

**Seat no.: 567**

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## **Experiment**

**Aim: Install and configure Docker**

### **Theory:**

- **Software requirements**
  1. Virtual Box 6.1 or above/ VMWARE ESXi 7.0GA
  2. Linux Operating system
- **Hardware requirements**
  1. Processor: Intel Core i3 or above
  2. RAM: 4GB (4GB + Recommended)
  3. HDD: Minimum 50GB (500GB Recommended)
  4. Other requirements: Internet Connectivity.

Steps of Installing Docker

**Step 1: Run command : `sudo apt install docker.io` This will install Docker into the machine**

```
junaid@junaid-VirtualBox:~$ sudo apt install docker.io
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  bridge-utils containerd git git-man liberror-perl pigz runc ubuntu-fan
Suggested packages:
  ifupdown aufs-tools btrfs-progs cgroupfs-mount | cgroup-lite debootstrap
  docker-doc rinse zfs-fuse | zfsutils git-daemon-run | git-daemon-sysvinit
  git-doc git-el git-email git-gui gitk gitweb git-cvs git-mediawiki git-svn
The following NEW packages will be installed:
  bridge-utils containerd docker.io git git-man liberror-perl pigz runc
  ubuntu-fan
0 upgraded, 9 newly installed, 0 to remove and 0 not upgraded.
Need to get 79.4 MB of archives.
After this operation, 397 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://in.archive.ubuntu.com/ubuntu focal/universe amd64 pigz amd64 2.4-1
[57.4 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu focal/main amd64 bridge-utils amd64 1
.6-2ubuntu1 [30.5 kB]
Get:3 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 runc amd64 1
.0.0~rc95-0ubuntu1~20.04.2 [4,087 kB]
Get:4 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 containerd a
md64 1.5.2-0ubuntu1~20.04.3 [32.9 MB]
Get:5 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 docker.i
o amd64 20.10.7-0ubuntu1~20.04.2 [36.9 MB]
Get:6 http://in.archive.ubuntu.com/ubuntu focal/main amd64 liberror-perl all 0.
17020-1 [26.5 kB]
```

## Step 2: Check if there are any updates sudo apt update

```
junaid@junaid-VirtualBox: ~
junaid@junaid-VirtualBox:~$ sudo apt update
[sudo] password for junaid:
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
Get:4 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:5 http://security.ubuntu.com/ubuntu focal-security/main amd64 DEP-11 Metada
ta [28.9 kB]
Get:6 http://security.ubuntu.com/ubuntu focal-security/universe amd64 DEP-11 Me
tadata [63.6 kB]
Get:7 http://security.ubuntu.com/ubuntu focal-security/multiverse amd64 DEP-11
Metadata [2,464 B]
Fetched 209 kB in 2s (95.0 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
100 packages can be upgraded. Run 'apt list --upgradable' to see them.
junaid@junaid-VirtualBox:~$
```

