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**REGISTER NUMBER:** 23MIS0159

**COURSE NAME:** Agile Development Process and DevOps Lab

**COURSE CODE:** ISWE406P

**SLOT:** L51+L52

**TASK 1: Jenkins Familiarization Objective:**

**Understand Jenkins UI and basic navigation**

**Tasks:**

**1. Open Jenkins Dashboard in browser**

**2. Identify:**

**o Dashboard**

**o Manage Jenkins**

**o New Item**

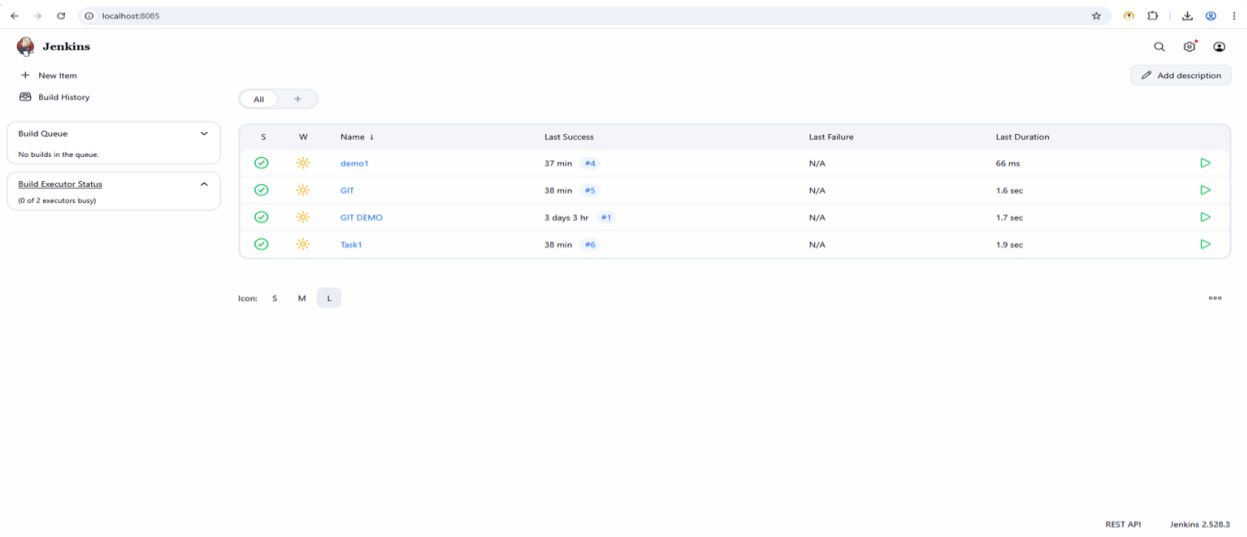
**o Build History**

**3. Check Jenkins version**

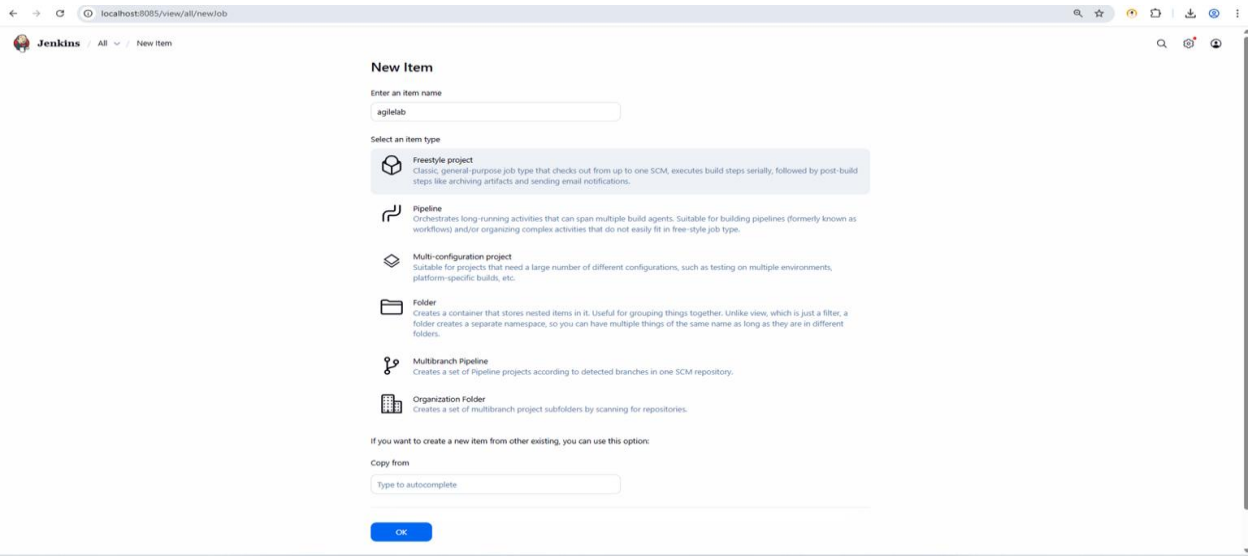
**Expected Output:**

**Screenshot or note of Jenkins version**

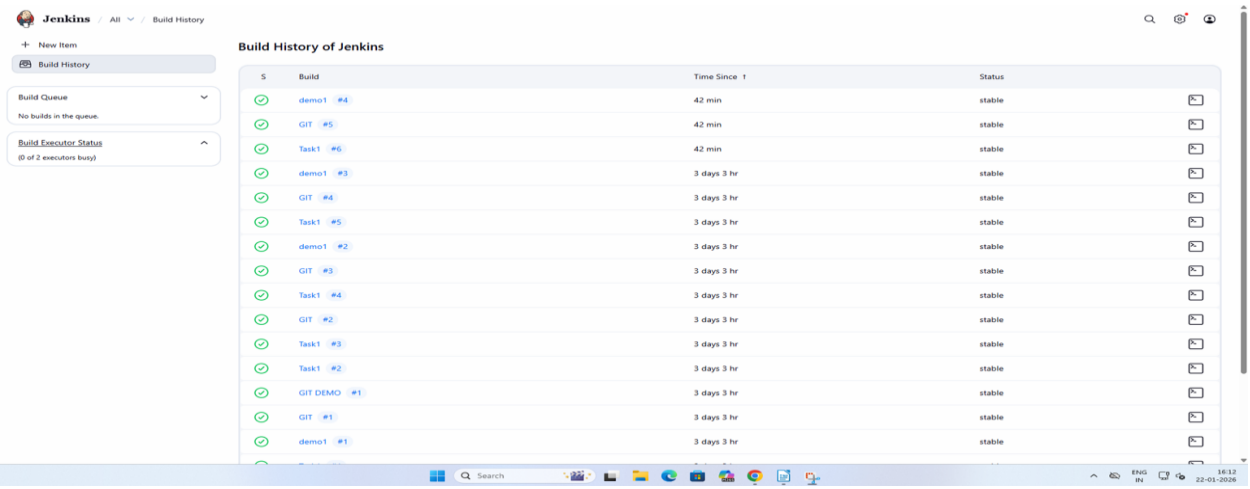
**DASHBOARD, Jenkins Version:**



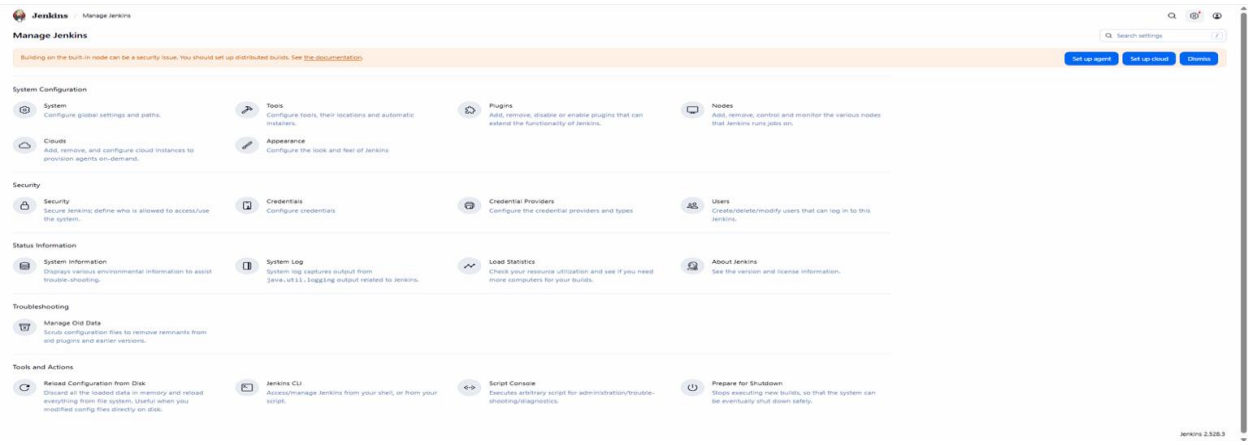
## NEWITEMS:




