

Experiment 12

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DOCKER

1) Install docker

First, in order to ensure the downloads are valid, add the GPG key for the official Docker repository to your system:

```
$ curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo apt-key add -
```

```
sumyak@sumyak-VirtualBox:~$ curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo apt-key add -  
[sudo] password for sumyak:  
OK
```

Add the Docker repository to APT sources:

```
$ sudo add-apt-repository "deb [arch=amd64] https://download.docker.com/linux/ubuntu $(lsb_release -cs) stable"
```

```
sumyak@sumyak-VirtualBox:~$ sudo add-apt-repository "deb [arch=amd64] https://download.docker.com/linux/ubuntu $(lsb_release -cs) stable"  
Hit:1 https://download.docker.com/linux/ubuntu focal InRelease  
Hit:2 http://security.ubuntu.com/ubuntu focal-security InRelease  
Hit:3 http://in.archive.ubuntu.com/ubuntu focal InRelease  
Hit:4 http://in.archive.ubuntu.com/ubuntu focal-updates InRelease  
Hit:5 http://in.archive.ubuntu.com/ubuntu focal-backports InRelease  
Reading package lists... Done
```

Next, update the package database with the Docker packages from the newly added repo:

```
$ sudo apt-get update
```

```
sumyak@sumyak-VirtualBox:~$ sudo apt-get update  
Hit:1 http://in.archive.ubuntu.com/ubuntu focal InRelease  
Hit:2 http://in.archive.ubuntu.com/ubuntu focal-updates InRelease  
Hit:3 http://in.archive.ubuntu.com/ubuntu focal-backports InRelease  
Hit:4 https://download.docker.com/linux/ubuntu focal InRelease  
Hit:5 http://security.ubuntu.com/ubuntu focal-security InRelease  
Reading package lists... Done
```

Make sure you are about to install from the Docker repo instead of the default Ubuntu 16.04 repo:

```
$ apt-cache policy docker-ce
```

```
sumyak@sumyak-VirtualBox:~$ apt-cache policy docker-ce
docker-ce:
  Installed: 5:19.03.13~3-0~ubuntu-focal
  Candidate: 5:19.03.13~3-0~ubuntu-focal
  Version table:
 *** 5:19.03.13~3-0~ubuntu-focal 500
      500 https://download.docker.com/linux/ubuntu focal/stable amd64 Packages
      100 /var/lib/dpkg/status
 5:19.03.12~3-0~ubuntu-focal 500
      500 https://download.docker.com/linux/ubuntu focal/stable amd64 Packages
 5:19.03.11~3-0~ubuntu-focal 500
      500 https://download.docker.com/linux/ubuntu focal/stable amd64 Packages
 5:19.03.10~3-0~ubuntu-focal 500
      500 https://download.docker.com/linux/ubuntu focal/stable amd64 Packages
 5:19.03.9~3-0~ubuntu-focal 500
      500 https://download.docker.com/linux/ubuntu focal/stable amd64 Packages
```

Finally, install Docker:

```
$ sudo apt-get install -y docker-ce
```

```
sumyak@sumyak-VirtualBox:~$ sudo apt-get install -y docker-ce
Reading package lists... Done
Building dependency tree
Reading state information... Done
docker-ce is already the newest version (5:19.03.13~3-0~ubuntu-focal).
0 upgraded, 0 newly installed, 0 to remove and 171 not upgraded.
```

Check that it's running:

```
$ sudo systemctl status docker
```

```
sumyak@sumyak-VirtualBox:~$ sudo systemctl status docker
● docker.service - Docker Application Container Engine
   Loaded: loaded (/lib/systemd/system/docker.service; enabled; vendor preset:
   Active: active (running) since Tue 2020-11-03 11:59:28 IST; 5min ago
   TriggeredBy: ● docker.socket
     Docs: https://docs.docker.com
    Main PID: 843 (dockerd)
       Tasks: 10
      Memory: 117.4M
      CGroup: /system.slice/docker.service
              └─843 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/conta
```

2) Check docker version after installation

```
sumyak@sumyak-VirtualBox:~$ docker --version
Docker version 19.03.13, build 4484c46d9d
```

3) Goto root and run docker run -it ubuntu

```
sumyak@sumyak-VirtualBox:~$ sudo su
root@sumyak-VirtualBox:/home/sumyak# docker run -it ubuntu
Unable to find image 'ubuntu:latest' locally
latest: Pulling from library/ubuntu
6a5697faee43: Pull complete
ba13d3bc422b: Pull complete
a254829d9e55: Pull complete
Digest: sha256:fff16eea1a8ae92867721d90c59a75652ea66d29c05294e6e2f898704bdb8cf1
Status: Downloaded newer image for ubuntu:latest
```

4) Create new directory inside container and list files

```
root@e4f361074fc8:/# mkdir abc
root@e4f361074fc8:/# ls
abc  boot  etc  lib  lib64  media  opt  root  sbin  sys  usr
bin  dev  home  lib32  libx32  mnt  proc  run  srv  tmp  var
root@e4f361074fc8:/# cd abc
root@e4f361074fc8:/abc#
```