# DOCKER

## Install docker on Ubuntu

<https://phoenixnap.com/kb/how-to-install-docker-on-ubuntu-18-04>

<https://www.digitalocean.com/community/questions/how-to-fix-docker-got-permission-denied-while-trying-to-connect-to-the-docker-daemon-socket>

To create the docker group and add your user:

ubuntu@ip-172-31-31-36:/$ **sudo adduser saarit**

Adding user `saarit' ...

Adding new group `saarit' (1002) ...

Adding new user `saarit' (1001) with group `saarit' ...

Creating home directory `/home/saarit' ...

Copying files from `/etc/skel' ...

New password:

Retype new password:

passwd: password updated successfully

Changing the user information for saarit

Enter the new value, or press ENTER for the default

Full Name []: saarit

Room Number []:

Work Phone []:

Home Phone []:

Other []:

Is the information correct? [Y/n] y

Create the docker group.

***sudo groupadd docker***

Add your user to the docker group.

***sudo usermod -aG docker ${USER}***

You would need to loog out and log back in so that your group membership is re-evaluated or type the following command:

***su - ${USER}***

***and duplicate the server***

ubuntu@ip-172-31-31-36:~$ **sudo apt install docker.io**

## Start stop docker

ubuntu@ip-172-31-31-36:~$ **sudo systemctl start docker**

ubuntu@ip-172-31-31-36:~$ **sudo systemctl enable docker**

ubuntu@ip-172-31-31-36:~$ **docker --version**

Docker version 20.10.7, build 20.10.7-0ubuntu5~20.04.2

## Docker commands

saarit@ip-172-31-31-36:~$ **docker run hello-world**

saarit@ip-172-31-31-36:~$ **docker images**

REPOSITORY TAG IMAGE ID CREATED SIZE

hello-world latest feb5d9fea6a5 2 months ago 13.3kB

saarit@ip-172-31-31-36:~$ **docker pull ubuntu**

Using default tag: latest

latest: Pulling from library/ubuntu

7b1a6ab2e44d: Pull complete

Digest: sha256:626ffe58f6e7566e00254b638eb7e0f3b11d4da9675088f4781a50ae288f3322

Status: Downloaded newer image for ubuntu:latest

docker.io/library/ubuntu:latest

saarit@ip-172-31-31-36:~$ **docker images**

REPOSITORY TAG IMAGE ID CREATED SIZE

ubuntu latest ba6acccedd29 6 weeks ago 72.8MB

hello-world latest feb5d9fea6a5 2 months ago 13.3kB

saarit@ip-172-31-31-36:~$ **docker run -it -d ubuntu**

2fb72bd089c92468f2d687ef73e214f81763448bde8f8cfd2c2bd1439d428c90

saarit@ip-172-31-31-36:~$ **docker ps**

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

2fb72bd089c9 ubuntu "bash" 12 minutes ago Up 11 minutes nifty\_wu

saarit@ip-172-31-31-36:~$ **docker ps -a**

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

2fb72bd089c9 ubuntu "bash" 12 minutes ago Up 12 minutes nifty\_wu

78aaca50e937 hello-world "/hello" 18 minutes ago Exited (0) 18 minutes ago vigorous\_antonelli

saarit@ip-172-31-31-36:~$ docker ps -a

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

2fb72bd089c9 ubuntu "bash" 14 minutes ago Up 14 minutes nifty\_wu

78aaca50e937 hello-world "/hello" 19 minutes ago Exited (0) 19 minutes ago vigorous\_antonelli

saarit@ip-172-31-31-36:~$ **docker stop 2fb72bd089c9**

2fb72bd089c9

saarit@ip-172-31-31-36:~$ **docker ps -a**

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

2fb72bd089c9 ubuntu "bash" 14 minutes ago Exited (0) 8 seconds ago nifty\_wu

78aaca50e937 hello-world "/hello" 20 minutes ago Exited (0) 20 minutes ago vigorous\_antonelli

saarit@ip-172-31-31-36:~$ **docker pull nginx**

Using default tag: latest

latest: Pulling from library/nginx

eff15d958d66: Pull complete

1e5351450a59: Pull complete

2df63e6ce2be: Pull complete

9171c7ae368c: Pull complete

020f975acd28: Pull complete

266f639b35ad: Pull complete

Digest: sha256:097c3a0913d7e3a5b01b6c685a60c03632fc7a2b50bc8e35bcaa3691d788226e

Status: Downloaded newer image for nginx:latest

docker.io/library/nginx:latest

saarit@ip-172-31-31-36:~$ **docker ps**

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

saarit@ip-172-31-31-36:~$ **docker ps -a**

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

saarit@ip-172-31-31-36:~$ **docker run –d nginx**

d107221de3ae2c7525cf41a90befdd8cfbab40cb26791a89c714bf39a40a9e03

saarit@ip-172-31-31-36:~$ **docker ps -a**

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

d107221de3ae nginx "/docker-entrypoint.…" 11 seconds ago Up 10 seconds 80/tcp unruffled\_agnesi

