



DOCKER INSTALLATION & VARIOUS COMMANDS

Docker commands

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Step 1 : Install Docker in Linux ec2 instance.

```
[ec2-user@ip-172-31-37-157 ~]$ sudo -i
[root@ip-172-31-37-157 ~]# docker -version
-bash: docker: command not found
[root@ip-172-31-37-157 ~]# yum install docker -y
[root@ip-172-31-37-157 ~]# docker --version
Docker version 20.10.23, build 7155243
[root@ip-172-31-37-157 ~]#
[root@ip-172-31-37-157 ~]# docker version
```

When we add this command, it ask for Dameon Running? So, we must add Dameon,

```
[root@ip-172-31-87-143 ~]# systemctl status docker
[root@ip-172-31-87-143 ~]# systemctl start docker
[root@ip-172-31-87-143 ~]# systemctl status docker
[root@ip-172-31-87-143 ~]# systemctl enable docker
[root@ip-172-31-87-143 ~]# docker version
```

Client:

```
Version:      20.10.23
API version:   1.41
Go version:    go1.18.9
Git commit:    7155243
Built:         Tue Apr 11 22:56:36 2023
OS/Arch:       linux/amd64
Context:       default
Experimental:  true
```

Server:

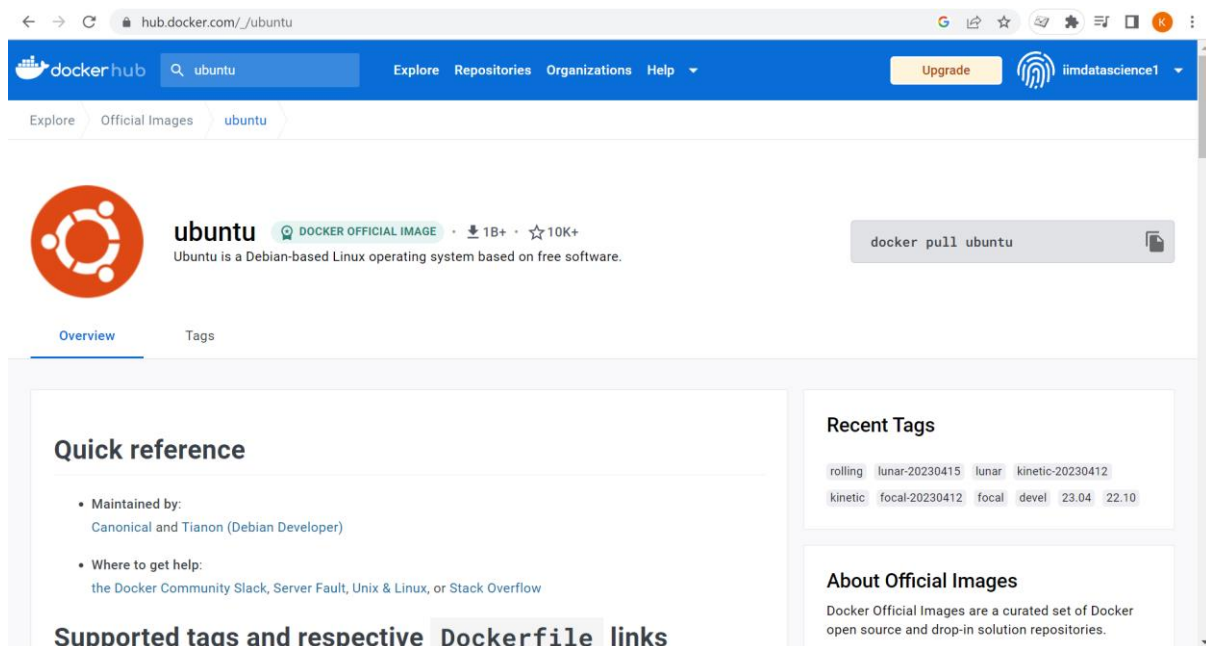
```
Engine:
Version:      20.10.23
API version:   1.41 (minimum version 1.12)
Go version:    go1.18.9
Git commit:    6051f14
Built:         Tue Apr 11 22:57:17 2023
OS/Arch:       linux/amd64
Experimental:  false
containerd:
```

