

JENKINS ASSIGNMENT 2

1. 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
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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.

