

Lab 1 – Changing/ Adding username and Docker Engine Installation

- Add a new user
sudo adduser <username>
- Add user to sudo group
sudo usermod -aG sudo <username>

```
BitterSteel@victus:~$ whoami
BitterSteel
BitterSteel@victus:~$ sudo adduser ajaykurni
info: Adding user `ajaykurni' ...
info: Selecting UID/GID from range 1000 to 59999 ...
info: Adding new group `ajaykurni' (1001) ...
info: Adding new user `ajaykurni' (1001) with group `ajaykurni (1001)' ...
info: Creating home directory `/home/ajaykurni' ...
info: Copying files from `/etc/skel' ...
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
Changing the user information for ajaykurni
Enter the new value, or press ENTER for the default
    Full Name []:
    Room Number []:
    Work Phone []:
    Home Phone []:
    Other []:
Is the information correct? [Y/n] y
info: Adding new user `ajaykurni' to supplemental / extra groups `users' ...
info: Adding user `ajaykurni' to group `users' ...
BitterSteel@victus:~$
```

```
BitterSteel@victus:~$ sudo usermod -aG sudo ajaykurni
BitterSteel@victus:~$ groups ajaykurni
ajaykurni : ajaykurni sudo users
```

- Change to the new user from the current user

```
BitterSteel@victus:~$ su - ajaykurni
Password:
ajaykurni@victus:~$ whoami
ajaykurni
ajaykurni@victus:~$ sudo apt update
[sudo] password for ajaykurni:
Get:1 https://download.docker.com/linux/ubuntu focal InRelease [57.7 kB]
Get:2 https://download.docker.com/linux/ubuntu noble InRelease [48.5 kB]
Hit:3 http://in.archive.ubuntu.com/ubuntu noble InRelease
Get:4 https://cloud.r-project.org/bin/linux/ubuntu noble-cran40/ InRelease [3,631 B]
Get:5 https://packages.microsoft.com/repos/code stable InRelease [3,590 B]
Get:6 https://dl.google.com/linux/chrome/deb stable InRelease [1,825 B]
Get:7 https://download.docker.com/linux/ubuntu noble/stable amd64 Packages [33.3 kB]
Get:8 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:9 http://in.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:10 https://packages.microsoft.com/repos/code stable/main amd64 Packages [19.9 kB]
Get:11 https://dl.google.com/linux/chrome/deb stable/main amd64 Packages [1,214 B]
Get:12 http://in.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:13 http://in.archive.ubuntu.com/ubuntu noble-updates/main i386 Packages [541 kB]
Get:14 http://security.ubuntu.com/ubuntu noble-security/main i386 Packages [344 kB]
Get:15 http://in.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [1,535 kB]
```

Docker Installation Steps:

- Set up Docker's **apt** repository.
 - # Add Docker's official GPG key:


```
sudo apt-get update
sudo apt-get install ca-certificates curl
sudo install -m 0755 -d /etc/apt/keyrings
sudo curl -fsSL https://download.docker.com/linux/ubuntu/gpg -o
/etc/apt/keyrings/docker.asc
sudo chmod a+r /etc/apt/keyrings/docker.asc
```
 - # Add the repository to Apt sources:


```
echo \
  "deb [arch=$(dpkg --print-architecture)
signed-by=/etc/apt/keyrings/docker.asc]
https://download.docker.com/linux/ubuntu \
  $(. /etc/os-release && echo
"${UBUNTU_CODENAME:-$VERSION_CODENAME}") stable" | \
  sudo tee /etc/apt/sources.list.d/docker.list > /dev/null
sudo apt-get update
```

```

ajaykurni@victus:~$ # Add Docker's official GPG key:
sudo apt-get update
sudo apt-get install ca-certificates curl
sudo install -m 0755 -d /etc/apt/keyrings
sudo curl -fsSL https://download.docker.com/linux/ubuntu/gpg -o /etc/apt/keyrings/docker.asc
sudo chmod a+r /etc/apt/keyrings/docker.asc

# Add the repository to Apt sources:
echo \
  "deb [arch=$(dpkg --print-architecture) signed-by=/etc/apt/keyrings/docker.asc] https://download.docker.com/linux/ubuntu \
    $(. /etc/os-release && echo "${UBUNTU_CODENAME:-$VERSION_CODENAME}") stable" | \
  sudo tee /etc/apt/sources.list.d/docker.list > /dev/null
sudo apt-get update
Get:1 https://download.docker.com/linux/ubuntu focal InRelease [57.7 kB]
Hit:2 https://cloud.r-project.org/bin/linux/ubuntu noble-cran40/ InRelease
Hit:3 https://download.docker.com/linux/ubuntu noble InRelease
Hit:4 https://packages.microsoft.com/repos/code stable InRelease
Hit:5 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:6 https://ppa.launchpadcontent.net/apt-fast/stable/ubuntu noble InRelease
Hit:7 https://dl.google.com/linux/chrome/deb stable InRelease
Hit:8 http://in.archive.ubuntu.com/ubuntu noble InRelease

