

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.