DOCKER INSTALLATION & COMMANDS

Version: 1.6.19
GitCommit: 1e1ea6e986c6c86565bc33d52e34b81b3e2bc71f
runc:
Version: 1.1.4
GitCommit: 5fd4c4d144137e991c4acebb2146ab1483a97925
docker-init:
Version: 0.19.0
GitCommit: de40ad0
[root@ip-172-31-87-143 ~]# history

DOCKER HUB REGISTRATION

Link : https://hub.docker.com/_/ubuntu. After Sign up you will be able to see this pages. I have signed in via iimdatascience1@gmail.com.



[root@ip-172-31-87-143 ~]# docker images

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
------------	-----	----------	---------	------

[root@ip-172-31-87-143 ~]# docker ps

(showing only running containers)

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
--------------	-------	---------	---------	--------	-------

NAMES

[root@ip-172-31-87-143 ~]# docker ps -a

(showing all types of containers, running or not running)

DOCKER INSTALLATION & COMMANDS

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS
NAMES

```
[root@ip-172-31-87-143 ~]# docker pull ubuntu
```

(only pull the images not running)

```
[root@ip-172-31-87-143 ~]# docker run ubuntu
```

Unable to find image 'ubuntu:latest' locally

latest: Pulling from library/ubuntu

2ab09b027e7f: Pull complete

Digest:

sha256:67211c14fa74f070d27cc59d69a7fa9aeff8e28ea118ef3babc295a0428a6d21

Status: Downloaded newer image for ubuntu:latest

```
[root@ip-172-31-87-143 ~]# clear
```

```
[root@ip-172-31-87-143 ~]# docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
ubuntu	latest	08d22c0ceb15	7 weeks ago	77.8MB

```
[root@ip-172-31-87-143 ~]# docker ps
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
--------------	-------	---------	---------	--------	-------	-------

```
[root@ip-172-31-87-143 ~]# docker ps -a
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS
PORTS	NAMES			

044b0fc95d57	ubuntu	"/bin/bash"	2 minutes ago	Exited (0) 2 minutes ago
--------------	--------	-------------	---------------	--------------------------

dazzling_swanson

```
[root@ip-172-31-87-143 ~]# docker pull centos
```

Using default tag: latest

latest: Pulling from library/centos

a1d0c7532777: Pull complete

Digest:

sha256:a27fd8080b517143cbbbab9dfb7c8571c40d67d534bbdee55bd6c473f432b177

Status: Downloaded newer image for centos:latest

docker.io/library/centos:latest

```
[root@ip-172-31-87-143 ~]# docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
ubuntu	latest	08d22c0ceb15	7 weeks ago	77.8MB
centos	latest	5d0da3dc9764	19 months ago	231MB

```
[root@ip-172-31-87-143 ~]# docker ps -a
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS
PORTS	NAMES			

044b0fc95d57	ubuntu	"/bin/bash"	5 minutes ago	Exited (0) 4 minutes ago
--------------	--------	-------------	---------------	--------------------------

dazzling_swanson

```
[root@ip-172-31-87-143 ~]# docker run centos
```

DOCKER INSTALLATION & COMMANDS

