

??????

????

List running containers

docker ps

ssh into the container

docker exec -it <container-name> /bin/sh

Restart a container

docker restart <container-name>

Show running container stats

docker stats

Check docker daemon disk space usage

docker system df

Purge those unused images, networks, containers and volumes

docker system prune

Check the container log

docker logs <container-name>

Search docker registry for image

docker search <image-name>

Create and start a container

docker run -it <image-name> /bin/bash

Check container's exposed ports

docker port {container-name}

????

- [Docker Cheat-Sheet](#)

```
man docker <command>
man docker build
man docker rmi
```

?? Images

```
## [] Docker Hub [] image name
docker search lamp

## [] image name
docker images

## [] image []
docker inspect <image-name>

## [] image
docker pull ubuntu:13.10

## [] image
docker rmi <image-name>

## [] images
docker rmi $(docker images -q)

## [] images[] my-images []
docker rmi $(docker images | grep -v 'ubuntu|my-image' | awk {'print $3'})

## [] <none> [] images
docker rmi $(docker images -f "dangling=true" -q)

## [] myapp/myimage [] <none> [] images
docker rmi $(docker images myapp/myimage -f "dangling=true" -q)

## [] images []
docker run --rm -v /var/run/docker.sock:/var/run/docker.sock nate/dockviz images -t
```

?? Containers

```
## [ ] container [ ] console
docker run -it <image-name> /bin/bash
docker run -it --name <container-name> <image-name> /bin/bash
```

```
## [ ] daemon [ ] container
docker run -d -p 11180:80 <image-name>
docker run -d --name web <image-name>
TIP: [ ] container [ ]
```

```
docker run -d -p 80:80 --rm <image-name>
[ ] --rm [ ] container [ ]( [ ] docker rm [ ] )
(docker start) [ ] docker run [ ]
```

```
## [ ] containers
docker ps
docker ps -a
```

```
## [ ] container [ ] Volumes [ ] IP [ ] Hostname [ ]
docker inspect <container-id>
```

```
## [ ] container
docker rm <container-id>
```

```
## [ ] containers
NOTE: [ ] container
docker ps -a -q | xargs -n 1 docker rm
docker rm $(docker ps -aq)
```

```
## [ ] container
docker ps -a | grep "Exited" | awk '{print $1}' | xargs docker rm
docker rm $(docker ps --all -q -f status=exited)
NOTE: [ ] container [ ] rebuild image [ ]
```

```
## [ ] container
docker stop <container-id>
```

```
## Stop all containers
docker stop $(docker ps -aq)
docker rm $(docker ps -aq)
```

```
docker ps -aq | xargs docker stop
```

```
## [ ] container
```

```
docker export <container-id> > ubuntu-mysql.tar
```

```
## [ ] container
```

```
cat ubuntu-mysql.tar | docker import - <image-name>
```

```
## [ ] container
```

```
[ ] Ctrl P [ ] Ctrl Q
```

```
NOTE: [ ] Ctrl+P [ ] Bash [ ]
```

```
## [ ] container
```

```
docker attach <container-id>
```

```
[ ]
```

```
docker attach <container-name>
```

```
[ ] container [ ] daemon [ ]
```

```
docker exec -it <container-id/name> /bin/bash
```

```
## [ ] container [ ]
```

```
docker commit <container-id> <image-name>
```

```
## [ ] container [ ] IP
```

```
docker inspect <container-id> | grep IPAddress | cut -d '"' -f 4
```

Check Container CPU and RAM Usage

```
docker stats
```

```
docker stats --no-stream
```

```
docker stats --no-stream -a
```

```
docker stats <container-name>
```

```
docker stats --format "table {{.Container}}\t{{.CPUPerc}}\t{{.MemPerc}}"
```

```
docker ps --no-trunc --format "{{.Names}}\t{{.ID}}"
```

