   c43ab0bf66566  2 days ago   14.1MB
jenkins/jenkins    lts-jdk11 2a8fdde6b28   3 days ago   476MB
cloudimg           1.0     705ef1>adce7  6 days ago   70.9MB
```



The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is "nisarga@pop-os:~\$". The terminal content displays the output of the command "docker history priya-latestbackup". The output lists various Docker images and their details, such as tag, digest, created time, and size. A red bar at the top of the terminal window displays the message "Free license (non-professional use). Start trial license.".

```
Aug 26 9:52 PM
nisarga@pop-os:~$ docker history priya-latestbackup
mynginx      latest    0/1ca3a4b1de4  2 hours ago   185MB
priya        latest    071ca3a4b1de4  2 hours ago   185MB
image2        latest    643c95266e615  3 hours ago   7.34MB
image1        latest    18bc7af70ee4  3 hours ago   7.34MB
repo-image     2.3      54f7cb91fa47  4 hours ago   70.9MB
nautilus-ubuntu latest    e8d9af7797eb  46 hours ago  1.36GB
sample        1.0      408ff4d6a9b5  46 hours ago  1.35GB
<none>        <none>   cbef8cc3b828  46 hours ago  136MB
test          2.0      051a11dc8af2  47 hours ago  136MB
<none>        <none>   f632b8311a20  2 days ago   982MB
sample-image    latest    5230c0fb2230  2 days ago   982MB
teq           latest    8cd5c5dacc248  2 days ago   14.1MB
img           latest    c43a0bf66556  2 days ago   14.1MB
my_newimg     10.10   c43a0bf66556  2 days ago   14.1MB
jenkins/jenkins lts-jdk11 2a8f0d8e7b28  3 days ago   478MB
newimage       latest    208f4a8d65a7  4 days ago   70.8MB
nginx         latest    eeab7b3dcba7e  10 days ago  187MB
ubuntu        23.10   1999b6c6bc56b  2 weeks ago  70.8MB
ubuntu        latest    01f29b872827  3 weeks ago  77.8MB
train          latest    1.0      403d93fb472  4 weeks ago  1.12GB
dockerfile     1.1      6e12a03fb811  4 weeks ago  1.26B
nisargak127/newimage latest    6e12a03fb811  4 weeks ago  1.26B
nisargak127/ubuntu latest    6e12a03fb811  4 weeks ago  1.26B
deepikakarpanithi/ubuntu2 1.0      bae7e73431b02  6 weeks ago  70.5MB
deepikakarpanithi/ubuntu latest    bae7e73431b02  6 weeks ago  70.5MB
dfile          latest    9c7a54a99a43c  3 months ago  13.3KB
dockerfile     latest    9c7a54a99a43c  3 months ago  13.3KB
hello-world    latest    9c7a54a99a43c  3 months ago  13.3KB
elcolio/etcd   latest    5613ad0ad176  7 years ago  20.2MB
tutum/wordpress latest    7e7f97a602ff  7 years ago  477MB
nisarga@pop-os:~$ sudo docker pull priya-latestbackup
Using default tag: latest
Error response from daemon: pull access denied for priya-latestbackup, repository does not exist or may require 'docker login': denied:
requested access to the resource is denied
nisarga@pop-os:~$
```

## Teq. 20 Injecting Files into the Image using ADD

Activities AnyDesk Aug 26 22:00 8% AnyDesk

AnyDesk x 1792287906 1792287906 Free license (non-professional use). Start trial license.

Workspaces Applications Aug 26 10:00 PM nisarga@pop-os-

```
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.pde.core/.p2/
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.pde.core/.p2/org.eclipse.equinox.p2.engine/
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.pde.core/.p2/org.eclipse.equinox.p2.engine/profileRegistry/
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.pde.core/.cache/
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.pde.core/.cache/clean-cache.properties
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.debug.ui/
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.debug.ui/launchConfigurationHistory.xml
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.m2e.core/
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.m2e.core/workspaceState.ser
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.jdt.launching/
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.jdt.launching/libraryInfos.xml
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.jdt.launching/.install.xml
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.debug.core/
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.debug.core/.launches/
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.debug.core/.launches/stock.launch
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.debug.core/.launches/minimum.launch
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.debug.core/.launches/mynewthread.launch
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.debug.core/.launches/maximum.launch
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.debug.core/.launches/deadlock.launch
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.debug.core/.launches/ReEnterentThreads.launch
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.userstorage.oauth/
/home/nisarga/Desktop/.metadata/version.ini
/home/nisarga/Desktop/.metadata/.lock
/home/nisarga/Desktop/.metadata/.lock
/home/nisarga/Desktop/.metadata/.mylyn/
/home/nisarga/Desktop/.metadata/.mylyn/contextes/
/home/nisarga/Desktop/.metadata/.mylyn/repositories.xml.zip
/home/nisarga/Desktop/.metadata/.mylyn/.taskListIndex/
/home/nisarga/Desktop/.metadata/.mylyn/.taskListIndex/segments_1
/home/nisarga/Desktop/.metadata/.mylyn/.taskListIndex/write.lock
/home/nisarga/Desktop/.metadata/.mylyn/tasks.xml.zip
/home/nisarga/Desktop/.metadata/.mylyn/tasks.xml.zip
/home/nisarga/Desktop/yashu
nisarga@pop-os:$
```

Activities AnyDesk Aug 26 22:00 8% AnyDesk

AnyDesk x 1792287906 1792287906 Free license (non-professional use). Start trial license.

Workspaces Applications Aug 26 10:00 PM nisarga@pop-os-

```
GNU nano 6.2 Dockerfile
#Syntax of Dockerfile & Creation of an Image
#INSTRUCTION1 command1
#INSTRUCTION2 command2

#Creation of the Dockerfile
#FROM ubuntu:23.10
#LABEL author "Deepika K deepikak@rvce.edu.in"
#LABEL description "This is a Dockerfile"
#RUN apt-get update
#CMD ["echo", "Hello DevOps B Section"]
#ADD https://api.github.com/repos/torvalds/linux/commits /dev/null

#FROM ubuntu:latest
#RUN apt-get -y update
#ADD my-folder.tar.gz /app

#FROM debian
#LABEL author "Deepika K deepikak@rvce.edu.in"
#LABEL description "This is a demo file to show build-args"
#RUN apt-get update && apt-get -y upgrade

# Custom cache invalidation
#ARG CACHEBUST=1

# Welcome Text
#RUN echo ["Welcome"]

[ Read 71 lines ]
[G Help   ^O Write Out   ^W Where Is   ^C Cut   ^T Execute   ^F Location   M-U Undo   M-A Set Mark
[X Exit   ^R Read File   ^V Replace   ^Y Paste   ^D Justify   ^G Go To Line   M-E Redo   M-C Copy
```

Activities AnyDesk Aug 26 22:01 AnyDesk

AnyDesk x 1792287906

Free license (non-professional use). Start trial license.

Workspaces Applications Aug 26 10:01 PM nisarga@pop-os ~

```
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.m2e.core/workspaceState.ser  
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.jdt.launching/  
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.jdt.launching/libraryInfos.xml  
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.jdt.launching/.install.xml  
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.debug.core/  
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.debug.core/.launches/  
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.debug.core/.launches/stuck.launch  
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.debug.core/.launches/minimum.launch  
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.debug.core/.launches/mynewthread.launch  
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.debug.core/.launches/maxium.launch  
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.debug.core/.launches/deadlock.launch  
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.debug.core/.launches/ReEnterentThreads.launch  
/home/nisarga/Desktop/.metadata/.plugins/org.eclipse.userstorage.oauth/  
/home/nisarga/Desktop/.metadata/version.ini  
/home/nisarga/Desktop/.metadata/.log  
/home/nisarga/Desktop/.metadata/.lock  
/home/nisarga/Desktop/.metadata/.mylyn/  
/home/nisarga/Desktop/.metadata/.mylyn/contextes/  
/home/nisarga/Desktop/.metadata/.mylyn/repositories.xml.zip  
/home/nisarga/Desktop/.metadata/.mylyn/taskListIndex/  
/home/nisarga/Desktop/.metadata/.mylyn.taskListIndex/segments_1  
/home/nisarga/Desktop/.metadata/.mylyn.taskListIndex/write.lock  
/home/nisarga/Desktop/.metadata/.mylyn.tasks.xml.zip  
/home/nisarga/Desktop/.metadata/.mylyn/tasks.xml.zip  
/home/nisarga/Desktop/yash  
nisarga@pop-os:~$ sudo nano Dockerfile  
nisarga@pop-os:~$ sudo docker build -t sample-image  
ERROR: "docker buildx build" requires exactly 1 argument.  
See 'docker buildx build --help'.  
  
Usage: docker buildx build [OPTIONS] PATH | URL | -  
  
Start a build  
nisarga@pop-os:~$
```

Activities AnyDesk Aug 26 22:01 AnyDesk

AnyDesk x 1792287906

Free license (non-professional use). Start trial license.

Workspaces Applications Aug 26 10:01 PM nisarga@pop-os ~

```
nisarga@pop-os:~$ sudo docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
<none>	<none>	3c1310cb16a	23 minutes ago	13.3kB
mynginx	latest	071caa4a61be4	2 hours ago	185MB
priya	latest	071caa4a61be4	2 hours ago	185MB
image2	latest	643c9526e615	3 hours ago	7.34MB
image1	latest	18bc70f7ee4	3 hours ago	7.34MB
repo-image	2.3	54f7cb91fa47	4 hours ago	70.9MB
nautilus-ubuntu	latest	e8d00f7d97eb	46 hours ago	1.53GB
sample	1.0	404fd00e0ae5	46 hours ago	125MB
<none>	<none>	cbe8fce3b028	47 hours ago	136MB
test	2.0	051a208311a0	47 hours ago	1.26GB
<none>	<none>	f0208311a0	2 days ago	962MB
sample-image	latest	5230c0f223b	2 days ago	962MB
teq	latest	8cd5cdaacc248	2 days ago	14.1MB
img	latest	c43a0bf66566	2 days ago	14.1MB
my_newimg	10.10	c43a0bf66566	2 days ago	14.1MB
jenkins/jenkins	lts-jdk11	2a8f0d8e7b28	3 days ago	478MB
newimage	latest	208f4a8d65a7	4 days ago	70.9MB
nginx	latest	eea7b3dcba7e	10 days ago	187MB
ubuntu	23.10	199b9c6bc56b	2 weeks ago	70.8MB
ubuntu	latest	01f29b872827	3 weeks ago	77.8MB
train	1.0	403ffd7d7a72	4 weeks ago	1.22GB
dockerfile	1.1	6e12a03fb811	4 weeks ago	1.26B
nisarga127/newimage	latest	6e12a03fb811	4 weeks ago	1.26B
nisargakiranithi/ubuntu	latest	6e12a03fb811	4 weeks ago	1.26B
deepikakiranithi/ubuntu2	1.0	b7e73431b92	6 weeks ago	70.5MB
deepikakiranithi/ubuntu	latest	b7e73431b92	6 weeks ago	70.5MB
dockerfile	latest	9c7a54a9a43c	3 months ago	13.3kB
hello-world	latest	9c7a54a9a43c	3 months ago	13.3kB
dfile	latest	9c7a54a9a43c	3 months ago	13.3kB
elcolio/etc	latest	5613ad0ad176	7 years ago	20.2MB
tutum/wordpress	latest	7e7f97a602ff	7 years ago	477MB

```
nisarga@pop-os:~$
```