```
[ec2-user@ip-172-31-87-143 ~]$ sudo -i
[root@ip-172-31-87-143 ~]# docker run -it centos bash
[root@4c0cc4af0e5a /]# ls
bin etc lib lost+found mnt proc run srv tmp var
dev home lib64 media opt root sbin sys usr
[root@4c0cc4af0e5a /]# cat /etc/*release*
CentOS Linux release 8.4.2105
Derived from Red Hat Enterprise Linux 8.4
NAME="CentOS Linux"
VERSION="8"
ID="centos"
ID_LIKE="rhel fedora"
VERSION_ID="8"
PLATFORM_ID="platform:el8"
PRETTY_NAME="CentOS Linux 8"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:centos:centos:8"
HOME_URL="https://centos.org/"
BUG_REPORT_URL="https://bugs.centos.org/"
CENTOS_MANTISBT_PROJECT="CentOS-8"
CENTOS_MANTISBT_PROJECT_VERSION="8"
CentOS Linux release 8.4.2105
CentOS Linux release 8.4.2105
cpe:/o:centos:centos:8
[root@4c0cc4af0e5a /]# ls
bin etc lib lost+found mnt proc run srv tmp var
dev home lib64 media opt root sbin sys usr
[root@4c0cc4af0e5a /]# exit
exit
[root@ip-172-31-87-143 ~]# docker run centos sleep 20
[root@ip-172-31-87-143 ~]# docker run -d centos sleep 20
(container run in detach mode)
16f661294d1afcc4c5ae3be3b4d5cae5eb43273ebff3c441e4afc092fb77ce90
[root@ip-172-31-87-143 ~]#
[root@ip-172-31-87-143 ~]# docker rm 6efc10a0510f
(Remove the containers from local machine)
[root@ip-172-31-87-143 ~]# docker rm 6efc 4bfc 2de4
(Remove Multiple containers from local system)
[root@ip-172-31-87-143 ~]# docker rmi centos
Error response from daemon: conflict: unable to remove repository reference
"centos" (must force) - container 7d2b27881316 is using its referenced image
5d0da3dc9764
[root@ip-172-31-87-143 ~]#
```

DOCKER INSTALLATION & COMMANDS

```
[root@ip-172-31-87-143 ~]# docker stop e0bdc119b578
```

```
e0bdc119b578
```

```
(Stop the containers from local system)
```

```
[root@ip-172-31-87-143 ~]# docker ps
```

```
(To check any containers are running or not)
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
--------------	-------	---------	---------	--------	-------	-------

```
[root@ip-172-31-87-143 ~]# docker run -d centos sleep 50
```

```
[root@ip-172-31-87-143 ~]# docker inspect 74a21c<container id>
```

```
(Inspect inside the container)
```

```
[
  {
    "Id":
"74a21c30e7629ffb8793ba1175597b58e5f79c0f9f956958a14346e06a37f1b6",
    "Created": "2023-05-02T18:07:36.825874193Z",
    "Path": "sleep",
    "Args": [
      "50"
    ],
    "State": {
      "Status": "running",
      "Running": true,
      "Paused": false,
      "Restarting": false,
      "OOMKilled": false,
      "Dead": false,
      "Pid": 2822,
      "ExitCode": 0,
      "Error": "",
      "StartedAt": "2023-05-02T18:07:37.312491925Z",
      "FinishedAt": "0001-01-01T00:00:00Z"
    },
    "Image":
"sha256:5d0da3dc976460b72c77d94c8a1ad043720b0416bfc16c52c45d4847e53fadb6",
    "ResolvConfPath":
"/var/lib/docker/containers/74a21c30e7629ffb8793ba1175597b58e5f79c0f9f956958a14346e06a37f1b6/resolv.conf",
    "HostnamePath":
"/var/lib/docker/containers/74a21c30e7629ffb8793ba1175597b58e5f79c0f9f956958a14346e06a37f1b6/hostname",
```

