**JENKINS ASSIGNMENT 2**

**1️. Automating a Python Application Build using Jenkins**

**Steps:**

1. **Install Jenkins** and required plugins (Pipeline, Git, Build Tools).
2. **Create a new Jenkins job** (Freestyle or Pipeline).
3. **Configure Jenkins to pull code from GitHub**.
4. **Install dependencies and run tests**.
5. **Build and archive artifacts**.

**Jenkins Pipeline Script (Jenkinsfile)**

groovy

CopyEdit

pipeline {

agent any

stages {

stage('Clone Repository') {

steps {

git 'https://github.com/your-repo/python-app.git'

}

}

stage('Install Dependencies') {

steps {

sh 'pip install -r requirements.txt'

}

}

stage('Run Tests') {

steps {

sh 'pytest tests/'

}

}

stage('Build Artifact') {

steps {

sh 'python setup.py sdist'

}

}

stage('Archive Artifact') {

steps {

archiveArtifacts artifacts: 'dist/\*.tar.gz', fingerprint: true

}

}

}

}

**Solution:**

* Ensures every push to GitHub triggers an automated build.
* Runs tests to catch issues early.
* Stores build artifacts for deployment.