## Teq. 21 Rebuilding without the Cache

## Teq. 23 Intelligent Cache-Busting using Build-Args

FROM debian

LABEL author "Deepika K deepikak@rvce.edu.in"

LABEL description "This is a demo file to show build-args"

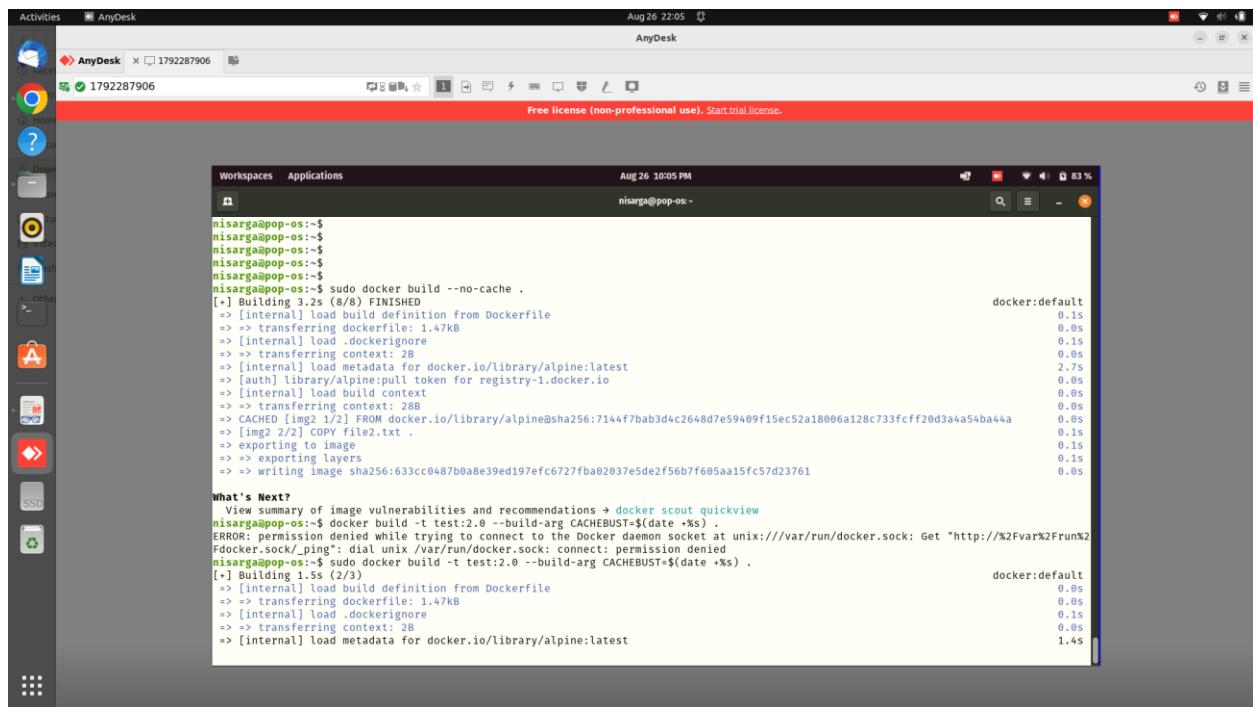
```
RUN apt-get update && apt-get -y upgrade
```

## # Custom cache invalidation

ARG CACHEBUST=1

## # Welcome Text

```
RUN echo ["Welcome"]
```



## ~~Topic 24~~ Intelligent Cache-Busting using ADD

Activities AnyDesk Aug 26 22:06 AnyDesk

AnyDesk x 1792287906 1792287906 Free license (non-professional use). Start trial license.

Workspaces Applications Aug 26 10:06 PM 85% nisarga@pop-os ~

```
nisarga@pop-os:~$  
nisarga@pop-os:~$  
nisarga@pop-os:~$  
nisarga@pop-os:~$  
nisarga@pop-os:~$  
nisarga@pop-os:~$  
nisarga@pop-os:~$ sudo nano Dockerfile  
nisarga@pop-os:~$ sudo nano Dockerfile  
nisarga@pop-os:~$ sudo docker buildx build -t repo-image:2.3  
ERROR: "docker buildx build" requires exactly 1 argument.  
See 'docker buildx build --help'.  
  
Usage: docker buildx build [OPTIONS] PATH | URL | -  
  
Start a build  
nisarga@pop-os:~$ sudo docker build -t repo-image:2.3 .  
[+] Building 1.7s (7/7) FINISHED  
=> [internal] load build definition from Dockerfile  
=> => transferring dockerfile: 1.47kB  
=> [internal] load build context  
=> => transferring context: 288  
=> [internal] load metadata for docker.io/library/alpine:latest  
=> [internal] load build context  
=> => transferring context: 288  
=> [img2 1/2] FROM docker.io/library/alpine@sha256:7144f7bab3d4c2648d7e59409f15ec52a18006a128c733fcff20d3a4a54ba44a  
=> CACHED [img2 2/2] COPY file2.txt .  
=> => exporting layers  
=> => writing image sha256:633cc0487b0a8e39ed197efc6727fba02037e5de2f56b7f605aa15fc57d23761  
=> => naming to docker.io/library/repo-image:2.3  
  
What's Next?  
View summary of image vulnerabilities and recommendations → docker scout quickview  
nisarga@pop-os:~$
```

Activities AnyDesk Aug 26 22:07 AnyDesk

AnyDesk x 1792287906 1792287906 Free license (non-professional use). Start trial license.

Workspaces Applications Aug 26 10:07 PM 86% nisarga@pop-os ~

```
=> [internal] load metadata for docker.io/library/alpine:latest  
=> [internal] load build context  
=> => transferring context: 288  
=> [img2 1/2] FROM docker.io/library/alpine@sha256:7144f7bab3d4c2648d7e59409f15ec52a18006a128c733fcff20d3a4a54ba44a  
=> CACHED [img2 2/2] COPY file2.txt .  
=> => exporting layers  
=> => writing image sha256:633cc0487b0a8e39ed197efc6727fba02037e5de2f56b7f605aa15fc57d23761  
=> => naming to docker.io/library/repo-image:2.3  
  
What's Next?  
View summary of image vulnerabilities and recommendations → docker scout quickview  
nisarga@pop-os:~$ sudo docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
repo-image	2.3	633cc0487b0a	4 minutes ago	7.34MB
test	2.0	633cc0487b0a	4 minutes ago	7.34MB
<none>	<none>	3c1310c4b16a	29 minutes ago	13.3KB
mynginx	latest	071ca4a61b64	3 hours ago	185MB
priya	latest	071ca4a61b64	3 hours ago	185MB
image2	latest	643c95266e15	3 hours ago	7.34MB
image1	latest	18bc70f7ee4	3 hours ago	7.34MB
<none>	<none>	54f7cb91fa47	4 hours ago	70.9MB
nauticus-ubuntu	latest	eb90a08097e8	46 hours ago	1.1GB
sample	1.0	48efdf0080a5	46 hours ago	125MB
<none>	<none>	cbe8fcce3b28	47 hours ago	136MB
<none>	<none>	051a11dc8af2	47 hours ago	136MB
<none>	<none>	f62b8311420	2 days ago	982MB
sample-image	latest	5230c0fb2230	2 days ago	982MB
teq	latest	8dc5c5dacc248	2 days ago	141MB
img	latest	c43a0bf66566	2 days ago	141MB
my_newimg	10.10	c43a0bf66566	2 days ago	141MB
jenkins/jenkins	lts-jdk11	2a8f0d8e7b28	3 days ago	478MB
newimage	latest	208f4a8d65a7	4 days ago	70.8MB
nginx	latest	eea7b3dcba7e	10 days ago	187MB

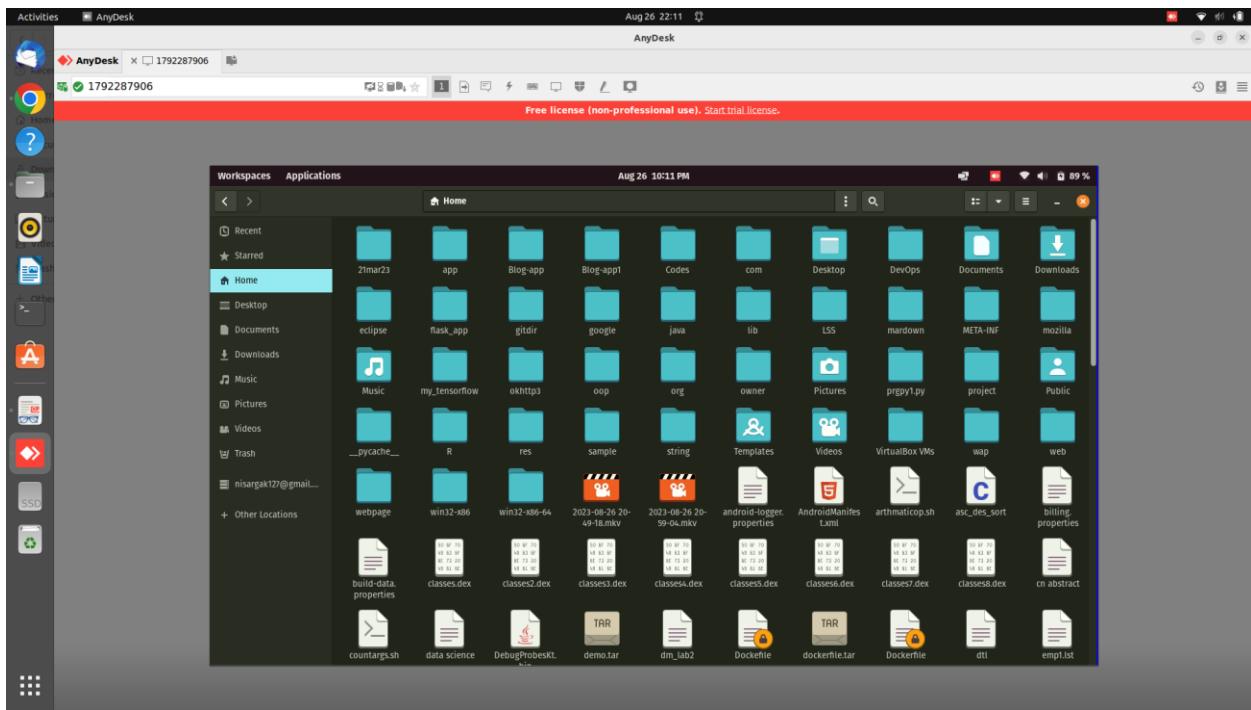
## Teq. 25 Setting the Right Time Zone in the Containers

The screenshot shows a desktop environment with a window titled "AnyDesk" displaying a terminal session. The terminal window has a red header bar with the text "Free license (non-professional use). Start trial license.". The terminal content includes a command-line interface for Docker, showing the build process of a container named "sample:1.0". The logs indicate the creation of a new image, pulling metadata from docker.io, and writing the final image file. A progress bar on the right side of the terminal window shows the completion of the build. The desktop background features a dark theme with various application icons in the dock.

```
nisarga@pop-os:~$  
nisarga@pop-os:~$  
nisarga@pop-os:~$  
nisarga@pop-os:~$ sudo docker build -t sample:1.0.  
ERROR: "docker buildx build" requires exactly 1 argument.  
See 'docker buildx build --help'.  
  