??? container ?????

```
## Stop the container
```

```
docker stop <container-name>
```

```
docker save mycontainerimage | gzip > mycontainerimage.tar.gz
```

```
gunzip -c mycontainerimage.tar.gz | docker load
```

```
docker save mycontainerimage | gzip | ssh root@203.0.113.1 'gunzip | docker load'
```

?? exit ?????? container?????? Linux

```
-p ? Host ? port 11180 ??? container ? port 80
```

- ? container ????volume ?????????? base image ????? volume
????????????????????
- volume ??????????????
- ? image ???? (commit)?volume ??????????????
- ?? container ????volume ??????????????

```
docker run -t -i -p 80:80 -v ${PWD}/webapp:/webapp alang/centos5-lamp_php51
```

??-v <host-dir>:<container-dir>

? container ?????????? /webapp????????????????????

```
????????? host ?????????? container ??????????????????????:
```

```
docker inspect -f {{.Volumes}} <container-id>
```

```
??????
```

```
/var/lib/docker/vfs/dir/bfebd8cb6.....
```

Docker Network

```
# docker ps
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
7ccaf6119fa8	nginx:latest	"nginx -g 'daemon of..."	2 days ago	Up 39 hours	0.0.0.0:80->80/tcp, 0.0.0.0:443->443/tcp	nginx_mysql_web_1
81a920bb51a6	nginx_mysql_php	"docker-php-entrypoi..."	2 days ago	Up 2 days	9000/tcp	nginx_mysql_php_1
437a7501198f	mariadb:10.3	"docker-entrypoint.s..."	2 days ago	Up 2 days	3306/tcp	nginx_mysql_db_1

```
# docker network ls
```

NETWORK ID	NAME	DRIVER	SCOPE
852eff02220e	bridge	bridge	local
334d2b8571a4	host	host	local
b97cae66a977	nginx_mysql_default	bridge	local
40d15afb34b4	none	null	local

```
# docker network inspect -f '{{.IPAM.Config}}' bridge | jq -r .[].Subnet
```

```
# docker network inspect -f '{{.IPAM.Config}}' bridge | jq -r .[].Gateway
```

```
# brctl show
```

bridge name	bridge id	STP enabled	interfaces
br-b97cae66a977	8000.0242569e79ff	no	veth3ce8cbd veth5129652 veth55dcdf7
docker0	8000.0242faff70bb	no	

?? container IP

```
## Method #1: By inspecting the container
docker inspect <container_id> | grep -i ipaddr
docker inspect -f '{{range .NetworkSettings.Networks}}{{.IPAddress}}{{end}}' <container_id>

# get an IP address associated with a specific network
# docker container inspect -f '{{.NetworkSettings.Networks.<NETWORK NAME>.IPAddress }}'
<CONTAINER_ID_OR_NAME>
docker container inspect -f '{{.NetworkSettings.Networks.bridge.IPAddress }}' ubuntu-ip

## Method #2: Using the container's shell
docker exec -it <container-name> sh
> ip
or
> ifconfig

# if you get the errors with 'command not found', following the below steps to install the relevant packages.
> apt update -qq
> apt install iproute2 -yqq

## Method #3: By inspecting the network itself
# docker network inspect <NETWORK NAME>
docker network inspect bridge | jq .[].Containers
docker network inspect bridge | jq '.[].Containers."<CONTAINER ID>".IPv4Address'

docker network inspect -f '{{json .Containers}}' bridge | \
jq '..|if type == "object" and has("Name") then select(.Name=="<CONTAINER NAME>") | .IPv4Address else
empty end' -r
```

?? Docker

??????

```
# ?? Docker ??
docker version

# Docker ???
docker info
```

host ? container ?????

```
docker cp <container-name>:/etc/nginx/nginx.conf /data/web/conf
docker cp host_source_path my_container:destination_path
docker cp -a host_source_path my_container:destination_path
```

?????????

