

Jenkins Pipeline Configuration Document Example

1. Overview

This document specifies a sample configuration for a Jenkins Pipeline using a declarative `Jenkinsfile`. It describes the pipeline stages, tools, and key parameters used for CI/CD automation.

2. Pipeline Structure

```
pipeline {
    agent any
    environment {
        BUILD_ENV = 'production'
    }
    tools {
        maven 'Maven 3.8.1'
        jdk 'JDK11'
    }
    stages {
        stage('Checkout') {
            steps {
                git url: 'https://github.com/example/repository.git', branch: 'main'
            }
        }
        stage('Build') {
            steps {
                sh 'mvn clean package'
            }
        }
        stage('Test') {
            steps {
                sh 'mvn test'
            }
            post {
                always {
                    junit 'target/surefire-reports/*.xml'
                }
            }
        }
        stage('Deploy') {
            when {
                branch 'main'
            }
            steps {
                sh './deploy.sh'
            }
        }
    }
    post {
        success {
            echo 'Pipeline completed successfully.'
        }
        failure {
            echo 'Pipeline failed.'
        }
    }
}
```

3. Pipeline Parameters

Parameter	Type	Description	Default
ENVIRONMENT	String	Deployment environment (dev, staging, production)	production
BRANCH	String	Git branch to build	main

4. Stage Descriptions

- **Checkout:** Retrieves source code from the repository.
- **Build:** Compiles the application using Maven.
- **Test:** Executes unit tests and collects test reports.
- **Deploy:** Deploys the application if running on the `main` branch.

5. Tools & Environment

- **Maven:** 3.8.1
- **JDK:** 11
- **Environment Variable:** `BUILD_ENV` set to `production`

6. Notifications

- Sends status messages on pipeline success or failure via `echo`.