

LAB1

1. adding a new user in the ubuntu system

- `sudo adduser 1rv24mc020_awais --allow-bad-names`

```
awais@awais-Lenovo-ideapad:~$ sudo adduser 1rv24mc020_awais --allow-bad-names
info: Allowing use of questionable username.
info: Adding user `1rv24mc020_awais' ...
info: Selecting UID/GID from range 1000 to 59999 ...
info: Adding new group `1rv24mc020_awais' (1002) ...
info: Adding new user `1rv24mc020_awais' (1002) with group `1rv24mc020_awais (1002)' ...
info: Creating home directory `/home/1rv24mc020_awais' ...
info: Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for 1rv24mc020_awais
Enter the new value, or press ENTER for the default
    Full Name []: awaisahmed
    Room Number []: 2
    Work Phone []:
    Home Phone []:
    Other []:
Is the information correct? [Y/n] Y
info: Adding new user `1rv24mc020_awais' to supplemental / extra groups `users' ...
info: Adding user `1rv24mc020_awais' to group `users' ...
awais@awais-Lenovo-ideapad:~$ sudo usermod -aG sudo 1rv24mc020_awais
```

2. switching to the new user

- `su -username`

```
awais@awais-Lenovo-ideapad:~$ su - 1rv24mc020_awais
Password:
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.
```

3. installing Docker

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
```

```
Use 'sudo apt autoremove' to remove them.  
  
Upgrading:  
  docker-ce-rootless-extras  
  
Installing:  
  containerd.io  docker-buildx-plugin  docker-ce  docker-ce-cli  docker-compose-plugin  
  
Suggested packages:  
  cgroupfs-mount | cgroup-lite  docker-model-plugin  
  
REMOVING:  
  containerd  docker.io  runc  
  
Summary:  
  Upgrading: 1, Installing: 5, Removing: 3, Not Upgrading: 184  
  Download size: 105 MB  
  Space needed: 144 MB / 121 GB available  
  
Get:1 https://download.docker.com/linux/ubuntu plucky/stable amd64 containerd.io amd64 1.7.28-1~ubuntu.25.04~plucky [31.9 MB]  
22% [1 containerd.io 29.4 MB/31.9 MB 92%] 2,732 kB/s 27s
```

5. Docker run without using sudo

- docker run hello-world

```
1rv24mc020_await@await-Lenovo-ideapad:~$ docker run hello-world

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/

1rv24mc020_await@await-Lenovo-ideapad:~$
```

5. Docker run with sudo command

- `sudo docker run hello-world`

```
1rv24mc020_await@await-Lenovo-ideapad:~$ sudo docker run hello-world

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/

1rv24mc020_await@await-Lenovo-ideapad:~$
```