saarit@ip-172-31-31-36:~$ docker ps -a

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

d107221de3ae nginx "/docker-entrypoint.…" 8 minutes ago Up 8 minutes 80/tcp unruffled\_agnesi

saarit@ip-172-31-31-36:~$ docker exec -it d107221de3ae bash

root@d107221de3ae:/# **curl localhost**

<!DOCTYPE html>

<html>

<head>

<title>Welcome to nginx!</title>

<style>

html { color-scheme: light dark; }

body { width: 35em; margin: 0 auto;

font-family: Tahoma, Verdana, Arial, sans-serif; }

</style>

</head>

<body>

<h1>Welcome to nginx!</h1>

<p>If you see this page, the nginx web server is successfully installed and

working. Further configuration is required.</p>

<p>For online documentation and support please refer to

<a href="http://nginx.org/">nginx.org</a>.<br/>

Commercial support is available at

<a href="http://nginx.com/">nginx.com</a>.</p>

<p><em>Thank you for using nginx.</em></p>

</body>

</html>

saarit@ip-172-31-31-36:~$ **docker exec -it d107221de3ae ls**

bin boot dev docker-entrypoint.d docker-entrypoint.sh etc home lib lib64 media mnt opt proc root run sbin srv sys tmp usr var

saarit@ip-172-31-31-36:~$ **docker images**

REPOSITORY TAG IMAGE ID CREATED SIZE

nginx latest ea335eea17ab 12 days ago 141MB

saarit@ip-172-31-31-36:~$ **docker run -it -p 80:80 --name myNginx -d nginx**

5e0d4bd8f6d615a84c2918be2e07c513f503ad9da1142a023da1da4535bd47d0

saarit@ip-172-31-31-36:~$ **docker ps**

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

**5e0d4bd8f6d6 nginx "/docker-entrypoint.…" 19 seconds ago Up 18 seconds 0.0.0.0:80->80/tcp, :::80->80/tcp myNginx**

d107221de3ae nginx "/docker-entrypoint.…" 13 minutes ago Up 13 minutes 80/tcp unruffled\_agnesi

saarit@ip-172-31-31-36:~$ curl localhost

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<p><em>Thank you for using nginx.</em></p>

</body>

</html>

<http://3.15.13.8/>

saarit@ip-172-31-31-36:~$ **docker run -it -p 82:80 --name myNginx1 -d nginx**

60855b27296ab1b60128525e91d1cdbfbd74c07f52973c6e6be601921aa7bace

<http://3.15.13.8:82/>

saarit@ip-172-31-31-36:~$ **docker run -it -P --name myNginx2 -d nginx**

38d0ee6cd5dad459225a4ce24bd412e566800afbf6949b61d4d83ff416f43151

saarit@ip-172-31-31-36:~$ docker ps

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

38d0ee6cd5da nginx "/docker-entrypoint.…" 12 seconds ago Up 10 seconds 0.0.0.0:49153->80/tcp, :::49153->80/tcp myNginx2

<http://3.15.13.8:49153/>

saarit@ip-172-31-31-36:~$ **docker start --help**

Usage: docker start [OPTIONS] CONTAINER [CONTAINER...]

Start one or more stopped containers

Options:

-a, --attach Attach STDOUT/STDERR and forward signals

--detach-keys string Override the key sequence for detaching a container

-i, --interactive Attach container's STDIN

saarit@ip-172-31-31-36:~$ **docker start 38d0ee6cd5da**

38d0ee6cd5da

saarit@ip-172-31-31-36:~$ **docker ps -a**

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

38d0ee6cd5da nginx "/docker-entrypoint.…" 5 minutes ago Up 6 seconds 0.0.0.0:49154->80/tcp, :::49154->80/tcp myNginx2

60855b27296a nginx "/docker-entrypoint.…" 6 minutes ago Exited (0) 3 minutes ago myNginx1

5e0d4bd8f6d6 nginx "/docker-entrypoint.…" 11 minutes ago Exited (0) 3 minutes ago myNginx

d107221de3ae nginx "/docker-entrypoint.…" 25 minutes ago Up 25 minutes 80/tcp

saarit@ip-172-31-31-36:~$ **docker pull ubuntu**

Using default tag: latest

latest: Pulling from library/ubuntu

7b1a6ab2e44d: Pull complete

Digest: sha256:626ffe58f6e7566e00254b638eb7e0f3b11d4da9675088f4781a50ae288f3322

Status: Downloaded newer image for ubuntu:latest

docker.io/library/ubuntu:latest

saarit@ip-172-31-31-36:~$ **docker images**

REPOSITORY TAG IMAGE ID CREATED SIZE

nginx latest ea335eea17ab 12 days ago 141MB

ubuntu latest ba6acccedd29 6 weeks ago 72.8MB

saarit@ip-172-31-31-36:~$ **docker run -it -d ubuntu**

49190db7d3831f0c74f516a73c0e177ebb17d868757ef0684ce66385f1e285ef

saarit@ip-172-31-31-36:~$ **docker ps**

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

49190db7d383 ubuntu "bash" 9 seconds ago Up 8 seconds amazing\_lamarr

38d0ee6cd5da nginx "/docker-entrypoint.…" 7 minutes ago Up About a minute 0.0.0.0:49154->80/tcp, :::49154->80/tcp myNginx2

