Multi-Branch Project

Project Overview

- Create a simple Java Maven project
- Version-control the project using Git with multiple branches.
- Set up Jenkins multi-branch pipeline for automated build and deployment.
- Utilize Jenkins environment variables in the Jenkinsfile.

Project Objectives

- Version-control using Git.
- Jenkins multi-branch pipeline setup.
- Environment variable management using Jenkinsfile.

Project Deliverables

1. Git Repository:

- Local Git repository initialized.
- o Branches: development, staging, and production.
- Repository pushed to remote Git server (e.g., GitHub, GitLab, Bitbucket)
- Initialized Github repository and created branches development, staging and production. Then pushed the reporsitory to the remote Git server.

```
einfochips@AHMLPT2484:-/multistage-pipeline-project$ git init
.Reinitialized existing Git repository in /home/einfochips/multistage-pipeline-project/.git/
reinfochips@AHMLPT2484:-/multistage-pipeline-project$ git add .
einfochips@AHMLPT2484:-/multistage-pipeline-project$ git commit -m "Initial commit"
[main (root-commit) 53fc30b] Initial commit
2 files changed, 20 insertions(+)
create mode 100644 pom.xml
create mode 100644 src/main/java/com/example/App.java
einfochips@AHMLPT2484:-/multistage-pipeline-project$ git branch development
einfochips@AHMLPT2484:-/multistage-pipeline-project$ git branch production
```

```
einfochips@AHMLPT2484:-/nultistage-pipeline-project's git checkout staging

switched to branch 'staging'

cinfochips@AHMLPT2484:-/nultistage-pipeline-project's ls

pon.xnl src

einfochips@AHMLPT2484:-/nultistage-pipeline-project's cd src/nain/java/com/example/

einfochips@AHMLPT2484:-/nultistage-pipeline-project's cd src/nain/java/com/example/

einfochips@AHMLPT2484:-/nultistage-pipeline-project/src/nain/java/com/examples cd ..

einfochips@AHMLPT2484:-/nultistage-pipeline-project/src/nain/java/com/examples cd ..

einfochips@AHMLPT2484:-/nultistage-pipeline-project/src/nain/java/com/examples cd ..

einfochips@AHMLPT2484:-/nultistage-pipeline-project/src/nain/java/com/examples cd ..

einfochips@AHMLPT2484:-/nultistage-pipeline-project/src/nain/java/com/example/App.java

einfochips@AHMLPT2484:-/nultistage-pipeline-project/src/nain/java/com/example/App.java

einfochips@AHMLPT2484:-/nultistage-pipeline-project/src/nain/java/com/example/App.java

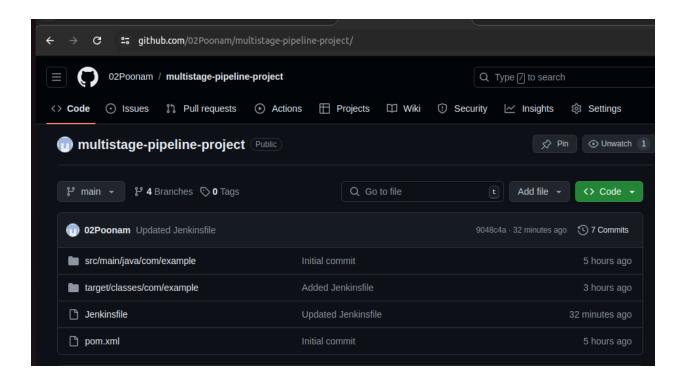
einfochips@AHMLPT2484:-/nultistage-pipeline-project/src/nain/java/com/example/App.java

einfochips@AHMLPT2484:-/nultistage-pipeline-project/src/nain/java/com/example/App.java

einfochips@AHMLPT2484:-/nultistage-pipeline-project/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain/src/nain
```

```
etnfochtps@AHMLPT2484:-/multistage-pipeline-projectS git add src/main/java/com/example/App.java
etnfochtps@AHMLPT2484:-/multistage-pipeline-projectS git commit -m "Update App.java in Production branch"
[production 1909e9e] Update App.java in Production branch
1 file changed, 1 insertion(*)
etnfochtps@AHMLPT2484:-/multistage-pipeline-projectS git push -u origin production
Username for 'https://github.com': ghp_771UJbGob65bJQgmcmfjxcyNN4pAzu4GUG3]
Password for 'https://github.com': ghp_771UJbGob65bJQgmcmfjxcyNN4pAzu4GUG3]
Password for 'https://ghp_771UJbGob65bJQgmcmfjxcyNN4pAzu4GUG3]
Password for 'https://ghp_771UJbGob65bJQgmcmfjxcyNN4pAzu4GUGG3]
Password for 'https://ghp_771UJbGob65bJQgmcmfjxcyNN4pAzu4GUGG3]
Password for 'https://ghp_771UJbGob65bJQgmcmfjxcyNN4pAzu4GUGGG]
Password for 'https://ghp_771UJbGob65bJQgmcmfjxcyNN4pAzu4GUGGG
```

