

## Overview

This guide provides step-by-step instructions to set up a Jenkins Continuous Integration (CI) pipeline for a Maven-based Java project on a Windows system. The pipeline builds the project and deploys the artifact using Ansible via Windows Subsystem for Linux (WSL).

## Prerequisites

Ensure the following tools and environments are installed and configured on your Windows system:- Jenkins (Installed on Windows)- Maven- Java JDK- Git- WSL (Windows Subsystem for Linux)- Ubuntu (Installable from Microsoft Store)

## Step-by-Step Instructions

### Step 1: Install Jenkins on Windows

1. Download Jenkins Installer: <https://www.jenkins.io/download/>
2. Install Jenkins and start the Jenkins service.
3. Access Jenkins at <http://localhost:8080>
4. Install suggested plugins.
5. Install Git Plugin and Pipeline Plugin from Manage Plugins

### Step 2: Create a Maven Project on GitHub

1. Create a new GitHub repository (e.g., maven-sample).
2. Include a valid pom.xml and Java file (App.java) in src/main/java/.
3. Push the project to GitHub. (or use this, <https://github.com/SauravSarkar-CodersArcade/MVN-ANS-JEN-CICD.git>)

### Step 3: Configure Jenkins Pipeline

1. Open Jenkins Dashboard and create a new Pipeline project.
2. In the Pipeline section, use Pipeline script with the following:

```

pipeline {
  agent any
  stages {
    stage('Checkout') {
      steps {
        git 'https://github.com/SauravSarkar-CodersArcade/MVN-ANS-JEN-CICD.git'
      }
    }
    stage('Build') {
      steps {
        bat 'mvn clean install'
      }
    }
    stage('Archive Artifact') {
      steps {
        archiveArtifacts artifacts: 'target/*.jar', fingerprint: true
      }
    }
  }
}

```

## Step 4: Install Ansible via WSL

1. Enable WSL using PowerShell:  
**wsl --install**
2. Enter username and password (something like username: admin, password: admin).
3. Install Ansible:  
**sudo apt update**  
**sudo apt install ansible -y**

## Step 5: Create Ansible Playbook

In WSL, create deploy.yml with the following:-

Using

**nano deploy.yml**

(inside the deploy.yml, use ctrl+x, then y, then enter to save changes)

**- name: Deploy Maven Artifact**

**hosts: localhost**

**tasks:**

**- name: Copy JAR to deploy directory**

**copy:**

**src: /mnt/c/ProgramData/Jenkins/.jenkins/jobs/ansible-test/builds/1/archive/target/MVN-ANSIBLE-JENKINS-CI-CD-1.0-SNAPSHOT.jar**

**dest: /home/your-ubuntu-username /deploy/**

(if u cannot find the src after building it in jenkins, look for it here,

**C:\ProgramData\Jenkins\.jenkins\jobs\ansible-test\builds )**

## Step 6: Run Ansible Deployment

Run the playbook in WSL: **ansible-playbook deploy.yml**

Final Outcome- Jenkins builds the Maven project.- The artifact is archived.- Ansible deploys the artifact via WSL.