Usage: docker buildx build [OPTIONS] PATH | URL | -  
  
Start a build  
nisarga@pop-os:~$ sudo docker build -t sample:1.0 .  
[+] Building 2.7s (8/8) FINISHED  
=> [internal] load .dockerignore  
=> => transferring context: 2B  
=> [internal] load build definition from Dockerfile  
=> => transferring dockerfile: 1.47kB  
=> [internal] load metadata for docker.io/library/alpine:latest  
=> [auth] library/alpine:pull token for registry-1.docker.io  
=> [img2 1/2] FROM docker.io/library/alpine@sha256:1744f7bab3d4c2648d7e59409f15ec52a18006a128c733fcff20d3a4a54ba44a  
=> [img2 1/2] resolve local build context  
=> => transferring context: 288  
=> CACHED [img2 2/2] COPY file2.txt .  
=> exporting to image  
=> => exporting layers  
=> => writing image sha256:633cc0487b0a8e39ed197efc6727fba02037e5de2f56b7f605aa15fc57d23761  
=> => naming to docker.io/library/sample:1.0  
  
What's Next?  
View summary of image vulnerabilities and recommendations → docker scout quickview  
nisarga@pop-os:~$ sudo docker run -e TZ=Europe/London -it sample:1.0  
/ # date  
Sat Aug 26 16:39:22 UTC 2023  
/ # exit  
nisarga@pop-os:~$
```

## Teq. 29 Running GUIs within Docker





## Teq.30 Inspecting Containers

Aug 26 22:14 AnyDesk

AnyDesk

Free license (non-professional use). Start trial license.

Workspaces Applications Aug 26 10:14 PM nisarga@pop-os ~

```
nisarga@pop-os:~$ 
nisarga@pop-os:~$ 
nisarga@pop-os:~$ 
nisarga@pop-os:~$ 
nisarga@pop-os:~$ sudo docker run -it nginx:latest
Unable to find image 'nginx:latest' locally
docker: Error response from daemon: pull access denied for nginx, repository does not exist or may require 'docker login': denied: requested access to the resource is denied.
See 'docker run --help'.
nisarga@pop-os:~$ docker run -it nginx:latest
docker: permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Post "http://%2Fvar%2Frun%2Fdocker.sock/v1.24/containers/create": dial unix /var/run/docker.sock: connect: permission denied.
See 'docker run --help'.
nisarga@pop-os:~$ sudo docker run -it nginx:latest
/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: Sourcing /docker-entrypoint.d/15-local-resolvers.envsh
/docker-entrypoint.sh: Launching /docker-entrypoint.d/20-envsubst-on-templates.sh
/docker-entrypoint.sh: Configuration complete; ready for start up
2023/08/26 16:44:42 [notice] 1#1: using the "epoll" event method
2023/08/26 16:44:42 [notice] 1#1: built by gcc 12.2.0 (Debian 12.2.0-14)
2023/08/26 16:44:42 [notice] 1#1: OS: Linux 6.4.6-76060406-generic
2023/08/26 16:44:42 [notice] 1#1: getrlimit(RLIMIT_NOFILE): 1048576:1048576
2023/08/26 16:44:42 [notice] 1#1: start worker processes
2023/08/26 16:44:42 [notice] 1#1: start worker process 29
2023/08/26 16:44:42 [notice] 1#1: start worker process 30
2023/08/26 16:44:42 [notice] 1#1: start worker process 31
2023/08/26 16:44:42 [notice] 1#1: start worker process 32
```

Activities AnyDesk

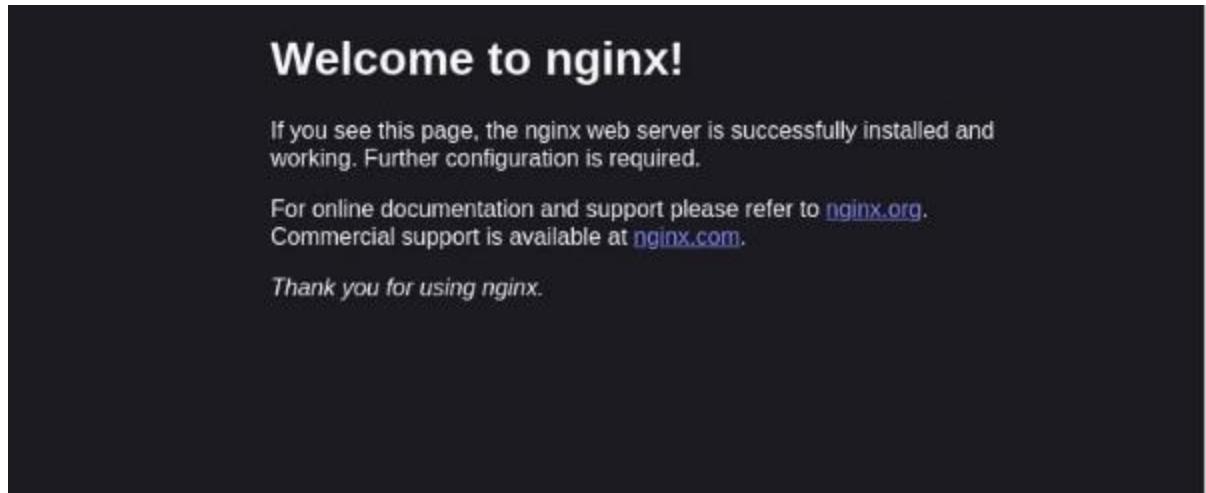
AnyDesk

Free license (non-professional use). Start trial license.

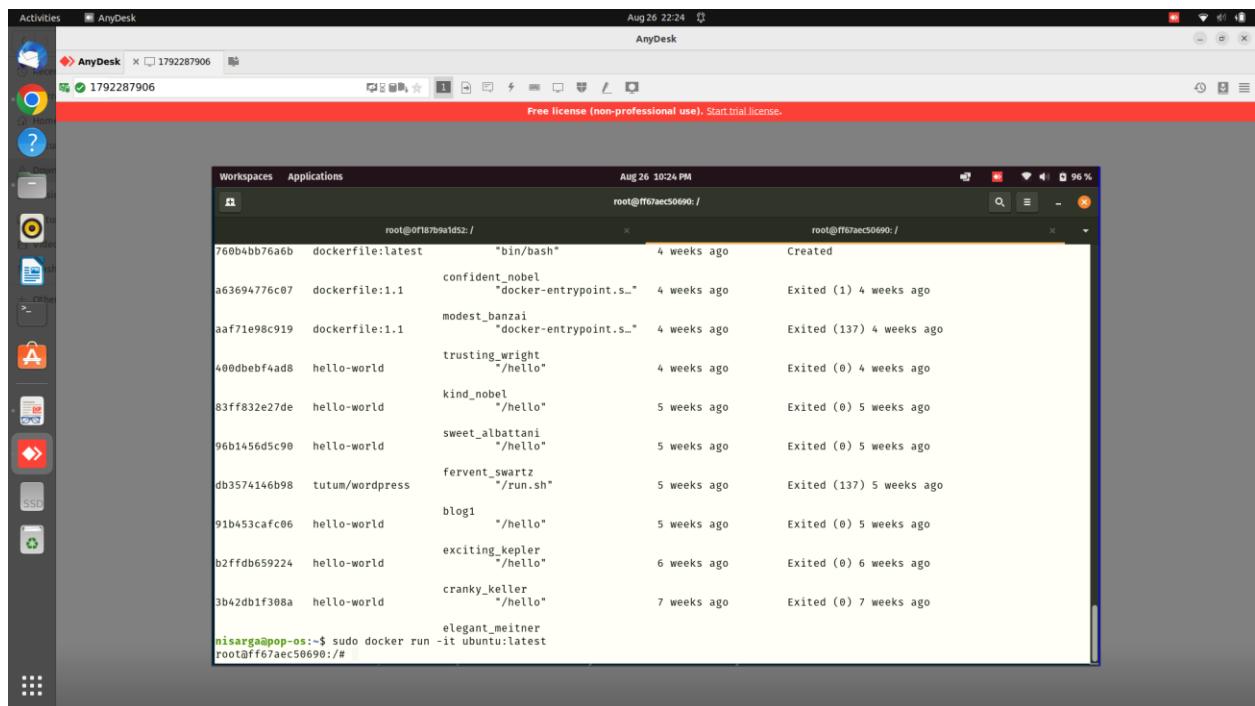
Workspaces Applications Aug 26 10:17 PM nisarga@pop-os ~

```
nisarga@pop-os:~$ sudo docker container ls -a
[sudo] password for nisarga:
CONTAINER ID        IMAGE               COMMAND             CREATED            STATUS              PORTS
NAMES
b410146c5041      nginx:latest        "/docker-entrypoint..."   About a minute ago   Up About a minute   80/tcp
839da212aab7      sample:1.0          "/bin/sh"
fervent_hugle      "bin/sh"
7 minutes ago      Exited (0) 7 minutes ago
e8156323ddba      ubuntu:latest       "crazy_nobel"
"/bin/bash"
About an hour ago  Exited (137) About an hour ago
99bd973ee657      nginx              "admiring_chatterjee"
"/docker-entrypoint..."
About an hour ago  Exited (0) About an hour ago
97d53bafdf669     nginx              "cont"
"/docker-entrypoint..."
About an hour ago  Exited (0) About an hour ago
422eab9fe679      ubuntu:latest       "con"
"/bin/bash"
2 hours ago        Exited (0) About an hour ago
fdaed5ce8279      ubuntu:latest       "clever_panini"
"/bin/bash"
2 hours ago        Exited (0) 2 hours ago
35fcccad1e45c     ubuntu:latest       "charming_pike"
"/bin/bash"
2 hours ago        Exited (0) 2 hours ago
9cbc16ca688d      ubuntu:latest       "bold_kilby"
"/bin/bash"
2 hours ago        Exited (0) 2 hours ago
0cff8daf5c4c      ubuntu:latest       "wizardly_visvesvaraya"
"/bin/bash"
2 hours ago        Exited (0) 2 hours ago
```

Workspaces	Applications	Aug 26 10:18 PM		
root@b6584cd73e83:/				
760b4bb76a6b	dockerfile:latest	optimistic_hellman "bin/bash"	4 weeks ago	Created
a63694776c07	dockerfile:1.1	confident_nobel "docker-entrypoint.s_"	4 weeks ago	Exited (1) 4 weeks ago
aaf71e98c919	dockerfile:1.1	modest_banzai "docker-entrypoint.s_"	4 weeks ago	Exited (137) 4 weeks ago
400dbefb4ad8	hello-world	trusting_wright "/hello"	4 weeks ago	Exited (0) 4 weeks ago
83ff832e7de	hello-world	kind_nobel "/hello"	5 weeks ago	Exited (0) 5 weeks ago
96b1456d5c90	hello-world	sweet_albattani "/hello"	5 weeks ago	Exited (0) 5 weeks ago
db3574146b98	tutum/wordpress	fervent_swartz "/run.sh"	5 weeks ago	Exited (137) 5 weeks ago
91b453cafc06	hello-world	blog1 "/hello"	5 weeks ago	Exited (0) 5 weeks ago
b2ffdbe59224	hello-world	exciting_kepler "/hello"	6 weeks ago	Exited (0) 6 weeks ago
3b42db1f308a	hello-world	cranky_keller "/hello"	7 weeks ago	Exited (0) 7 weeks ago
		elegant_meitner		



## Teq.31 Cleanly killing containers



