

DOCKER INSTALLATION

UBUNTU:

Set up the repository

1. `sudo apt-get update`
2. `sudo apt-get install \`
`ca-certificates \`
`curl \`
`gnupg \`
`lsb-release`

Install Docker Engine

To update for latest version

1. `sudo apt-get update`

```
ubuntu@ip-172-31-95-241:~$ sudo -i
root@ip-172-31-95-241:~# sudo apt-get update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports InRelease [108 kB]
Get:4 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/universe amd64 Packages [8628 kB]
```

To install docker in ubuntu

2. `sudo apt-get install docker.io`

```
root@ip-172-31-95-241:~# sudo apt-get install docker.io
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  bridge-utils containerd dns-root-data dnsmasq-base libidn11 pigz runc ubuntu-fan
Suggested packages:
```

To check Docker version

3. `sudo docker --version`

```
root@ip-172-31-80-109: ~
root@ip-172-31-80-109:~# root@ip-172-31-80-109:~#
root@ip-172-31-80-109:~# sudo docker --version
Docker version 20.10.7, build 20.10.7-0ubuntu5~20.04.2
root@ip-172-31-80-109:~#
```

Verify that Docker Engine is installed correctly by running the hello-world image.

4. `sudo docker run hello-world`

```
root@ip-172-31-80-109: ~
root@ip-172-31-80-109:~# root@ip-172-31-80-109:~#
root@ip-172-31-80-109:~# sudo docker run hello-world

Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
 1. The Docker client contacted the Docker daemon.
 2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
    (amd64)
```

docker info: To check the docker information

```
root@ip-172-31-80-109: ~
root@ip-172-31-80-109:~# docker info
Client:
 Context:    default
 Debug Mode: false

Server:
 Containers: 2
  Running: 0
  Paused: 0
  Stopped: 2
 Images: 1
```

docker version: To check docker version as well as client version

```
root@ip-172-31-80-109: ~
root@ip-172-31-80-109:~# docker version
Client:
 Version:           20.10.7
 API version:       1.41
 Go version:        go1.13.8
 Git commit:        20.10.7-0ubuntu5~20.04.2
 Built:             Mon Nov  1 00:34:17 2021
 OS/Arch:           linux/amd64
 Context:           default
 Experimental:      true

Server:
 Engine:
  Version:          20.10.7
  API version:      1.41 (minimum version 1.12)
  Go version:       go1.13.8
  Git commit:       20.10.7-0ubuntu5~20.04.2
  Built:            Fri Oct 22 00:45:53 2021
  OS/Arch:          linux/amd64
  Experimental:     false
 containerd:
  Version:          1.5.5-0ubuntu3~20.04.2
  GitCommit:
 runc:
  Version:          1.0.1-0ubuntu2~20.04.1
  GitCommit:
 docker-init:
  Version:          0.19.0
```

systemctl start docker: To start the docker service

```
root@ip-172-31-80-109: ~  
root@ip-172-31-80-109:~# systemctl start docker  
root@ip-172-31-80-109:~#
```

systemctl status docker : To check the docker service start or not

```

root@ip-172-31-80-109: ~
root@ip-172-31-80-109:~# systemctl start docker
root@ip-172-31-80-109:~# systemctl status docker
● docker.service - Docker Application Container Engine
   Loaded: loaded (/lib/systemd/system/docker.service; enabled; vendor preset: enabled)
   Active: active (running) since Thu 2022-03-24 08:39:01 UTC; 15min ago
 TriggeredBy: ● docker.socket
    Docs: https://docs.docker.com
   Main PID: 2047 (dockerd)
      Tasks: 10
     Memory: 60.9M
    CGroup: /system.slice/docker.service
            └─2047 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock

```

docker images :To see all images in local machine

```
root@ip-172-31-80-109: ~  
root@ip-172-31-80-109:~# docker images  
REPOSITORY      TAG          IMAGE ID      CREATED      SIZE  
hello-world      latest       feb5d9fea6a5  6 months ago 13.3kB  
root@ip-172-31-80-109:~#
```

docker search image name To find images in docker hub

```
root@ip-172-31-80-109:~# docker search hello-world
```

NAME	DESCRIPTION	STARS	OFFICIAL	AUTOMATE
D				
hello-world	Hello World! (an example of minimal Dockeriz...	1683	[OK]	
kitematic/hello-world-nginx	A light-weight nginx container that demonstr...	151		
tutum/hello-world	Image to test docker deployments. Has Apache...	88		[OK]
dockercloud/hello-world	Hello World!	19		[OK]
crccheck/hello-world	Hello World web server in under 2.5 MB	15		[OK]
ppc64le/hello-world	Hello World! (an example of minimal Dockeriz...	2		
ansibleplaybookbundle/hello-world-db-apb	An APB which deploys a sample Hello World! a...	2		[OK]
souravpatnaik/hello-world-go	hello-world in Golang	1		
rancher/hello-world		1		
ansibleplaybookbundle/hello-world-apb	An APB which deploys a sample Hello World! a...	1		[OK]
thomaspoignant/hello-world-rest-json	This project is a REST hello-world API to bu...	1		
koudaiii/hello-world		0		
garystafford/hello-world	Simple hello-world Spring Boot service for t...	0		[OK]
strimzi/hello-world-producer		0		
strimzi/hello-world-consumer		0		
strimzi/hello-world-streams		0		
businessgeeks00/hello-world-nodejs		0		
armswdev/c-hello-world	Simple hello-world C program on Alpine Linux...	0		
freddiedevops/hello-world-spring-boot		0		
tsepotesting123/hello-world		0		
uffizzicloud/hello-world		0		
dandando/hello-world-dotnet		0		
rsperling/hello-world3		0		
etapau/hello-world	k8s hello-world app	0		
kevindockercompany/hello-world		0		

