EXPERIMENT-12 (Docker Installation)

Step-1 Adding the GPG key for the official Docker repository to your system:

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

Step-2 Adding the Docker repository to APT sources and update the package database with the Docker packages from the newly added repo:

```
vagrant@ubuntu-xenial:~$ sudo add-apt-repository "deb [arch=amd64] https://download.docker.com/linux/ubuntu $(lsb_release -cs) stable"
vagrant@ubuntu-xenial:~$ sudo apt-get update
Get:1 http://security.ubuntu.com/ubuntu xenial-security InRelease [109 kB]
Hit:2 http://archive.ubuntu.com/ubuntu xenial InRelease
Get:3 https://download.docker.com/linux/ubuntu xenial InRelease [66.2 kB]
Get:4 http://archive.ubuntu.com/ubuntu xenial-updates InRelease [109 kB]
Get:5 https://download.docker.com/linux/ubuntu xenial/stable amd64 Packages [15.0 kB]
Get:6 http://security.ubuntu.com/ubuntu xenial-security/universe amd64 Packages [772 kB]
Get:7 http://archive.ubuntu.com/ubuntu xenial-backports InRelease [107 kB]
Get:8 http://archive.ubuntu.com/ubuntu xenial/universe amd64 Packages [7,532 kB]
Get:9 http://security.ubuntu.com/ubuntu xenial-security/universe Translation-en [218 kB]
Get:10 http://security.ubuntu.com/ubuntu xenial-security/multiverse amd64 Packages [8,236 B]
Get:11 http://security.ubuntu.com/ubuntu xenial-security/multiverse Translation-en [2,888 B]
Get:12 http://archive.ubuntu.com/ubuntu xenial/universe Translation-en [4,354 kB]
Get:13 http://archive.ubuntu.com/ubuntu xenial/multiverse amd64 Packages [144 kB]
Get:14 http://archive.ubuntu.com/ubuntu xenial/multiverse Translation-en [106 kB]
Get:15 http://archive.ubuntu.com/ubuntu xenial-updates/universe amd64 Packages [1,194 kB]
Get:16 http://archive.ubuntu.com/ubuntu xenial-updates/universe Translation-en [348 kB]
Get:17 http://archive.ubuntu.com/ubuntu xenial-updates/multiverse amd64 Packages [23.0 kB]
Get:18 http://archive.ubuntu.com/ubuntu xenial-updates/multiverse Translation-en [8,632 B]
Get:19 http://archive.ubuntu.com/ubuntu xenial-backports/main amd64 Packages [9,812 B]
Get:20 http://archive.ubuntu.com/ubuntu xenial-backports/main Translation-en [4,456 B]
Get:21 http://archive.ubuntu.com/ubuntu xenial-backports/universe amd64 Packages [11.3 kB]
Get:22 http://archive.ubuntu.com/ubuntu xenial-backports/universe Translation-en [4,476 B]
Fetched 15.1 MB in 1min 26s (175 kB/s)
Reading package lists... Done
```

Step-3 We are making sure we are about to install from the Docker repo instead of the default Ubuntu 16.04 repo:

```
vagrant@ubuntu-xenial:~$ apt-cache policy docker-ce
docker-ce:
  Installed: (none)
  Candidate: 5:19.03.13~3-0~ubuntu-xenial
  Version table:
     5:19.03.13~3-0~ubuntu-xenial 500
        500 https://download.docker.com/linux/ubuntu xenial/stable amd64 Packages
     5:19.03.12~3-0~ubuntu-xenial 500
        500 https://download.docker.com/linux/ubuntu xenial/stable amd64 Packages
     5:19.03.11~3-0~ubuntu-xenial 500
        500 https://download.docker.com/linux/ubuntu xenial/stable amd64 Packages
     5:19.03.10~3-0~ubuntu-xenial 500
        500 https://download.docker.com/linux/ubuntu xenial/stable amd64 Packages
     5:19.03.9~3-0~ubuntu-xenial 500
        500 https://download.docker.com/linux/ubuntu xenial/stable amd64 Packages
     5:19.03.8~3-0~ubuntu-xenial 500
        500 https://download.docker.com/linux/ubuntu xenial/stable amd64 Packages
     5:19.03.7~3-0~ubuntu-xenial 500
        500 https://download.docker.com/linux/ubuntu xenial/stable amd64 Packages
     5:19.03.6~3-0~ubuntu-xenial 500
        500 https://download.docker.com/linux/ubuntu xenial/stable amd64 Packages
     5:19.03.5~3-0~ubuntu-xenial 500
        500 https://download.docker.com/linux/ubuntu xenial/stable amd64 Packages
     5:19.03.4~3-0~ubuntu-xenial 500
        500 https://download.docker.com/linux/ubuntu xenial/stable amd64 Packages
     5:19.03.3~3-0~ubuntu-xenial 500
        500 https://download.docker.com/linux/ubuntu xenial/stable amd64 Packages
     5:19.03.2~3-0~ubuntu-xenial 500
        500 https://download.docker.com/linux/ubuntu xenial/stable amd64 Packages
     5:19.03.1~3-0~ubuntu-xenial 500
        500 https://download.docker.com/linux/ubuntu xenial/stable amd64 Packages
     5:19.03.0~3-0~ubuntu-xenial 500
        500 https://download.docker.com/linux/ubuntu xenial/stable amd64 Packages
     5:18.09.9~3-0~ubuntu-xenial 500
        500 https://download.docker.com/linux/ubuntu xenial/stable amd64 Packages
     5:18.09.8~3-0~ubuntu-xenial 500
        500 https://download.docker.com/linux/ubuntu xenial/stable amd64 Packages
     5:18.09.7~3-0~ubuntu-xenial 500
        500 https://download.docker.com/linux/ubuntu xenial/stable amd64 Packages
     5:18.09.6~3-0~ubuntu-xenial 500
        500 https://download.docker.com/linux/ubuntu xenial/stable amd64 Packages
```