DOCKER INSTALLATION & COMMANDS

```
"HostsPath":  
"/var/lib/docker/containers/74a21c30e7629ffb8793ba1175597b58e5f79c0f9f95  
6958a14346e06a37f1b6/hosts",  
"LogPath":  
"/var/lib/docker/containers/74a21c30e7629ffb8793ba1175597b58e5f79c0f9f95  
6958a14346e06a37f1b6/74a21c30e7629ffb8793ba1175597b58e5f79c0f9f9569  
58a14346e06a37f1b6-json.log",  
"Name": "/sweet_rhodes",  
"RestartCount": 0,  
"Driver": "overlay2",  
"Platform": "linux",  
"MountLabel": "",  
"ProcessLabel": "",  
"AppArmorProfile": "",  
"ExecIDs": null,  
"HostConfig": {  
  "Binds": null,  
  "ContainerIDFile": "",  
  "LogConfig": {  
    "Type": "json-file",  
    "Config": {}  
  },  
  "NetworkMode": "default",  
  "PortBindings": {},  
  "RestartPolicy": {  
    "Name": "no",  
    "MaximumRetryCount": 0  
  },  
  "AutoRemove": false,  
  "VolumeDriver": "",  
  "VolumesFrom": null,  
  "CapAdd": null,  
  "CapDrop": null,  
  "CgroupnsMode": "host",  
  "Dns": [],  
  "DnsOptions": [],  
  "DnsSearch": [],  
  "ExtraHosts": null,  
  "GroupAdd": null,  
  "IpcMode": "private",  
  "Cgroup": "",  
  "Links": null,  
  "OomScoreAdj": 0,
```

DOCKER INSTALLATION & COMMANDS

```
"PidMode": "",
"Privileged": false,
"PublishAllPorts": false,
"ReadonlyRootfs": false,
"SecurityOpt": null,
"UTSMode": "",
"UsersnsMode": "",
"ShmSize": 67108864,
"Runtime": "runc",
"ConsoleSize": [
    0,
    0
],
"Isolation": "",
"CpuShares": 0,
"Memory": 0,
"NanoCpus": 0,
"CgroupParent": "",
"BlkioWeight": 0,
"BlkioWeightDevice": [],
"BlkioDeviceReadBps": null,
"BlkioDeviceWriteBps": null,
"BlkioDeviceReadIOps": null,
"BlkioDeviceWriteIOps": null,
"CpuPeriod": 0,
"CpuQuota": 0,
"CpuRealtimePeriod": 0,
"CpuRealtimeRuntime": 0,
"CpusetCpus": "",
"CpusetMems": "",
"Devices": [],
"DeviceCgroupRules": null,
"DeviceRequests": null,
"KernelMemory": 0,
"KernelMemoryTCP": 0,
"MemoryReservation": 0,
"MemorySwap": 0,
"MemorySwappiness": null,
"OomKillDisable": false,
"PidsLimit": null,
"Ulimits": [
    {
        "Name": "nofile",
```


DOCKER INSTALLATION & COMMANDS

```
"Hard": 65536,
"Soft": 32768
}
],
"CpuCount": 0,
"CpuPercent": 0,
"IOMaximumIOps": 0,
"IOMaximumBandwidth": 0,
"MaskedPaths": [
  "/proc/asound",
  "/proc/acpi",
  "/proc/kcore",
  "/proc/keys",
  "/proc/latency_stats",
  "/proc/timer_list",
  "/proc/timer_stats",
  "/proc/sched_debug",
  "/proc/scsi",
  "/sys/firmware"
],
"ReadonlyPaths": [
  "/proc/bus",
  "/proc/fs",
  "/proc/irq",
  "/proc/sys",
  "/proc/sysrq-trigger"
]
},
"GraphDriver": {
  "Data": {
    "LowerDir":
"/var/lib/docker/overlay2/84652d3275145b9a82b0bd04e95c38b007c96577f3c0
066e6c4f92a6b9c9e9a0-
init/diff:/var/lib/docker/overlay2/42da92aecc0ccf72d8290bafb588135470c093d
e154749566efc9d8e4b3cb773/diff",
    "MergedDir":
"/var/lib/docker/overlay2/84652d3275145b9a82b0bd04e95c38b007c96577f3c0
066e6c4f92a6b9c9e9a0/merged",
    "UpperDir":
"/var/lib/docker/overlay2/84652d3275145b9a82b0bd04e95c38b007c96577f3c0
066e6c4f92a6b9c9e9a0/diff",
```