## Build History:




## MANAGE JENKINS:



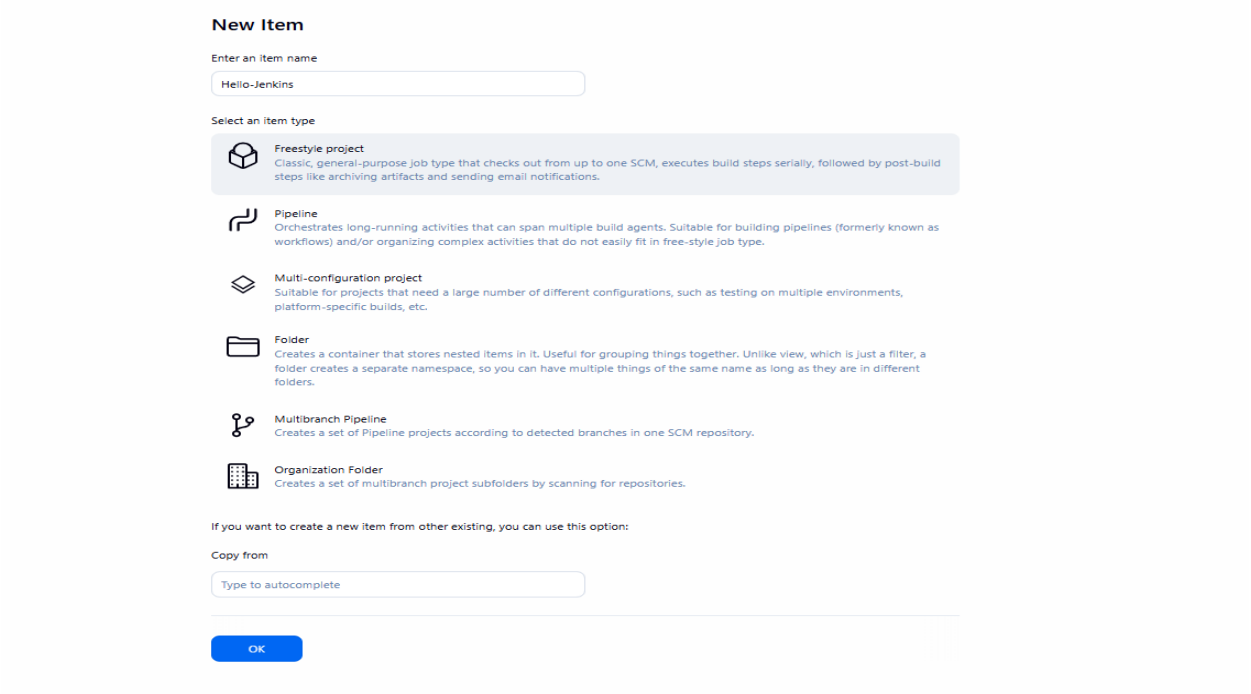
## TASK 2: Create First Freestyle Job

## Objective:

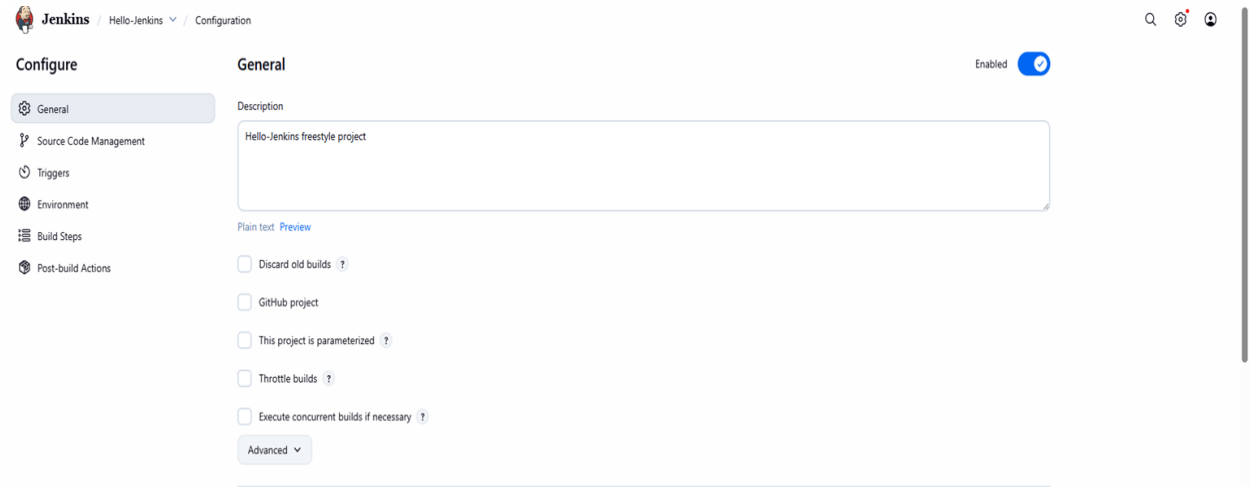
## Create and run a Jenkins job

## Tasks:

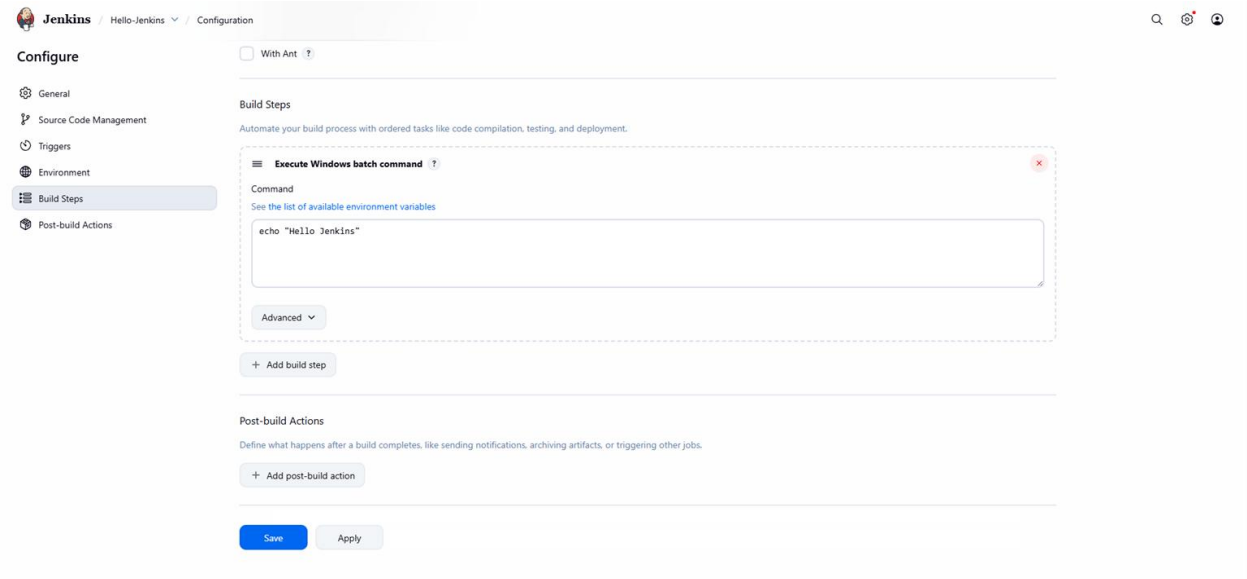
### 1. Create a Freestyle project named Hello-Jenkins




### 2. Add a description

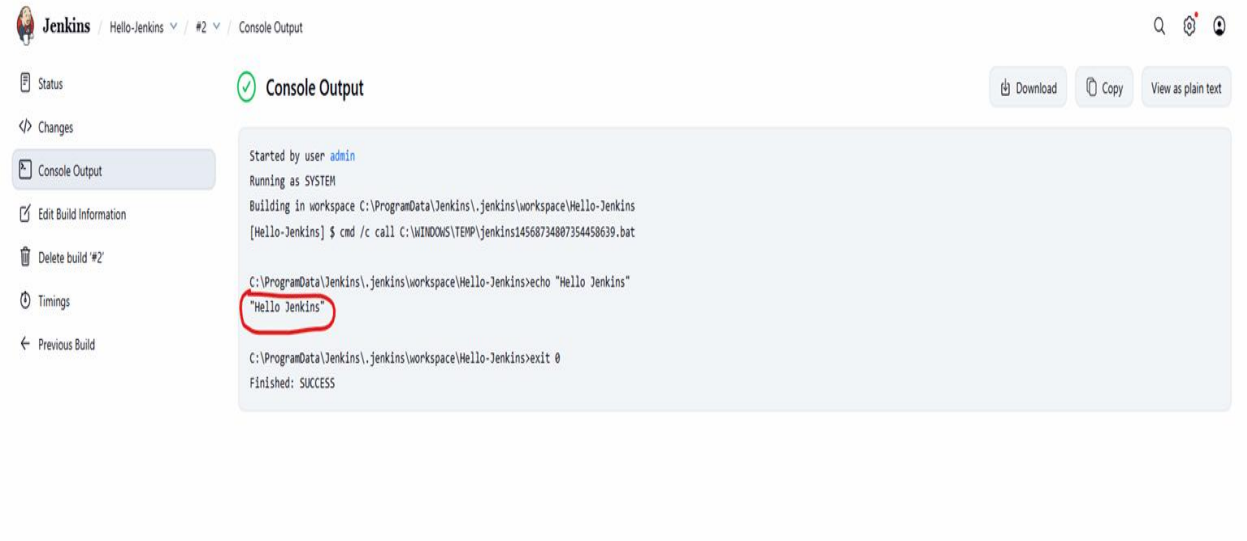


## 3. Add build step: o Execute shell / Windows batch command o Print "Hello Jenkins"




## 4. Build the job manually

## Expected Output: Console output showing message

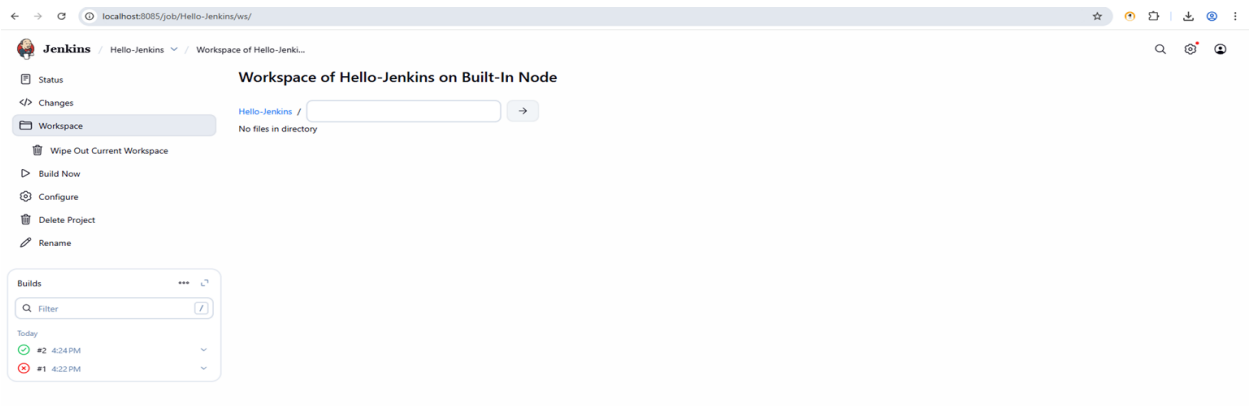


## TASK 3: Jenkins Workspace & Commands

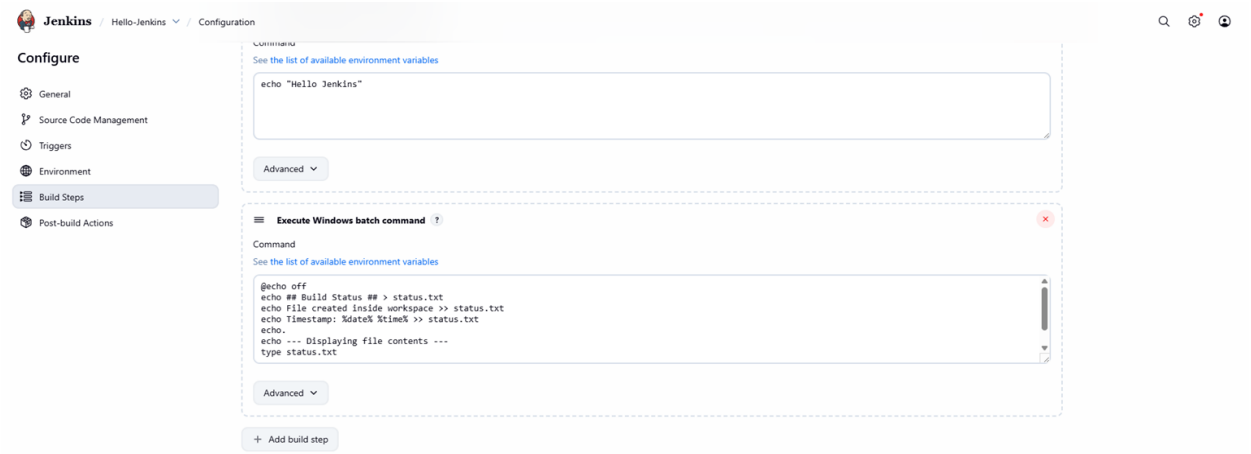
## Objective: Understand workspace usage