Step-4 Now install docker with apt-get command

```
vagrant@ubuntu-xenial:~$ sudo apt-get install -y docker-ce
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  aufs-tools cgroupfs-mount containerd.io docker-ce-cli libltdl7 pigz
Suggested packages:
  mountall
The following NEW packages will be installed:
  aufs-tools cgroupfs-mount containerd.io docker-ce docker-ce-cli libltdl7 pigz
0 upgraded, 7 newly installed, 0 to remove and 0 not upgraded.
Need to get 91.2 MB of archives.
After this operation, 410 MB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu xenial/universe amd64 pigz amd64 2.3.1-2 [61.1 kB]
Get:2 https://download.docker.com/linux/ubuntu xenial/stable amd64 containerd.io amd64 1.3.7-1 [24.3 MB]
Get:3 http://archive.ubuntu.com/ubuntu xenial/universe amd64 aufs-tools amd64 1:3.2+20130722-1.1ubuntu1 [92.9 kB]
Get:4 http://archive.ubuntu.com/ubuntu xenial/universe amd64 cgroupfs-mount all 1.2 [4,970 B]
Get:5 http://archive.ubuntu.com/ubuntu xenial/main amd64 libltdl7 amd64 2.4.6-0.1 [38.3 kB]
Get:6 https://download.docker.com/linux/ubuntu xenial/stable amd64 docker-ce-cli amd64 5:19.03.13~3-0~ubuntu-xenial [44.2 MB]
Get:7 https://download.docker.com/linux/ubuntu xenial/stable amd64 docker-ce amd64 5:19.03.13~3-0~ubuntu-xenial [22.5 MB]
Fetched 91.2 MB in 33s (2,740 kB/s)
Selecting previously unselected package pigz.
(Reading database ... 54328 files and directories currently installed.)
Preparing to unpack .../pigz_2.3.1-2_amd64.deb ...
Unpacking pigz (2.3.1-2) ...
Selecting previously unselected package aufs-tools.
Preparing to unpack .../aufs-tools_1%3a3.2+20130722-1.1ubuntu1_amd64.deb ...
Unpacking aufs-tools (1:3.2+20130722-1.1ubuntu1) ...
Selecting previously unselected package cgroupfs-mount.
Preparing to unpack .../cgroupfs-mount_1.2_all.deb ...
Unpacking cgroupfs-mount (1.2) ...
Selecting previously unselected package containerd.io.
Preparing to unpack .../containerd.io_1.3.7-1_amd64.deb ...
Unpacking containerd.io (1.3.7-1) ...
Selecting previously unselected package docker-ce-cli.
```

Step-5 We can add our user to docker group to avoid writing sudo in every command of docker.

```
vagrant@ubuntu-xenial:~$ sudo usermod -aG docker ${USER}
vagrant@ubuntu-xenial:~$ su - ${USER}
Password:
vagrant@ubuntu-xenial:~$ sudo usermod -aG docker vagrant
```

Step-6 Now, running docker container

```
vagrant@ubuntu-xenial:~$ docker run -it ubuntu
root@0121e5a7513b:/# exit
exit
vagrant@ubuntu-xenial:~$ docker ps -a
CONTAINER ID    IMAGE      COMMAND       CREATED         STATUS                    PORTS      NAMES
0121e5a7513b    ubuntu     "/bin/bash"   11 minutes ago  Exited (0) 4 seconds ago             great_mayer
69132546929c    ubuntu     "/bin/bash"   56 minutes ago  Exited (0) 55 minutes ago            pedantic_jennings
vagrant@ubuntu-xenial:~$
```