```
# [image] container[docker] <none> [image]
docker images --quiet --filter "dangling=true"
docker system prune

# [volume] volume [volumes] --volumes
docker system prune -a --volumes

# For volumes only
docker volume ls -f dangling=true
docker volume prune
```

Restart Policy

- [Beginner's Guide to Docker Restart Policy](#)

???? container

```
# Add --restart=unless-stopped
docker run -d -p 4449:4449 --name myst --restart=unless-stopped
```

Docker Logging

- [Complete Beginner's Guide to Docker Logging](#)

```
docker logs {container-name}
docker logs --tail 50 {container-name}
docker logs -f {container-name}
docker logs -f --tail 20 {container-name}

# View timestamp in Docker logs
docker logs -t {container-name}
docker -n=10 -t {container-name}

# Viewing Docker logs in a specified time period
```



```
docker logs --since 1440m -t {container-name}
docker logs --until 1440m -t {container-name}
docker logs --since 2021-07-28 -t {container-name}
```

Docker system service logs

```
sudo journalctl -u docker
```

Where are Docker logs stored

```
sudo ls -lh /var/lib/docker/containers
```

Enabling Log Rotation for Docker (JSON)

Edit `/etc/docker/daemon.json`

```
{
  "log-driver": "json-file",
  "log-opts": {
    "max-size": "10m",
    "max-file": "3"
  }
}
```

Restart Docker daemon

```
sudo systemctl restart docker
```

Disk Space Usage

```
avimanyu@iborg-desktop:~$ docker system df
```

TYPE	TOTAL	ACTIVE	SIZE	RECLAIMABLE
Images	4	4	1.065GB	0B (0%)
Containers	4	4	5.705kB	0B (0%)
Local Volumes	7	7	1.108GB	0B (0%)
Build Cache	0	0	0B	0B

```
avimanyu@iborg-desktop:~$ docker system df -v
```

Images space usage:

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE	SHARED SIZE	UNIQUE SIZE
CONTAINERS						
ghost	4.32.0	b40265427368	8 weeks ago	468.8MB	0B	468.8MB 1
jrcs/letsencrypt-nginx-proxy-companion	latest	037cc4751b5a	13 months ago	24.35MB	0B	24.35MB 1
jwilder/nginx-proxy	latest	509ff2fb81dd	15 months ago	165MB	0B	165MB 1
mariadb	10.5.3	f5d2bcaf057b	20 months ago	407MB	0B	407MB 1

Containers space usage:

CONTAINER ID	IMAGE	COMMAND	LOCAL VOLUMES	SIZE	CREATED
STATUS	NAMES				
899cc90e85d9	ghost:4.32.0	"docker-entrypoint.s..."	1	0B	8 weeks ago Up 8 weeks
ghost_ghost_6					
17b58fdafbce	jrcs/letsencrypt-nginx-proxy-companion	"/bin/bash /app/entr..."	4	571B	3 months ago Up 2 months
letsencrypt-proxy-companion					
58f99f46ee03	jwilder/nginx-proxy	"/app/docker-entryp..."	5	5.13kB	3 months ago Up 2 months
jwilder-nginx-proxy					
fb907286b60e	mariadb:10.5.3	"docker-entrypoint.s..."	1	2B	3 months ago Up 2 months
ghost_db_1					

Local Volumes space usage:

VOLUME NAME	LINKS	SIZE
ghostdb	1	434.7MB
jwilder-nginx-with-ssl_acme	2	36.09kB
jwilder-nginx-with-ssl_certs	2	25.12kB
jwilder-nginx-with-ssl_dhparam	1	1.525kB
jwilder-nginx-with-ssl_html	2	1.106kB
jwilder-nginx-with-ssl_vhost	2	556B
ghost	1	674MB

Build cache usage: 0B

CACHE ID	CACHE TYPE	SIZE	CREATED	LAST USED	USAGE	SHARED
----------	------------	------	---------	-----------	-------	--------

avimanyu@iborg-desktop:~\$ docker image ls

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
busybox	latest	beae173ccac6	6 weeks ago	1.24MB
ubuntu	latest	fb52e22af1b0	5 months ago	72.8MB

