

# Jenkins Mastery – Day 3 Documentation

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## 1. Objective of Day 3

Enhance the existing Jenkins pipeline by adding distinct Build and Test stages, generating output files as artifacts, and configuring Jenkins to archive these artifacts automatically after each run.

## 2. Project Structure (Local)

Project Folder: D:\Projects\jenkins-sample-pipeline

Key files:

- build.sh
- test.sh
- Jenkinsfile

## 3. build.sh Content

The build.sh script simulates a build and generates a build artifact:

```
#!/bin/bash
echo "Building Project..."
echo "Build generated successfully at $(date)" > build-output.txt
```

## 4. test.sh Content

The test.sh script simulates tests and writes test results to a file:

```
#!/bin/bash
echo "Running Tests..."
echo "Test Case 1: PASS" > test-results.txt
echo "Test Case 2: PASS" >> test-results.txt
echo "All tests completed successfully!"
```

## 5. Final Jenkinsfile Used on Day 3

The Jenkinsfile defines Checkout, Build, and Test stages, and archives artifacts:

```
pipeline {
    agent any
    stages {
        stage('Checkout') {
            steps { checkout scm }
        }
        stage('Build') {
            steps {
                sh 'chmod +x build.sh'
                sh './build.sh'
            }
        }
    }
}
```

```

        }
    }
    stage('Test') {
        steps {
            sh 'chmod +x test.sh'
            sh './test.sh'
        }
    }
    post {
        always {
            archiveArtifacts artifacts: '*.txt', fingerprint: true
        }
    }
}

```

## 6. Git Commit & Push for Day 3

After updating scripts and Jenkinsfile, the following commands were executed:

```

git add .
git commit -m "feat: add build & test stages with artifacts"
git push

```

## 7. Jenkins Build Execution

The 'sample-pipeline-job' was triggered in Jenkins. Console output showed:

- Checkout from GitHub repository
- 'Building Project...' from build.sh
- 'Running Tests...' and 'All tests completed successfully!' from test.sh
- Archiving artifacts and recording fingerprints
- Final status: Finished: SUCCESS

## 8. Artifacts in Jenkins

On the build page in Jenkins, under the 'Artifacts' section, the following files are available for download:

- build-output.txt
- test-results.txt

## 9. Day 3 Completion Summary

- ✓ Added separate Build and Test stages to the pipeline.
- ✓ Simulated build and test processes using shell scripts.
- ✓ Generated and archived text artifacts for build and test results.
- ✓ Verified successful pipeline execution through Jenkins console output and artifacts.

Day 3 completes the transformation of a simple pipeline into a structured CI pipeline with build, test, and artifact management.