## Step 3: Upgrade all packages that can be upgraded sudo apt upgrade

```
junaid@junaid-VirtualBox: ~  
junaid@junaid-VirtualBox:~$ sudo apt upgrade  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
Calculating upgrade... Done  
The following packages will be upgraded:  
  alsa-ucm-conf apport apport-gtk ca-certificates cpio distro-info-data  
  firefox ghostscript ghostscript-x gir1.2-javascriptcoregtk-4.0  
  gir1.2-udisks-2.0 gir1.2-webkit2-4.0 gnome-control-center  
  gnome-control-center-data gnome-control-center-faces libcurl3-gnutls  
  libcurl4 libdrm-amdgpu1 libdrm-common libdrm-intel1 libdrm-nouveau2  
  libdrm-radeon1 libdrm2 libegl-mesa0 libgbm1 libgcrypt20 libgd3  
  libgl1-mesa-dri libglapi-mesa libglx-mesa0 libgrilo-0.3-0 libgs9  
  libgs9-common libjavascriptcoregtk-4.0-18 libllvm12 libmbim-glib4  
  libmbim-proxy libmm-glib0 libmysqlclient21 libnetplan0 libnss-systemd  
  libntfs-3g883 libpam-modules libpam-modules-bin libpam-runtime  
  libpam-systemd libpam0g libprocps8 libpulse-mainloop-glib0 libpulse0  
  libpulsedsp libpython3.8 libpython3.8-minimal libpython3.8-stdlib  
  libqmi-glib5 libqmi-proxy libsmbclient libssh-4 libssl1.1 libsystemd0  
  libtiff5 libudisks2-0 libwbclient0 libwebkit2gtk-4.0-37 libxatracker2  
  linux-firmware mesa-vulkan-drivers modemmanager netplan.io ntfs-3g openssl  
  procps pulseaudio pulseaudio-module-bluetooth pulseaudio-utils  
  python-apt-common python3-apport python3-apt python3-problem-report  
  python3-update-manager python3.8 python3.8-minimal samba/libs snapd  
  squashfs-tools systemd systemd-sysv systemd-timesyncd thermald thunderbird  
  thunderbird-gnome-support thunderbird-locale-en tzdata udisks2  
  update-manager update-manager-core vim-common vim-tiny wireless-regdb xxd  
100 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.  
41 standard security updates
```

#### Step 4: sudo apt install docker.io

```
junaid@junaid-VirtualBox: ~  
junaid@junaid-VirtualBox:~$ sudo apt install docker.io  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
docker.io is already the newest version (20.10.7-0ubuntu1~20.04.2).  
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
```

#### Step 5: Check the status of docker on the system sudo systemctl status docker

```

junaid@junaid-VirtualBox:~$ sudo systemctl status docker
● docker.service - Docker Application Container Engine
   Loaded: loaded (/lib/systemd/system/docker.service; enabled; vendor prese
   Active: active (running) since Wed 2021-10-20 19:19:36 IST; 1min 54s ago
   TriggeredBy: ● docker.socket
     Docs: https://docs.docker.com
    Main PID: 30729 (dockerd)
      Tasks: 8
     Memory: 47.2M
    CGroup: /system.slice/docker.service
            └─30729 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/co

Oct 20 19:19:35 junaid-VirtualBox dockerd[30729]: time="2021-10-20T19:19:35.85>
Oct 20 19:19:35 junaid-VirtualBox dockerd[30729]: time="2021-10-20T19:19:35.85>
Oct 20 19:19:35 junaid-VirtualBox dockerd[30729]: time="2021-10-20T19:19:35.85>
Oct 20 19:19:35 junaid-VirtualBox dockerd[30729]: time="2021-10-20T19:19:35.85>
Oct 20 19:19:36 junaid-VirtualBox dockerd[30729]: time="2021-10-20T19:19:36.06>
Oct 20 19:19:36 junaid-VirtualBox dockerd[30729]: time="2021-10-20T19:19:36.50>
Oct 20 19:19:36 junaid-VirtualBox dockerd[30729]: time="2021-10-20T19:19:36.77>
Oct 20 19:19:36 junaid-VirtualBox dockerd[30729]: time="2021-10-20T19:19:36.77>
Oct 20 19:19:36 junaid-VirtualBox systemd[1]: Started Docker Application Conta>
Oct 20 19:19:37 junaid-VirtualBox dockerd[30729]: time="2021-10-20T19:19:37.01>
lines 1-21/21 (END)

```

**Step 6: Exit by entering: ctrl + z**

```

Oct 20 19:19:36 junaid-VirtualBox dockerd[30729]: time="2021-10-20T19:19:36.77>
Oct 20 19:19:36 junaid-VirtualBox dockerd[30729]: time="2021-10-20T19:19:36.77>
Oct 20 19:19:36 junaid-VirtualBox systemd[1]: Started Docker Application Conta>
Oct 20 19:19:37 junaid-VirtualBox dockerd[30729]: time="2021-10-20T19:19:37.01>
lines 1-21/21 (END)
[1]+  Stopped                  sudo systemctl status docker
junaid@junaid-VirtualBox:~$ 

```

**Conclusion: Thus, we have successfully installed and configured Docker**