Steps to Install Docker in RHEL7/Centos:

Type the following command to install the latest version of Docker CE (community edition):

yum-config-manager --add-repo https://download.docker.com/linux/centos/docker-ce.repo

```
[ec2-user@ip-172-31-92-91 ~]$ sudo yum-config-manager --add-repo https://downloa
d.docker.com/linux/centos/docker-ce.repo
Loaded plugins: amazon-id, rhui-lb
adding repo from: https://download.docker.com/linux/centos/docker-ce.repo
grabbing file https://download.docker.com/linux/centos/docker-ce.repo to /etc/yu
m.repos.d/docker-ce.repo
repo saved to /etc/yum.repos.d/docker-ce.repo
[ec2-user@ip-172-31-92-91 ~]$ yum install http://mirror.centos.org/centos/7/extr
as/x86_64/Packages/container-selinux-2.68-1.el7.noarch.rpm
```

yum install http://mirror.centos.org/centos/7/extras/x86_64/Packages/container-selinux-2.68-1.el7.noarch.rpm

```
[ec2-user@ip-172-31-92-91 ~]$ sudo yum install http://mirror.centos.org/centos/7
/extras/x86_64/Packages/container-selinux-2.68-1.el7.noarch.rpm
Loaded plugins: amazon-id, rhui-lb, search-disabled-repos
container-selinux-2.68-1.el7.noarch.rpm                   |  36 kB     00:00
Examining /var/tmp/yum-root-P1iWjK/container-selinux-2.68-1.el7.noarch.rpm: 2:co
ntainer-selinux-2.68-1.el7.noarch
Marking /var/tmp/yum-root-P1iWjK/container-selinux-2.68-1.el7.noarch.rpm to be i
nstalled
Resolving Dependencies
--> Running transaction check
---> Package container-selinux.noarch 2:2.68-1.el7 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

================================================================================
 Package          Arch    Version       Repository                          Size
================================================================================
Installing:
 container-selinux
                  noarch 2:2.68-1.el7 /container-selinux-2.68-1.el7.noarch  36 k
```

yum install docker-ce

```
[ec2-user@ip-172-31-92-91 ~]$ sudo yum install docker-ce
Loaded plugins: amazon-id, rhui-lb, search-disabled-repos
docker-ce-stable
rhui-REGION-client-config-server-7
rhui-REGION-rhel-server-releases
rhui-REGION-rhel-server-rh-common
(1/9): docker-ce-stable/x86_64/updateinfo
(2/9): docker-ce-stable/x86_64/primary_db
(3/9): rhui-REGION-client-config-server-7/x86_64/primary_db
(4/9): rhui-REGION-rhel-server-releases/7Server/x86_64/group
(5/9): rhui-REGION-rhel-server-rh-common/7Server/x86_64/primary_db
(6/9): rhui-REGION-rhel-server-releases/7Server/x86_64/updateinfo
```

```
[ec2-user@ip-172-31-92-91 ~]$ sudo systemctl start docker
[ec2-user@ip-172-31-92-91 ~]$ sudo systemctl enable docker
Created symlink from /etc/systemd/system/multi-user.target.wants/docker.service
[ec2-user@ip-172-31-92-91 ~]$
```

Searching Image from Docker repository:

```
[root@ip-172-31-83-160 ~]# docker search centos
NAME                              DESCRIPTION                                     STARS               OFFICIAL            AUTOMATED
centos                            The official build of CentOS.                   5059                [OK]
ansible/centos7-ansible           Ansible on Centos7                              119                                     [OK]
jdeathe/centos-ssh                CentOS-6 6.10 x86_64 / CentOS-7 7.5.1804 x86…   102                                     [OK]
consol/centos-xfce-vnc            Centos container with "headless" VNC session…   73                                      [OK]
imagine10255/centos6-lnmp-php56   centos6-lnmp-php56                              48                                      [OK]
centos/mysql-57-centos7           MySQL 5.7 SQL database server                   44
tutum/centos                      Simple CentOS docker image with SSH access      43
gluster/gluster-centos            Official GlusterFS Image [ CentOS-7 +  Glust…   38                                      [OK]
openshift/base-centos7            A Centos7 derived base image for Source-To-I…   37
centos/postgresql-96-centos7      PostgreSQL is an advanced Object-Relational …   35
centos/python-35-centos7          Platform for building and running Python 3.5…   32
kingcmr/centos-ssh                CentOS with SSH                                 25                                      [OK]
```

Downloading image from Docker repository:

```
[root@ip-172-31-83-160 ~]# docker pull centos
Using default tag: latest
latest: Pulling from library/centos
a02a4930cb5d: Pull complete
Digest: sha256:184e5f35598e333bfa7de10d8fb1cebb5ee4df5bc0f970bf2b1e7c7345136426
Status: Downloaded newer image for centos:latest
[root@ip-172-31-83-160 ~]# docker -v
Docker version 18.09.0, build 4d60db4
[root@ip-172-31-83-160 ~]# docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
centos              latest              1e1148e4cc2c        13 days ago         202MB
```