DOCKER INSTALLATION & COMMANDS

```
"WorkDir":
"/var/lib/docker/overlay2/84652d3275145b9a82b0bd04e95c38b007c96577f3c0
066e6c4f92a6b9c9e9a0/work"
},
"Name": "overlay2"
},
"Mounts": [],
"Config": {
  "Hostname": "74a21c30e762",
  "Domainname": "",
  "User": "",
  "AttachStdin": false,
  "AttachStdout": false,
  "AttachStderr": false,
  "Tty": false,
  "OpenStdin": false,
  "StdinOnce": false,
  "Env": [
    "PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin"
  ],
  "Cmd": [
    "sleep",
    "50"
  ],
  "Image": "centos",
  "Volumes": null,
  "WorkingDir": "",
  "Entrypoint": null,
  "OnBuild": null,
  "Labels": {
    "org.label-schema.build-date": "20210915",
    "org.label-schema.license": "GPLv2",
    "org.label-schema.name": "CentOS Base Image",
    "org.label-schema.schema-version": "1.0",
    "org.label-schema.vendor": "CentOS"
  }
},
"NetworkSettings": {
  "Bridge": "",
  "SandboxID":
"472e647c8ccdb2ea5c8e49270fa60294aefd59bd755872b0aa8f60ded9e9f42f",
  "HairpinMode": false,
  "LinkLocalIPv6Address": "",
```

DOCKER INSTALLATION & COMMANDS

```
"LinkLocalIPv6PrefixLen": 0,
"Ports": {},
"SandboxKey": "/var/run/docker/netns/472e647c8ccd",
"SecondaryIPAddresses": null,
"SecondaryIPv6Addresses": null,
"EndpointID":
"5a8c9b062bebcc7b55ac9e04844625548961ad4adfdabade0f196fa79a345338",
"Gateway": "172.17.0.1",
"GlobalIPv6Address": "",
"GlobalIPv6PrefixLen": 0,
"IPAddress": "172.17.0.2",
"IPPrefixLen": 16,
"IPv6Gateway": "",
"MacAddress": "02:42:ac:11:00:02",
"Networks": {
  "bridge": {
    "IPAMConfig": null,
    "Links": null,
    "Aliases": null,
    "NetworkID":
"92d90f66cf3db5667487a30863bde4e7786829f0203d6ff59219e286eb671fad",
    "EndpointID":
"5a8c9b062bebcc7b55ac9e04844625548961ad4adfdabade0f196fa79a345338",
    "Gateway": "172.17.0.1",
    "IPAddress": "172.17.0.2",
    "IPPrefixLen": 16,
    "IPv6Gateway": "",
    "GlobalIPv6Address": "",
    "GlobalIPv6PrefixLen": 0,
    "MacAddress": "02:42:ac:11:00:02",
    "DriverOpts": null
  }
}
}
}
]
[root@ip-172-31-87-143 ~]#
```

DOCKER INSTALLATION & COMMANDS

```
[root@ip-172-31-87-143 ~]# docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
nginx	latest	6efc10a0510f	2 weeks ago	142MB
ubuntu	latest	08d22c0ceb15	7 weeks ago	77.8MB
centos	latest	5d0da3dc9764	19 months ago	231MB

```
[root@ip-172-31-87-143 ~]# docker history centos
```

IMAGE	CREATED	CREATED BY	SIZE
COMMENT			
5d0da3dc9764	19 months ago	/bin/sh -c #(nop) CMD ["/bin/bash"]	
0B			
<missing>	19 months ago	/bin/sh -c #(nop) LABEL org.label-schema.sc...	
0B			
<missing>	19 months ago	/bin/sh -c #(nop) ADD	
file:805cb5e15fb6e0bb0...			231MB

```
[root@ip-172-31-87-143 ~]#
```