```

- Install the Docker packages.

```

sudo apt-get install docker-ce docker-ce-cli containerd.io
docker-buildx-plugin docker-compose-plugin

```

```

ajaykurni@victus:~$ sudo apt-get install docker-ce docker-ce-cli containerd.io docker-buildx-plugin docker-compose-plugin
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
docker-ce is already the newest version (5:28.5.1-1~ubuntu.24.04~noble).
docker-ce-cli is already the newest version (5:28.5.1-1~ubuntu.24.04~noble).
containerd.io is already the newest version (1.7.28-1~ubuntu.24.04~noble).
docker-buildx-plugin is already the newest version (0.29.1-1~ubuntu.24.04~noble).
docker-compose-plugin is already the newest version (2.40.2-1~ubuntu.24.04~noble).
The following packages were automatically installed and are no longer required:
  libclang-18-dev libclang-dev libgl1-amber-dri libglapi-mesa libllvm19 libnvidia-cfg1-550 libnvidia-common-550 libnvidia-co
libnvidia-extra-550 libnvidia-fbc1-550 libnvidia-gl-550 linux-headers-6.14.0-27-generic linux-hwe-6.14-headers-6.14.0-27 l
linux-modules-6.14.0-27-generic linux-modules-extra-6.14.0-27-generic linux-modules-nvidia-550-6.14.0-27-generic linux-obj
linux-signatures-nvidia-6.14.0-27-generic linux-tools-6.14.0-27-generic nvidia-compute-utils-550 nvidia-firmware-550-550.1
xserver-xorg-video-nvidia-550
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 1 not upgraded.

```

- Check Docker installation and Docker version

`docker -v`

`sudo systemctl status docker`

```
ajaykurni@victus:~$ docker -v
Docker version 28.5.1, build e180ab8
ajaykurni@victus:~$ sudo systemctl status docker
● docker.service - Docker Application Container Engine
   Loaded: loaded (/usr/lib/systemd/system/docker.service; enabled; preset: enabled)
   Active: active (running) since Thu 2025-10-23 09:17:31 IST; 3h 27min ago
 TriggeredBy: ● docker.socket
    Docs: https://docs.docker.com
   Main PID: 3244 (dockerd)
     Tasks: 17
    Memory: 97.1M (peak: 100.6M)
       CPU: 1.185s
    CGroup: /system.slice/docker.service
            └─3244 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock

Oct 23 09:17:31 victus dockerd[3244]: time="2025-10-23T09:17:31.085501367+05:30" level=info msg="Creating a
Oct 23 09:17:31 victus dockerd[3244]: time="2025-10-23T09:17:31.124044106+05:30" level=info msg="[graphdriv
Oct 23 09:17:31 victus dockerd[3244]: time="2025-10-23T09:17:31.125135249+05:30" level=info msg="Loading co
Oct 23 09:17:31 victus dockerd[3244]: time="2025-10-23T09:17:31.508188167+05:30" level=info msg="Loading co
Oct 23 09:17:31 victus dockerd[3244]: time="2025-10-23T09:17:31.531723762+05:30" level=info msg="Docker dae
Oct 23 09:17:31 victus dockerd[3244]: time="2025-10-23T09:17:31.531849197+05:30" level=info msg="Initializi
Oct 23 09:17:31 victus dockerd[3244]: time="2025-10-23T09:17:31.537325344+05:30" level=info msg="Completed
Oct 23 09:17:31 victus dockerd[3244]: time="2025-10-23T09:17:31.541657253+05:30" level=info msg="Daemon has
Oct 23 09:17:31 victus dockerd[3244]: time="2025-10-23T09:17:31.541691306+05:30" level=info msg="API listen
Oct 23 09:17:31 victus systemd[1]: Started docker.service - Docker Application Container Engine.
lines 1-22/22 (END)
```

- Verify that the installation is successful by running the **hello-world** image:

`sudo docker run hello-world`

```
ajaykurni@victus:~$ sudo docker run hello-world
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
17eec7bbc9d7: Pull complete
Digest: sha256:6dc565aa630927052111f823c303948cf83670a3903ffa3849f1488ab517f891
Status: Downloaded newer image for hello-world:latest
```

Hello from Docker!

This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:

1. The Docker client contacted the Docker daemon.
2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
(amd64)
3. The Docker daemon created a new container from that image which runs the executable that produces the output you are currently reading.
4. The Docker daemon streamed that output to the Docker client, which sent it to your terminal.

To try something more ambitious, you can run an Ubuntu container with:

```
$ docker run -it ubuntu bash
```

Share images, automate workflows, and more with a free Docker ID:

<https://hub.docker.com/>

For more examples and ideas, visit:

<https://docs.docker.com/get-started/>