DOCKER INSTLLATION

🛠️ 1. Update the System

sudo apt update

sudo apt upgrade -y

✅ This updates your system package list and installed packages.

🛠️ 2. Install Required Packages for Repository Management

sudo apt install ca-certificates curl gnupg lsb-release -y

✅ These packages are needed to securely add external repositories.

🛠️ 3. Create the keyrings directory for Docker

sudo mkdir -p /etc/apt/keyrings

✅ A place where Docker GPG key will be stored.

🛠️ 4. Add Docker’s Official GPG Key

curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o /etc/apt/keyrings/docker.gpg

✅ This ensures only authentic Docker packages are installed.

🛠️ 5. Set up the Docker Repository

```
echo \
  "deb [arch=$(dpkg --print-architecture) signed-by=/etc/apt/keyrings/docker.gpg] https://download.docker.com/linux/ubuntu \
  $(lsb_release -cs) stable" | sudo tee /etc/apt/sources.list.d/docker.list > /dev/null
```

✅ This adds the official Docker repository to your system.

🛠️ 6. Update apt Package List (Now including Docker repo)

```
sudo apt update
```

✅ Now you will see Docker's repository is included.

✅ You should see a line like:

Hit: https://download.docker.com/linux/ubuntu focal/stable amd64 Packages

(if your Ubuntu is 20.04, or jammy for 22.04, etc.)

🛠️ 7. Install Docker Engine and Docker Compose Plugin

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

✅ This installs:

- **Docker Engine**
- **Docker CLI**
- **Docker BuildX plugin**
- **Docker Compose V2 plugin**

✅ No need to install docker-compose separately!

🛠️ 8. Start and Enable Docker Service (if not already running)

sudo systemctl start docker

sudo systemctl enable docker

✅ Starts Docker service and enables it on boot.

🛠️ 9. (Optional but Recommended) Allow Running Docker Without Sudo

Add your user to the **docker group**:

sudo usermod -aG docker $USER

✅ Then **logout** and **log back in** (or restart terminal) to apply group change.

✅ Now you can run docker commands without typing sudo every time.

🚀 10. Test Docker and Docker Compose Installation

✅ Check Docker version:

docker --version

Example output:

Docker version 24.0.5, build ced0996

✅ Check Docker Compose version:

docker compose version

Example output:

Docker Compose version v2.20.2

✅ Run a test container:

docker run hello-world

✅ You should see:

Hello from Docker!

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

🎯 Quick Copy-Paste Full Commands (One shot)

```
sudo apt update && sudo apt upgrade -y

sudo apt install ca-certificates curl gnupg lsb-release -y

sudo mkdir -p /etc/apt/keyrings

curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o /etc/apt/keyrings/docker.gpg

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

sudo apt update

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

sudo systemctl start docker

sudo systemctl enable docker

sudo usermod -aG docker $USER
```

✅ Important Final Notes:

- After usermod -aG docker $USER, you MUST logout/login to make group active.
- Use docker compose (with space), not docker-compose (dash).
- No manual pip install needed anymore.

🏆 **Final Summary:**

	Purpose
Install Packages	ca-certificates, curl, gnupg, lsb-release
Add GPG Key	Trust Docker repo
Add Repository	Official stable Docker repo
Update apt	Refresh repo list
Install Docker	Engine + CLI + Compose
Start/Enable Docker Service	Keep Docker running
Add to Docker Group	Run docker without sudo
Test Installation	Confirm with hello-world