## Tasks:

### 1. Navigate to job workspace

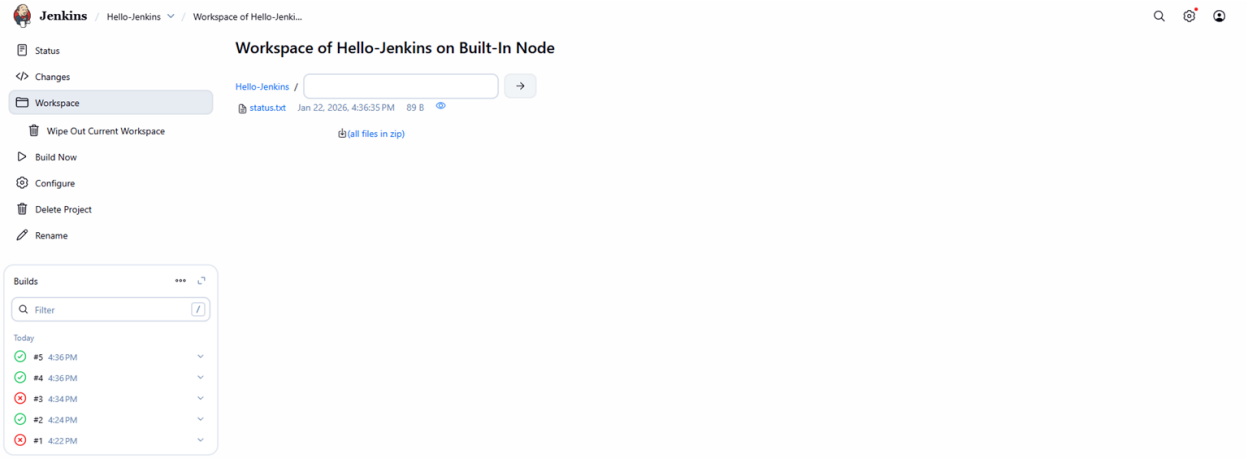



### 2. Create a text file using build step




### 3. Display file contents in console

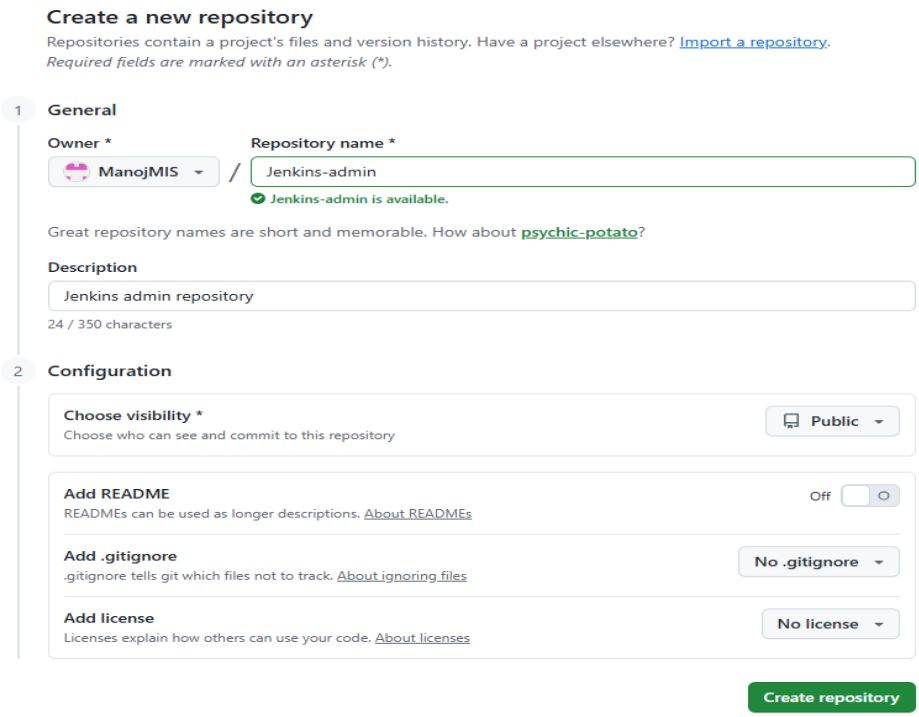
## Expected Output: File created inside workspace

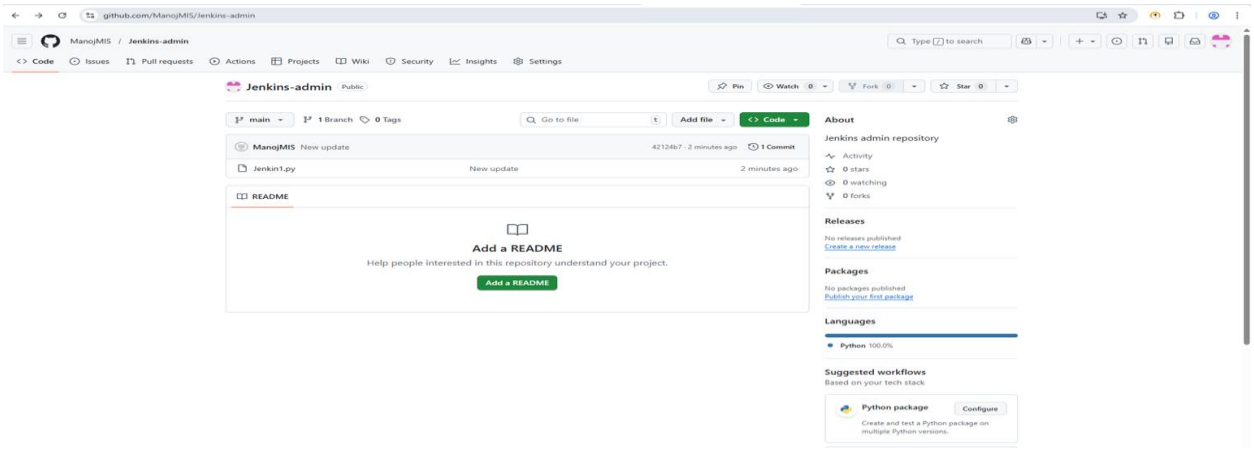



## TASK 4: Git Integration

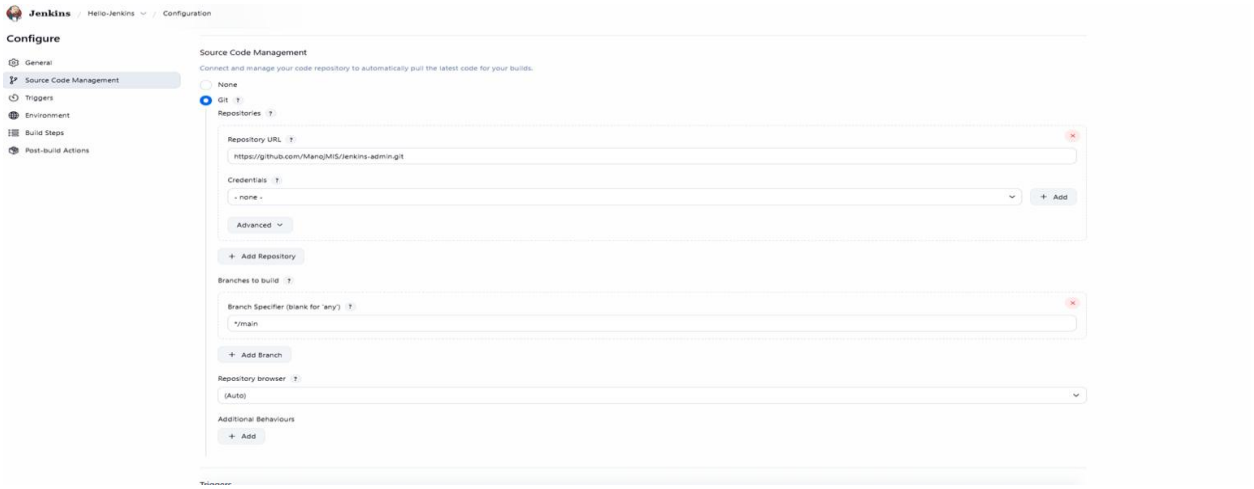
## Objective: Integrate Jenkins with GitHub

## Tasks: 1. Create a GitHub repository with sample code

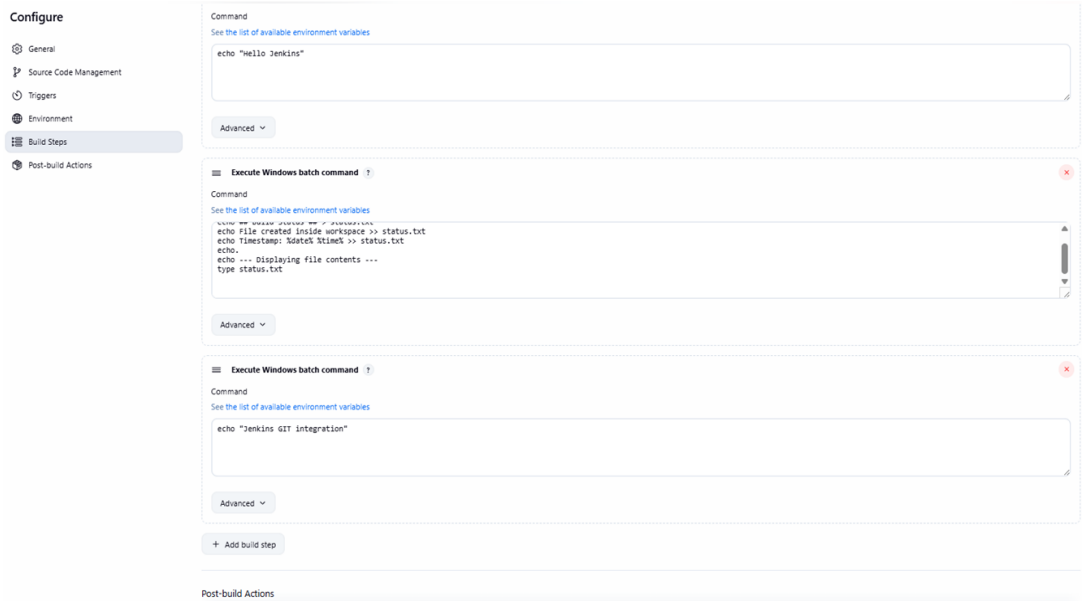





## 2. Configure Git in Jenkins

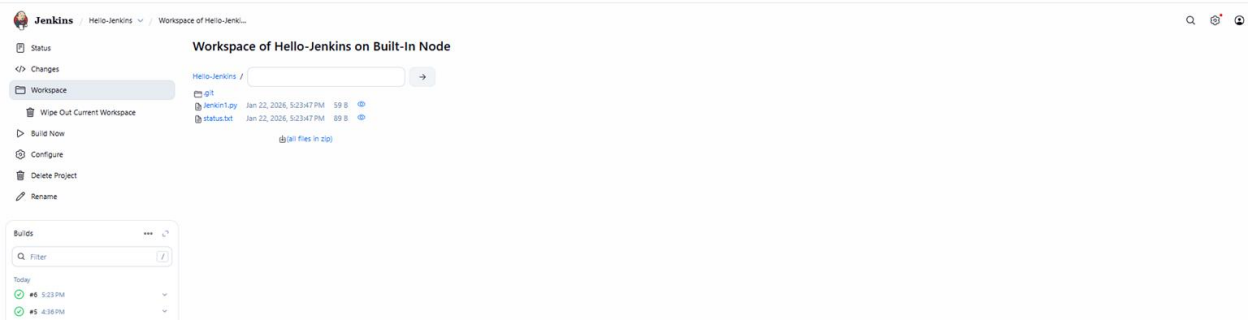



## 3. Add Git repository URL in job



**4. Build and verify code checkout**

**Expected Output: Source code visible in workspace**




**TASK 5: Poll SCM Trigger**

**Objective: Automatically trigger builds on code change**

**Tasks: 1. Enable Poll SCM**

**2. Set schedule: * * * * ***

**3. Modify GitHub file and commit**

**4. Observe automatic build Expected Output: • Build triggered without manual action**

**TASK 6: Parameterized Build**

**Objective: Use parameters in Jenkins job**

**Tasks: 1. Enable parameterized build**

**2. Add String parameter USERNAME**

**3. Print parameter value in build step Expected Output: • Console output showing parameter value**

**TASK 7: Java Build Using Jenkins**

**Objective: Compile Java program using Jenkins**

**Tasks: 1. Create simple Hello.java**

**2. Compile using javac**

**3. Run Java program Expected Output: • Java output in console**

**TASK 8: Archive Artifacts**

**Objective: Store build outputs**

**Tasks: 1. Generate .class or .jar file**

**2. Archive artifacts in post-build action**

**3. Download artifact from Jenkins UI Expected Output: • Artifact available for download**

**TASK 9: Users & Roles**

**Objective: Manage Jenkins users**

**Tasks: 1. Create two users**

**2. Assign read-only permission to one user**

**3. Assign build permission to another user Expected Output: • Permission differences verified**

**TASK 10: Simple Jenkins Pipeline**

**Objective: Create basic pipeline**

**Tasks: 1. Create Pipeline job**

**2. Write pipeline with stages: o Checkout o Build o Test**

**3. Run pipeline Expected Output: • Pipeline stage view**

**TASK 11: Jenkinsfile from Git**

**Objective: Pipeline as Code**

**Tasks: 1. Create Jenkinsfile in Git repo**

**2. Configure pipeline from SCM**

**3. Trigger build Expected Output: • Pipeline executed from Git**

**TASK 12: Post-Build Actions**

**Objective: Handle build result**

**Tasks: 1. Add post section**

2. **Print message on success/failure Expected Output: • Appropriate message displayed**

