Automated CI/CD Pipeline for Java Applications with Jenkins

Overview:

Developed and implemented a Jenkins pipeline to automate the build, test, and deployment process of a Java-based application hosted on GitHub.

Integrated tools like SonarQube for static code analysis and Trivy for security scanning, ensuring high code quality and secure deployments
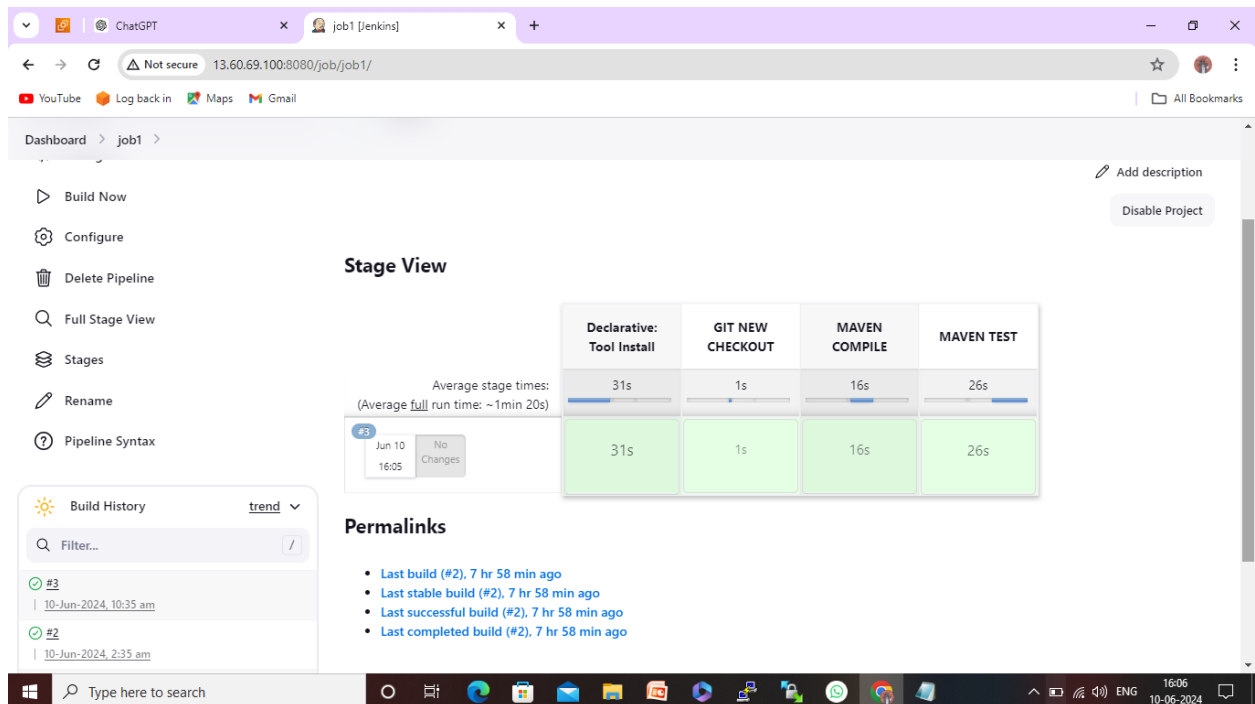
1. GIT NEW CHECKOUT

Code is checked out from the Git repository.

