# Installing NGINX using Jenkins

## Step 1: Install Jenkins

Ensure Jenkins is installed and running on your server. If Jenkins is not installed, install it using the following commands:

sudo apt update  
sudo apt install openjdk-11-jdk -y  
wget -q -O - https://pkg.jenkins.io/debian/jenkins.io-2023.key | sudo apt-key add -  
sudo sh -c 'echo deb http://pkg.jenkins.io/debian-stable binary/ > /etc/apt/sources.list.d/jenkins.list'  
sudo apt update  
sudo apt install jenkins -y  
sudo systemctl enable jenkins  
sudo systemctl start jenkins

## Step 2: Unlock Jenkins

1. Open Jenkins in your browser using http://localhost:8080.

2. Get the initial password using:

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

## Step 3: Create a New Jenkins Pipeline

1. Open Jenkins Dashboard → New Item → Pipeline.

2. Name it "Install NGINX".

3. Choose Pipeline and click OK.

## Step 4: Define the Pipeline Script

Add the following pipeline script:

pipeline {  
 agent any  
  
 stages {  
 stage('Update Repositories') {  
 steps {  
 sh '''  
 sudo apt-get clean  
 sudo apt-get update -y  
 '''  
 }  
 }  
 stage('Install NGINX') {  
 steps {  
 sh 'sudo apt-get install nginx -y'  
 }  
 }  
 stage('Start NGINX') {  
 steps {  
 sh '''  
 sudo systemctl start nginx  
 sudo systemctl enable nginx  
 '''  
 }  
 }  
 stage('Verify NGINX Status') {  
 steps {  
 sh 'sudo systemctl status nginx'  
 }  
 }  
 }  
}

## Step 5: Allow Jenkins to Use sudo Without a Password

1. Open the sudoers file:  
sudo visudo  
  
2. Add this line at the end:  
jenkins ALL=(ALL) NOPASSWD: ALL  
  
3. Save and exit (Ctrl + X → Y → Enter).

## Step 6: Fix Ubuntu Repository Issues

1. Open /etc/apt/sources.list file:  
sudo nano /etc/apt/sources.list  
  
2. Replace all instances of:  
http://in.archive.ubuntu.com/ubuntu  
http://security.ubuntu.com/ubuntu  
  
➡️ With:  
http://old-releases.ubuntu.com/ubuntu  
  
3. Save and exit.

## Step 7: Fix Missing GPG Key

Add the missing GPG key using:  
sudo apt-key adv --keyserver keyserver.ubuntu.com --recv-keys 32EE5355A6BC6E42

## Step 8: Build and Verify

1. Restart Jenkins:  
sudo systemctl restart jenkins  
  
2. Build the pipeline from the Jenkins dashboard.  
  
3. Test NGINX:  
http://localhost