```

root@0f1879a1d2:/          nisarga@pop-os:-
a63694776c07  dockerfile:1.1    "docker-entrypoint.s..."  4 weeks ago  Exited (1) 4 weeks ago
aaf71e98c919  dockerfile:1.1    modest_banazi           "docker-entrypoint.s..."  4 weeks ago  Exited (137) 4 weeks ago
400dbebf4ad8  hello-world     trusting_wright        "/hello"      4 weeks ago  Exited (0) 4 weeks ago
83ff832e27de  hello-world     kind_nobel            "/hello"      5 weeks ago  Exited (0) 5 weeks ago
96b1456d5c90  hello-world     sweet_albattani       "/hello"      5 weeks ago  Exited (0) 5 weeks ago
db3574146b98  tutum/wordpress  fervent_swartz        "/run.sh"    5 weeks ago  Exited (137) 5 weeks ago
91b453cafc06  hello-world     blog1                "/hello"      5 weeks ago  Exited (0) 5 weeks ago
b2ffdb659224  hello-world     exciting_kepler       "/hello"      6 weeks ago  Exited (0) 6 weeks ago
3b42db1f308a  hello-world     cranky_keller         "/hello"      7 weeks ago  Exited (0) 7 weeks ago
                           elegant_meitner
nisarga@pop-os:~$ sudo docker run -it ubuntu:latest
root@ff67aec50690:/# exit
exit
nisarga@pop-os:~$ sudo docker container ls -a

```

```

root@0f1879a1d2:/          root@b398713714b7:/
760b4bb76a6b  dockerfile:latest   "bin/bash"           4 weeks ago  Created
a63694776c07  dockerfile:1.1    confident_nobel      "docker-entrypoint.s..."  4 weeks ago  Exited (1) 4 weeks ago
aaf71e98c919  dockerfile:1.1    modest_banazi       "docker-entrypoint.s..."  4 weeks ago  Exited (137) 4 weeks ago
400dbebf4ad8  hello-world     trusting_wright      "/hello"      4 weeks ago  Exited (0) 4 weeks ago
83ff832e27de  hello-world     kind_nobel           "/hello"      5 weeks ago  Exited (0) 5 weeks ago
96b1456d5c90  hello-world     sweet_albattani     "/hello"      5 weeks ago  Exited (0) 5 weeks ago
db3574146b98  tutum/wordpress  fervent_swartz      "/run.sh"    5 weeks ago  Exited (137) 5 weeks ago
91b453cafc06  hello-world     blog1               "/hello"      5 weeks ago  Exited (0) 5 weeks ago
b2ffdb659224  hello-world     exciting_kepler     "/hello"      6 weeks ago  Exited (0) 6 weeks ago
3b42db1f308a  hello-world     cranky_keller       "/hello"      7 weeks ago  Exited (0) 7 weeks ago
                           elegant_meitner
nisarga@pop-os:~$ sudo docker run -it ubuntu:latest
root@b398713714b7:#

```

## Host32 Using Docker Machine to provision Docker

```
VLC 3.0.18 from VideoLAN/ installed  
nisarga@pop-05:$  
nisarga@pop-05:$ sudo docker-machine --version  
[sudo] password for nisarga:  
docker-machine version 0.16.2, build bd45ab13  
nisarga@pop-05:$
```

Activities AnyDesk Aug 26 22:30 AnyDesk

AnyDesk 1792287906 Free license (non-professional use). Start trial license. Session will be closed in 3 min...

Workspaces Applications Aug 26 10:30 PM nisarga@pop-os~

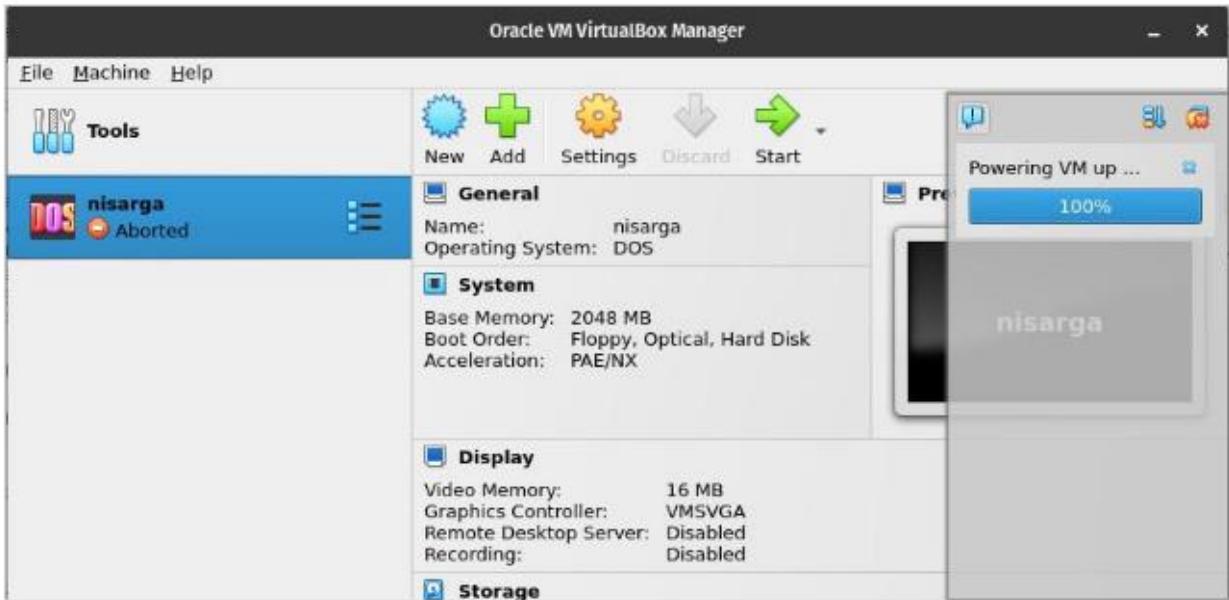
```
nisarga@pop-os:~$  
nisarga@pop-os:~$ sudo docker-machine --version  
[sudo] password for nisarga:  
docker-machine version 0.16.2, build bd45ab13  
nisarga@pop-os:~$ sudo docker-machine create priya  
Running pre-create checks...  
Creating machine...  
(priya) Copying /root/.docker/machine/cache/boot2docker.iso to /root/.docker/machine/machines/priya/boot2docker.iso...  
(priya) Creating VirtualBox VM...  
(priya) Creating SSH key...  
(priya) Starting the VM...  
(priya) Check network to re-create if needed...  
(priya) Found a new host-only adapter: "vboxnet2"  
Error creating machine: Error in driver during machine creation: Error setting up host only network on machine start: /usr/bin/VBoxManage hostonlyif ipconfig vboxnet2 --ip 192.168.99.1 --netmask 255.255.255.0 failed:  
VBoxManage: error: Code E_ACCESSDENIED (0x80070005) - Access denied (extended info not available)  
VBoxManage: error: Context: "EnableStaticIPConfig(Bstr(pszIp).raw(), Bstr(pszNetmask).raw())" at line 252 of file VBoxManageHostonly.c  
p  
nisarga@pop-os:~$
```

Activities AnyDesk Aug 26 22:30 AnyDesk

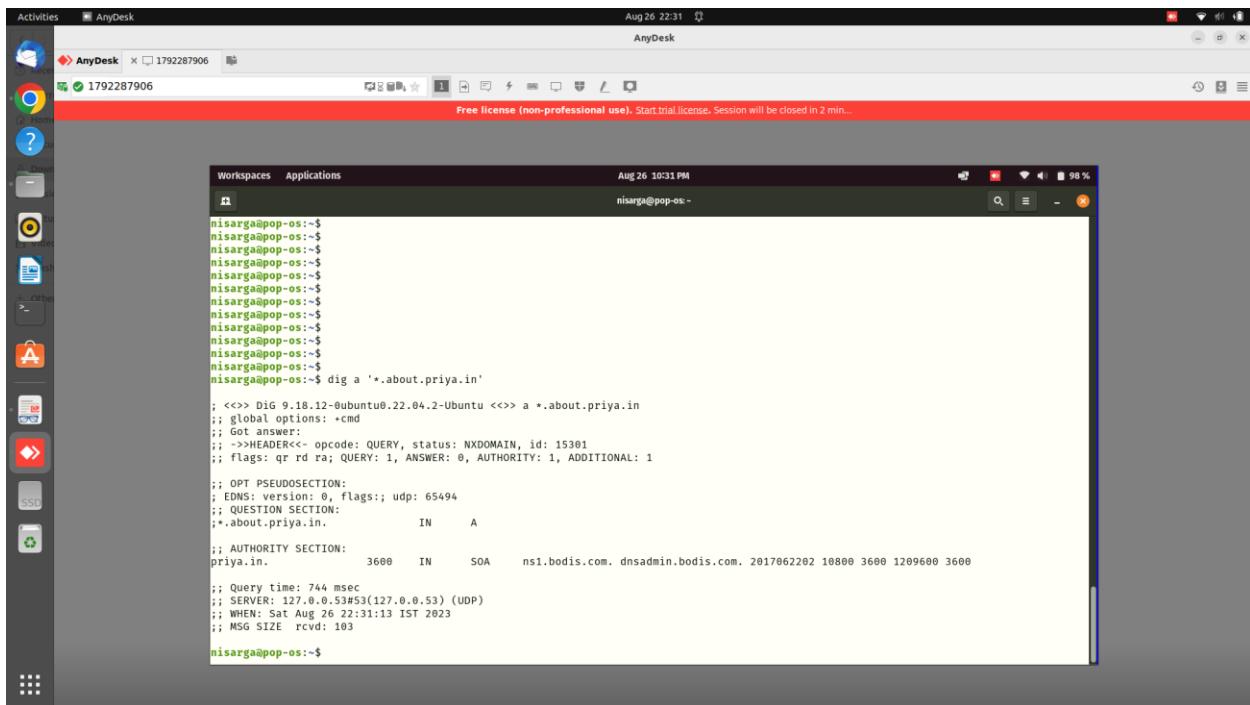
AnyDesk 1792287906 Free license (non-professional use). Start trial license. Session will be closed in 2 min...

Workspaces Applications Aug 26 10:30 PM nisarga@pop-os~

```
nisarga@pop-os:~$  
nisarga@pop-os:~$ sudo docker-machine --version  
[sudo] password for nisarga:  
docker-machine version 0.16.2, build bd45ab13  
nisarga@pop-os:~$ sudo docker-machine create priya  
Running pre-create checks...  
Creating machine...  
(priya) Copying /root/.docker/machine/cache/boot2docker.iso to /root/.docker/machine/machines/priya/boot2docker.iso...  
(priya) Creating VirtualBox VM...  
(priya) Creating SSH key...  
(priya) Starting the VM...  
(priya) Check network to re-create if needed...  
(priya) Found a new host-only adapter: "vboxnet2"  
Error creating machine: Error in driver during machine creation: Error setting up host only network on machine start: /usr/bin/VBoxManage hostonlyif ipconfig vboxnet2 --ip 192.168.99.1 --netmask 255.255.255.0 failed:  
VBoxManage: error: Code E_ACCESSDENIED (0x80070005) - Access denied (extended info not available)  
VBoxManage: error: Context: "EnableStaticIPConfig(Bstr(pszIp).raw(), Bstr(pszNetmask).raw())" at line 252 of file VBoxManageHostonly.c  
p  
nisarga@pop-os:~$ sudo docker-machine ls  
NAME ACTIVE DRIVER STATE URL SWARM DOCKER ERRORS  
nisarga - virtualbox Stopped Unknown  
nnn - virtualbox Stopped Unknown  
priya - virtualbox Stopped Unknown  
nisarga@pop-os:~$
```



## Teq.33 Wildcard DNS



## Teq. 61 Using the Docker Hub Workflow

## **Teq. 61 Using the Docker Hub Workflow**

- Step 1: Create your repository on GitHub or BitBucket.
- Step 2: Clone the new Git repository.
- Step 3: Add code to your Git repository.
- Step 4: Commit the source.
- Step 5: Push the Git repository.
- Step 6: Create a new repository on the Docker Hub.
- Step 7: Link the Docker Hub repository to the Git repository.
- Step 8: Wait for the Docker Hub build to complete.
- Step 9: Commit and push a change to the source.
- Step 10: Wait for the second Docker Hub build to complete.

## **Teq. 62 Running the Jenkins Master within a Docker Container**

```
misarga@pop-os:~
```

run Create and run a new container from an image  
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.