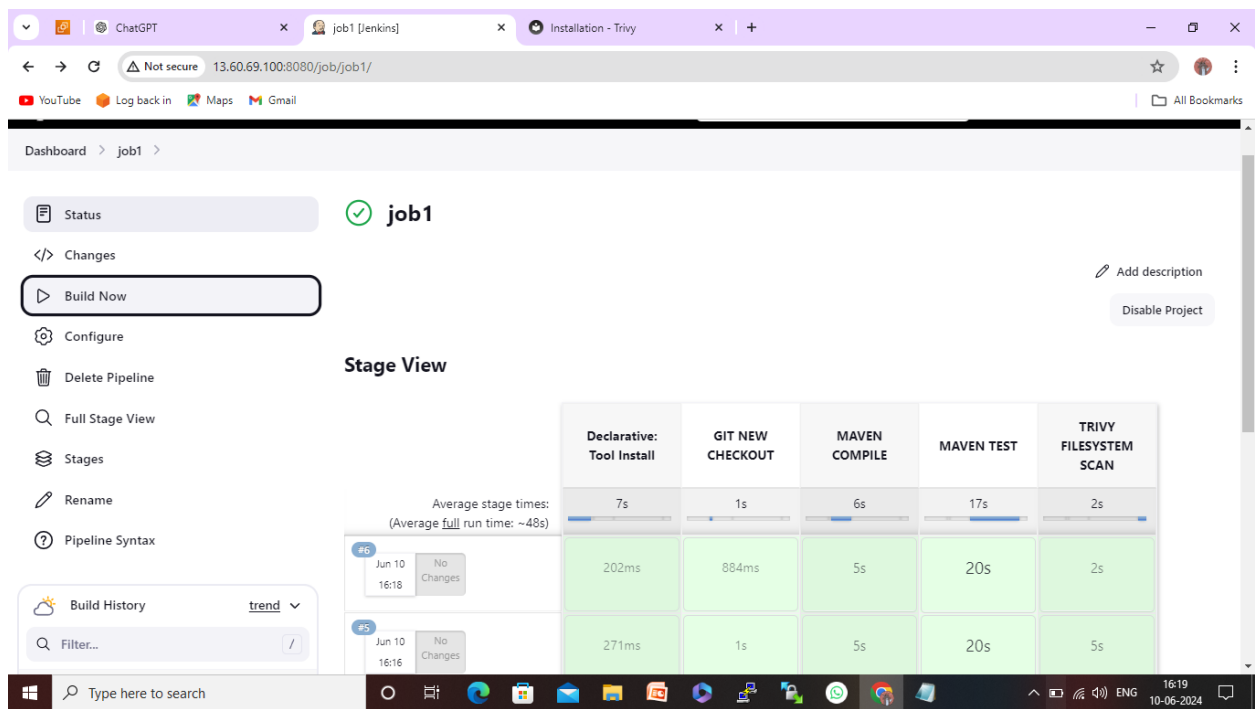## 2. MAVEN COMPILE

Project is compiled successfully.

3. MAVEN TEST

Unit tests run and pass..

4. TRIVY FILESYSTEM SCAN

Filesystem scan completes with a report generated.

5. SONARQUBE ANALYSIS

Code analysis is performed and results are uploaded to SonarQube.

6. QUALITY GATE

Quality gate status is checked..

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Rename
Pipeline Syntax

Build History trend ⌄

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✓ #11
10-Jun-2024, 12:28 pm

✗ #10
10-Jun-2024, 12:23 pm

✗ #9
10-Jun-2024, 12:12 pm

✗ #8

Stage View

	Declarative: Tool Install	GIT NEW CHECKOUT	MAVEN COMPILE	MAVEN TEST	TRIVY FILESYSTEM SCAN	SONARQUBE ANALYSIS	QUALITY GATE
Average stage times: (Average full run time: ~50s)	3s	1s	6s	19s	3s	14s	164ms
#11 Jun 10 17:58 No Changes	170ms	762ms	5s	22s	2s	19s	394ms (paused for 2s)
#10 Jun 10 17:53 No Changes	154ms	780ms	6s	21s	2s	18s failed	68ms failed
#9 Jun 10 17:42 No Changes	211ms	853ms	5s	21s	6s	23s failed	71ms failed
#8 Jun 10 17:38 No Changes	205ms	887ms	5s	21s	2s	7s failed	77ms failed
#7 Jun 10 17:17 No Changes	305ms	1s	6s	22s	2s	737ms	213ms

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Jenkins — Projects — Browse - Sonatype Nexus Repo — +

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1 project(s)

Perspective: Overall Status   Sort by: Name

Quality Gate
Passed 1
Failed 0

Reliability (🐛 Bugs)
A rating 0
B rating 0
C rating 1
D rating 0
E rating 0

Security (🔒 Vulnerabilities)
A rating 1
B rating 0
C rating 0
D rating 0

☆ **job1** Passed   Last analysis: 12 minutes ago

🐛 Bugs   🔒 Vulnerabilities   Hotspots Reviewed   Code Smells   Coverage   Duplications   Lines
15 C   0 A   0.0% E   35 A   30.8% ⭕   0.0% ⭕   1.4k S HTML, Ja...

1 of 1 shown

⚠ Embedded database should be used for evaluation
The embedded database will not scale, it will not support upgrading to
database engine.

