# DevOps Steps for Ubuntu

\*\*Setup a Git Repository\*\*  
\*\*Install Jenkins\*\*  
\*\*Create a Jenkins Job\*\*  
\*\*Configure Jenkins\*\*  
\*\*Automate the Build\*\*  
\*\*Pipelines\*\*

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## Prerequisites

- Ubuntu machine (publicly available IP)

- Working GitHub account set up

## 1. Create a "Hello World" Java Application

Create a new directory:

mkdir hello-world-java  
cd hello-world-java

Create a Java file:

vim HelloWorld.java

Add the following code:

public class HelloWorld {   
 public static void main(String[] args) {   
 System.out.println("Hello, World!");   
 }   
}

Compile and run the code:

javac HelloWorld.java  
java HelloWorld

## 2. Initialize a Git Repository

Initialize Git:

git init

Stage and commit files:

git add .  
git commit -m "Initial commit"

## 3. Push to GitHub

Create a GitHub repository.

Add a remote:

git remote add origin <remote\_repository\_url>

Push to the remote:

git push -u origin main

## 4. Install Jenkins

Update packages:

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

Install OpenJDK:

sudo apt install openjdk-21-jdk -y  
java -version

Add Jenkins repository:

sudo wget -O /usr/share/keyrings/jenkins-keyring.asc https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key  
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

Install Jenkins:

sudo apt update -y  
sudo apt install jenkins -y

Start Jenkins:

sudo systemctl start jenkins  
sudo systemctl enable jenkins  
sudo systemctl status jenkins

## 5. Configure Jenkins

Access Jenkins via http://localhost:8080.

Unlock using the password from the specified file.

Install suggested plugins.

Create an admin user and save the configuration.

## 6. Create and Configure Jobs

Create a Freestyle project.

Configure source code management for Git.

Add build steps and triggers.

## 7. Create a Pipeline

Example pipelines include stages for:  
- Cloning  
- Building  
- Testing  
- Deploying

Example of a simple Jenkinsfile:

pipeline {   
 agent any   
 stages {   
 stage('Clone') {   
 steps { git branch: 'main', url: 'https://github.com/your-username/your-repo.git' }   
 }   
 stage('Build') {   
 steps { sh 'javac HelloWorld.java' }   
 }   
 stage('Deploy') {   
 steps { sh 'java HelloWorld' }   
 }   
 }   
}