```
misarga@pop-os:~$ sudo docker container ls -a
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
b0cccd66b2263	jenkins/jenkins:jdk11	" <code>/usr/bin/tini -- /u_*</code> "	About a minute ago	Up About a minute	80/tcp, :::8080->8080/tcp, 0.0.0.0:50000->50000/tcp, :::50000->50000/tcp
b398713714b7	ubuntu:latest	" <code>/bin/bash*</code> "	10 minutes ago	Up 10 minutes	relaxed_hermann
ff67aec50690	ubuntu:latest	" <code>/bin/bash*</code> "	12 minutes ago	Exited (0) 12 minutes ago	goofy_wing
0f187b9a1d52	ubuntu:latest	" <code>/bin/bash*</code> "	13 minutes ago	Up 13 minutes	romantic_goldberg
b6584cd73e83	ubuntu:latest	" <code>/bin/bash*</code> "	18 minutes ago	Exited (127) 14 minutes ago	peaceful_yallow
b410146c5041	nginx:latest	" <code>/docker-entrypoint..*</code> "	21 minutes ago	Up 21 minutes	zen_austin
b30d22722ab7	sample1:9	" <code>/bin/ch*</code> "	27 minutes ago	Exited (0) 27 minutes ago	fervent_hugle

## Unlock Jenkins

To ensure Jenkins is securely set up by the administrator, a password has been written to the log ([not sure where to find it?](#)) and this file on the server:

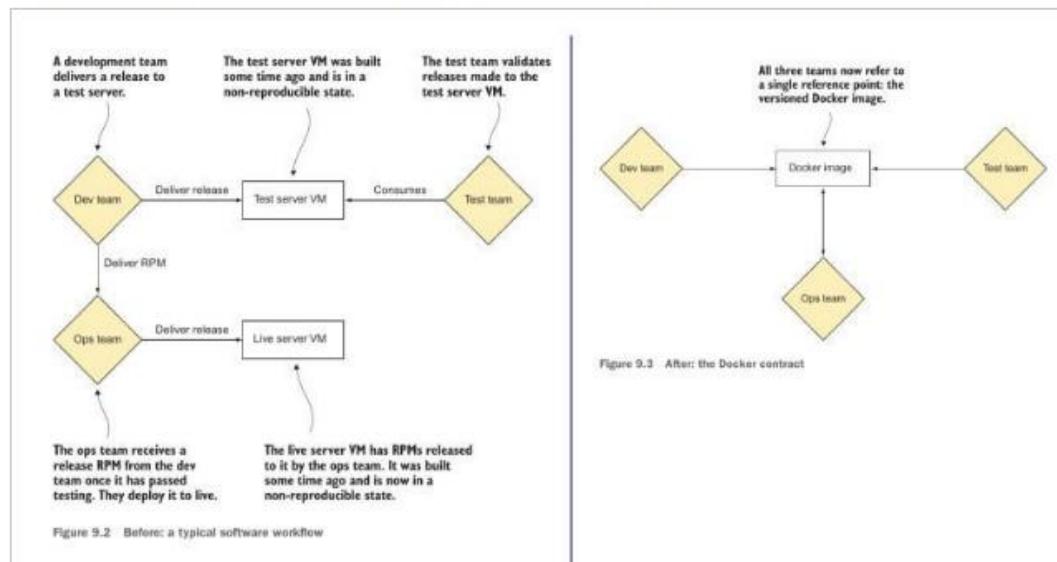
```
/var/jenkins_home/secrets/initialAdminPassword
```

Please copy the password from either location and paste it below.

**Administrator password**

**Continue**

## Teq, 70 The Docker contract: Reducing friction Teq, 71 Manually mirroring registry images



# Teq. 71 Manually mirroring registry images

```
nisarga@pop-os:~$ sudo docker pull deepikakripanithi/ubuntu:latest
latest: Pulling from deepikakripanithi/ubuntu
Digest: sha256:cbff72a7cc6998557bb52e22c77af3d002b65da2a19b4cc6f40e30ba7ed2ed
Status: Image is up to date for deepikakripanithi/ubuntu:latest
docker.io/deepikakripanithi/ubuntu:latest

What's Next?
View summary of image vulnerabilities and recommendations → docker scout quickview deepikakripanithi/ubuntu:latest
nisarga@pop-os:~$
```

```
nisarga@pop-os:~$ sudo docker pull deepikakripanithi/ubuntu:latest
latest: Pulling from deepikakripanithi/ubuntu
Digest: sha256:cbff72a7cc6998557bb52e22c77af3d002b65da2a19b4cc6f40e30ba7ed2ed
Status: Image is up to date for deepikakripanithi/ubuntu:latest
docker.io/deepikakripanithi/ubuntu:latest

What's Next?
View summary of image vulnerabilities and recommendations → docker scout quickview deepikakripanithi/ubuntu:latest
nisarga@pop-os:~$ sudo docker images
REPOSITORY          TAG      IMAGE ID   CREATED        SIZE
sample              1.0      633cc04870b4  30 minutes ago  7.34MB
test                2.0      633cc04870b4  30 minutes ago  7.34MB
nautillus-ubuntu   latest   633cc04870b4  36 minutes ago  7.34MB
repo-image          2.3      633cc04870b4  36 minutes ago  7.34MB
<none>              <none>   3c1310cb16a  About an hour ago  13.3KB
nginx               latest   071caaa461be4  3 hours ago   185MB
priya               latest   071caaa461be4  3 hours ago   185MB
image2              latest   643c9526e615  4 hours ago   7.34MB
image1              latest   18bc70f7ee4  4 hours ago   7.34MB
<none>              <none>   54f7cb91fa47  4 hours ago   70.9MB
<none>              <none>   e8d00f7d97eb  47 hours ago  1.53GB
<none>              <none>   404fd00e0ae5  47 hours ago  125MB
<none>              <none>   cbe8fce3b028  47 hours ago  136MB
```

Activities AnyDesk Aug 26 22:39 95% AnyDesk

AnyDesk x 1792287906

Free license (non-professional use). Start trial license.

Workspaces Applications Aug 26 10:39 PM nisarga@pop-os -

nisarga@pop-os -

```
nisarga@pop-os:~$ sudo docker pull deepikakripanithi/ubuntu:10.23
Error from daemon: manifest for deepikakripanithi/ubuntu:10.23 not found: manifest unknown: manifest unknown
nisarga@pop-os:~$ sudo docker pull deepikakripanithi/ubuntu:latest deepikakripanithi/newimage:latest
'docker pull' requires exactly 1 argument.
See 'docker pull --help'.
```

Usage: docker pull [OPTIONS] NAME[:TAG|@DIGEST]

Download an image from a registry  
 nisarga@pop-os:~\$ sudo docker login  
 Authenticating with existing credentials...  
 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

Logging in with your password grants your terminal complete access to your account.  
 For better security, log in with a limited-privilege personal access token. Learn more at <https://docs.docker.com/go/access-tokens/>

nisarga@pop-os:~\$

Activities AnyDesk Aug 26 22:41 95% AnyDesk

AnyDesk x 1792287906

Free license (non-professional use). Start trial license.

Workspaces Applications Aug 26 10:41 PM nisarga@pop-os -

nisarga@pop-os -

```
nisarga@pop-os:~$ sudo docker pull deepikakripanithi/ubuntu:10.23
Error from daemon: manifest for deepikakripanithi/ubuntu:10.23 not found: manifest unknown: manifest unknown
nisarga@pop-os:~$
```

## Topic 72 Delivering Images Over

Activities AnyDesk Aug 26 22:45 AnyDesk

AnyDesk x 1792287906

Free license (non-professional use). Start trial license.

Workspaces Applications Aug 26 10:45 PM nisarga@pop-os~ nisarga@pop-os~

```
nisarga@pop-os:~$ sudo docker build -t img1 --target img1 . usage: sudo -h [-K | -k] [-V] usage: sudo -v [-ABKnS] [-g group] [-h host] [-p prompt] [-U user] usage: sudo -l [-ABKnS] [-g group] [-h host] [-p prompt] [-U user] [-u user] [command] usage: sudo [-ABEHknPS] [-r role] [-t type] [-C num] [-D directory] [-g group] [-h host] [-p prompt] [-R directory] [-T timeout] [-u user] usage: sudo [-ABKnS] [-r role] [-t type] [-C num] [-D directory] [-g group] [-h host] [-p prompt] [-R directory] [-T timeout] [-u user] [VAR=value] [-i|-s] [<command>] ERROR: permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Get "http://%2Fvar%2Frun%2Fdocker.sock/_ping": dial unix /var/run/docker.sock: connect: permission denied nisarga@pop-os:~$ sudo docker build -t img1 --target img1 . [+] Building 2.3s (2/3) => [internal] load .dockercfgignore => [internal] transferring context: 28 => [internal] load build definition from Dockerfile => [internal] transferring dockerfile: 1.47KB => [internal] load metadata for docker.io/library/alpine:latest docker:default user: [VAR=value] [-i|-s] [<command>]
```

	docker:default
0.1s	0.1s
0.0s	0.0s
0.1s	0.1s
0.0s	0.0s
2.2s	2.2s

Activities AnyDesk Aug 26 22:45 AnyDesk

AnyDesk x 1792287906

Free license (non-professional use). Start trial license.

Workspaces Applications Aug 26 10:45 PM nisarga@pop-os~ nisarga@pop-os~

```
nisarga@pop-os:~$ user: [VAR=value] [-i|-s] [<command>] usage: sudo -e [-ABKnS] [-r role] [-t type] [-C num] [-D directory] [-g group] [-h host] [-p prompt] [-R directory] [-T timeout] [-u user] file ... ERROR: permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Get "http://%2Fvar%2Frun%2Fdocker.sock/_ping": dial unix /var/run/docker.sock: connect: permission denied nisarga@pop-os:~$ sudo docker build -t img1 --target img1 . [+] Building 4.7s (8/8) FINISHED => [internal] load .dockercfgignore => [internal] transferring context: 28 => [internal] load build definition from Dockerfile => [internal] transferring dockerfile: 1.47KB => [internal] load metadata for docker.io/library/alpine:latest => [auth] library/alpine:pull token for registry-1.docker.io => [internal] load build context => [internal] transferring context: 308 => [img1 1/2] FROM docker.io/library/alpine@sha256:7144f7bab3d4c2648d7e59409f15ec52a18006a128c733fcff20d3a4a54ba44a => CACHED [img1 2/2] COPY file1.txt . => exporting to image => [internal] transferring file1.txt => [internal] exporting layers => => writing image sha256:18bca70f7ee412c054caa7c372a22384f80e2e5a97097c04327d9823c784dd2d => => naming to docker.io/library/image1 docker:default What's Next? View summary of image vulnerabilities and recommendations → docker scout quickview nisarga@pop-os:~$ sudo docker build -t img2 --target img2 . [+] Building 1.2s (3/3) => [internal] load build definition from Dockerfile => [internal] transferring dockerfile: 1.47kB => [internal] load .dockercfgignore => [internal] transferring context: 28 => [internal] load metadata for docker.io/library/alpine:latest docker:default
```

	docker:default
0.0s	0.0s
0.0s	0.0s
0.1s	0.1s
0.0s	0.0s
1.1s	1.1s

Activities AnyDesk Aug 26 22:46

AnyDesk

AnyDesk 1792287906 Free license (non-professional use). Start trial license.