d107221de3ae nginx "/docker-entrypoint.…" 27 minutes ago Up 27 minutes 80/tcp unruffled\_agnesi

saarit@ip-172-31-31-36:~$ **docker exec -it 49190db7d383 bash**

root@49190db7d383:/# exit

exit

saarit@ip-172-31-31-36:~$ **docker stop 49190db7d383**

49190db7d383

saarit@ip-172-31-31-36:~$ **docker rm 49190db7d383**

49190db7d383

saarit@ip-172-31-31-36:~$ **docker images**

REPOSITORY TAG IMAGE ID CREATED SIZE

nginx latest ea335eea17ab 12 days ago 141MB

ubuntu latest ba6acccedd29 6 weeks ago 72.8MB

saarit@ip-172-31-31-36:~$ **docker rmi ba6acccedd29 ea335eea17ab**

Untagged: ubuntu:latest

Untagged: ubuntu@sha256:626ffe58f6e7566e00254b638eb7e0f3b11d4da9675088f4781a50ae288f3322

Deleted: sha256:ba6acccedd2923aee4c2acc6a23780b14ed4b8a5fa4e14e252a23b846df9b6c1

Deleted: sha256:9f54eef412758095c8079ac465d494a2872e02e90bf1fb5f12a1641c0d1bb78b

E

## Saving changes to docker

saarit@ip-172-31-31-36:~$ **docker pull ubuntu**

Using default tag: latest

latest: Pulling from library/ubuntu

7b1a6ab2e44d: Pull complete

Digest: sha256:626ffe58f6e7566e00254b638eb7e0f3b11d4da9675088f4781a50ae288f3322

Status: Downloaded newer image for ubuntu:latest

docker.io/library/ubuntu:latest

saarit@ip-172-31-31-36:~$ **docker run -it -d ubuntu**

02e2964161b7155cf95791cb6b8ff5f2fe60d98bfc0bf9a49c1cf5f70561c238

saarit@ip-172-31-31-36:~$ **docker ps -a**

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

02e2964161b7 ubuntu "bash" 14 seconds ago Up 13 seconds strange\_aryabhata

saarit@ip-172-31-31-36:~$ **docker exec -it 02e2964161b7 bash**

root@02e2964161b7:/# **apt-get update && apt-get install apache2**

root@02e2964161b7:/# **exit**

exit

saarit@ip-172-31-31-36:~$ **docker commit 02e2964161b7 448555/ubuntu**

sha256:d342f52d978bd8f8e0960ae0a40f75b9ed3614f922d985bf880207127bc4ad29

## Pushing the container to docker hub

saarit@ip-172-31-31-36:~$ **docker login**

Login with your Docker ID to push and pull images from Docker Hub. If you don't have a Docker ID, head over to https://hub.docker.com to create one.

Username: **448555**

Password:

WARNING! Your password will be stored unencrypted in /home/saarit/.docker/config.json.

Configure a credential helper to remove this warning. See

https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded

saarit@ip-172-31-31-36:~$ **docker push 448555/ubuntu**

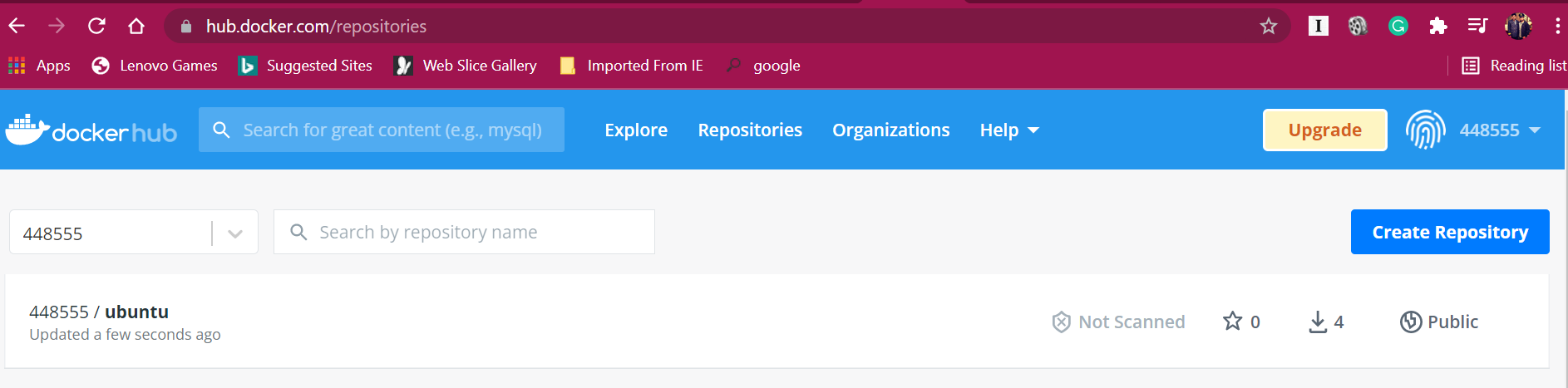
Using default tag: latest

The push refers to repository [docker.io/448555/ubuntu]

