Docker Setup Documentation on Ubuntu

1. Verify Current User

Before proceeding with any installation, it's important to confirm which user account is currently active.
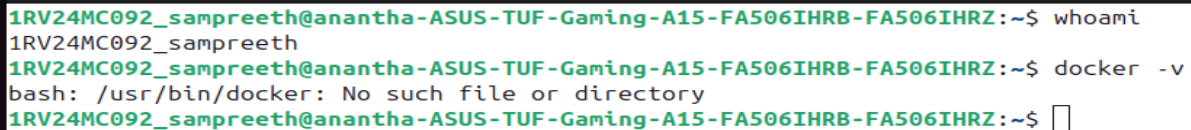
Command:

whoami

Purpose:
 This command displays the username of the current user logged into the system.

Expected Output:
 The username of the active user is shown, e.g., `username`.

Screenshot:

```
1RV24MC092_sampreeth@anantha-ASUS-TUF-Gaming-A15-FA506IHRB-FA506IHRZ:~$ whoami
1RV24MC092_sampreeth
1RV24MC092_sampreeth@anantha-ASUS-TUF-Gaming-A15-FA506IHRB-FA506IHRZ:~$ docker -v
bash: /usr/bin/docker: No such file or directory
1RV24MC092_sampreeth@anantha-ASUS-TUF-Gaming-A15-FA506IHRB-FA506IHRZ:~$ 
```

2. Install Latest Version of Docker from Official Repository

This section outlines the process of installing Docker using the official Docker repository on Ubuntu.

Steps:

1. **Update package index**

sudo apt-get update

2. **Install prerequisite packages**

sudo apt-get install apt-transport-https ca-certificates curl software-properties-common

3. **Add Docker's official GPG key**

curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o /usr/share/keyrings/docker-archive-keyring.gpg

5. **Set up the stable Docker repository**

echo "deb [arch=amd64 signed-by=/usr/share/keyrings/docker-archive-keyring.gpg] https://download.docker.com/linux/ubuntu $(lsb_release -cs) stable" | sudo tee /etc/apt/sources.list.d/docker.list > /dev/null