Git Repository



2. Maven Project:

- Simple Java Maven project created (HelloWorld application).
- o pom.xml with dependencies and build configurations.
- App.java

```
GNU nano 6.2

package com.example;

public class App {
    public static void main(String[] args) {
        System.out.println("Hello, World!");
    }
}
```

pom.xml

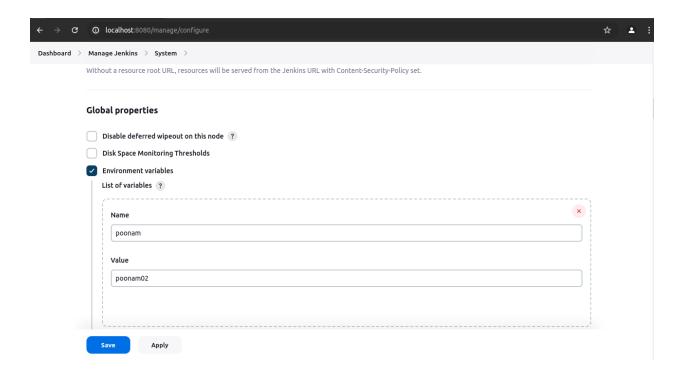
```
GNU nano 6.2

| Zyml version="1.0" encoding="UTF-8"?>
| Aproject xmlns="http://maven.apache.org/POM/4.0.0"
| xmlns:xsi="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/POM/4.0.0 http://maven.apache.org/POM/4.0.0/maven-4.0.0.xsd">
| xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/POM/4.0.0/maven-4.0.0.xsd">
| xmodelVersion>4.0.0<|modelVersion>
| xproyeride> yourday yourday
```

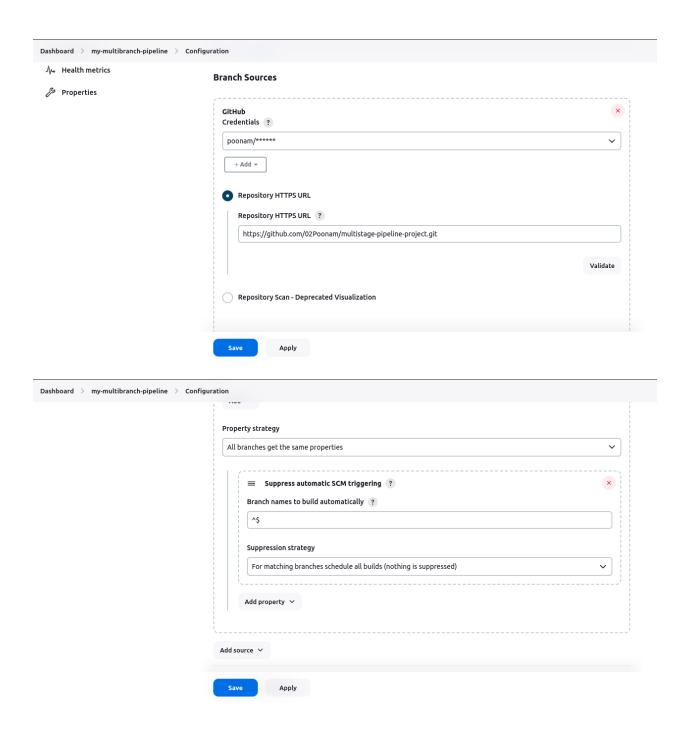
3. Jenkins Setup:

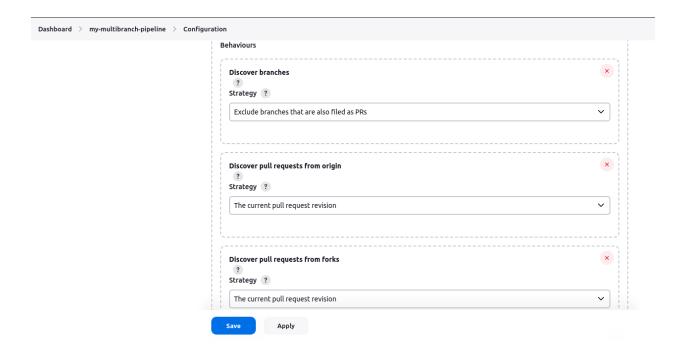
- Multi-branch pipeline job configured in Jenkins.
- Jenkinsfile defining build and deployment steps.
- Environment variables managed using Jenkins environment variable settings.

