**1. Install JDK 17**

sudo apt update

sudo apt install openjdk-17-jdk -y

java -version

👉 To set JDK 17 as default:

sudo update-alternatives --config java

**2. Install Eclipse IDE**

**🔸Method 1: Using Installer**

sudo snap install eclipse --classic

**🔸 Method 2: Manual Download**

cd ~/Downloads

wget https://ftp.osuosl.org/pub/eclipse/technology/epp/downloads/release/latest/eclipse-inst-jre-linux64.tar.gz

tar -xvzf eclipse-inst-jre-linux64.tar.gz

cd eclipse-installer

./eclipse-inst

Then follow GUI steps to install.

**3. Install Visual Studio Code**

sudo apt update

sudo apt install wget gpg -y

wget -qO- https://packages.microsoft.com/keys/microsoft.asc | gpg --dearmor > packages.microsoft.gpg

sudo install -o root -g root -m 644 packages.microsoft.gpg /usr/share/keyrings/

sudo sh -c 'echo "deb [arch=amd64 signed-by=/usr/share/keyrings/packages.microsoft.gpg] \

https://packages.microsoft.com/repos/vscode stable main" > /etc/apt/sources.list.d/vscode.list'

sudo apt update

sudo apt install code -y

**4. Install MySQL**

sudo apt update

sudo apt install mysql-server -y

sudo systemctl start mysql

sudo systemctl enable mysql

**🔸 Secure MySQL:**

sudo mysql\_secure\_installation

**🔸 Login to MySQL:**

sudo mysql -u root -p

**5. Install Docker**

sudo apt update

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

**🔸 Start & enable Docker:**

sudo systemctl enable docker

sudo systemctl start docker

sudo usermod -aG docker $USER

Logout and log back in to apply the Docker group permission.

**✅ 6. Install Kubernetes (Minikube + kubectl)**

**🔸 Install kubectl**

sudo apt update

sudo apt install -y apt-transport-https ca-certificates curl

sudo curl -fsSLo /usr/share/keyrings/kubernetes-archive-keyring.gpg \

https://packages.cloud.google.com/apt/doc/apt-key.gpg

echo "deb [signed-by=/usr/share/keyrings/kubernetes-archive-keyring.gpg] \

https://apt.kubernetes.io/ kubernetes-xenial main" | \

sudo tee /etc/apt/sources.list.d/kubernetes.list

sudo apt update

sudo apt install -y kubectl

**🔸 Install Minikube**

curl -LO https://storage.googleapis.com/minikube/releases/latest/minikube-linux-amd64

sudo install minikube-linux-amd64 /usr/local/bin/minikube

**🔸 Start Minikube**

minikube start --driver=docker

**7. Install Jenkins**

sudo apt update

sudo apt install fontconfig openjdk-17-jre -y

wget -q -O - https://pkg.jenkins.io/debian-stable/jenkins.io.key | \

sudo tee /usr/share/keyrings/jenkins-keyring.asc > /dev/null

echo deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc] \

https://pkg.jenkins.io/debian-stable binary/ | \

sudo tee /etc/apt/sources.list.d/jenkins.list > /dev/null

sudo apt update

sudo apt install jenkins -y

sudo systemctl start jenkins

sudo systemctl enable jenkins

**🔸 Access Jenkins**

sudo cat /var/lib/jenkins/secrets/initialAdminPassword

Then visit: <http://localhost:8080>

**8. Install Git & Setup GitHub Access**

sudo apt update

sudo apt install git -y

**🔸 Set Global Config**

git config --global user.name "Your Name"

git config --global user.email "your.email@example.com"

**🔸 Generate SSH Key for GitHub**

ssh-keygen -t ed25519 -C "your.email@example.com"

cat ~/.ssh/id\_ed25519.pub

Copy the key and add it to GitHub ➝ **Settings ➝ SSH and GPG Keys**

**Test Installations**

java -version

code --version

mysql --version

docker --version

kubectl version --client

minikube version

jenkins --version

git --version