Workspaces Applications Aug 26 10:46 PM

nisarga@pop-os:~

```
nisarga@pop-os:~
```

```
>> [img1 1/2] FROM docker.io/library/alpine@sha256:7144f7bab3d4c2648d7e59409f15ec52a18006a128c733fcff20d3a4a54ba44a
=> CACHED [img1 2/2] COPY file1.txt .
=> exporting to image
=> exporting layers
=> => writing image sha256:18bca70f7ee412c054caa7c372a22384f80e2e5a97097c04327d9823c784dd2d
=> => naming to docker.io/library/image1
```

**What's Next?**

```
View summary of image vulnerabilities and recommendations → docker scout quickview
nisarga@pop-os:~$ sudo docker build -t img2 --target img2 .
[+] Building 1.4s (7/7) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 1.47kB
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [internal] load metadata for docker.io/library/alpine:latest
=> [internal] load build context
=> => transferring context: 30B
=> [img2 1/2] FROM docker.io/library/alpine@sha256:7144f7bab3d4c2648d7e59409f15ec52a18006a128c733fcff20d3a4a54ba44a
=> CACHED [img2 2/2] COPY file2.txt .
=> exporting to image
=> exporting layers
=> => writing image sha256:633cc0487b0a8e39ed197efc6727fba02037e5de2f56b7f605aa15fc57d23761
=> => naming to docker.io/library/image2
```

**What's Next?**

```
View summary of image vulnerabilities and recommendations → docker scout quickview
nisarga@pop-os:~$ sudo docker run -it --name image1 -d img1:latest
docker: Error response from daemon: Conflict. The container name "/image1" is already in use by container "89a94681d46e3e51b22d9f748767f55329d4e8ff3c326a9e74405794e2fc512". You have to remove (or rename) that container to be able to reuse that name.
See 'docker run --help'.
nisarga@pop-os:~$
```

Activities AnyDesk Aug 26 22:47

AnyDesk

AnyDesk 1792287906 Free license (non-professional use). Start trial license.

Workspaces Applications Aug 26 10:47 PM

nisarga@pop-os:~

```
nisarga@pop-os:~
```

```
>> => naming to docker.io/library/image1
```

**What's Next?**

```
View summary of image vulnerabilities and recommendations → docker scout quickview
nisarga@pop-os:~$ sudo docker build -t img2 --target img2 .
[+] Building 1.4s (7/7) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 1.47kB
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [internal] load metadata for docker.io/library/alpine:latest
=> [internal] load build context
=> => transferring context: 30B
=> [img2 1/2] FROM docker.io/library/alpine@sha256:7144f7bab3d4c2648d7e59409f15ec52a18006a128c733fcff20d3a4a54ba44a
=> CACHED [img2 2/2] COPY file2.txt .
=> exporting to image
=> exporting layers
=> => writing image sha256:633cc0487b0a8e39ed197efc6727fba02037e5de2f56b7f605aa15fc57d23761
=> => naming to docker.io/library/image2
```

**What's Next?**

```
View summary of image vulnerabilities and recommendations → docker scout quickview
nisarga@pop-os:~$ sudo docker run -it --name image1 -d img1:latest
docker: Error response from daemon: Conflict. The container name "/image1" is already in use by container "89a94681d46e3e51b22d9f748767f55329d4e8ff3c326a9e74405794e2fc512". You have to remove (or rename) that container to be able to reuse that name.
See 'docker run --help'.
nisarga@pop-os:~$ sudo docker run -it --name image2 -d img2:latest
docker: Error response from daemon: Conflict. The container name "/image2" is already in use by container "9d175183fee7b92f3e98457bc88632dd118b49432a9bccfb929a05c4b9af085". You have to remove (or rename) that container to be able to reuse that name.
See 'docker run --help'.
nisarga@pop-os:~$ sudo docker network inspect bridge
```

Aug 26 22:47 AnyDesk

AnyDesk

AnyDesk 1792287906

Free license (non-professional use). Start trial license.

Workspaces Applications Aug 26 10:47 PM nisarga@pop-os -

nisarga@pop-os -

nisarga@pop-os -

What's Next?

```
View summary of image vulnerabilities and recommendations → docker scout quickview
nisarga@pop-os:~$ sudo docker run -it --name image1 -d image1:latest
docker: Error response from daemon: Conflict. The container name "/image1" is already in use by container "89a94681d46e3e51b22d9f748767f55329d44e8ff3c326a9e74a05794e2fc512". You have to remove (or rename) that container to be able to reuse that name.
See 'docker run --help'.
nisarga@pop-os:~$ sudo docker run -it --name image2 -d image2:latest
docker: Error response from daemon: Conflict. The container name "/image2" is already in use by container "9d175183fee7b92f3e98457bc88632dd118b49432a09ccfb929a05c4ba9af085". You have to remove (or rename) that container to be able to reuse that name.
See 'docker run --help'.
nisarga@pop-os:~$ sudo docker network inspect bridge
[ {
    "Name": "bridge",
    "Id": "96380a7841668aaa20e07cb20767ee2b9f33b8e4343fdb134d6e38c9b0892192",
    "Created": "2023-08-26T17:15:13.070831823+05:30",
    "Scope": "local",
    "Driver": "bridge",
    "EnableIPv6": false,
    "IPAM": {
        "Driver": "default",
        "Options": null,
        "Config": [
            {
                "Subnet": "172.17.0.0/16",
                "Gateway": "172.17.0.1"
            }
        ],
        "Internal": false,
        "Attachable": false,
        "Ingress": false,
        "ConfigFrom": {}
    }
},
```

Aug 26 22:48 AnyDesk

AnyDesk

AnyDesk 1792287906

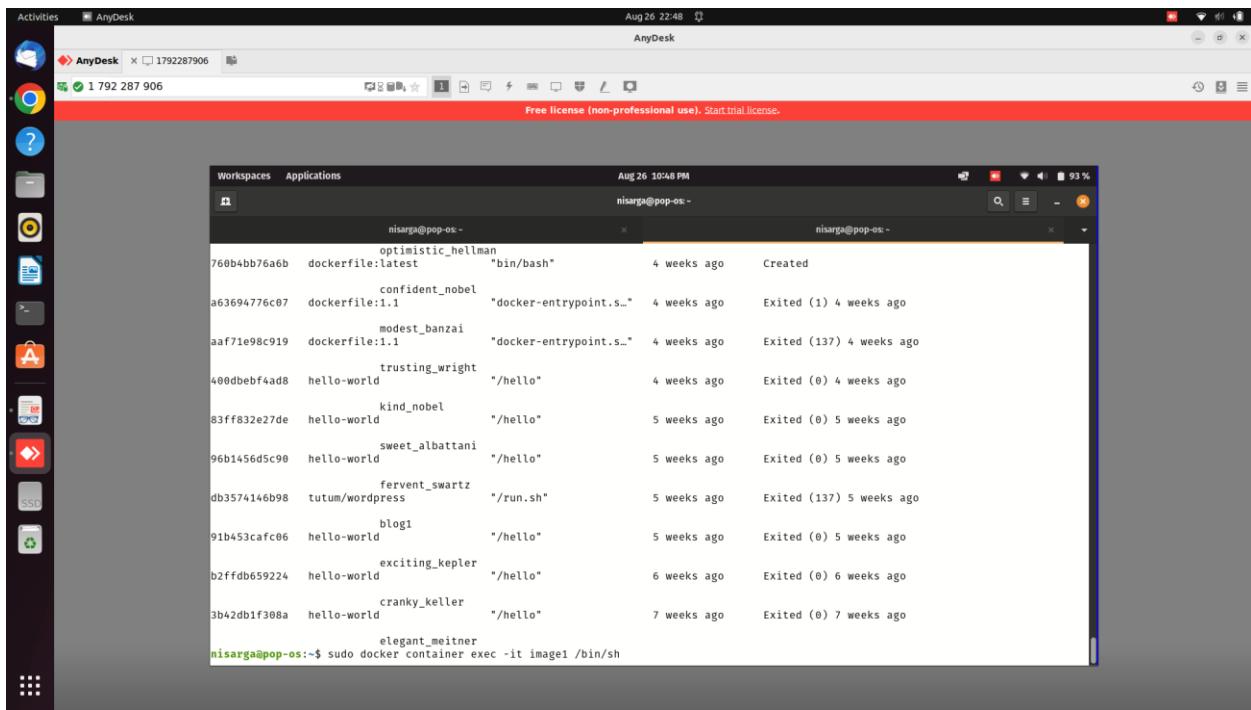
Free license (non-professional use). Start trial license.