62eb99b9584a: Pushed

9f54eef41275: Mounted from library/ubuntu

latest: digest: sha256:d7ed3c0fd0c15b4d93a1646fc225af283e8df235d15b8cf7d81f55e44da1ecb6 size: 741



**Docker Module – 1 Assignment**

Problem Statement:

You work as a Devops Engineer in GrapeVine Pvt. Ltd. Your company is ready to launch the new

website, but before they need to see test whether their front-end if functioning or not. They’ve

asked you to create an isolated environment that will be used for deploying thefront-end and

also then deploy it.Finally, they’ve also asked you todistribute the environment blueprint

among your peers.

Assumptions:

1. The software to be used is apache2.

2. Ubuntu will be used as the base OS.

3. GitHub URL for the web code is given below:

https://github.com/hshar/website

Tasks to be Completed:

1. Create a custom image with the assumptions in mind.

2. Deploy the website with web code given.

3. Push container image to Docker Hub.

**Done**

**https://www.techrepublic.com/article/how-to-use-the-apache-web-server-to-install-and-configure-a-website/**

**Install docker**

**Pull Ubuntu**

**Run image with port 80 (if not then there is a way as well)**

**Exec container**

**Install n run apache2**

**Configure apache2.txt for virtual host 80 …. DocumentRoot**

**Move files from** [**https://github.com/hshar/website**](https://github.com/hshar/website) **to /var/www/html/test**

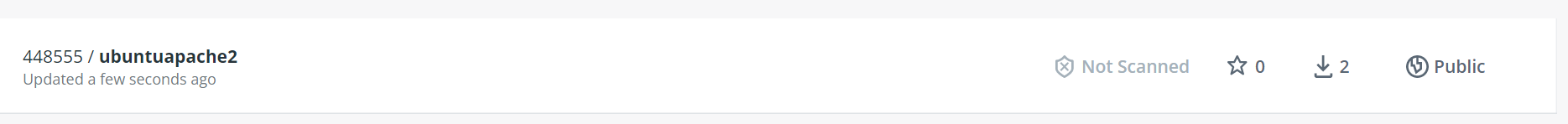
**Restart apache**

[**http://3.15.13.8/test/**](http://3.15.13.8/test/)

**Commit**

**Push image**

**docker pull 448555/ubuntuapache2**



## Other commands

saarit@ip-172-31-31-36:~$ **docker run -d --name nginxwithoutport nginx**

e00e26106d153b92a03df53009f02148b2dbbaf52bd2cbb99f05559d66314533

saarit@ip-172-31-31-36:~$ **docker ps | grep nginxwithoutport**

e00e26106d15 nginx "/docker-entrypoint.…" 17 seconds ago Up 16 seconds 80/tcp nginxwithoutport

saarit@ip-172-31-31-36:~$ **docker run -d --name nginxwithport-p 8081:80 nginx**

Unable to find image '8081:80' locally

docker: Error response from daemon: pull access denied for 8081, repository does not exist or may require 'docker login': denied: requested access to the resource is denied.

See 'docker run --help'.

saarit@ip-172-31-31-36:~$ **docker run -d --name nginxwithport -p 8081:80 nginx**

c37a610b028e94ee6502ea31835178c2a30d9401402076037d912d3304ff4894

saarit@ip-172-31-31-36:~$ **docker ps**

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

c37a610b028e nginx "/docker-entrypoint.…" 6 seconds ago Up 4 seconds 0.0.0.0:8081->80/tcp, :::8081->80/tcp nginxwithport

saarit@ip-172-31-31-36:~$ curl localhost 8081

curl: (7) Failed to connect to localhost port 80: Connection refused

^C

saarit@ip-172-31-31-36:~$ **curl localhost:8081**

<!DOCTYPE html>

<html>

<head>

<title>Welcome to nginx!</title>

<style>

html { color-scheme: light dark; }

body { width: 35em; margin: 0 auto;

font-family: Tahoma, Verdana, Arial, sans-serif; }

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</head>

<body>

<h1>Welcome to nginx!</h1>

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<p><em>Thank you for using nginx.</em></p>