**TASK 13: Trigger Job from Another Job**

**Objective: Job chaining**

**Tasks: 1. Create Job-A and Job-B**

3. **Configure Job-B to trigger after Job-A Expected Output: • Job-B triggered automatically**

**TASK 14: Workspace Cleanup**

**Objective: Manage disk usage**

**Tasks: 1. Install Workspace Cleanup plugin**

2. **Clean workspace before build Expected Output: • Workspace cleared before execution TASK**

**15: Mini CI Project**

**Objective: Implement basic CI flow**

**Tasks: 1. Git commit → Jenkins build**

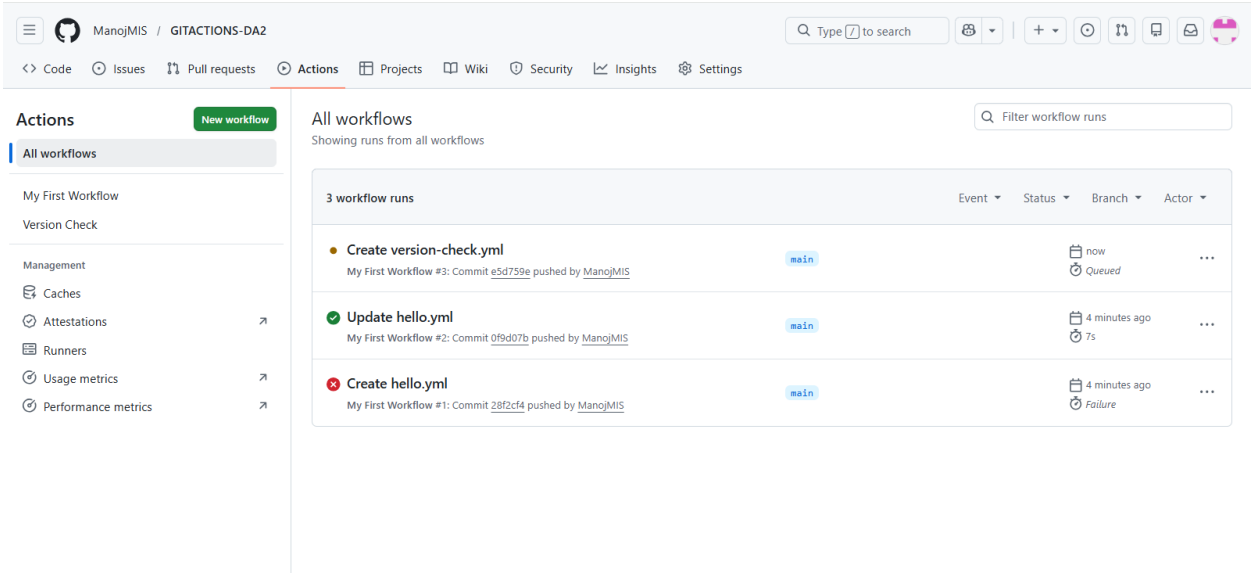
**2. Compile code**

**3. Archive artifacts**

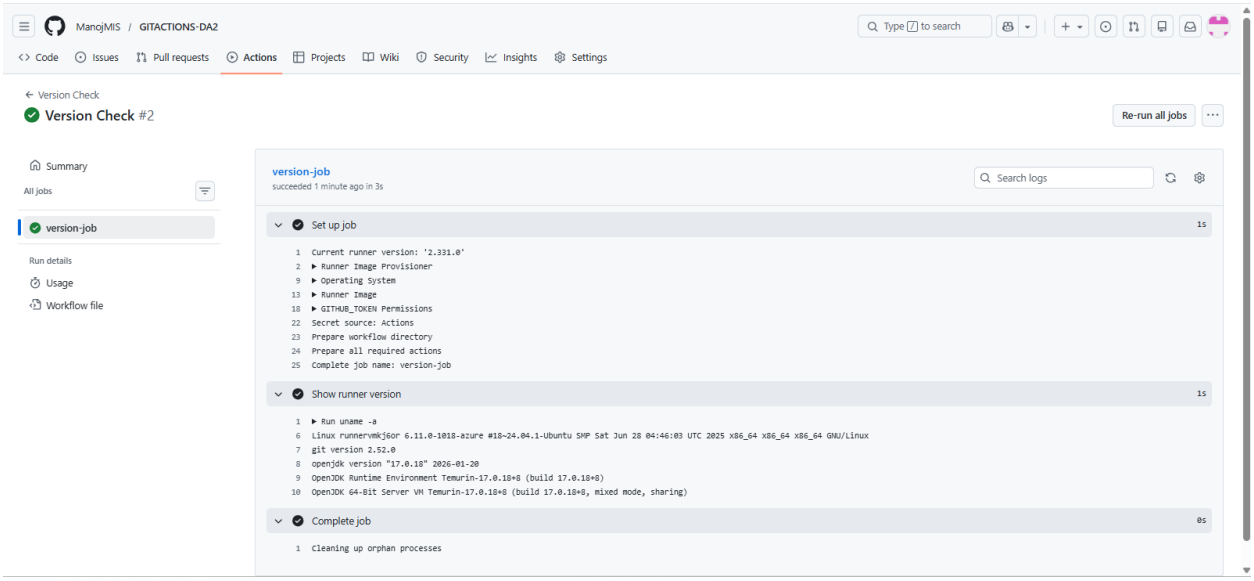
**4. Fail build on error Expected Output: • Automated CI pipeline**

## TOOL:GIT ACTIONS

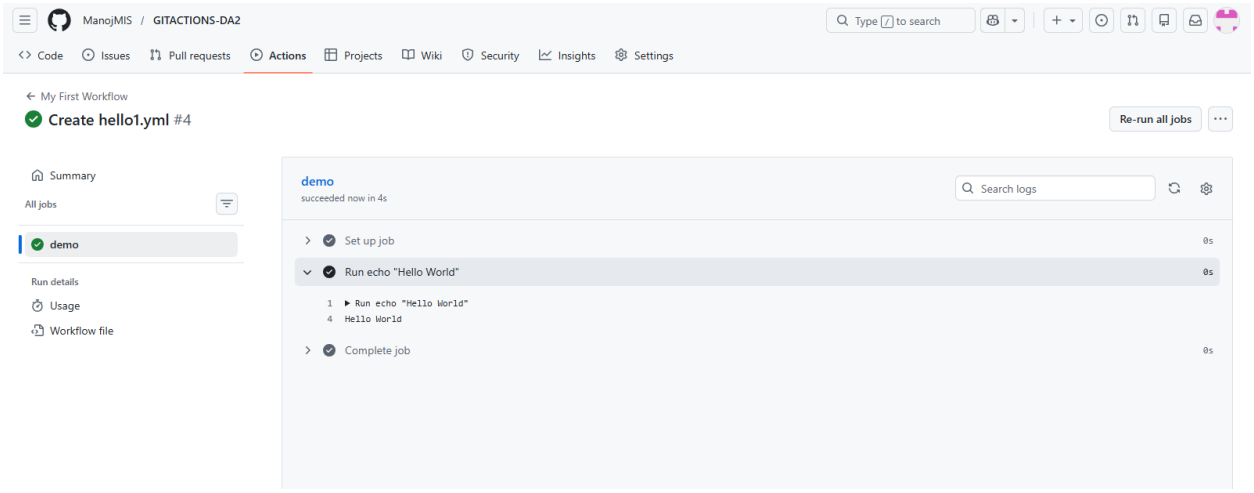
## 1.)GIT ACTIONS DASBOARD:



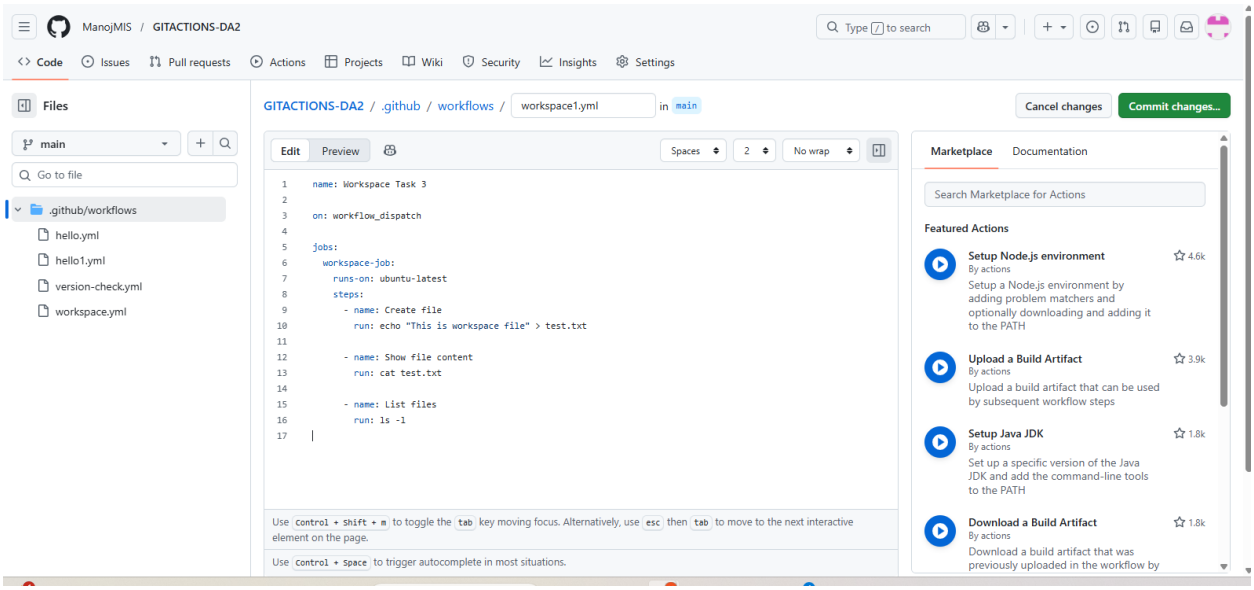

## VERSION AND OUTPUT:



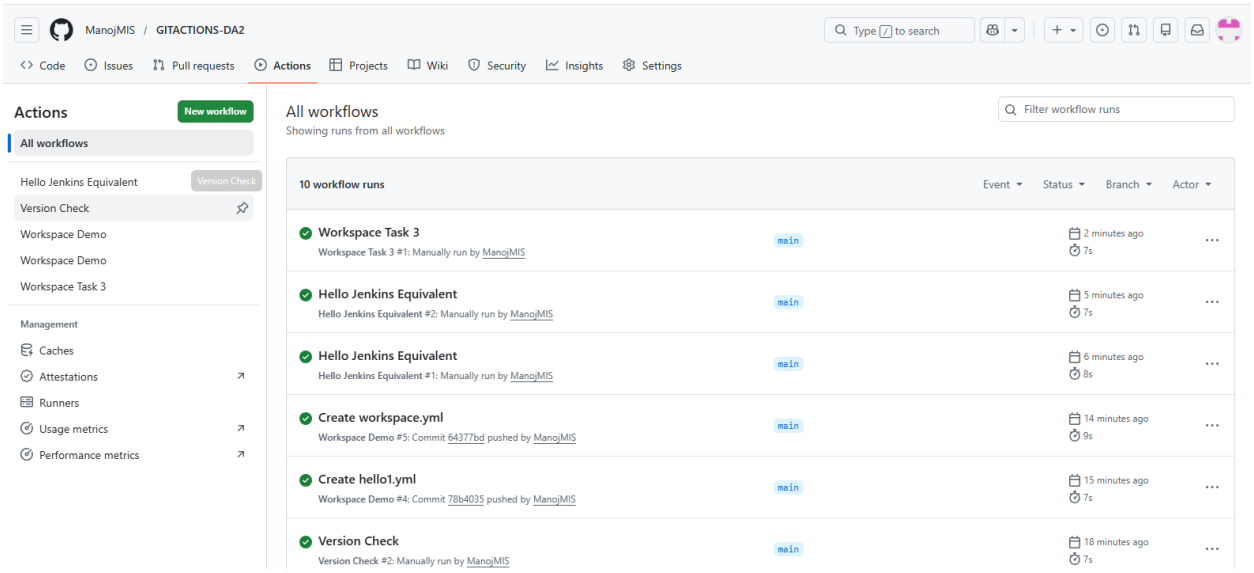
## 2.)First Freestyle job created and Output:



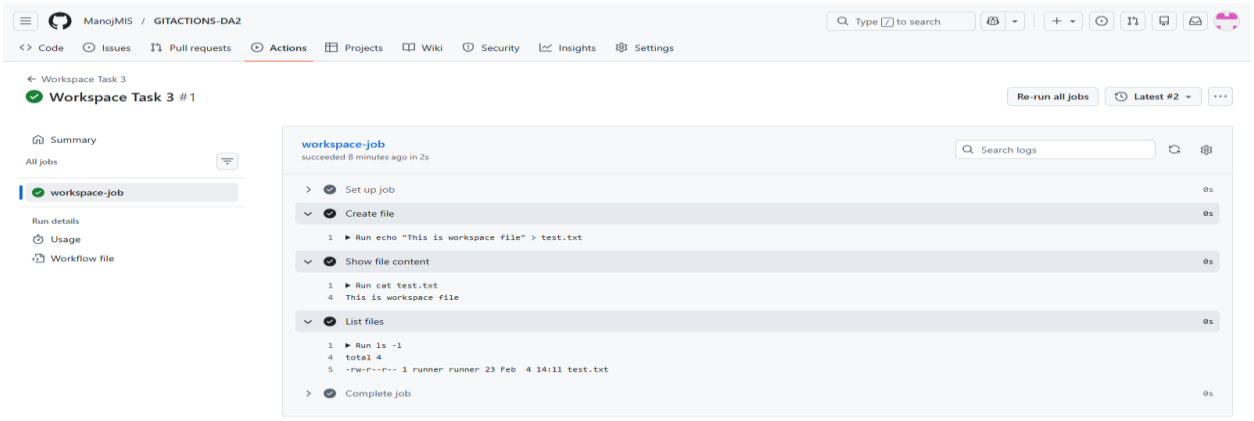

## 3.)Text File Created:



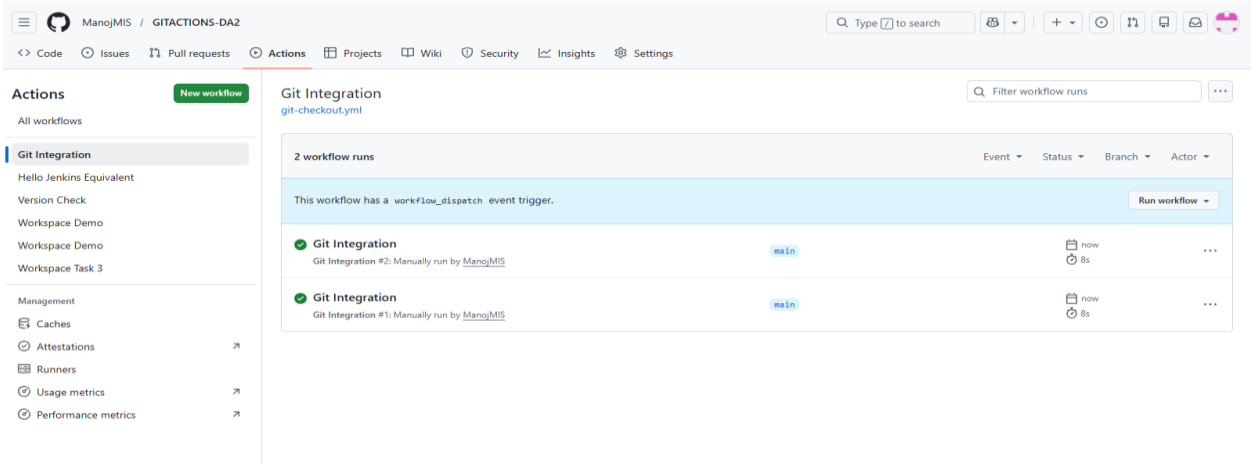
## Job Workspace:



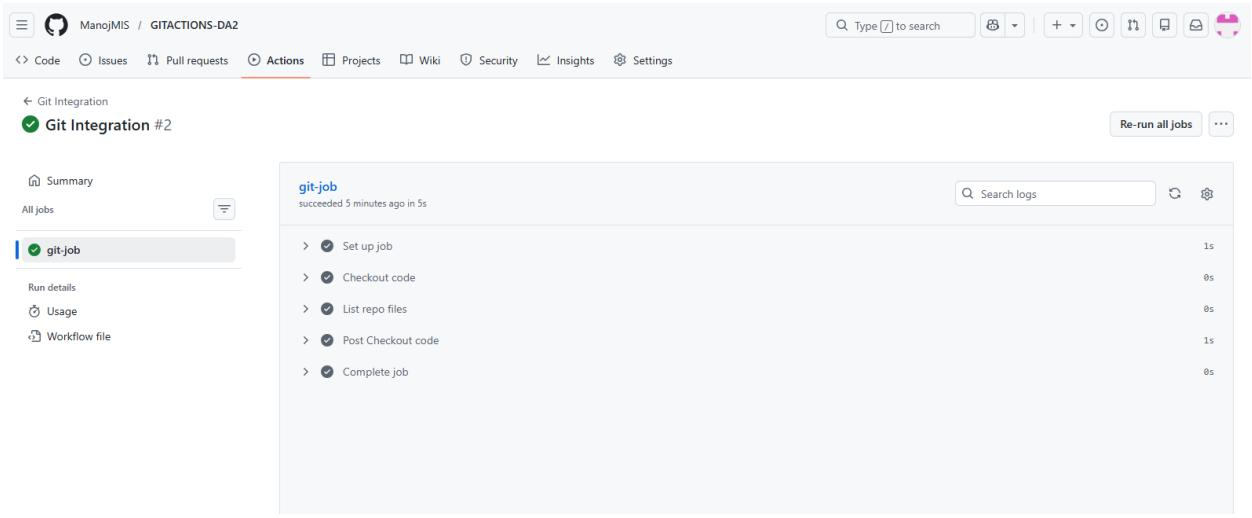

## OUTPUT:

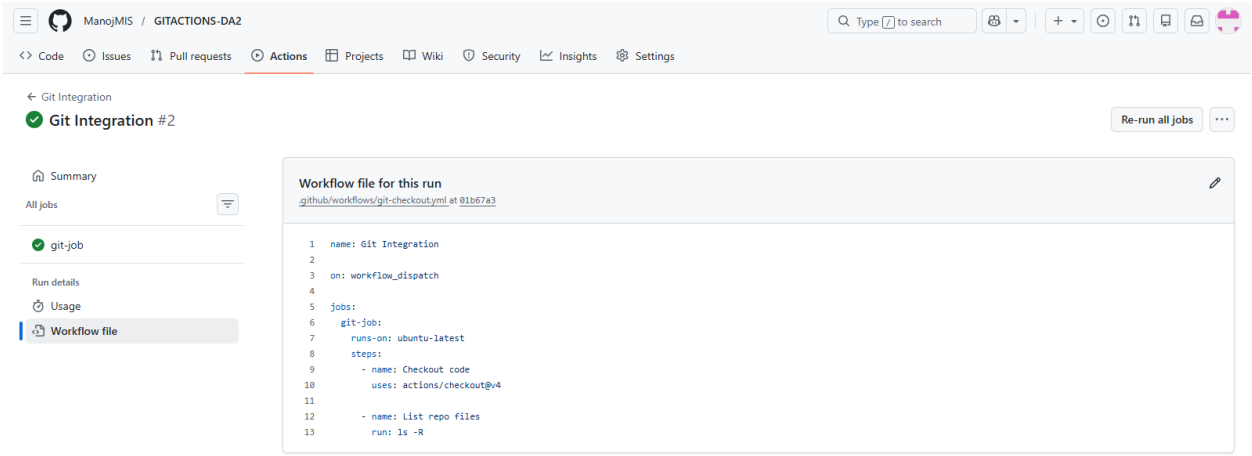



## 4.)Git Integration Workflow created:

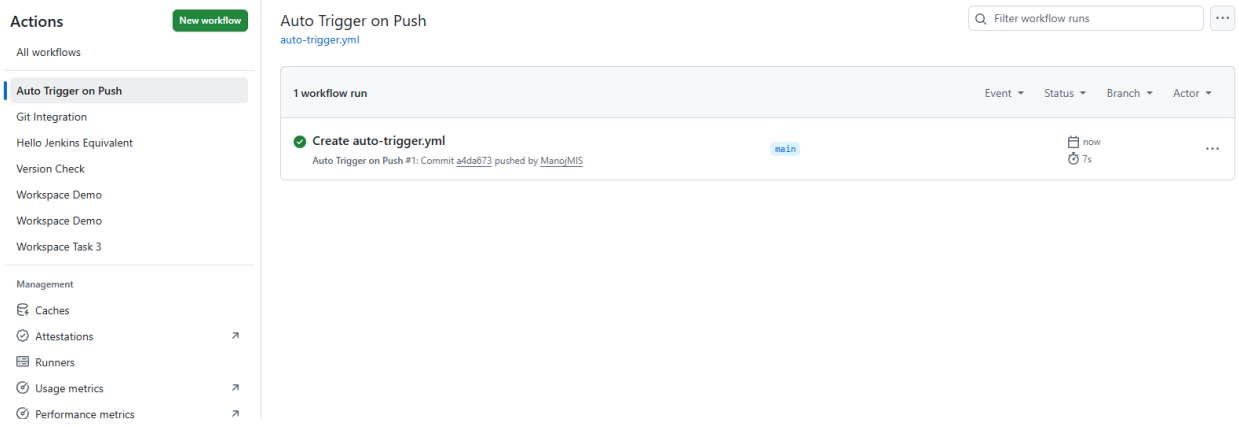


## OUTPUT:

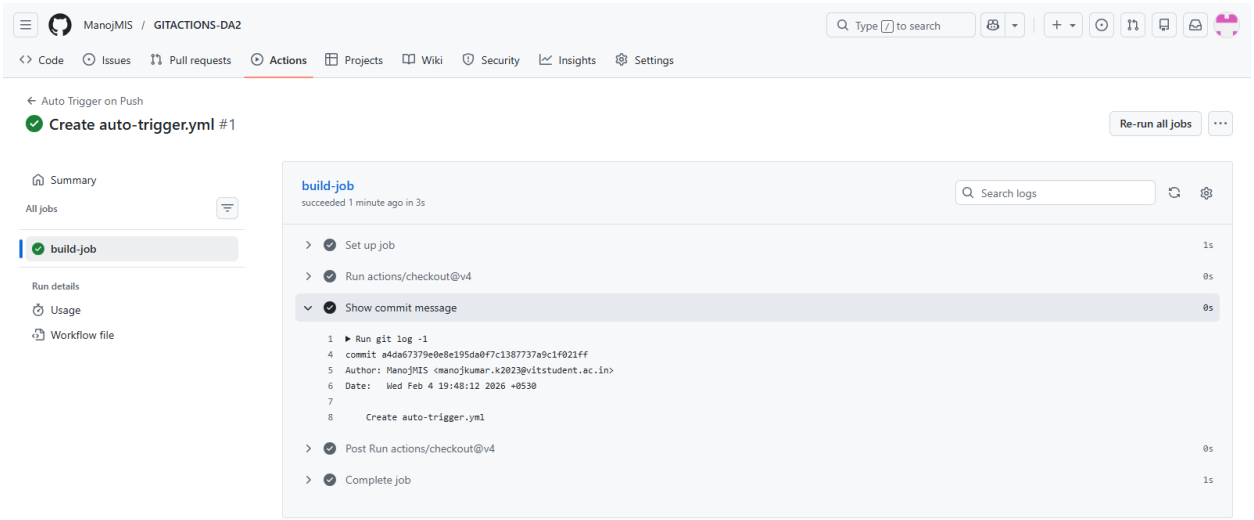


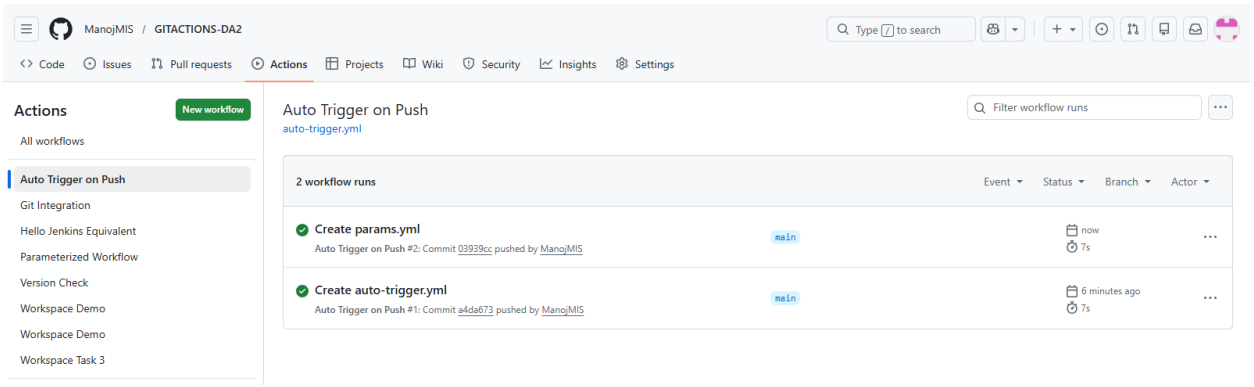

## 5.)Auto Trigger Workflow created:



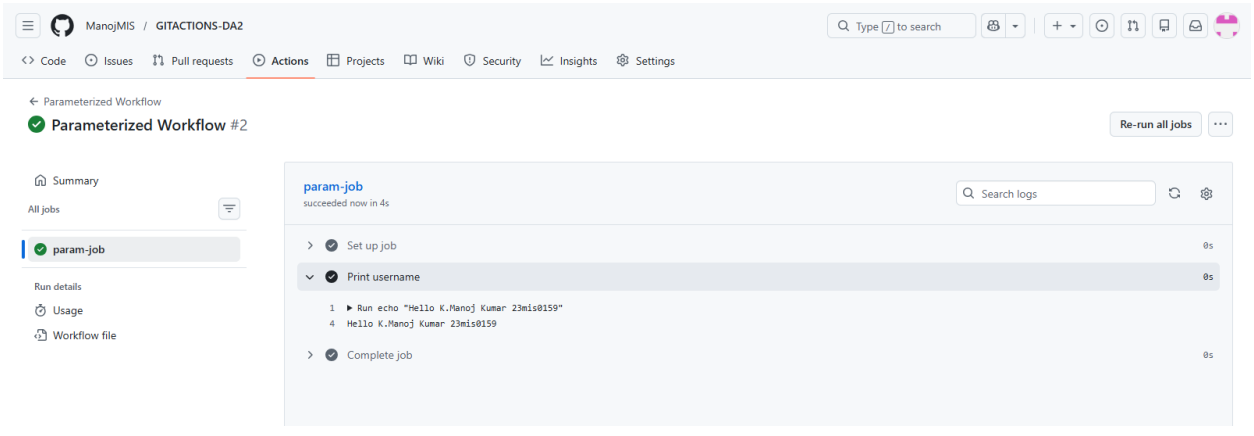
## OUTPUT:



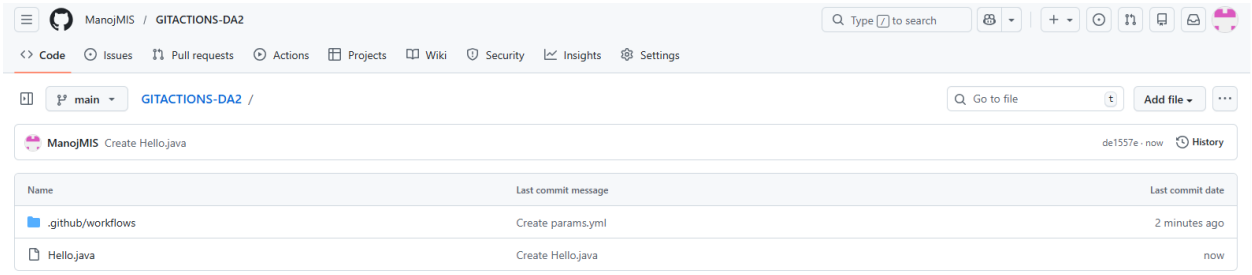

## 6.)Parameterized Workflow Created:



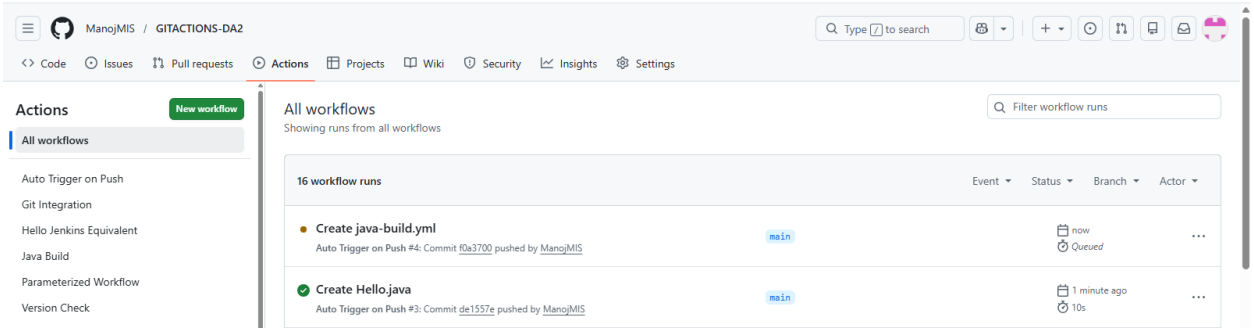

## OUTPUT:



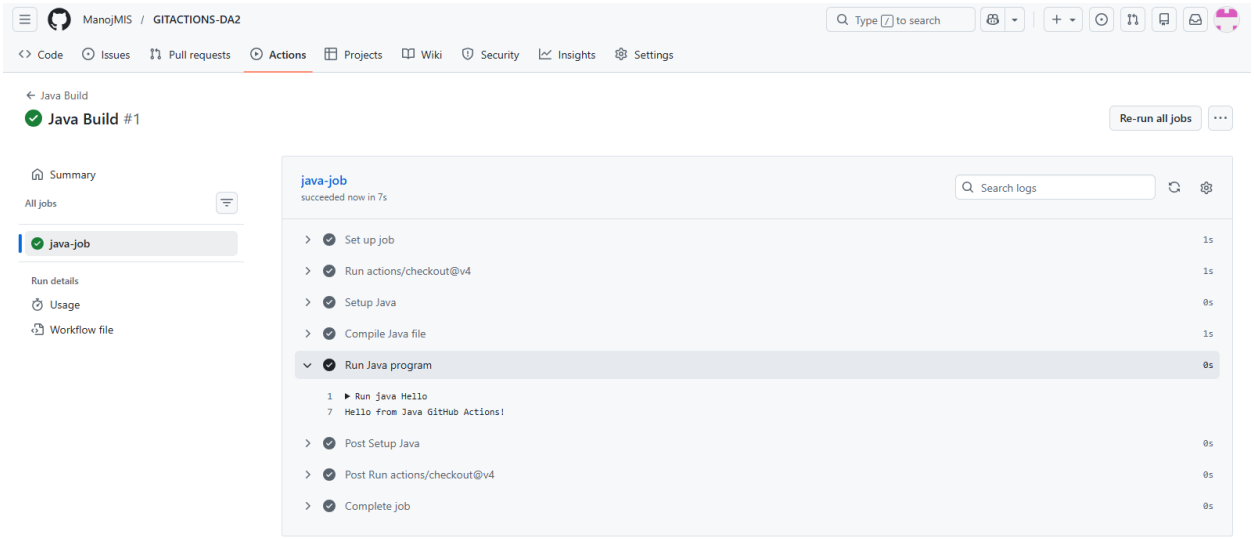
## 7.)**Hello.java FILE:**



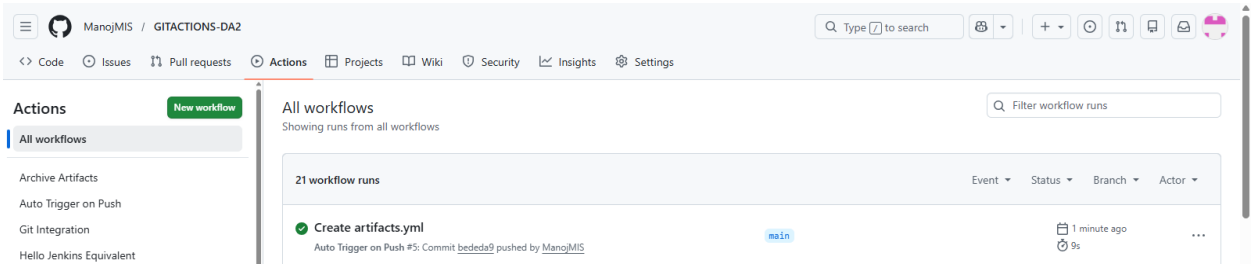

## **JAVA workflow created:**



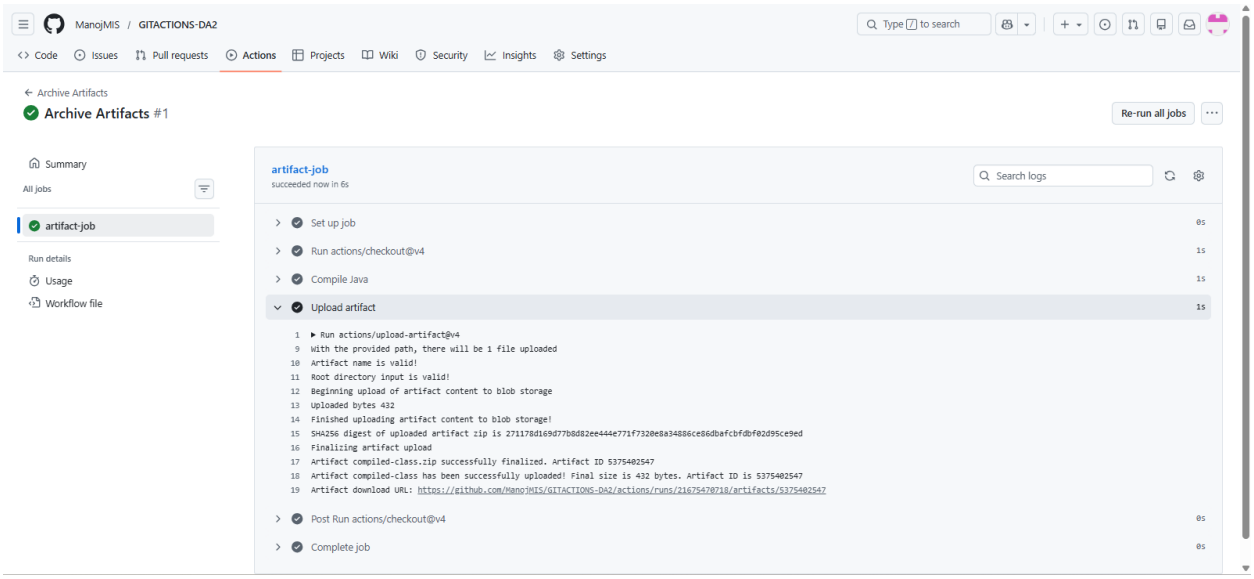

## **OUTPUT:**



## 8.)Artifacts workflow Created:

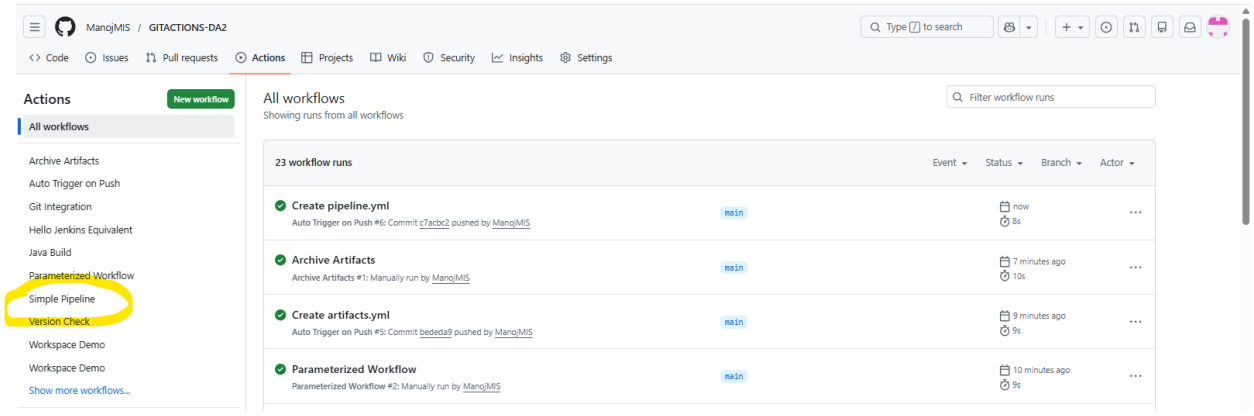



## OUTPUT:

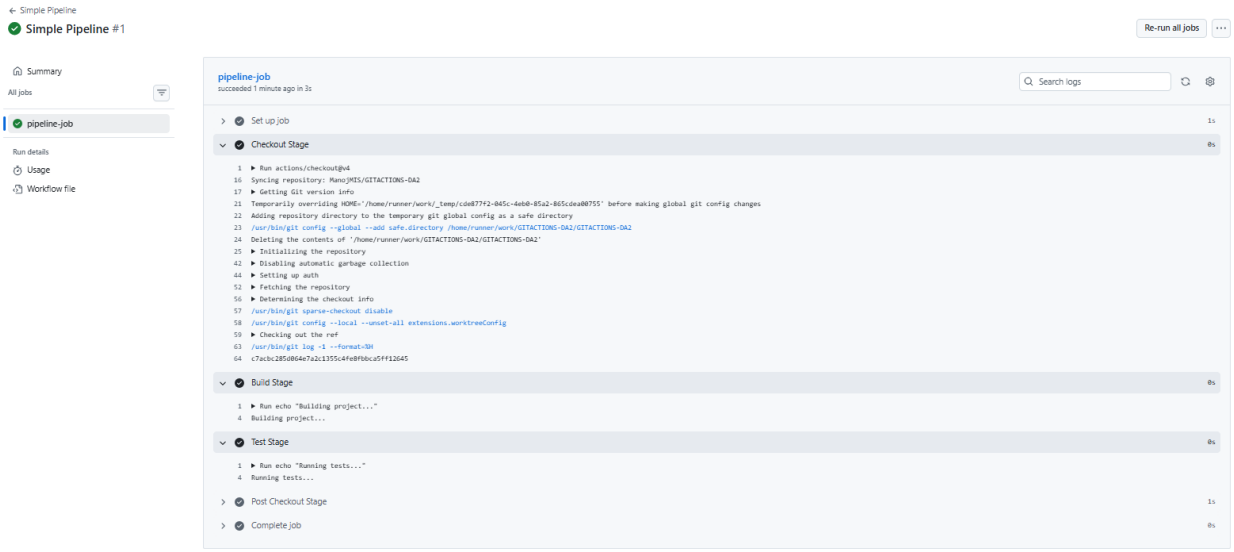



10.)

## Pipeline workflow created:

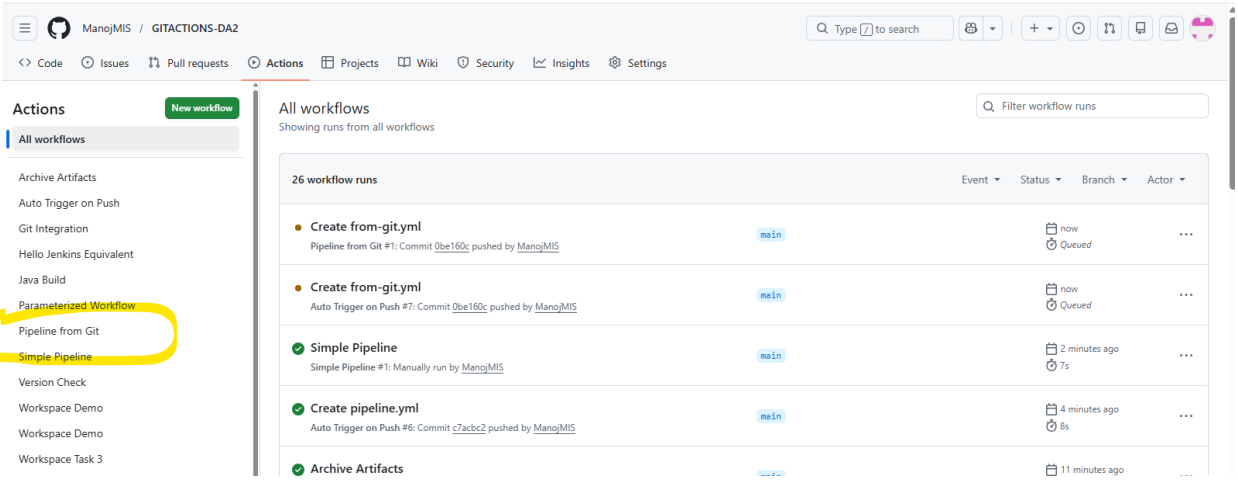


## OUTPUT:

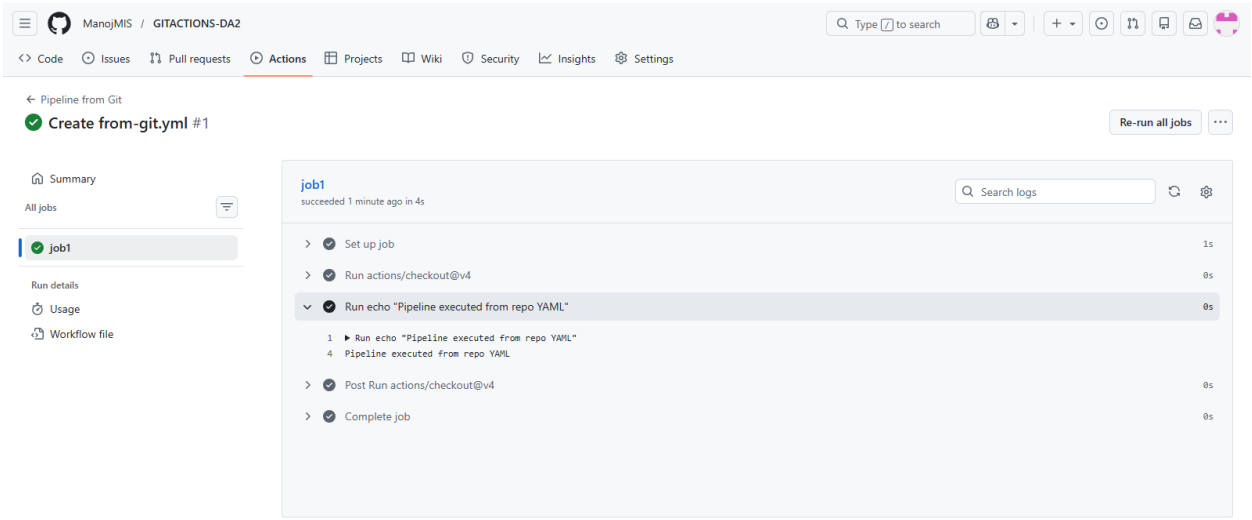



11.)

## Pipeline from GIT workflow created:

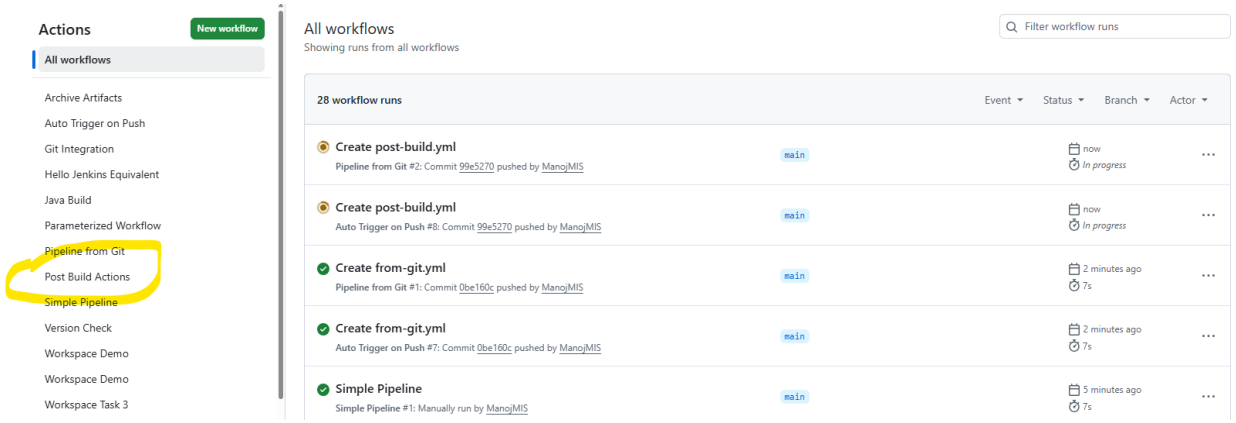


## OUTPUT:

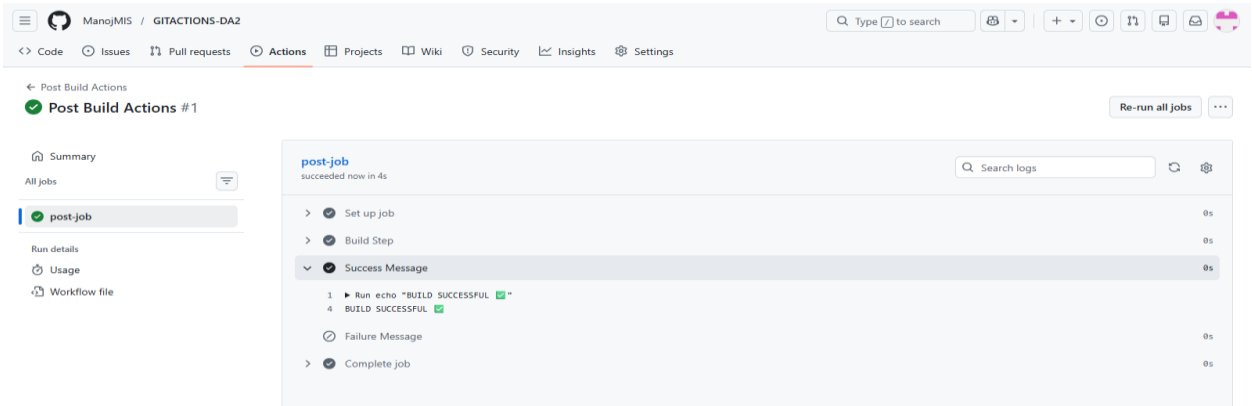



12.)