Workspaces Applications Aug 26 10:48 PM nisarga@pop-os -

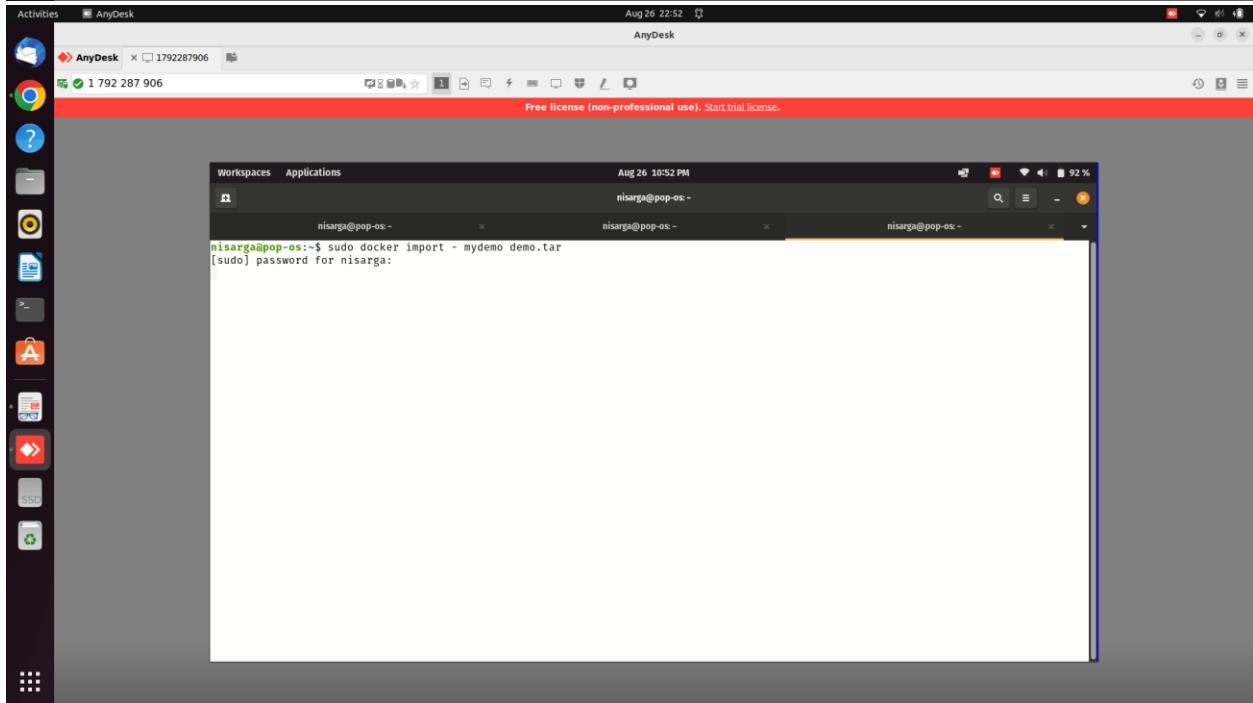
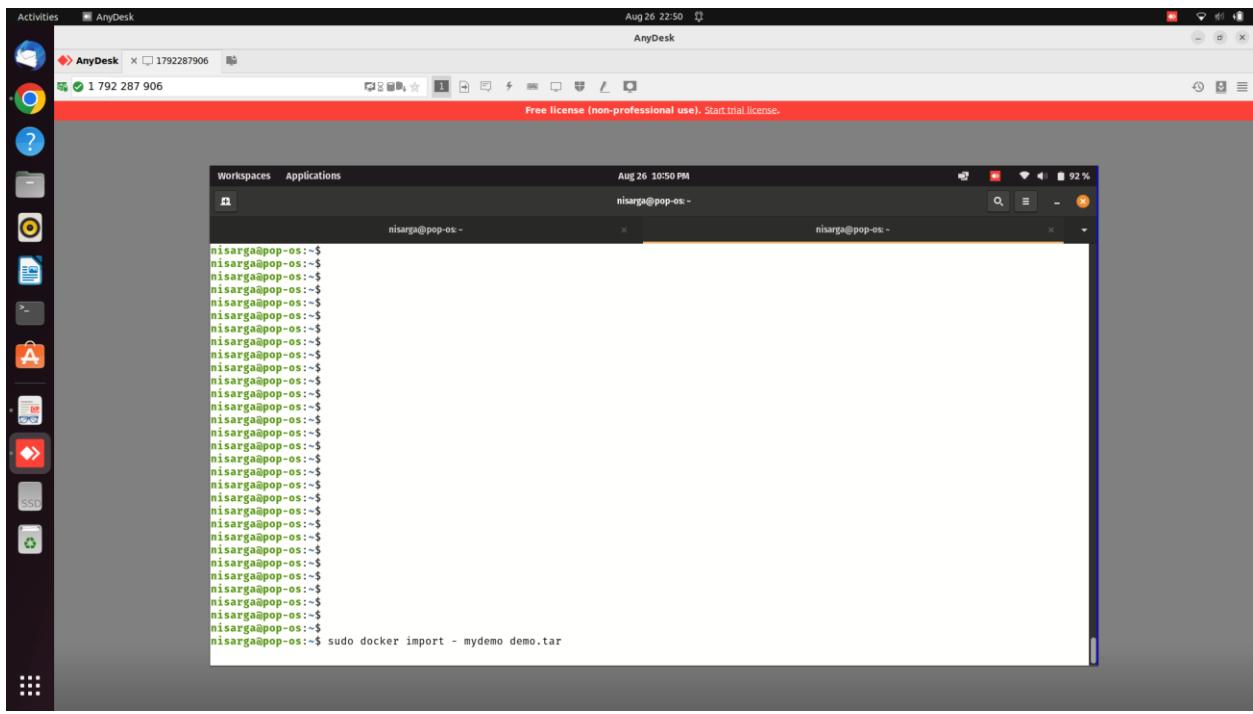
nisarga@pop-os -

nisarga@pop-os -

```
"IPv6Address": "",
    "b398713714b7eb82e1feef8e8642a2b99084d4819fdb4bb1186af94c9e32a9": {
        "Name": "goofy_wing",
        "EndpointID": "af0961aeddcb42dfa510e06412f15cf67e9fc3eb5c06f78d0bd2ecbe8d34b9",
        "MacAddress": "02:42:ac:11:00:05",
        "IPv4Address": "172.17.0.5/16",
        "IPv6Address": ""
    },
    "b410146c50a1882e6eb513f9294389a018440a95fa0488266a7abb6bf806c0": {
        "Name": "fervent_hogle",
        "EndpointID": "a9091626bb5d5a91fe8be9ad99fb88c79894e5738745717e94d645f4f37ca4638",
        "MacAddress": "02:42:ac:11:00:02",
        "IPv4Address": "172.17.0.2/16",
        "IPv6Address": ""
    },
    "Options": {
        "com.docker.network.bridge.default_bridge": "true",
        "com.docker.network.bridge.enable_icc": "true",
        "com.docker.network.bridge.enable_ip_masquerade": "true",
        "com.docker.network.bridge.host_binding_ip4": "0.0.0.0",
        "com.docker.network.bridge.name": "docker0",
        "com.docker.network.driver.mtu": "1500"
    },
    "Labels": {}
}
]
nisarga@pop-os:~$ sudo docker container exec -it image1 /bin/sh
Error response from daemon: Container 89a94681d46e3e51b22d9f748767f55329d44e8ff3c326a9e74a05794e2fc512 is not running
nisarga@pop-os:~$ sudo docker container ls -a
```



## Teq. 73 Sharing Docker objects as TAR files



Activities AnyDesk Aug 26 22:54

AnyDesk

AnyDesk 1 792 287 906

Free license (non-professional use). Start trial license.

Workspaces Applications Aug 26 10:54 PM

nisarga@pop-os:~

```
nisarga@pop-os:~$ sudo docker export my_cont > nginx.tar
[sudo] password for nisarga:
docker: 'exportmy_cont' is not a docker command.
See 'docker --help'.
nisarga@pop-os:~$ sudo docker export my_cont > nginx.tar
nisarga@pop-os:~$ sudo docker images
```

Activities AnyDesk Aug 26 22:54

AnyDesk

AnyDesk 1 792 287 906

Screenshot captured  
You can paste the image from the clipboard.

Free license (non-professional use). Start trial license.

Workspaces Applications Aug 26 10:54 PM

nisarga@pop-os:~

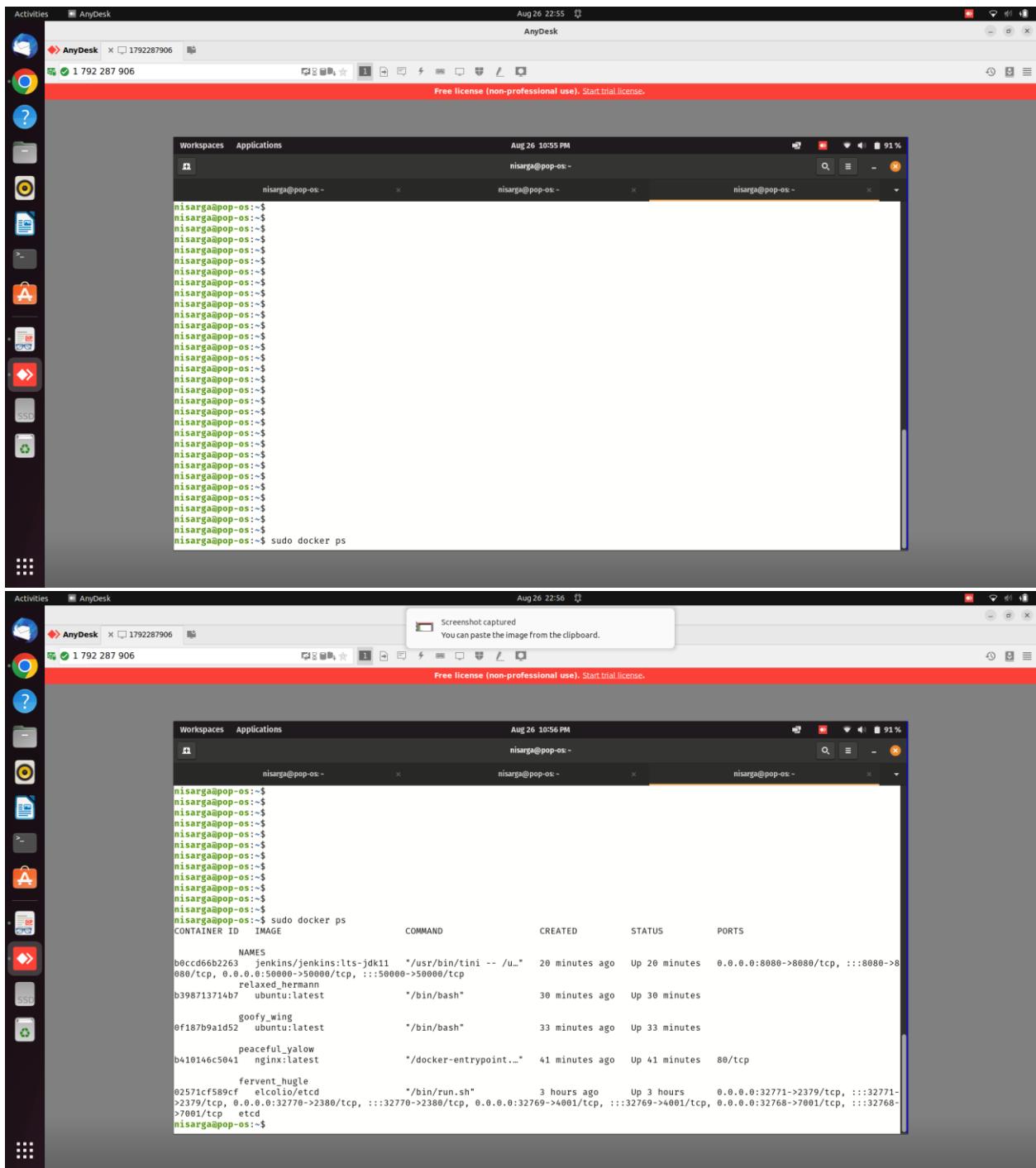
<none>	3c1310cb4b16a	About an hour ago	13.3KB	
mynginx	latest	071ca4a61be4	3 hours ago	185MB
priya	latest	071ca4a61be4	3 hours ago	185MB
<none>	643c9526e615	4 hours ago	7.34MB	
image1	latest	18bc7a70f7ee6	4 hours ago	7.34MB
<none>	<none>	54f7cb91fa47	5 hours ago	70.9MB
<none>	<none>	e8d00f7d97eb	47 hours ago	1.53GB
<none>	<none>	404fd00e0ae5	47 hours ago	125MB
<none>	<none>	cbe8f8ce3b028	47 hours ago	136MB
<none>	<none>	051a1e83a8af2	2 days ago	136MB
<none>	<none>	f639e83a83420	2 days ago	982MB
sample-image	latest	930bc0f022ab	2 days ago	982MB
teq	latest	8cdcc5dacc248	2 days ago	141MB
img	latest	c43a0bf66556	2 days ago	141MB
my_newimg	10..10	c43a0bf66556	2 days ago	141MB
jenkins/jenkins	lts-jdk11	2a8f0d8e7b28	3 days ago	478MB
newimage	latest	208f4a8d65a7	4 days ago	70.8MB
nginx	latest	ee4a7b3dcb7a7	10 days ago	187MB
ubuntu	23..10	1909bc6cbc56b	2 weeks ago	70..8MB
ubuntu	latest	01f29b872827	3 weeks ago	77..8MB
train	1..0	403ffd7d7a72	4 weeks ago	1.22GB
dockerfile	1..1	6e12a03fb811	4 weeks ago	1.2GB
nisargak127/newimage	latest	6e12a03fb811	4 weeks ago	1.2GB
nisargak127/ubuntu	latest	6e12a03fb811	4 weeks ago	1.2GB
deepikakiranithi/ubuntu2	1..0	b6134a31b82	6 weeks ago	70..5MB
deepikakiranithi/ubuntu	latest	b6134a31b82	6 weeks ago	70..5MB
dockerfile	latest	9c7a54a9a43c	3 months ago	13..3KB
hello-world	latest	9c7a54a9a43c	3 months ago	13..3KB
dfile	latest	9c7a54a9a43c	3 months ago	13..3KB
elcolio/etcld	latest	5613ad0ad176	7 years ago	20..2MB
tutum/wordpress	latest	7e7f97a602ff	7 years ago	477MB