</body>

</html>

saarit@ip-172-31-31-36:~$ **docker run -d --name nginxwithport1 -P nginx:1.20**

Unable to find image 'nginx:1.20' locally

1.20: Pulling from library/nginx

eff15d958d66: Already exists

1f3e1e3ef6aa: Pull complete

231009cab23f: Pull complete

b2ef879f0046: Pull complete

5495a7eec709: Pull complete

ddde57a4eac9: Pull complete

Digest: sha256:6ce65dd1f3bf44fa60a0212f0f893b78a706f20f09c884b43de50037067d9f5d

Status: Downloaded newer image for nginx:1.20

d653b76895fda2b144dbdb587a0d1cc1c5203621e95b607b83aa6822bb311539

saarit@ip-172-31-31-36:~$ docker ps

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

d653b76895fd nginx:1.20 "/docker-entrypoint.…" 7 seconds ago Up 6 seconds 0.0.0.0:49153->80/tcp, :::49153->80/tcp nginxwithport1

c37a610b028e nginx "/docker-entrypoint.…" 7 minutes ago Up 7 minutes 0.0.0.0:8081->80/tcp, :::8081->80/tcp nginxwithport

saarit@ip-172-31-31-36:~$ **docker run -d --name nginxwithmultipleports -p 8083:80 -p 8085:80 nginx:1.20**

8405aecaa52d238cd50c2010581925d2f36d0ccd84decd0de38f4263a26a31fe

saarit@ip-172-31-31-36:~$ docker ps

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

8405aecaa52d nginx:1.20 "/docker-entrypoint.…" 4 seconds ago Up 4 seconds 0.0.0.0:8083->80/tcp, 0.0.0.0:8085->80/tcp, :::8083->80/tcp, :::8085->80/tcp nginxwithmultipleports

d653b76895fd nginx:1.20 "/docker-entrypoint.…" 3 minutes ago Up 3 minutes 0.0.0.0:49153->80/tcp, :::49153->80/tcp nginxwithport1

c37a610b028e nginx "/docker-entrypoint.…" 9 minutes ago Up 9 minutes 0.0.0.0:8081->80/tcp, :::8081->80/tcp nginxwithport

saarit@ip-172-31-31-36:~$ **docker stop nginxwithport**

nginxwithport

saarit@ip-172-31-31-36:~$ **docker ps**

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

8405aecaa52d nginx:1.20 "/docker-entrypoint.…" 58 seconds ago Up 57 seconds 0.0.0.0:8083->80/tcp, 0.0.0.0:8085->80/tcp, :::8083->80/tcp, :::8085->80/tcp nginxwithmultipleports

d653b76895fd nginx:1.20 "/docker-entrypoint.…" 3 minutes ago Up 3 minutes 0.0.0.0:49153->80/tcp, :::49153->80/tcp nginxwithport1

Remove containers to remove images

saarit@ip-172-31-31-36:~$ **docker rmi nginx:1.20**

Error response from daemon: conflict: unable to remove repository reference "nginx:1.20" (must force) - container d653b76895fd is using its referenced image aedf7f31bdab

saarit@ip-172-31-31-36:~$ **docker rmi nginx:1.20 -f**

Untagged: nginx:1.20

Untagged: nginx@sha256:6ce65dd1f3bf44fa60a0212f0f893b78a706f20f09c884b43de50037067d9f5d

saarit@ip-172-31-31-36:~$ **docker images**

REPOSITORY TAG IMAGE ID CREATED SIZE

448555/ubuntuapache2 latest bbee02a9604a 36 hours ago 274MB

448555/ubuntu latest d342f52d978b 37 hours ago 218MB

<none> <none> aedf7f31bdab 13 days ago 141MB

nginx latest ea335eea17ab 13 days ago 141MB

ubuntu latest ba6acccedd29 6 weeks ago 72.8MB

**docker stop ///stop gracefully**

**docker kill /// hard stop forcefully**

Always use tags in real project

## Push edited nginx image

saarit@ip-172-31-31-36:~$ docker pull nginx

Using default tag: latest

latest: Pulling from library/nginx

eff15d958d66: Pull complete

1e5351450a59: Pull complete

2df63e6ce2be: Pull complete

9171c7ae368c: Pull complete

020f975acd28: Pull complete

266f639b35ad: Pull complete

Digest: sha256:097c3a0913d7e3a5b01b6c685a60c03632fc7a2b50bc8e35bcaa3691d788226e

Status: Downloaded newer image for nginx:latest

docker.io/library/nginx:latest

saarit@ip-172-31-31-36:~$ **docker run -d -name nginxsaarit -p 8080:80 nginx**

unknown shorthand flag: 'n' in -name

See 'docker run --help'.