To create New Containers:

```
[root@ip-172-31-83-160 ~]# docker run -it centos
[root@a97c98f7a41c /]# [root@ip-172-31-83-160 ~]#
[root@ip-172-31-83-160 ~]#
[root@ip-172-31-83-160 ~]# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS               NAMES
a97c98f7a41c        centos              "/bin/bash"         31 seconds ago      Up 30 seconds                           nervous_agnesi
[root@ip-172-31-83-160 ~]# docker run --name hari -it 1e1148e4cc2c
[root@04f56ef265e7 /]# [root@ip-172-31-83-160 ~]#
[root@ip-172-31-83-160 ~]#
[root@ip-172-31-83-160 ~]# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS               NAMES
04f56ef265e7        1e1148e4cc2c        "/bin/bash"         8 seconds ago       Up 7 seconds                            hari
a97c98f7a41c        centos              "/bin/bash"         About a minute ago  Up About a minute                       nervous_agnesi
```

Logging to created docker container:

```
[root@ip-172-31-83-160 test]# docker attach hari
[root@04f56ef265e7 /]# ls
anaconda-post.log  bin  dev  etc  home  lib  lib64  media  mnt  opt  proc  root  run  sbin  srv  sys  tmp  usr  var
```

Logout from Container: press key Ctl+p+q

To list stopped and running containers:

```
[root@ip-172-31-83-160 ~]# docker ps -a
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS                      PORTS               NAMES
04f56ef265e7        1e1148e4cc2c        "/bin/bash"         4 minutes ago       Up 48 seconds                                   hari
a97c98f7a41c        centos              "/bin/bash"         5 minutes ago       Up 5 minutes                                    nervous_agnesi
fea06777a73b        centos              "/bin/bash"         6 minutes ago       Exited (0) 6 minutes ago                        elegant_minsky
```

Stopping and Starting the Containers:

```
[root@ip-172-31-83-160 ~]# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS               NAMES
04f56ef265e7        1e1148e4cc2c        "/bin/bash"         2 minutes ago       Up 2 minutes                            hari
a97c98f7a41c        centos              "/bin/bash"         3 minutes ago       Up 3 minutes                            nervous_agnesi
[root@ip-172-31-83-160 ~]# docker stop 04f56ef265e7
04f56ef265e7
[root@ip-172-31-83-160 ~]# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS               NAMES
a97c98f7a41c        centos              "/bin/bash"         4 minutes ago       Up 4 minutes                            nervous_agnesi
[root@ip-172-31-83-160 ~]# docker start 04f56ef265e7
04f56ef265e7
[root@ip-172-31-83-160 ~]# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS               NAMES
04f56ef265e7        1e1148e4cc2c        "/bin/bash"         3 minutes ago       Up 3 seconds                            hari
a97c98f7a41c        centos              "/bin/bash"         5 minutes ago       Up 5 minutes                            nervous_agnesi
```

Copying files from host machine to container:

```
[root@ip-172-31-83-160 test]# ll
total 16
-rw-r--r--. 1 root root 15080 Oct  2  2017 epel-release-latest-7.noarch.rpm
[root@ip-172-31-83-160 test]# docker cp epel-release-latest-7.noarch.rpm hari:/root
[root@ip-172-31-83-160 test]# docker attach hari
[root@04f56ef265e7 /]# ls
anaconda-post.log  bin  dev  etc  home  lib  lib64  media  mnt  opt  proc  root  run  sbin  srv  sys  tmp  usr  var
[root@04f56ef265e7 /]# cd /root
[root@04f56ef265e7 ~]# ls
anaconda-ks.cfg  epel-release-latest-7.noarch.rpm
```

Installing package to container from my host machine:

```
[root@ip-172-31-83-160 test]# docker exec -d hari yum install httpd -y
[root@ip-172-31-83-160 test]# docker attach hari
[root@04f56ef265e7 ~]# yum info httpd
Loaded plugins: fastestmirror, ovl
Loading mirror speeds from cached hostfile
 * base: mirror.cogentco.com
 * extras: mirror.cogentco.com
 * updates: mirror.cogentco.com
Installed Packages
Name        : httpd
Arch        : x86_64
Version     : 2.4.6
Release     : 88.el7.centos
Size        : 9.4 M
Repo        : installed
From repo   : base
Summary     : Apache HTTP Server
URL         : http://httpd.apache.org/
License     : ASL 2.0
Description : The Apache HTTP Server is a powerful, efficient, and extensible
            : web server.
```