nisarga@pop-os:~\$

The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is 'nisarga@pop-os:~' and it displays a list of Docker container logs. The logs show various images and their details, such as creation time and size. The terminal window is part of a desktop interface with a docked application bar at the top.

```
<none>          643c9526e615  4 hours ago   7.34MB
<none>          18bcab70f7ee47  4 hours ago   7.34MB
<none>          54f7cb91fa47  5 hours ago   70.9MB
<none>          e8d00f7d97eb  47 hours ago  1.53GB
<none>          404fd000e0ae5  47 hours ago  125MB
<none>          cbe8fce3b028  47 hours ago  136MB
<none>          051a11dc8af2  2 days ago    136MB
<none>          f632b6a0a420  2 days ago    982MB
sample-image    latest        523a0ef02a00  2 days ago    982MB
teq             latest        8ecd5dacc248  2 days ago    14.1MB
img             latest        642a0bf66556  2 days ago    14.1MB
my_newimg      latest        c43a0bf66556  2 days ago    14.1MB
jenkins/jenkins latest        2a8ff0d8e7b28  3 days ago    478MB
newimage        latest        208f4a8d65a7  4 days ago    70.8MB
nginx           latest        eeab7b3dcba7e  10 days ago   187MB
ubuntu          23.10       1999bc6cbc56b  2 weeks ago   70.8MB
ubuntu          latest        01f29b872827  3 weeks ago   77.8MB
train           1.0         403ffd7d7a72  4 weeks ago   1.22GB
dockerfile      1.1         6e12a03fb811  4 weeks ago   1.2GB
nisargak12/newimage latest        6e12a03fb811  4 weeks ago   1.2GB
nisargak12/ubuntu latest        6e12a03fb811  4 weeks ago   1.2GB
deepakkiranithi/ubuntu2 1.0         b9a673431bb9  6 weeks ago   70.5MB
deepakkiranithi/ubuntu latest        ba9e73431bb9  6 weeks ago   70.5MB
dockerfile      latest        9c7a54a9a43c  3 months ago  13.3KB
hello-world     latest        9c7a54a9a43c  3 months ago  13.3KB
dfile           latest        9c7a54a9a43c  3 months ago  13.3KB
elcolio/etcd    latest        5613ad0ad176  7 years ago   20.2MB
tutum/wordpress latest        7e7f97a602ff  7 years ago   477MB
nisarga@pop-os:~$ sudo docker save -o mynginx1.tar nginx
nisarga@pop-os:~$ sudo docker load --input mynginx1.tar
Loaded image: nginx:latest
nisarga@pop-os:~$
```

## Teq. 74 Informing your containers with etcd



Activities AnyDesk Aug 26 22:57 AnyDesk

AnyDesk 1792287906 Free license (non-professional use). Start trial license.

Workspaces Applications Aug 26 10:57 PM nisarga@pop-os:~

nisarga@pop-os:~\$  
nisarga@pop-os:~\$  
nisarga@pop-os:~\$  
nisarga@pop-os:~\$  
nisarga@pop-os:~\$  
nisarga@pop-os:~\$  
nisarga@pop-os:~\$  
nisarga@pop-os:~\$ sudo docker ps

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
b0cccd6b2263	jenkins/jenkins:lts-jdk11	"/usr/bin/tini -- /u..."	20 minutes ago	Up 20 minutes	0.0.0.0:8080->8080/tcp, :::8080->8080/tcp, 0.0.0.0:50000->50000/tcp, :::50000->50000/tcp
b398713714b7	relaxed_hermann/ubuntu:latest	"/bin/bash"	30 minutes ago	Up 30 minutes	
0f187b9a1d52	goofy_wing/ubuntu:latest	"/bin/bash"	33 minutes ago	Up 33 minutes	
b410146c5041	peaceful_yallow/nginx:latest	"/docker-entrypoint..."	41 minutes ago	Up 41 minutes	80/tcp
02571cf589cf	fervent_hugle/elcolio/etcdb	"/bin/run.sh"	3 hours ago	Up 3 hours	0.0.0.0:32771->2379/tcp, :::32771->2379/tcp, 0.0.0.0:32770->2380/tcp, :::32770->2380/tcp, 0.0.0.0:32769->4001/tcp, :::32769->4001/tcp, 0.0.0.0:32768->7001/tcp, :::32768->7001/tcp, etcdb
nisarga@pop-os:~\$	sudo docker run --rm -d -P --name etcd elcolio/etcdb	docker: Error response from daemon: Conflict. The container name "etcd" is already in use by container "02571cf589cf0c600cdc78ba95ad8280a9a868d4d8cf4b6d11ad4e93aa888bc". You have to remove (or rename) that container to be able to reuse that name.			
See 'docker run --help'.					
nisarga@pop-os:~\$	sudo docker ps				

Activities AnyDesk Aug 26 22:57 AnyDesk

AnyDesk 1792287906 Free license (non-professional use). Start trial license.

Workspaces Applications Aug 26 10:57 PM nisarga@pop-os:~

nisarga@pop-os:~\$  
nisarga@pop-os:~\$  
nisarga@pop-os:~\$  
nisarga@pop-os:~\$  
nisarga@pop-os:~\$  
nisarga@pop-os:~\$  
nisarga@pop-os:~\$  
nisarga@pop-os:~\$ sudo docker run --rm -d -P --name etcd elcolio/etcdb

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
b0cccd6b2263	jenkins/jenkins:lts-jdk11	"/usr/bin/tini -- /u..."	21 minutes ago	Up 21 minutes	0.0.0.0:8080->8080/tcp, :::8080->8080/tcp, 0.0.0.0:50000->50000/tcp, :::50000->50000/tcp
b398713714b7	relaxed_hermann/ubuntu:latest	"/bin/bash"	31 minutes ago	Up 31 minutes	
0f187b9a1d52	goofy_wing/ubuntu:latest	"/bin/bash"	34 minutes ago	Up 34 minutes	
b410146c5041	peaceful_yallow/nginx:latest	"/docker-entrypoint..."	42 minutes ago	Up 42 minutes	80/tcp
02571cf589cf	fervent_hugle/elcolio/etcdb	"/bin/run.sh"	3 hours ago	Up 3 hours	0.0.0.0:32771->2379/tcp, :::32771->2379/tcp, 0.0.0.0:32770->2380/tcp, :::32770->2380/tcp, 0.0.0.0:32769->4001/tcp, :::32769->4001/tcp, 0.0.0.0:32768->7001/tcp, :::32768->7001/tcp, etcdb
nisarga@pop-os:~\$	sudo docker ps				

AnyDesk

Aug 26 22:57

AnyDesk

AnyDesk

1 792 287 906

Free license (non-professional use). Start trial license.

Workspaces Applications

nisarga@pop-os:~

nisarga@pop-os:~

nisarga@pop-os:~

```

  peaceful_yallow
b410146c50a1  nginx:latest          "/docker-entrypoint..."  41 minutes ago   Up 41 minutes  80/tcp
    fervent_hugle
02571cf589cf  elcolio/etcdb        "/bin/run.sh"           3 hours ago     Up 3 hours   0.0.0.0:32771->2379/tcp, :::32771-
>2379/tcp, 0.0.0.0:32770->2380/tcp, :::32770->2380/tcp, 0.0.0.0:32769->4001/tcp, :::32769->4001/tcp, 0.0.0.0:32768->7001/tcp, :::32768-
>7001/tcp  etcdb
nisarga@pop-os:~$ sudo docker run --rm -d -P --name etcd elcolio/etcdb
docker: Error response from daemon: Conflict. The container name "etcd" is already in use by container "02571cf589cf0c600cdc78ba95ad8
280a0a0868d4d0c1b6d11ade93aa88bc". You have to remove (or rename) that container to be able to reuse that name.
See 'docker run -help'.
nisarga@pop-os:~$ sudo docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
b0cccd66b2263	jenkins/jenkins:lts-jdk11	"#/usr/bin/tini -- /u..."	21 minutes ago	Up 21 minutes	0.0.0.0:8080->8080/tcp, :::8080->8 080/tcp, 0.0.0.0:50000->50000/tcp, :::50000->50000/tcp
b398713714b7	ubuntu:latest	"/bin/bash"	31 minutes ago	Up 31 minutes	
0f187b9a1d52	ubuntu:latest	"/bin/bash"	34 minutes ago	Up 34 minutes	
b410146c50a1	nginx:latest	"/docker-entrypoint..."	42 minutes ago	Up 42 minutes	80/tcp
02571cf589cf	elcolio/etcdb	"/bin/run.sh"	3 hours ago	Up 3 hours	0.0.0.0:32771->2379/tcp, :::32771- >2379/tcp, 0.0.0.0:32770->2380/tcp, 0.0.0.0:32769->4001/tcp, :::32769->4001/tcp, 0.0.0.0:32768->7001/tcp, :::32768- >7001/tcp  etcdb nisarga@pop-os:~\$ sudo docker port etcd

Activities AnyDesk

Aug 26 22:58

AnyDesk

AnyDesk

1 792 287 906

Free license (non-professional use). Start trial license.

Workspaces Applications

nisarga@pop-os:~

nisarga@pop-os:~

nisarga@pop-os:~

```

  peaceful_yallow
b410146c50a1  nginx:latest          "/docker-entrypoint..."  42 minutes ago   Up 42 minutes  80/tcp
    fervent_hugle
02571cf589cf  elcolio/etcdb        "/bin/run.sh"           3 hours ago     Up 3 hours   0.0.0.0:32771->2379/tcp, :::32771-
>2379/tcp, 0.0.0.0:32770->2380/tcp, :::32770->2380/tcp, 0.0.0.0:32769->4001/tcp, :::32769->4001/tcp, 0.0.0.0:32768->7001/tcp, :::32768-
>7001/tcp  etcdb
nisarga@pop-os:~$ sudo docker port etcd
2379/tcp -> [::]:32771
2380/tcp -> 0.0.0.0:32770
2380/tcp -> [::]:32770
4001/tcp -> 0.0.0.0:32769
4001/tcp -> [::]:32769
7001/tcp -> 0.0.0.0:32768
7001/tcp -> [::]:32768
nisarga@pop-os:~$ docker exec etcd etcdctl set my_name priya
prioris: denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Get "http://%2Fvar%2Frun%2Fdocker
.sock/v1.24/containers/etcdb/json": dial unix /var/run/docker.sock: connect: permission denied
nisarga@pop-os:~$ sudo docker exec etcd etcdctl set my_name priya
priya
nisarga@pop-os:~$ sudo docker exec etcd etcdctl get my_name priya
priya
nisarga@pop-os:~$
```