6. **Update package index again**

sudo apt-get update

7. **Install Docker Engine**

sudo apt-get install docker-ce docker-ce-cli containerd.io

Screenshot:

```
1RV24MC092_sampreeth@anantha-ASUS-TUF-Gaming-A15-FA506IHRB-FA506IHRZ:~$ # 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
Hit:1 https://download.docker.com/linux/ubuntu noble InRelease
Hit:2 https://packages.microsoft.com/repos/code stable InRelease
Hit:3 https://dl.google.com/linux/chrome/deb stable InRelease
Hit:4 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:5 http://in.archive.ubuntu.com/ubuntu noble InRelease
Hit:6 http://in.archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:7 http://in.archive.ubuntu.com/ubuntu noble-backports InRelease
Reading package lists... Done
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
ca-certificates is already the newest version (20240203).
curl is already the newest version (8.5.0-2ubuntu10.6).
0 upgraded, 0 newly installed, 0 to remove and 353 not upgraded.
Hit:1 https://packages.microsoft.com/repos/code stable InRelease
Hit:2 http://in.archive.ubuntu.com/ubuntu noble InRelease
Hit:3 https://dl.google.com/linux/chrome/deb stable InRelease
Hit:4 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:5 http://in.archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:6 http://in.archive.ubuntu.com/ubuntu noble-backports InRelease
Hit:7 https://download.docker.com/linux/ubuntu noble InRelease
Reading package lists... Done
```

```
1RV24MC092_sampreeth@anantha-ASUS-TUF-Gaming-A15-FA506IHRB-FA506IHRZ:~$ 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
The following additional packages will be installed:
  docker-ce-rootless-extras libslirp0 pigz slirp4netns
Suggested packages:
  cgroupfs-mount | cgroup-lite docker-model-plugin
The following NEW packages will be installed:
  containerd.io docker-ce docker-ce-cli docker-ce-rootless-extras libslirp0 pigz slirp4netns
The following packages will be upgraded:
  docker-buildx-plugin docker-compose-plugin
2 upgraded, 7 newly installed, 0 to remove and 351 not upgraded.
Need to get 105 MB of archives.
After this operation, 284 MB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 https://download.docker.com/linux/ubuntu noble/stable amd64 containerd.io amd64 1.7.28-1~ubuntu.24.04~noble [31.9 MB]
Get:2 http://in.archive.ubuntu.com/ubuntu noble/universe amd64 pigz amd64 2.8-1 [65.6 kB]
Get:3 http://in.archive.ubuntu.com/ubuntu noble/main amd64 libslirp0 amd64 4.7.0-1ubuntu3 [63.8 kB]
Get:4 http://in.archive.ubuntu.com/ubuntu noble/universe amd64 slirp4netns amd64 1.2.1-1build2 [34.9 kB]
Get:5 https://download.docker.com/linux/ubuntu noble/stable amd64 docker-ce-cli amd64 5:28.5.1-1~ubuntu.24.04~noble [16.5 MB]
Get:6 https://download.docker.com/linux/ubuntu noble/stable amd64 docker-ce amd64 5:28.5.1-1~ubuntu.24.04~noble [19.7 MB]
Get:7 https://download.docker.com/linux/ubuntu noble/stable amd64 docker-buildx-plugin amd64 0.29.1-1~ubuntu.24.04~noble [15.9 MB]
Get:8 https://download.docker.com/linux/ubuntu noble/stable amd64 docker-ce-rootless-extras amd64 5:28.5.1-1~ubuntu.24.04~noble [6,481 kB]
Get:9 https://download.docker.com/linux/ubuntu noble/stable amd64 docker-compose-plugin amd64 2.40.0-1~ubuntu.24.04~noble [14.2 MB]
Fetched 105 MB in 54s (1,936 kB/s)
Selecting previously unselected package containerd.io.
(Reading database ... 294820 files and directories currently installed.)
Preparing to unpack .../0-containerd.io_1.7.28-1~ubuntu.24.04~noble_amd64.deb ...
Unpacking containerd.io (1.7.28-1~ubuntu.24.04~noble) ...
Selecting previously unselected package docker-ce-cli.
Preparing to unpack .../1-docker-ce-cli_5%3a28.5.1-1~ubuntu.24.04~noble_amd64.deb ...
Unpacking docker-ce-cli (5:28.5.1-1~ubuntu.24.04~noble) ...
Selecting previously unselected package docker-ce.
Preparing to unpack .../2-docker-ce_5%3a28.5.1-1~ubuntu.24.04~noble_amd64.deb ...
Unpacking docker-ce (5:28.5.1-1~ubuntu.24.04~noble) ...
Selecting previously unselected package pigz.
Preparing to unpack .../3-pigz_2.8-1_amd64.deb ...
Unpacking pigz (2.8-1) ...
Preparing to unpack .../4-docker-buildx-plugin_0.29.1-1~ubuntu.24.04~noble_amd64.deb ...
Unpacking docker-buildx-plugin (0.29.1-1~ubuntu.24.04~noble) over (0.25.0-1~ubuntu.24.04~noble) ...
Selecting previously unselected package docker-ce-rootless-extras.
Preparing to unpack .../5-docker-ce-rootless-extras_5%3a28.5.1-1~ubuntu.24.04~noble_amd64.deb ...
Unpacking docker-ce-rootless-extras (5:28.5.1-1~ubuntu.24.04~noble) ...
Preparing to unpack .../6-docker-compose-plugin_2.40.0-1~ubuntu.24.04~noble_amd64.deb ...
```

3. Verify Docker Installation and Check Status

After installation, verify Docker is installed correctly and check its status.