```
alpine      latest  49f356fa4513  10 months ago  5.61MB
hello-world latest  d1165f221234  11 months ago  13.3kB
```

```
avimanyu@iborg-desktop:~$ docker ps --size
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES	SIZE
1171dcfb7e06	alpine	"sleep 10"	10 months ago	Up 9 seconds			

```
# Overlay2 is the default Docker storage driver on Ubuntu.
```

```
# You can confirm this by running the 'docker info' command and looking for the Storage Drive
```

```
# To get the <<hash-named-directory> by the command 'docker inspect <image-name>'
```

```
sudo du -sh /var/lib/docker/overlay2/<hash-named-directory>/
```

```
# Specific Volume Disk Usage
```

```
$ docker volume ls
```

DRIVER	VOLUME NAME
--------	-------------

local	d502589845f7ae7775474bc01d8295d9492a6c26db2ee2c941c27f3cac4449d1
-------	--

local	e71ee3960cfef0a133d323d146a1382f3e25856480a727c037b5c81b5022cb1b
-------	--

local	test-data
-------	-----------

```
$ sudo du -sh /var/lib/docker/volumes/test-data/_data
```

```
4.0K /var/lib/docker/volumes/test-data/_data
```

FAQ

???? image

“ rror response from daemon: conflict: unable to delete dd78a816fb76 (must be forced) - image is referenced in multiple repositories

Solution: ????? image id ????? image ???????? image id ?????????????????????? image ??????

```
root@greencloud-us-1TB:~/watchtower# docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
mysteriumnetwork/myst	latest	5c613786d102	39 hours ago	53.3MB
presearch/node	latest	27216957eb08	10 days ago	69.8MB
storjlabs/storagenode	latest	0ac3b4808897	3 weeks ago	124MB
lscr.io/linuxserver/transmission	latest	8cad68f9dac4	7 months ago	95.7MB

```
containrrr/watchtower      latest  333de6ea525a  8 months ago  16.9MB
jellyfin/jellyfin          latest  0aa773b67433  13 months ago  717MB
presearch/auto-updater     latest  dd78a816fb76  17 months ago  16.4MB  <===
containrrr/watchtower      <none>  dd78a816fb76  17 months ago  16.4MB  <===
storjlabs/watchtower       latest  6af6621e20c1  2 years ago   14.3MB
nate/dockviz               latest  93b5259c1e18  4 years ago   6.61MB
```

```
root@greencloud-us-1TB:~/watchtower# docker rmi dd78a816fb76
```

Error response from daemon: conflict: unable to delete dd78a816fb76 (must be forced) - image is referenced in multiple repositories

```
root@greencloud-us-1TB:~/watchtower# docker rmi presearch/auto-updater containrrr/watchtower
```

```
Untagged: presearch/auto-updater:latest
```

```
Untagged: presearch/auto-
```

```
updater@sha256:3283e0b5be326d77ff4f4e8b7a91d46aaa1d511c74877b5a32f161548812d00c
```

```
Untagged: containrrr/watchtower:latest
```

```
Untagged:
```

```
containrrr/watchtower@sha256:bbf9794a691b59ed2ed3089fec53844f14ada249ee5e372ff0e595b73f4e9ab3
```

```
Deleted: sha256:333de6ea525af9137e1f14a5c1bfaa2e730adca97ab97f74d738dfa99967f14f
```

```
Deleted: sha256:f493af3d0a518d307b430e267571c926557c85222217a8707c52d1cf30e3577e
```

```
Deleted: sha256:62651dc7e144aa8c238c2c2997fc499cd813468fdbc491b478332476f99af159
```

```
Deleted: sha256:83fe5af458237288fe7143a57f8485b78691032c8c8c30647f8a12b093d29343
```

???? localhost ??

?? container ?????????????? host ???????? `http://localhost:XXX` ????????

`http://host.docker.internal:XXX` ???

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