saarit@ip-172-31-31-36:~$ **docker run -d --name nginxsaarit -p 8080:80 nginx**

c8367948776849520236c7e3f7901215107043d78d378e1a09b1f345c36f6725

saarit@ip-172-31-31-36:~$ docker ps

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

c83679487768 nginx "/docker-entrypoint.…" 4 seconds ago Up 3 seconds 0.0.0.0:8080->80/tcp, :::8080->80/tcp nginxsaarit

saarit@ip-172-31-31-36:~$ **docker exec -it c83679487768 bash**

root@c83679487768:/# cd /usr/share/nginx/html

root@c83679487768:/usr/share/nginx/html# ls

50x.html index.html

root@c83679487768:/usr/share/nginx/html# **echo "<h1> hello saarit </h1>" > index.html**

root@c83679487768:/usr/share/nginx/html# **service nginx restart**

Restarting nginx: nginxsaarit@ip-172-31-31-36:~$ **exit**

logout

ubuntu@ip-172-31-31-36:~$ su - saarit

Password:

saarit@ip-172-31-31-36:~$ docker ps

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

saarit@ip-172-31-31-36:~$ docker ps -a

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

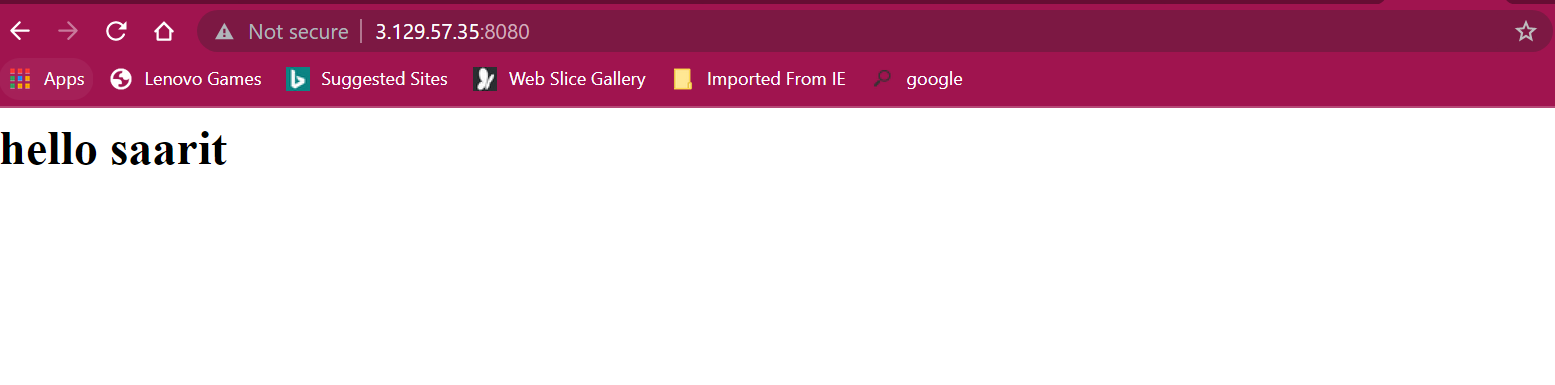
c83679487768 nginx "/docker-entrypoint.…" 3 minutes ago Exited (0) 34 seconds ago nginxsaarit

saarit@ip-172-31-31-36:~$ **docker start c83679487768**

c83679487768

saarit@ip-172-31-31-36:~$ **docker commit c83679487768 448555/nginxsaarit:v1**

sha256:ff5b2c826852f0baca625f12cab09da371c2f95ce1a31202df98a53f781a0710



saarit@ip-172-31-31-36:~$ **docker images**

REPOSITORY TAG IMAGE ID CREATED SIZE

448555/nginxsaarit v1 ff5b2c826852 4 minutes ago 141MB

nginx latest ea335eea17ab 13 days ago 141MB

saarit@ip-172-31-31-36:~$ **docker push 448555/nginxsaarit**

Using default tag: latest

The push refers to repository [docker.io/448555/nginxsaarit]

tag does not exist: 448555/nginxsaarit:latest

saarit@ip-172-31-31-36:~$ **docker push 448555/nginxsaarit:v1**

The push refers to repository [docker.io/448555/nginxsaarit]

91b9f8385b2c: Pushed

8525cde30b22: Mounted from library/nginx

1e8ad06c81b6: Mounted from library/nginx

49eeddd2150f: Mounted from library/nginx

ff4c72779430: Mounted from library/nginx

37380c5830fe: Mounted from library/nginx

e1bbcf243d0e: Mounted from library/nginx

v1: digest: sha256:74ad4a45c64c1fd5870321193a64425aa9dbd88423d2b13009229fd0a2943e57 size: 1778

saarit@ip-172-31-31-36:~$ **docker pull 448555/nginxsaarit:v1**

v1: Pulling from 448555/nginxsaarit

eff15d958d66: Already exists

1e5351450a59: Already exists

2df63e6ce2be: Already exists

9171c7ae368c: Already exists

020f975acd28: Already exists

266f639b35ad: Already exists

d064a6bed661: Pull complete

Digest: sha256:74ad4a45c64c1fd5870321193a64425aa9dbd88423d2b13009229fd0a2943e57

Status: Downloaded newer image for 448555/nginxsaarit:v1

docker.io/448555/nginxsaarit:v1

saarit@ip-172-31-31-36:~$ **docker images**

REPOSITORY TAG IMAGE ID CREATED SIZE

448555/nginxsaarit v1 ff5b2c826852 13 minutes ago 141MB

saarit@ip-172-31-31-36:~$ **docker images**

REPOSITORY TAG IMAGE ID CREATED SIZE

448555/nginxsaarit v1 ff5b2c826852 14 minutes ago 141MB

saarit@ip-172-31-31-36:~$ **docker run -d -p 8082:80 448555/nginxsaarit**

Unable to find image '448555/nginxsaarit:latest' locally

docker: Error response from daemon: manifest for 448555/nginxsaarit:latest not found: manifest unknown: manifest unknown.