Check Docker Version

sudo docker --version

Purpose:
 Confirms the installed Docker version.

Expected Output:
 Displays the installed Docker version, e.g., `Docker version 20.10.x, build abcdefg`.

Check Docker Service Status

sudo systemctl status docker

Purpose:
 Ensures the Docker service is active and running.

Expected Output:
 Shows Docker service status as `active (running)`.

Screenshot:

```
1RV24MC092_sampreeth@anantha-ASUS-TUF-Gaming-A15-FA506IHRB-FA506IHRZ:~$ 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 Wed 2025-10-15 20:43:47 IST; 24s ago
TriggeredBy: ● docker.socket
       Docs: https://docs.docker.com
   Main PID: 15693 (dockerd)
      Tasks: 17
     Memory: 22.4M (peak: 24.8M)
        CPU: 575ms
     CGroup: /system.slice/docker.service
             └─15693 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock

Oct 15 20:43:46 anantha-ASUS-TUF-Gaming-A15-FA506IHRB-FA506IHRZ dockerd[15693]: time="2025-10-15T20:43:46.869518926+05:30" level=info msg="detected 127.0.0.53 nameserver, assuming sys
Oct 15 20:43:46 anantha-ASUS-TUF-Gaming-A15-FA506IHRB-FA506IHRZ dockerd[15693]: time="2025-10-15T20:43:46.884823852+05:30" level=info msg="Creating a containerd client" address=/run/c
Oct 15 20:43:46 anantha-ASUS-TUF-Gaming-A15-FA506IHRB-FA506IHRZ dockerd[15693]: time="2025-10-15T20:43:46.921693349+05:30" level=info msg="Loading containers: start."
Oct 15 20:43:47 anantha-ASUS-TUF-Gaming-A15-FA506IHRB-FA506IHRZ dockerd[15693]: time="2025-10-15T20:43:47.860440889+05:30" level=info msg="Loading containers: done."
Oct 15 20:43:47 anantha-ASUS-TUF-Gaming-A15-FA506IHRB-FA506IHRZ dockerd[15693]: time="2025-10-15T20:43:47.904406131+05:30" level=info msg="Docker daemon" commit=f8215cc containerd-sna
Oct 15 20:43:47 anantha-ASUS-TUF-Gaming-A15-FA506IHRB-FA506IHRZ dockerd[15693]: time="2025-10-15T20:43:47.904618061+05:30" level=info msg="Initializing buildkit"
Oct 15 20:43:47 anantha-ASUS-TUF-Gaming-A15-FA506IHRB-FA506IHRZ dockerd[15693]: time="2025-10-15T20:43:47.965946446+05:30" level=info msg="Completed buildkit initialization"
Oct 15 20:43:47 anantha-ASUS-TUF-Gaming-A15-FA506IHRB-FA506IHRZ dockerd[15693]: time="2025-10-15T20:43:47.975866161+05:30" level=info msg="Daemon has completed initialization"
Oct 15 20:43:47 anantha-ASUS-TUF-Gaming-A15-FA506IHRB-FA506IHRZ dockerd[15693]: time="2025-10-15T20:43:47.976051720+05:30" level=info msg="API listen on /run/docker.sock"
Oct 15 20:43:47 anantha-ASUS-TUF-Gaming-A15-FA506IHRB-FA506IHRZ systemd[1]: Started docker.service - Docker Application Container Engine.

1RV24MC092_sampreeth@anantha-ASUS-TUF-Gaming-A15-FA506IHRB-FA506IHRZ:~$ docker -v
Docker version 28.5.1, build e180ab8
1RV24MC092_sampreeth@anantha-ASUS-TUF-Gaming-A15-FA506IHRB-FA506IHRZ:~$ 
```

Notes

- To run Docker commands without sudo, add your user to the Docker group:

sudo usermod -aG docker $USER

- Log out and log back in to apply group changes.