DevOps

Day – 3

Assignment

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# Step 1: Update and Install Prerequisites

* Keeping your system up to date ensures you have the latest security patches and software versions.
* curl and wget are used for downloading files from the internet.
* apt-transport-https enables access to repositories over HTTPS. sudo apt update && sudo apt upgrade -y

sudo apt install -y curl wget apt-transport-https gnupg lsb-release  **Step 2: Install Git**

Git is a version control system used to manage your source code.

It allows you to collaborate, track changes, and maintain code versions.

sudo apt install -y git

git --version

git config --global user.name git config --global user.email **Step 3: Install Maven**

Apache Maven is a build automation tool used for Java projects.

It manages project dependencies, builds, and packaging.

# Step 4: Install Docker

**Add Docker GPG Key and Repository:**

curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg -dearmor -o /usr/share/keyrings/docker-archive-keyring.gpg echo "deb [arch=amd64 signed-by=/usr/share/keyrings/dockerarchive-keyring.gpg] https://download.docker.com/linux/ubuntu

$(lsb\_release -cs) stable" | sudo tee /etc/apt/sources.list.d/docker.list > /dev/null

# Step 5: Install Jenkins

Jenkins is a Continuous Integration/Continuous Deployment (CI/CD) tool.

It automates the build, test, and deployment process. Install Java (Required for Jenkins) sudo apt install -y openjdk-11-jdk java -version sudo apt update sudo apt install -y Jenkins sudo systemctl enable jenkins sudo systemctl start Jenkins

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

# Step 6: Install Minikube

Minikube allows you to run a local Kubernetes cluster.

It’s ideal for testing and development.

curl -LO

https://storage.googleapis.com/minikube/releases/latest/minikubelinux-amd64

sudo install minikube-linux-amd64 /usr/local/bin/minikube minikube start --driver=docker

# Step 7: Install kubectl

* kubectl is a command-line tool used to interact with Kubernetes clusters.
* You use it to manage and deploy applications.

Commands:

curl -LO "https://dl.k8s.io/release/$(curl -L -s

https://dl.k8s.io/release/stable.txt)/bin/linux/amd64/kubectl" sudo install kubectl /usr/local/bin/kubectl kubectl version –client

**Step 8: Create and Build a Maven Project** docker build -t my-app .

docker run -p 8080:8080 my-app