• Environment Variables settings

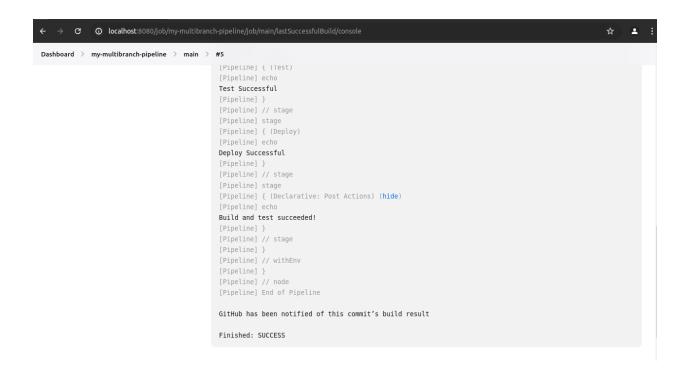


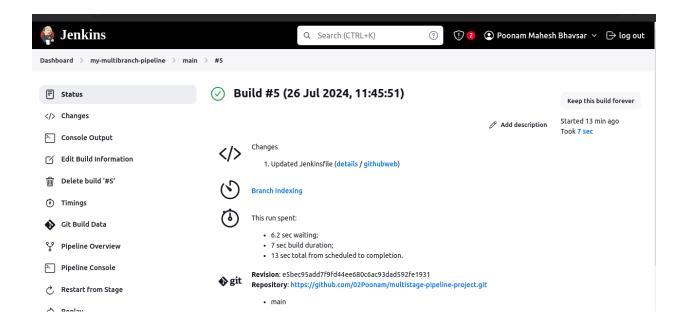
Multibranch pipeline job Configuration

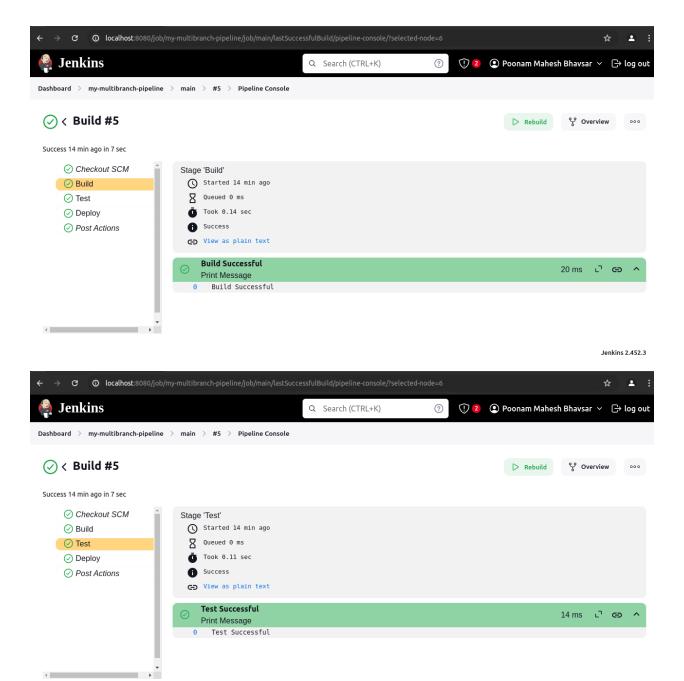




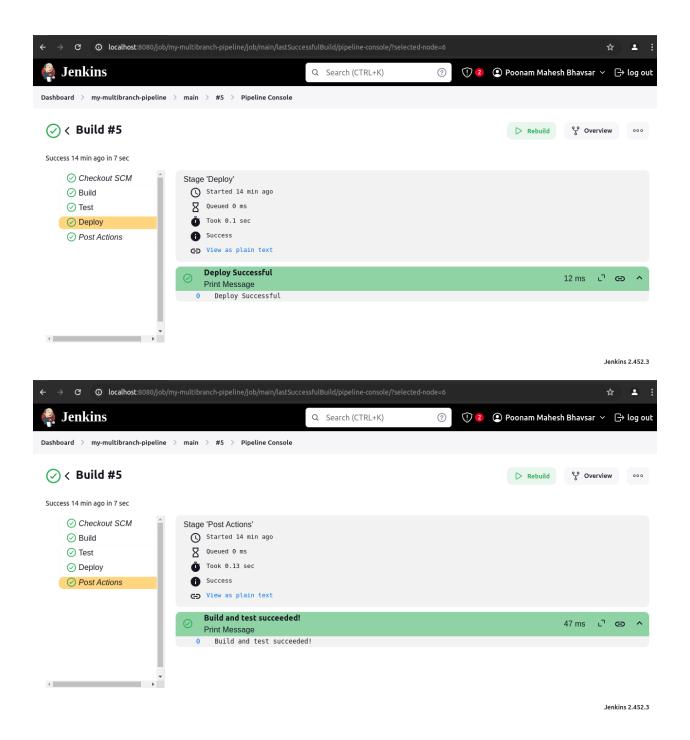
• Jenkinsfile - multistage-pipeline-project - Visual Studio Code Terminal Help A Jenkinsfile pipeline { agent any stages { stage('Build') { steps { echo 'Building...' stage('Test') { steps { 13 echo 'Testing...' stage('Deploy') { steps { echo 'Deploying...' post { echo 'Build and test succeeded!' failure { echo 'Build or test failed!'







Jenkins 2.452.3



So, the multibranch pipeline job is successfully built and tested.