See 'docker run --help'.

saarit@ip-172-31-31-36:~$ **docker run -d -p 8082:80 448555/nginxsaarit:v1**

c3572394148095c3914c32b9cddbbd7c695dd9ab654e6aea0973491b177026dc

saarit@ip-172-31-31-36:~$ **docker ps**

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

c35723941480 448555/nginxsaarit:v1 "/docker-entrypoint.…" 19 seconds ago Up 18 seconds 0.0.0.0:8082->80/tcp, :::8082->80/tcp practical\_tesla

saarit@ip-172-31-31-36:~$ **curl localhost:8082**

<h1> hello saarit </h1>

## Docker volume

**So that data is not lost after restarts**

ubuntu@ip-172-31-31-36:~$ **cd /tmp/**

ubuntu@ip-172-31-31-36:/tmp$ **ls**

snap.lxd

systemd-private-b97bd578160248a9bf942d25003021e0-systemd-logind.service-Z4mbgi

systemd-private-b97bd578160248a9bf942d25003021e0-systemd-resolved.service-hnNa2h

systemd-private-b97bd578160248a9bf942d25003021e0-systemd-timesyncd.service-fFdODg

ubuntu@ip-172-31-31-36:/tmp$ **pwd**

/tmp

ubuntu@ip-172-31-31-36:/tmp$ **mkdir docker**

ubuntu@ip-172-31-31-36:/tmp$ **docker images**

REPOSITORY TAG IMAGE ID CREATED SIZE

448555/nginxsaarit v1 ff5b2c826852 3 hours ago 141MB

ubuntu@ip-172-31-31-36:/tmp$ **docker run -dit ubuntu**

Unable to find image 'ubuntu:latest' locally

latest: Pulling from library/ubuntu

7b1a6ab2e44d: Pull complete

Digest: sha256:626ffe58f6e7566e00254b638eb7e0f3b11d4da9675088f4781a50ae288f3322

Status: Downloaded newer image for ubuntu:latest

f633657169916d074ab0e545e2f24a31bd4e794e4008274b9f764230d0b429d5

ubuntu@ip-172-31-31-36:/tmp$ **docker ps**

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

f63365716991 ubuntu "bash" 18 seconds ago Up 17 seconds interesting\_ardinghelli

ubuntu@ip-172-31-31-36:/tmp$ **docker exec -it f63365716991 bash**

ubuntu@ip-172-31-31-36:/tmp$ **docker run ubuntu**

ubuntu@ip-172-31-31-36:/tmp$ **docker ps**

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

f63365716991 ubuntu "bash" 12 minutes ago Up 5 minutes interesting\_ardinghelli

ubuntu@ip-172-31-31-36:/tmp$ docker ps -a

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

124a0a81b7af ubuntu "bash" 33 seconds ago Exited (0) 32 seconds ago stupefied\_tesla

f63365716991 ubuntu "bash" 12 minutes ago Up 5 minutes interesting\_ardinghelli

ubuntu@ip-172-31-31-36:/tmp$ **docker run -itd ubuntu sleep 20**

e176cb2f36326ce71a9b0ee6448828755a5d7f9b4843921a3ec62fb26fc9e196

ubuntu@ip-172-31-31-36:/tmp$ **docker ps**

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

e176cb2f3632 ubuntu "sleep 20" 5 seconds ago Up 4 seconds recursing\_hermann

f63365716991 ubuntu "bash" 13 minutes ago Up 6 minutes interesting\_ardinghelli

ubuntu@ip-172-31-31-36:/tmp$ **docker ps**

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

e176cb2f3632 ubuntu "sleep 20" 9 seconds ago Up 7 seconds recursing\_hermann

f63365716991 ubuntu "bash" 13 minutes ago Up 6 minutes interesting\_ardinghelli

ubuntu@ip-172-31-31-36:/tmp$ **docker ps**

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

e176cb2f3632 ubuntu "sleep 20" 14 seconds ago Up 13 seconds recursing\_hermann

f63365716991 ubuntu "bash" 14 minutes ago Up 7 minutes interesting\_ardinghelli

ubuntu@ip-172-31-31-36:/tmp$ docker ps

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

f63365716991 ubuntu "bash" 14 minutes ago Up 7 minutes interesting\_ardinghelli

ubuntu@ip-172-31-31-36:/tmp$ **docker volume ls**

DRIVER VOLUME NAME

ubuntu@ip-172-31-31-36:/tmp$ **docker ps**

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

0285fd14b928 ubuntu "bash" 4 minutes ago Up 2 minutes elegant\_shtern

35d4fe1dad1a nginx "/docker-entrypoint.…" 7 minutes ago Up 7 minutes 80/tcp beautiful\_tereshkova