SonarQube™ tech
Community Edition - v9.9.5 (build 90363) -

Get the most out of SonarQube!
Take advantage of the whole ecosystem by using SonarLint, a free   Learn More
IDE plugin that helps you find and fix issues earlier in your workflow.   Dismiss
Connect SonarLint to SonarQube to sync rule sets and issue states.
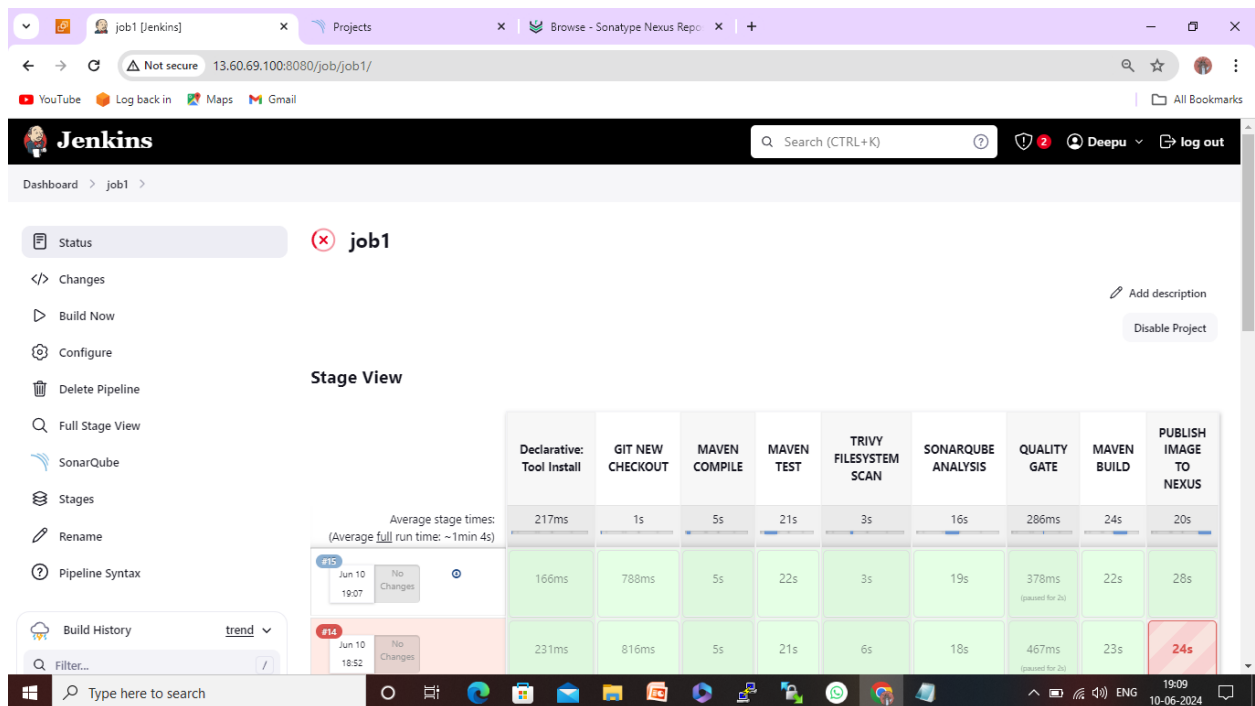
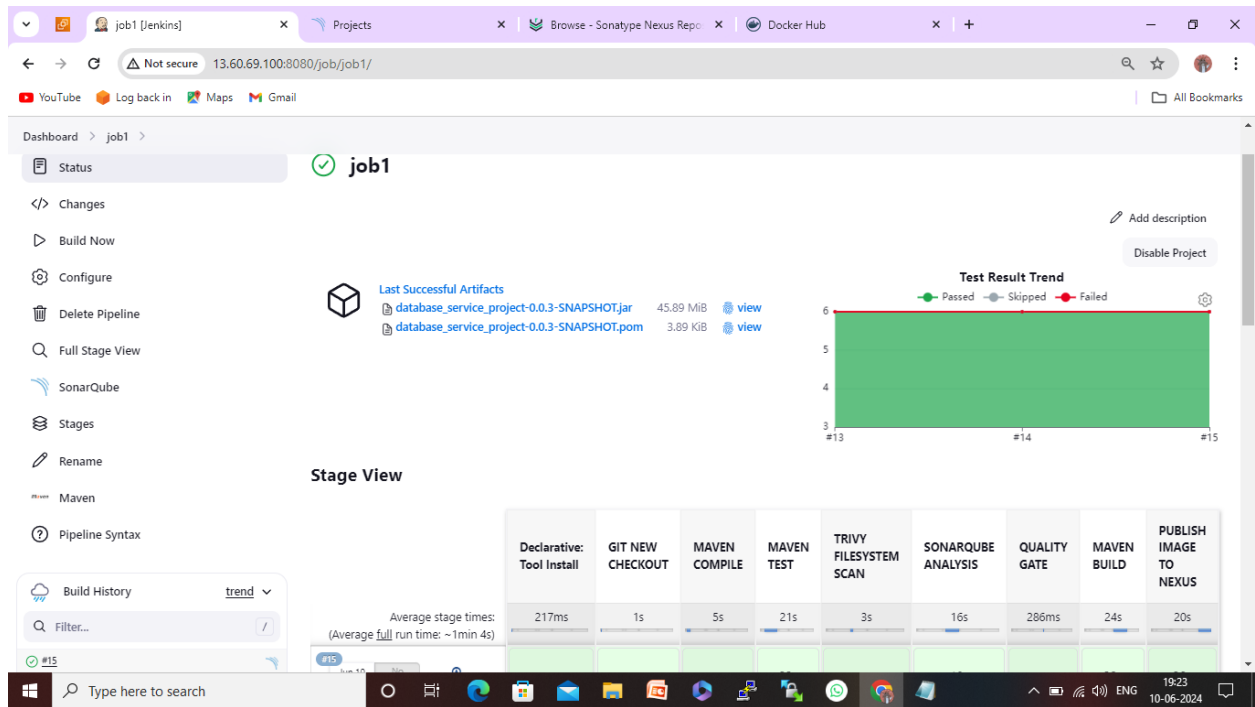Type here to search   ∧ ENG 18:50 10-06-2024

7. MAVEN BUILD

This stage builds the project using Maven.
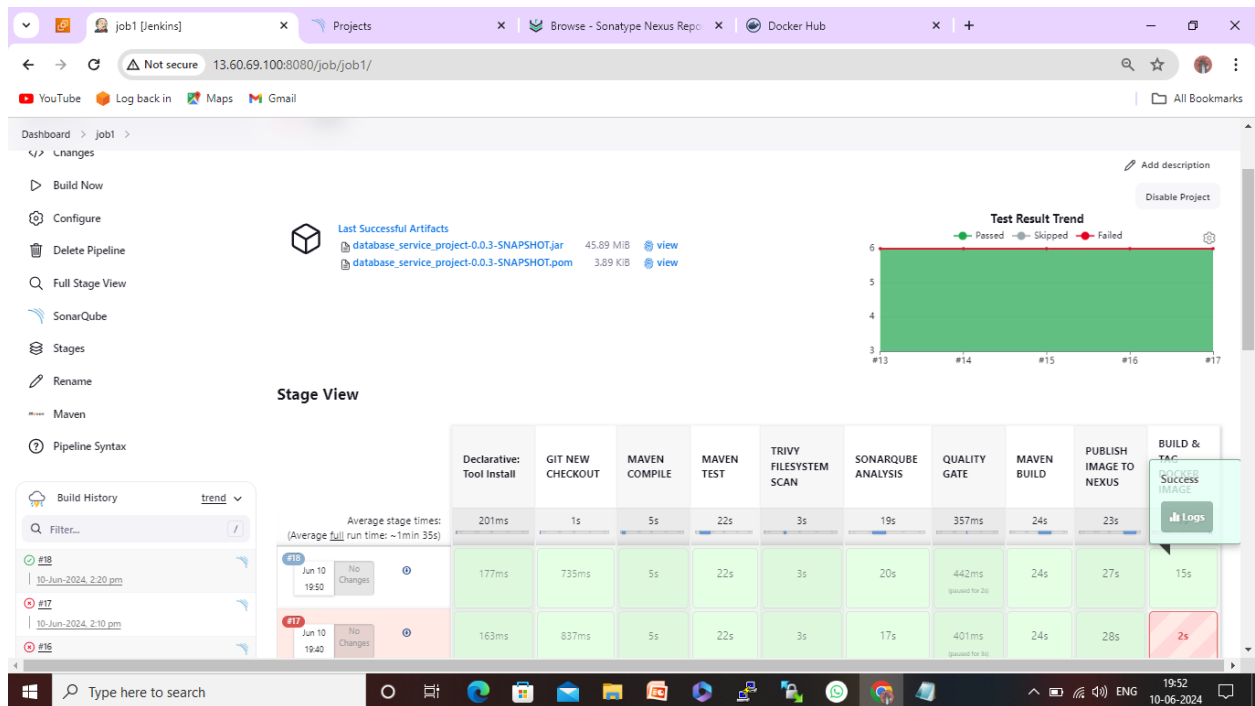
8. PUBLISH IMAGE TO NEXUS

This stage publishes the built image to Nexus repository.

9. BUILD & TAG DOCKER IMAGE

Docker image is built and tagged.

10. IMAGE SCANNING

This stage scans the Docker image for vulnerabilities using Trivy.

11. DOCKER DEPLOYMENT

This stage deploys the Docker container.

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Game Type: Strategy Game

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