docker pull image name :To download image from the docker hub to local machine

```
root@ip-172-31-80-109: ~  
root@ip-172-31-80-109:~# docker pull mysql  
Using default tag: latest  
latest: Pulling from library/mysql  
a4b007099961: Pull complete  
e2b610d88fd9: Pull complete  
38567843b438: Pull complete  
5fc423bf9558: Pull complete  
aa8241dfe828: Pull complete  
cc662311610e: Pull complete  
9832d1192cf2: Pull complete  
f2aa1710465f: Pull complete  
4a2d5722b8f3: Pull complete  
3a246e8d7cac: Pull complete  
2f834692d7cc: Pull complete  
a37409568022: Pull complete  
Digest: sha256:b2ae0f527005d99bacdf3a220958ed171e1eb0676377174f0323e0a10912408a  
Status: Downloaded newer image for mysql:latest  
docker.io/library/mysql:latest  
root@ip-172-31-80-109:~#
```

docker start container name :To start container

docker ps :To see only running containers(ps:process status)

```
root@ip-172-31-80-109: ~  
mysql      latest      562c9bc24a08   6 days ago     521MB  
ubuntu     latest      ff0fea8310f3   6 days ago     72.8MB  
hello-world latest      feb5d9fea6a5   6 months ago   13.3kB  
root@ip-172-31-80-109:~# docker run -it mysql /bin/bash  
root@50efb8f15a4b:/# docker ps  
bash: docker: command not found  
root@50efb8f15a4b:/# docker ps  
bash: docker: command not found  
root@50efb8f15a4b:/# exit  
exit  
root@ip-172-31-80-109:~# docker ps  
CONTAINER ID   IMAGE     COMMAND                  CREATED    STATUS    PORTS    NAMES  
root@ip-172-31-80-109:~# docker ps -a  
CONTAINER ID   IMAGE     COMMAND                  CREATED    STATUS    PORTS    NAMES  
50efb8f15a4b   mysql     "docker-entrypoint.s..." 2 minutes ago    Exited (127) 2 minutes ago    trusting_bardeen  
56b750748303   hello-world "/hello"                29 minutes ago    Exited (0) 29 minutes ago    confident_...  
ae32a28aaac9   hello-world "/hello"                29 minutes ago    Exited (0) 29 minutes ago    ecstatic_t...  
aussig  
root@ip-172-31-80-109:~# docker start trusting_bardeen  
trusting_bardeen  
root@ip-172-31-80-109:~# docker ps  
CONTAINER ID   IMAGE     COMMAND                  CREATED    STATUS    PORTS    NAMES  
50efb8f15a4b   mysql     "docker-entrypoint.s..." 3 minutes ago    Up 6 seconds    3306/tcp, 33060/tcp    trusting_bardeen  
root@ip-172-31-80-109:~#
```

docker ps -a :To see all containers

```
root@ip-172-31-80-109: ~
root@ip-172-31-80-109:~# docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED    STATUS    PORTS    NAMES
50efb8f15a4b   mysql    "docker-entrypoint.s..." 7 minutes ago    Up 4 minutes    3306/tcp, 33060/tcp    trusting_bardeen
root@ip-172-31-80-109:~# docker ps -a
CONTAINER ID   IMAGE     COMMAND                  CREATED    STATUS    PORTS    NAMES
50efb8f15a4b   mysql    "docker-entrypoint.s..." 10 minutes ago    Up 7 minutes    3306/tcp, 33060/tcp    trusting_bardeen
56b750748303   hello-world    "/hello"        37 minutes ago    Exited (0) 37 minutes ago
confident_keldysh
ae32a28aac9    hello-world    "/hello"        38 minutes ago    Exited (0) 38 minutes ago
ecstatic_taussig
root@ip-172-31-80-109:~#
```

docker stop container name :To stop container

docker rm container name :To remove container

```
root@ip-172-31-80-109: ~
eldysh
ae32a28aac9    hello-world    "/hello"        49 minutes ago    Exited (0) 49 minutes ago    ecstatic_taussig
root@ip-172-31-80-109:~# docker start trusting_bardeen
trusting_bardeen
root@ip-172-31-80-109:~# docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED    STATUS    PORTS    NAMES
50efb8f15a4b   mysql    "docker-entrypoint.s..." 23 minutes ago    Up 5 seconds    3306/tcp, 33060/tcp    trusting_bardeen
root@ip-172-31-80-109:~# docker stop trusting_bardeen
trusting_bardeen
root@ip-172-31-80-109:~# docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED    STATUS    PORTS    NAMES
root@ip-172-31-80-109:~# docker ps -a
CONTAINER ID   IMAGE     COMMAND                  CREATED    STATUS    PORTS    NAMES
50efb8f15a4b   mysql    "docker-entrypoint.s..." 24 minutes ago    Exited (0) 15 seconds ago    trusting_bardeen
56b750748303   hello-world    "/hello"        51 minutes ago    Exited (0) 51 minutes ago    confident_keldysh
eldysh
ae32a28aac9    hello-world    "/hello"        51 minutes ago    Exited (0) 51 minutes ago    ecstatic_taussig
root@ip-172-31-80-109:~# docker rm trusting_bardeen
trusting_bardeen
root@ip-172-31-80-109:~# docker ps -a
CONTAINER ID   IMAGE     COMMAND                  CREATED    STATUS    PORTS    NAMES
56b750748303   hello-world    "/hello"        51 minutes ago    Exited (0) 51 minutes ago    confident_keldysh
ae32a28aac9    hello-world    "/hello"        51 minutes ago    Exited (0) 51 minutes ago    ecstatic_taussig
root@ip-172-31-80-109:~#
```