f63365716991 ubuntu "bash" 24 minutes ago Up 17 minutes interesting\_ardinghelli

ubuntu@ip-172-31-31-36:/tmp$ **docker stop 0285fd14b928 f63365716991**

0285fd14b928

f63365716991

ubuntu@ip-172-31-31-36:/tmp$ **docker run -it -v /tmp/docker:tmp ubuntu bash**

docker: Error response from daemon: invalid volume specification: '/tmp/docker:tmp': invalid mount config for type "bind": invalid mount path: 'tmp' mount path must be absolute.

See 'docker run --help'.

ubuntu@ip-172-31-31-36:/tmp$ **docker run -it -v /tmp/docker:/tmp ubuntu bash**

root@e59ba6e6e25c:/# **cd tmp/**

root@e59ba6e6e25c:/tmp# **touch saarit.txt**

root@e59ba6e6e25c:/tmp# **ls**

saarit.txt

root@e59ba6e6e25c:/tmp# **exit**

exit

ubuntu@ip-172-31-31-36:/tmp$ **docker ps**

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

35d4fe1dad1a nginx "/docker-entrypoint.…" 9 minutes ago Up 9 minutes 80/tcp beautiful\_tereshkova

ubuntu@ip-172-31-31-36:/tmp$ **docker run -it -v /tmp/docker:/tmp -w /tmp ubuntu bash**

root@3e35c059aabc:/tmp# **ls**

saarit.txt

root@3e35c059aabc:/tmp# **exit**

exit

ubuntu@ip-172-31-31-36:/tmp$ **ls**

docker

snap.lxd

systemd-private-b97bd578160248a9bf942d25003021e0-fwupd.service-TDzBcf

systemd-private-b97bd578160248a9bf942d25003021e0-systemd-logind.service-Z4mbgi

systemd-private-b97bd578160248a9bf942d25003021e0-systemd-resolved.service-hnNa2h

systemd-private-b97bd578160248a9bf942d25003021e0-systemd-timesyncd.service-fFdODg

ubuntu@ip-172-31-31-36:/tmp$ **cd docker**

ubuntu@ip-172-31-31-36:/tmp/docker$ **ls**

saarit.txt

## DockerFile

ubuntu@ip-172-31-31-36:~$ vi Dockerfile

FROM ubuntu:18.04

RUN apt-get update

RUN apt-get upgrade -y

RUN apt install nginx -y

COPY ./index.html /var/www/html/\*.html

RUN service nginx restart

ENTRYPOINT [ "echo" ]

CMD ["Hello world"]

CMD ["sleep", "20"]

ENV name SAARIT

ubuntu@ip-172-31-31-36:~$ docker build --tag mynginx .

Successfully built d8ee31954a21

Successfully tagged mynginx:latest

ubuntu@ip-172-31-31-36:~$ docker images

REPOSITORY TAG IMAGE ID CREATED SIZE

mynginx latest d8ee31954a21 2 minutes ago 162MB

448555/nginxsaarit v1 ff5b2c826852 5 hours ago 141MB

nginx latest ea335eea17ab 2 weeks ago 141MB

ubuntu latest ba6acccedd29 6 weeks ago 72.8MB

ubuntu 18.04 5a214d77f5d7 2 months ago 63.1MB

ubuntu@ip-172-31-31-36:~$ docker run mynginx

sleep 20

ubuntu@ip-172-31-31-36:~$ docker run mynginx saarit

Saarit

ubuntu@ip-172-31-31-36:~$ docker run -it mynginx bash

bash

ubuntu@ip-172-31-31-36:~$ docker run -it --entrypoint /bin/sh mynginx

# ls

bin boot dev etc home lib lib64 media mnt opt proc root run sbin srv sys tmp usr var

# env

HOSTNAME=8f680bf3cfb4

HOME=/root

TERM=xterm

PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin

name=SAARIT

PWD=/

FOR example---

Dockerfile

FROM ubuntu:18.04

EXPOSE 80:80

RUN apt-get update

RUN apt-get upgrade -y

RUN apt install nginx -y

COPY ./index.html /var/www/html/index.nginx-debian.html

RUN service nginx restart

CMD ["Hello world"]

ENV name SAARIT

Index.html

Hello from saarit

docker build -t nginx80-80 .

docker run -it -d -p 80:80 nginx80-80 bash

docker ps

docker exec -it -d dc6d8dd72344 service nginx restart

curl localhost

Docker tag imagename 448555/nginx:v1