

# Lab: Installing Docker

## Introduction:

**Docker** is an open platform for **developing, shipping, and running applications**. Docker is a set of platforms as a service product that use OS-level virtualization to deliver software in packages called containers.

The service has both free and premium tiers. The software that hosts the containers is called Docker Engine. It was first started in 2013 and is developed by Docker, Inc.

## Objectives:

- Install prerequisite
- Install Docker Engine on CentOS.
- Enable and start the docker daemon
- Lock the software version

1 Let's install yum-utils package which is required by yum-config-manager tool.

```
# dnf -y install yum-utils
```

## Output:

```
[root@docker-engine ~]#dnf -y install yum-utils
Last metadata expiration check: 0:16:25 ago on Sat 04 Feb 2023 04:01:52 PM IST.
Dependencies resolved.
=====
Package                        Architecture      Version           Repository
=====
Installing:
yum-utils                      noarch            4.3.0-4.el9      baseos
Transaction Summary
=====
Install 1 Package

Total download size: 41 k
Installed size: 23 k
Downloading Packages:
yum-utils-4.3.0-4.el9.noarch.rpm                                49 kB/s | 41 kB
-----
Total                                                                23 kB/s | 41 kB
Running transaction check
Transaction check succeeded.
```

2 Let's configure docker repository by running below command.

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

## Output:

```
[root@docker-engine ~]#yum-config-manager --add-repo https://download.docker.com/linux/centos/docker-ce.repo
Adding repo from: https://download.docker.com/linux/centos/docker-ce.repo
```

3 We have just added repository from the above step, Now let's install the **docker**.

```
# dnf install -y docker-ce --allowdowngrading
```

Output:

```
[root@docker-engine ~]#dnf install -y docker-ce --allowdowngrading
Last metadata expiration check: 0:00:43 ago on Sat 04 Feb 2023 04:25:52 PM IST.
Dependencies resolved.
=====
Package                                Architecture Version                                Repository
=====
Installing:
docker-ce                              x86_64      3:23.0.0-1.el9                        docker-ce-stable
Installing dependencies:
containerd.io                          x86_64      1.6.16-3.1.el9                        docker-ce-stable
docker-ce-cli                          x86_64      1:23.0.0-1.el9                        docker-ce-stable
docker-ce-rootless-extras             x86_64      23.0.0-1.el9                          docker-ce-stable
Installing weak dependencies:
docker-buildx-plugin                  x86_64      0.10.2-1.el9                          docker-ce-stable
docker-compose-plugin                 x86_64      2.15.1-3.el9                          docker-ce-stable
docker-scan-plugin                    x86_64      0.23.0-3.el9                          docker-ce-stable
Transaction Summary
=====
Install 7 Packages
```

4 Let's run the below command to **enable** and **start** the docker daemon on boot.

```
# systemctl enable --now docker
```

Output:

```
[root@docker-engine ~]#systemctl enable --now docker
Created symlink /etc/systemd/system/multi-user.target.wants/docker.service → /usr/lib/systemd/
```

4.1 Let's Verify the Status of the Docker.

```
# systemctl status docker --no-pager
```

Output:

```
[root@docker-engine ~]#systemctl status docker --no-pager
● docker.service - Docker Application Container Engine
   Loaded: loaded (/usr/lib/systemd/system/docker.service; enabled; preset: disabled)
   Active: active (running) since Sat 2023-02-04 16:28:10 IST; 6min ago
   TriggeredBy: ● docker.socket
     Docs: https://docs.docker.com
    Main PID: 87246 (dockerd)
      Tasks: 9
     Memory: 28.1M
        CPU: 436ms
    CGroup: /system.slice/docker.service
            └─87246 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
```

**Optional Steps:**

4.2 Let's **lock** the version by executing the below command.

```
# dnf -y install python3-dnf-plugin-versionlock.noarch
```

## Output:

```
[root@docker-engine ~]#dnf -y install python3-dnf-plugin-versionlock.noarch
Last metadata expiration check: 0:16:25 ago on Sat 04 Feb 2023 04:25:52 PM IST.
Dependencies resolved.
=====
Package                                Architecture  Version      Repository
=====
Installing:
python3-dnf-plugin-versionlock         noarch       4.3.0-4.el9  baseos

Transaction Summary
=====
Install 1 Package

Total download size: 28 k
Installed size: 27 k
Downloading Packages:
python3-dnf-plugin-versionlock-4.3.0-4.el9.noarch.rpm      20 kB/s | 28 kB    00:01
-----
Total                                                       12 kB/s | 28 kB    00:02
```

```
# dnf versionlock docker-ce*
```

## Output:

```
[root@docker-engine ~]#dnf versionlock docker-ce*
Last metadata expiration check: 0:21:06 ago on Sat 04 Feb 2023 04:25:52 PM IST.
Adding versionlock on: docker-ce-cli-1:23.0.0-1.el9.*
Adding versionlock on: docker-ce-rootless-extras-0:23.0.0-1.el9.*
Adding versionlock on: docker-ce-3:23.0.0-1.el9.*
```