

Docker installation and configuration



Here i am giving the example for docker installation and configuration in a Centos -7 system

Docker have 2 editions community edition and enterprise edition and docker CE has two update channels stable,edge






- stable will give you updates on every quarter
- edge will give you updates on every month

below are the details of the different server,cloud versions which supports CE and EE

Desktop

Platform	Docker CE x86_64	Docker CE ARM	Docker EE
Docker for Mac (macOS)			
Docker for Windows (Microsoft Windows 10)			

Cloud

Platform	Docker CE x86_64	Docker CE ARM	Docker EE
Amazon Web Services			
Microsoft Azure			
IBM Cloud (Beta)			

Server

Platform	Docker CE x86_64	Docker CE ARM	Docker CE IBM Power (ppc64le)	Docker CE IBM Z (s390x)	Docker EE x86_64	Docker EE IBM Power (ppc64le)	Docker EE IBM Z (s390x)
CentOS	✓				✓		
Debian	✓	✓					
Fedora	✓						
Microsoft Windows Server 2016					✓		
Oracle Linux					✓		
Red Hat Enterprise Linux					✓	✓	✓
SUSE Linux Enterprise Server					✓	✓	✓
Ubuntu	✓	✓	✓	✓	✓	✓	✓

1. First login to the server Centos-7 and run "yum-check-update" command

```
(root@unixchips ~) # yum check-update_
```

yum check-update

```

libgcc.x86_64 4.8.5-28.el7_5.1 updates
libgomp.x86_64 4.8.5-28.el7_5.1 updates
libss.x86_64 1.42.9-12.el7_5 updates
libstdc++.x86_64 4.8.5-28.el7_5.1 updates
linux-firmware.noarch 20180220-62.2.git6d51311.el7_5 updates
microcode_ctl.x86_64 2:2.1-29.18.el7_5 updates
nspr.x86_64 4.19.0-1.el7_5 updates
nss.x86_64 3.36.0-5.el7_5 updates
nss-softokn.x86_64 3.36.0-5.el7_5 updates
nss-softokn-frcbl.x86_64 3.36.0-5.el7_5 updates
nss-sysinit.x86_64 3.36.0-5.el7_5 updates
nss-tools.x86_64 3.36.0-5.el7_5 updates
nss-util.x86_64 3.36.0-1.el7_5 updates
openldap.x86_64 2.4.44-15.el7_5 updates
procps-ng.x86_64 3.3.18-17.el7_5.2 updates
python.x86_64 2.7.5-69.el7_5 updates
python-libs.x86_64 2.7.5-69.el7_5 updates
python-perf.x86_64 3.10.0-862.9.1.el7 updates
rsyslog.x86_64 8.24.0-16.el7_5.4 updates
selinux-policy.noarch 3.13.1-192.el7_5.4 updates
selinux-policy-targeted.noarch 3.13.1-192.el7_5.4 updates
sudo.x86_64 1.8.19p2-14.el7_5 updates
tzdata.noarch 2018c-3.el7 updates
yum-plugin-fastestmirror.noarch 1.1.31-46.el7_5 updates
root@unixchips ~]#

```

2. There is one installation script is available in the web called <https://get.docker.com> we are installing the docker using that script

```

root@unixchips ~]# curl -fsSL https://get.docker.com/ | sh

```

curl -fsSL <https://get.docker.com> | sh

```

libgcc.x86_64 4.8.5-28.el7_5.1 updates
libgomp.x86_64 4.8.5-28.el7_5.1 updates
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linux-firmware.noarch 20180220-62.2.git6d51311.el7_5 updates
microcode_ctl.x86_64 2:2.1-29.18.el7_5 updates
nspr.x86_64 4.19.0-1.el7_5 updates
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nss-softokn.x86_64 3.36.0-5.el7_5 updates
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nss-tools.x86_64 3.36.0-5.el7_5 updates
nss-util.x86_64 3.36.0-1.el7_5 updates
openldap.x86_64 2.4.44-15.el7_5 updates
procps-ng.x86_64 3.3.18-17.el7_5.2 updates
python.x86_64 2.7.5-69.el7_5 updates
python-libs.x86_64 2.7.5-69.el7_5 updates
python-perf.x86_64 3.10.0-862.9.1.el7 updates
rsyslog.x86_64 8.24.0-16.el7_5.4 updates
selinux-policy.noarch 3.13.1-192.el7_5.4 updates
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sudo.x86_64 1.8.19p2-14.el7_5 updates
tzdata.noarch 2018c-3.el7 updates
yum-plugin-fastestmirror.noarch 1.1.31-46.el7_5 updates
root@unixchips ~]#

```

2. Once the docker is installed we need to make it start and enable the service

```
(root@unixchips ~)# systemctl start docker
(root@unixchips ~)# systemctl enable docker
Created symlink from /etc/systemd/system/multi-user.target.wants/docker.service
to /usr/lib/systemd/system/docker.service.
(root@unixchips ~)#
```

```
# systemctl start docker
# systemctl enable docker
```

```
(root@unixchips ~)# systemctl status docker
* docker.service - Docker Application Container Engine
   Loaded: loaded (/usr/lib/systemd/system/docker.service; enabled; vendor prese
   t: disabled)
   Active: active (running) since Thu 2018-08-09 12:45:18 IST; 49s ago
     Docs: https://docs.docker.com
    Main PID: 1584 (dockerd)
    CGroup: /system.slice/docker.service
            └─1584 /usr/bin/dockerd
              1598 docker-containerd --config /var/run/docker/containerd/conta...

Aug 09 12:45:08 unixchips dockerd[1584]: time="2018-08-09T12:45:08.071449253...C
Aug 09 12:45:08 unixchips dockerd[1584]: time="2018-08-09T12:45:08.072292283...C
Aug 09 12:45:08 unixchips dockerd[1584]: time="2018-08-09T12:45:08.072359826...
Aug 09 12:45:09 unixchips dockerd[1584]: time="2018-08-09T12:45:09.120633725...
Aug 09 12:45:09 unixchips dockerd[1584]: time="2018-08-09T12:45:09.700064003...
Aug 09 12:45:09 unixchips dockerd[1584]: time="2018-08-09T12:45:09.826922432...e
Aug 09 12:45:09 unixchips dockerd[1584]: time="2018-08-09T12:45:09.827450570...
Aug 09 12:45:10 unixchips dockerd[1584]: time="2018-08-09T12:45:10.135824423...
Aug 09 12:45:10 unixchips systemd[1]: Started Docker Application Container ...e.
Aug 09 12:45:10 unixchips dockerd[1584]: time="2018-08-09T12:45:10.160105966...
Hint: Some lines were ellipsized, use -l to show in full.
(root@unixchips ~)#
```

```
# systemctl status docker
```

4. Now we need to give the permission to the local user (here raushan) to run docker commands

```
(root@unixchips ~)# sudo usermod -aG docker unixchips
```

```
# sudo usermod -aG docker raushan
```

5. Once you given the permission we can able to run the command without any sudo permission

```
(unixchips@unixchips ~)$ docker images
REPOSITORY          TAG                 IMAGE ID            CREATED
SIZE
(unixchips@unixchips ~)$ _
```

docker images

6. The best way to check the status of the docker installation is to run the below command

"docker run hello-world" and the expected out is given below

```
Digest: sha256:4b8ff392a12cd9ea17781b43c9a8b1fa3299cac44aca35a85c98c5e3c7afacdc
Status: Downloaded newer image for hello-world:latest

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)
 3. The Docker daemon created a new container from that image which runs the
    executable that produces the output you are currently reading.
 4. The Docker daemon streamed that output to the Docker client, which sent it
    to your terminal.

To try something more ambitious, you can run an Ubuntu container with:
$ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:
https://hub.docker.com/

For more examples and ideas, visit:
https://docs.docker.com/engine/userguide/

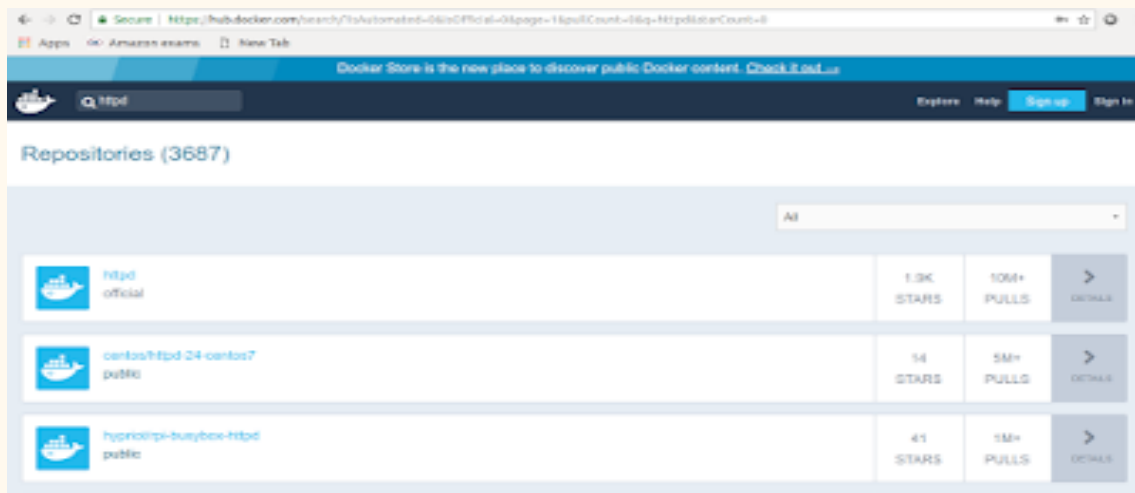
(unixchips@unixchips ~)$ _
```

7. Let's search the httpd image through the docker

```
[curioswitch@curioswitch ~]$ docker search httpd
NAME                                DESCRIPTION                                STARS     OFFICIAL   AUTOMATED
httpd                               The Apache HTTP Server Project            1865      [OK]
hyperkit/rpi-busybox-httpd         Raspberry Pi compatible Docker Image with a u... 41
centos/httpd-24-centos7            Platform for running apache httpd 2.4 or bu... 19
arvnd/httpd                         The Apache HTTP Server Project            9
mccofins/netboot-httpd            use in combination with bruenne/bodypy    1
salim9234ay/httpd24               Apache httpd 2 Server                     1
splatform/aws-linux-httpd24-php71-fpm  aws-linux-httpd24-php71-fpm             1
fboaventura/dkr-httpd             Small footprint httpd server to use with othe... 1
teadigood/httpd-fpm               httpd server which connects via fcgi proxy s... 1
splatform/aws-linux-httpd24-php70  aws-linux-httpd24-php70                 1
wpf15develop/oa-nginx-httpd       oa-nginx-httpd                           1
public1/httpd                     httpd:latest                             0
dockery/hana/httpd               Extended HTTPD Docker Image based on the off... 0
stuartget/httpd24                 An E2E image for building and running Apache... 0
nerak1231-ansible-httpd24         httpd docker image with debian-based config _... 0
linterluis/httpd                  Container with httpd, built on CentOS for ha... 0
cro11in/httpd                     Container with httpd, built on CentOS for ha... 0
anageta/httpd                     The Apache HTTP Server Project            0
ajliss/deno-httpd                 Based on the official httpd image         0
apocela/httpd                     Based on the official httpd image         0
nasekh/httpd                      Based on the official httpd image         0
huzzardev/httpd                  Based on the official httpd image         0
splatform/aws-linux-httpd24-php71  aws-linux-httpd24-php71                 0
[curioswitch@curioswitch ~]$
```

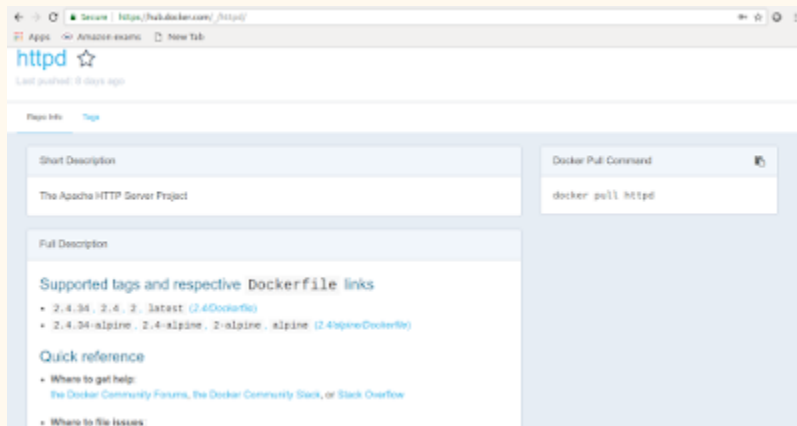
docker search httpd

Also if we need to check the image details we will get it from <https://hub.docker.com>



8. Now we can pull the httpd image to the docker

If we click on the httpd official project we can see the latest one is apache 2.4.29



let's pull the image through docker command

```
[unixchips@unixchips ~]$ docker pull httpd:2.2.29
2.2.29: Pulling from library/httpd
4d2e9ae40c41: [extracting] =====> 1 45.61MB/51.37MB
a3ed95cae962: Download complete
71da54557245: Download complete
721128148687: Download complete
bb02db57acca: Download complete
971e8b763f43: Download complete
9792a88ebd27: Download complete
```

docker pull httpd:2.2.29

```
[unixchips@unixchips ~]$ docker pull httpd:2.2.29
2.2.29: Pulling from library/httpd
4d2e9ae40c41: Pull complete
a3ed95cae962: Pull complete
71da54557245: Pull complete
721128148687: Pull complete
bb02db57acca: Pull complete
971e8b763f43: Pull complete
9792a88ebd27: Pull complete
Digest: sha256:9a39999c207a000e4182c0b1b4fe2fc30737459fe0d4fabd80ee1a3e001614e
Status: Downloaded newer image for httpd:2.2.29
[unixchips@unixchips ~]$
```

9. Now if we check the docker mages we can see the downloaded http image

```
[unixchips@unixchips ~]$ docker images
REPOSITORY      TAG              IMAGE ID         CREATED          SIZE
hello-world      latest          2cb0d9787c4d    4 weeks ago     1.85kB
httpd            2.2.29         78ef8a7db81a    3 years ago     153MB
[unixchips@unixchips ~]$
```

docker images

10 .If we need to remove one image we have to use the below command

```
[unixchips@unixchips ~]$ docker rmi hello-world -f
Untagged: hello-world:latest
Untagged: hello-world@sha256:4b0ff392a12ed9ea17784bd3c9a8b1fa3299cac44aca35a85c90c5e3c7afacdc
Deleted: sha256:2cb0d9787c4dd17ef9eb03e512923bc4db10add190d3f84af63b744e353a9b34
[unixchips@unixchips ~]$ docker images
REPOSITORY      TAG              IMAGE ID         CREATED          SIZE
httpd            2.2.29         78ef8a7db81a    3 years ago     153MB
```

docker rmi hello-world -f