## Post-build workflow created:

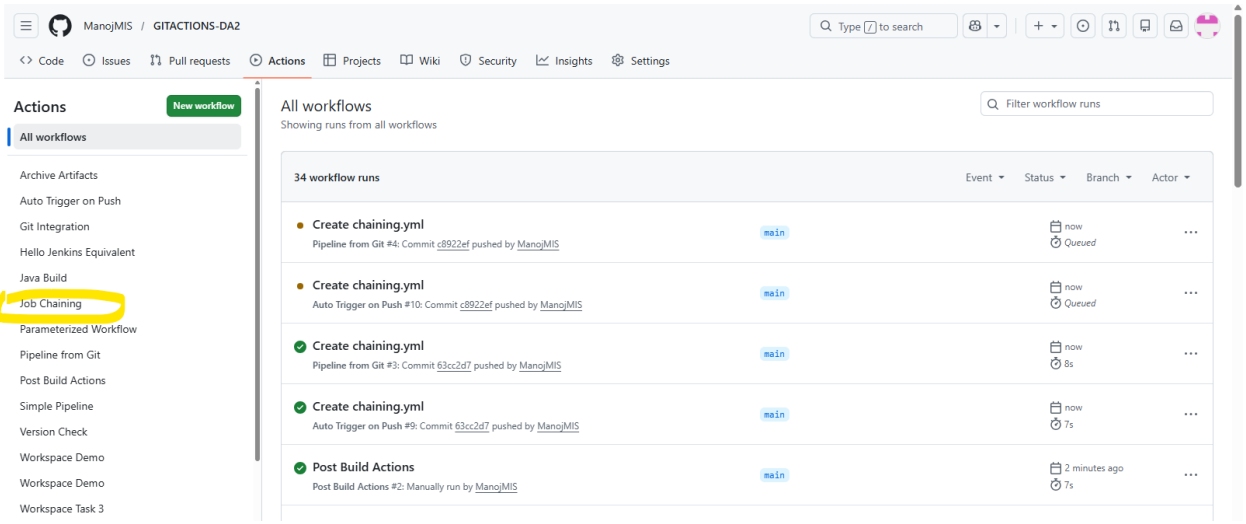



## OUTPUT:



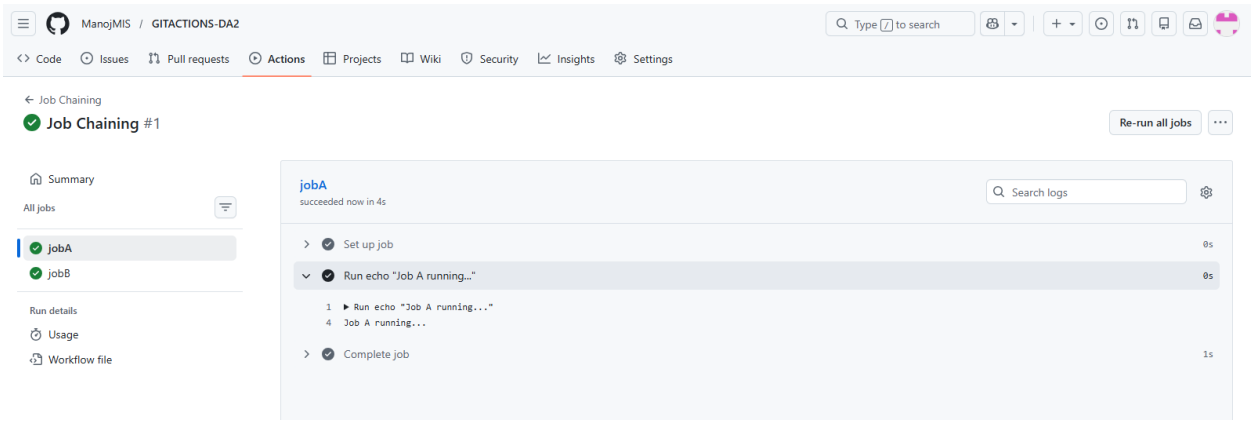
13.)

## Chaining workflow created:

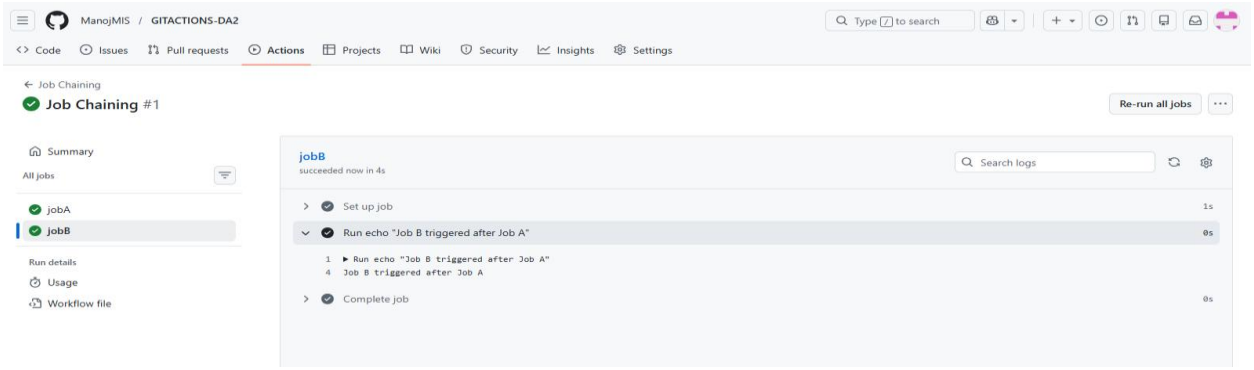



## OUTPUT:

## JOB-A:

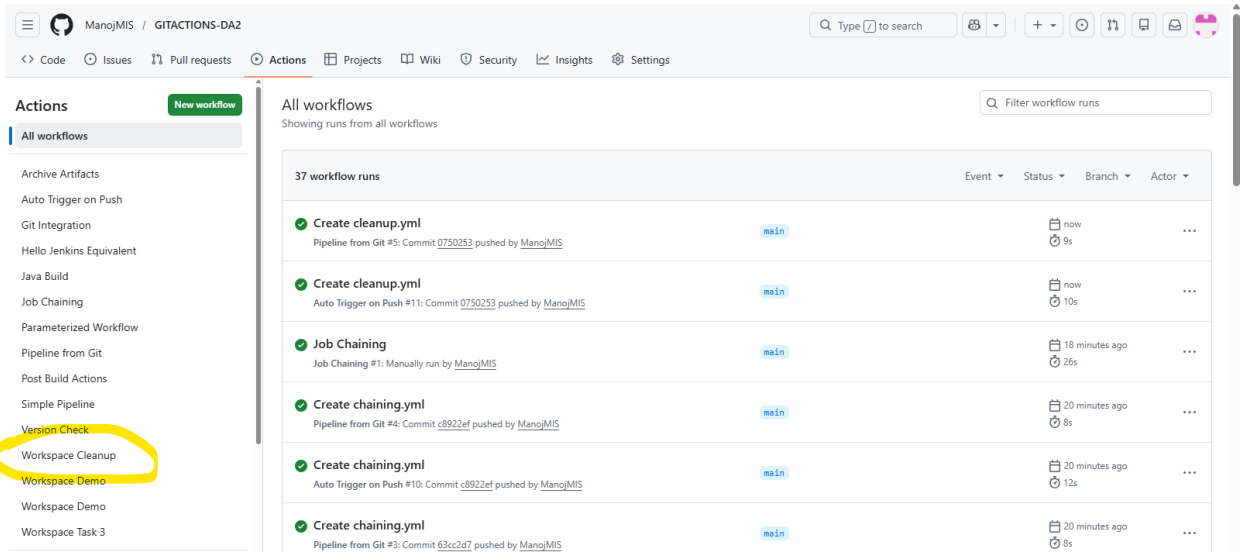



## JOB-B:

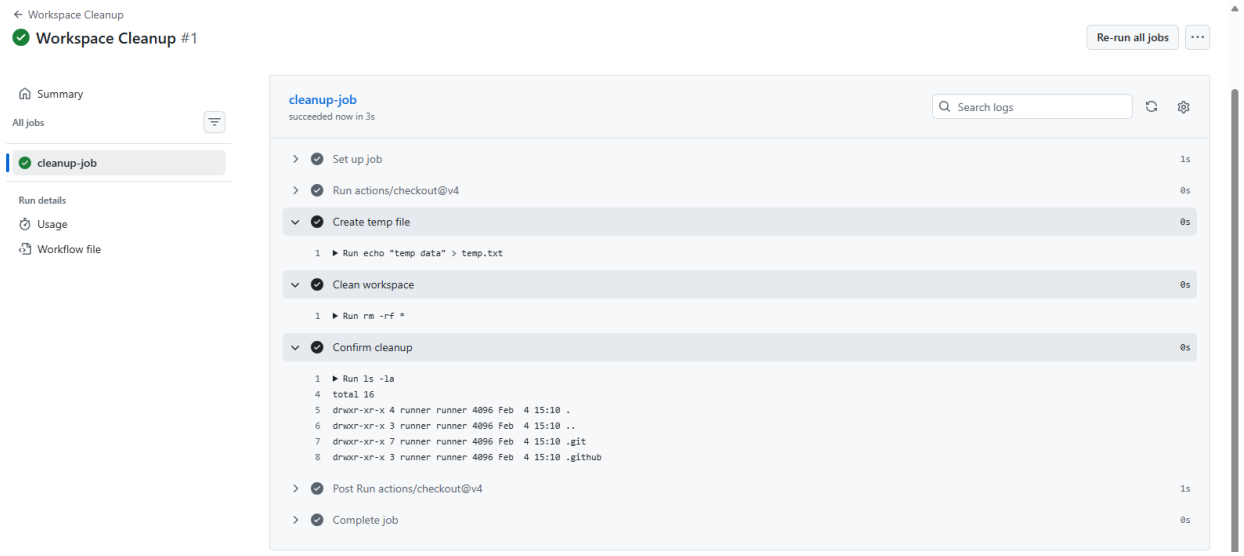


14.)

## Cleanup Workflow created:

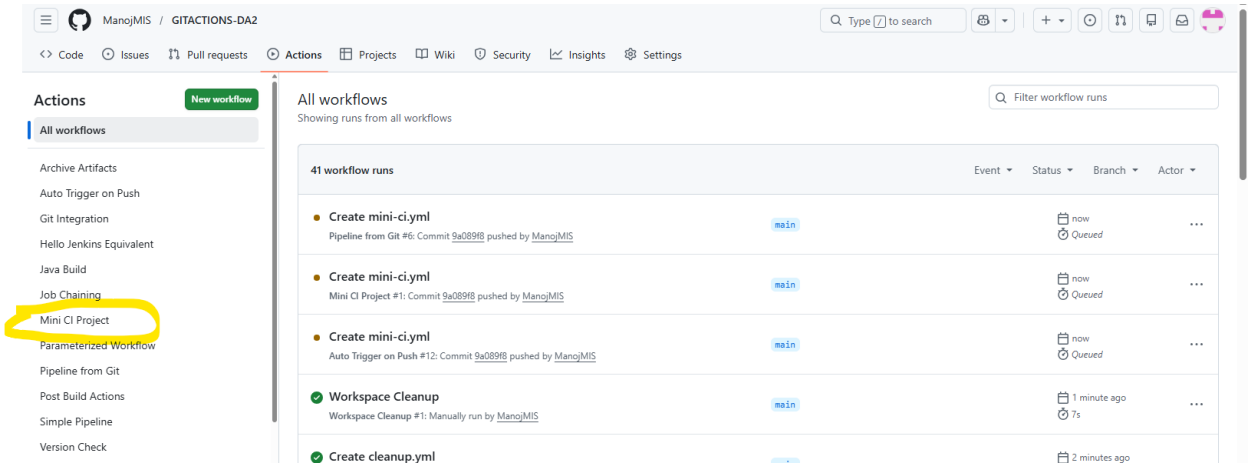



## OUTPUT:



15.)

## CI workflow created:




## OUTPUT: