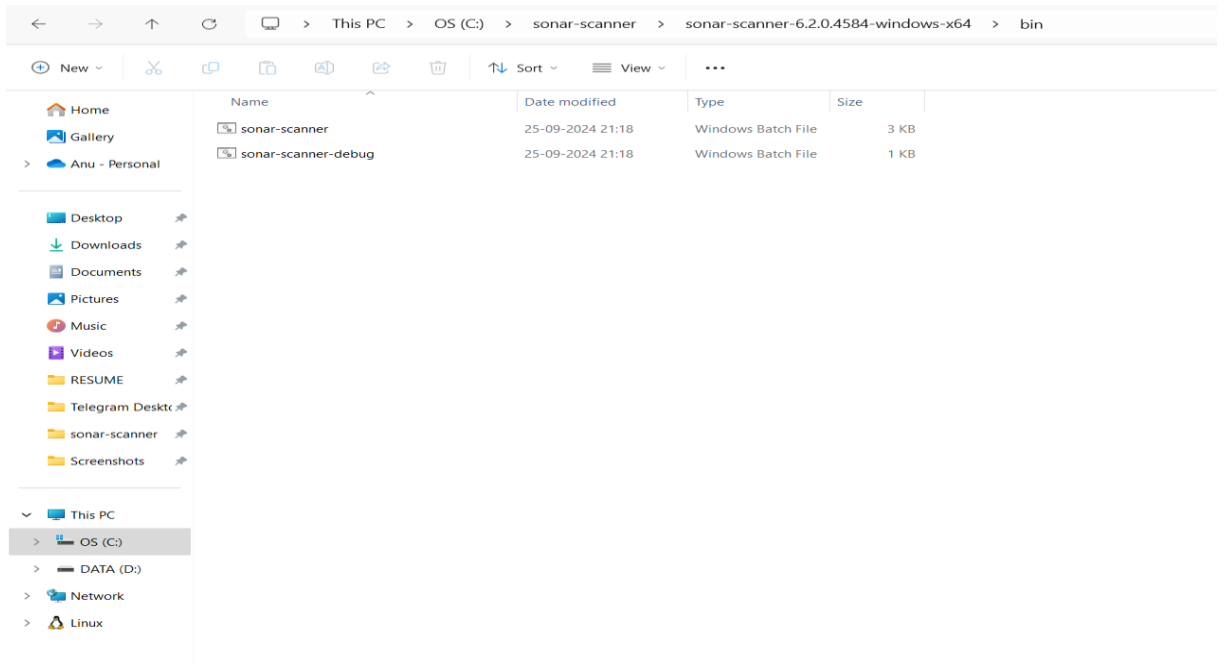
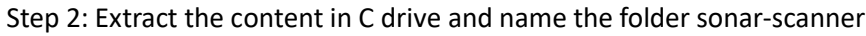


Aim: Create a Jenkins CI/CD Pipeline with SonarQube / GitLab Integration to perform a static analysis of the code to detect bugs, code smells, and security vulnerabilities on a sample Web /Java / Python application.

<https://docs.sonarsource.com/sonarqube/latest/analyzing-source-code/scanners/sonarscanner/>



Step 3: Open Command Prompt and run as administrator and run the following commands –

```
Administrator: Command Prompt
C:\sonar-scanner\sonar-scanner-6.2.0.4584-windows-x64\bin>dir
Volume in drive C is OS
Volume Serial Number is E83B-22BB

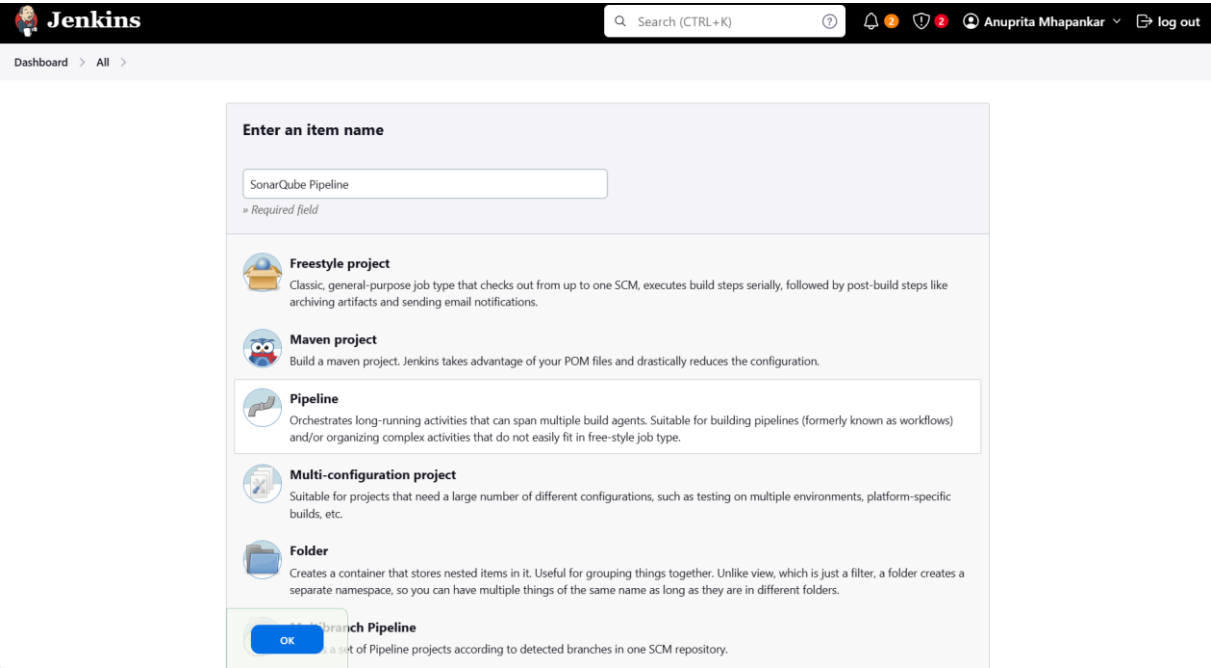
Directory of C:\sonar-scanner\sonar-scanner-6.2.0.4584-windows-x64\bin

25-09-2024  21:18    <DIR>          .
25-09-2024  21:18    <DIR>          ..
25-09-2024  21:18                805  sonar-scanner-debug.bat
25-09-2024  21:18                2,553  sonar-scanner.bat
                2 File(s)                3,358 bytes
                2 Dir(s)            8,509,411,328 bytes free

C:\sonar-scanner\sonar-scanner-6.2.0.4584-windows-x64\bin>sonar-scanner.bat
22:44:22.348 INFO  Scanner configuration file: C:\sonar-scanner\sonar-scanner-6.2.0.4584-windows-x64\bin\..\conf\sonar-scanner.properties
22:44:22.353 INFO  Project root configuration file: NONE
22:44:22.369 INFO  SonarScanner CLI 6.2.0.4584
22:44:22.370 INFO  Java 17.0.12 Eclipse Adoptium (64-bit)
22:44:22.371 INFO  Windows 11 10.0 amd64
22:44:22.389 INFO  User cache: C:\Users\User\.sonar\cache
22:44:22.827 INFO  JRE provisioning: os[windows], arch[amd64]
22:44:23.921 INFO  EXECUTION FAILURE
22:44:23.923 INFO  Total time: 1.577s
22:44:23.923 ERROR Error during SonarScanner CLI execution
java.lang.IllegalStateException: Error status returned by url [https://api.sonarcloud.io/analysis/jres?os=windows&arch=amd64]: 401
    at org.sonarsource.scanner.lib.internal.http.ServerConnection.callUrl(ServerConnection.java:182)
    at org.sonarsource.scanner.lib.internal.http.ServerConnection.callApi(ServerConnection.java:145)
    at org.sonarsource.scanner.lib.internal.http.ServerConnection.callRestApi(ServerConnection.java:123)
    at org.sonarsource.scanner.lib.internal.JavaRunnerFactory.getJreMetadata(JavaRunnerFactory.java:159)
    at org.sonarsource.scanner.lib.internal.JavaRunnerFactory.getJreFromServer(JavaRunnerFactory.java:138)
    at org.sonarsource.scanner.lib.internal.JavaRunnerFactory.createRunner(JavaRunnerFactory.java:85)
    at org.sonarsource.scanner.lib.internal.ScannerEngineLauncherFactory.createLauncher(ScannerEngineLauncherFactory.java:53)
    at org.sonarsource.scanner.lib.ScannerEngineBootstrapper.bootstrap(ScannerEngineBootstrapper.java:118)
    at org.sonarsource.scanner.cli.Main.analyze(Main.java:75)
    at org.sonarsource.scanner.cli.Main.main(Main.java:63)
22:44:23.925 ERROR
22:44:23.926 ERROR Re-run SonarScanner CLI using the -X switch to enable full debug logging.

C:\sonar-scanner\sonar-scanner-6.2.0.4584-windows-x64\bin>
```

Step 4: Open Jenkins and create a pipeline and name the pipeline SonarQube Pipeline and then click on okay.



Step 5: Under Pipeline Script, enter the following –

```
node {

    stage('Cloning the GitHub Repo') {

        git 'https://github.com/shazforiot/MSBuild_firstproject.git'

    }

    stage('SonarQube analysis') {

        withSonarQubeEnv('sonarqube') {

            bat "C:/sonar-scanner/sonar-scanner-6.2.0.4584-windows-x64/bin/sonar-scanner.bat \
```

```
-D sonar.login=admin \
-D sonar.password=sonarqube \
-D sonar.projectKey=sonarqube-test \
-D sonar.exclusions=vendor/**,resources/**,**/*.java \
-D sonar.host.url=http://127.0.0.1:9000/"
}
}
}
```

Dashboard > SonarQube Pipeline > Configuration

Configure

General

Advanced Project Options

Pipeline

Pipeline

Definition

Pipeline script

Script

```
1 node {
2   stage("Cloning the GitHub Repo") {
3     git 'https://github.com/shazforiot/MSBuild_firstproject.git'
4   }
5   stage("SonarQube analysis") {
6     withSonarQubeEnv('sonarqube') {
7       bat "C:/sonar-scanner/sonar-scanner-6.2.0.4584-windows-x64/bin/sonar-scanner.bat \
8         -D sonar.login=admin \
9         -D sonar.password=sonarqube \
10        -D sonar.projectKey=sonarqube-test \
11        -D sonar.exclusions=vendor/**,resources/**,**/*.java \
12        -D sonar.host.url=http://127.0.0.1:9000/"
13      }
14    }
15  }
16 }
```

Use Groovy Sandbox

Pipeline Syntax

Save Apply

REST API Jenkins 2.452.3

Step 6: Run The Build.

Jenkins

Search (CTRL+K)

🔔 🔊 🔒 🔴 👤 Anuprita Mhapankar 📄 log out

Dashboard > SonarQube Pipeline >

Status

Changes

Build Now

Configure

Delete Pipeline

Full Stage View

SonarQube

Stages

Rename

Pipeline Syntax

Build History

Filter...

#10

Sep 25, 2024, 9:55 PM

#9

Sep 25, 2024, 9:52 PM

#8

🟢 SonarQube Pipeline

Add description

Disable Project

Stage View

Average stage times: 4s 3s

Average full run time: ~22s

| | Cloning the GitHub Repo | SonarQube analysis |
|-----------------------------------|-------------------------|--------------------|
| #10 Sep 25 21:55 No Changes | 1s | 20s |
| #9 Sep 25 21:52 No Changes | 19s | 549ms failed |
| #8 Sep 25 21:43 No Changes | 1s | 1s failed |
| #7 Sep 25 21:33 No Changes | 1s | 957ms failed |

```

Dashboard > SonarQube Pipeline > #10
21:56:16.244 INFO ----- Run sensors on project
21:56:16.428 INFO Sensor C# [csharp]
21:56:16.429 WARN Your project contains C# files which cannot be analyzed with the scanner you are using. To analyze C# or VB.NET, you must use the
SonarScanner for .NET 5.x or higher, see https://redirect.sonarsource.com/doc/install-configure-scanner-msbuild.html
21:56:16.429 INFO Sensor C# [csharp] (done) | time=1ms
21:56:16.430 INFO Sensor Analysis Warnings import [csharp]
21:56:16.432 INFO Sensor Analysis Warnings import [csharp] (done) | time=2ms
21:56:16.432 INFO Sensor C# File Caching Sensor [csharp]
21:56:16.432 WARN Incremental PR analysis: Could not determine common base path, cache will not be computed. Consider setting
'sonar.projectBaseDir' property.
21:56:16.432 INFO Sensor C# File Caching Sensor [csharp] (done) | time=1ms
21:56:16.433 INFO Sensor Zero Coverage Sensor
21:56:16.450 INFO Sensor Zero Coverage Sensor (done) | time=16ms
21:56:16.494 INFO CPD Executor Calculating CPD for 0 files
21:56:16.494 INFO CPD Executor CPD calculation finished (done) | time=0ms
21:56:16.530 INFO SCM revision ID 'f2bc042c04ce72427c380bcae6d6fee7b949adf'
21:56:16.704 INFO Analysis report generated in 178ms, dir size=200.5 kB
21:56:16.773 INFO Analysis report compressed in 68ms, zip size=21.9 kB
21:56:16.930 INFO Analysis report uploaded in 155ms
21:56:16.931 INFO ANALYSIS SUCCESSFUL, you can find the results at: http://127.0.0.1:9000/dashboard?id=sonarqube-test
21:56:16.931 INFO Note that you will be able to access the updated dashboard once the server has processed the submitted analysis report
21:56:16.932 INFO More about the report processing at http://127.0.0.1:9000/api/ce/task?id=af67fb15-719a-4b23-8f38-5edc7a765dae
21:56:16.940 INFO Analysis total time: 16.723 s
21:56:16.943 INFO SonarScanner Engine completed successfully
21:56:17.042 INFO EXECUTION SUCCESS
21:56:17.044 INFO Total time: 19.574s
[Pipeline] }
[Pipeline] // withSonarQubeEnv
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS

```

Step 7: Check the console output once the build is complete, check the project in SonarQube.

127.0.0.1:9000/dashboard?id=sonarqube-test&codeScope=overall

sonarqube

Projects Issues Rules Quality Profiles Quality Gates Administration More

sonarqube-test / main

Overview Issues Security Hotspots Measures Code Activity

Project Settings Project Information

Quality Gate

Passed

The last analysis has warnings. [See details](#)

New Code Overall Code

Security

0 Open issues

0 H 0 M 0 L

Reliability

0 Open issues

0 H 0 M 0 L

Maintainability

0 Open issues

0 H 0 M 0 L

Accepted Issues

0

Valid issues that were not fixed

Coverage

On 0 lines to cover.

Duplications

0.0%

On 86 lines.

Security Hotspots

0

127.0.0.1:9000/dashboard?id=sonarqube-test&codeScope=overall

sonarqube

ProjectsIssuesRulesQuality ProfilesQuality GatesAdministrationMore

sonarqube-testmain

OverviewIssuesSecurity HotspotsMeasuresCodeActivityProject SettingsProject Information

Learn how to improve your code base by cleaning only new code.

Take the TourNot now

Quality Gate

Passed

Last analysis 45 minutes ago

The last analysis has warnings. [See details](#)

New CodeOverall Code

Security

0 Open issues

0 H0 M0 L

Reliability

68k Open issues

0 H47k M21k L

Maintainability

164k Open issues

7 H143k M21k L

Accepted issues

0

Valid issues that were not fixed

Coverage

On 0 lines to cover.

Duplications

50.6%

On 759k lines.

Security Hotspots