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D15A
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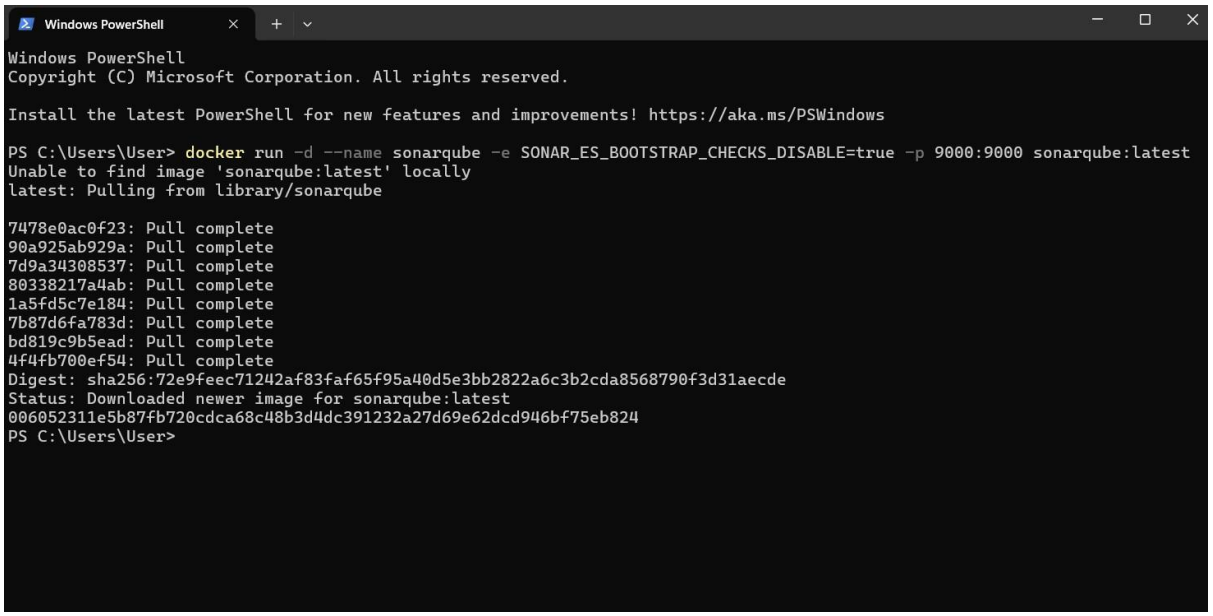
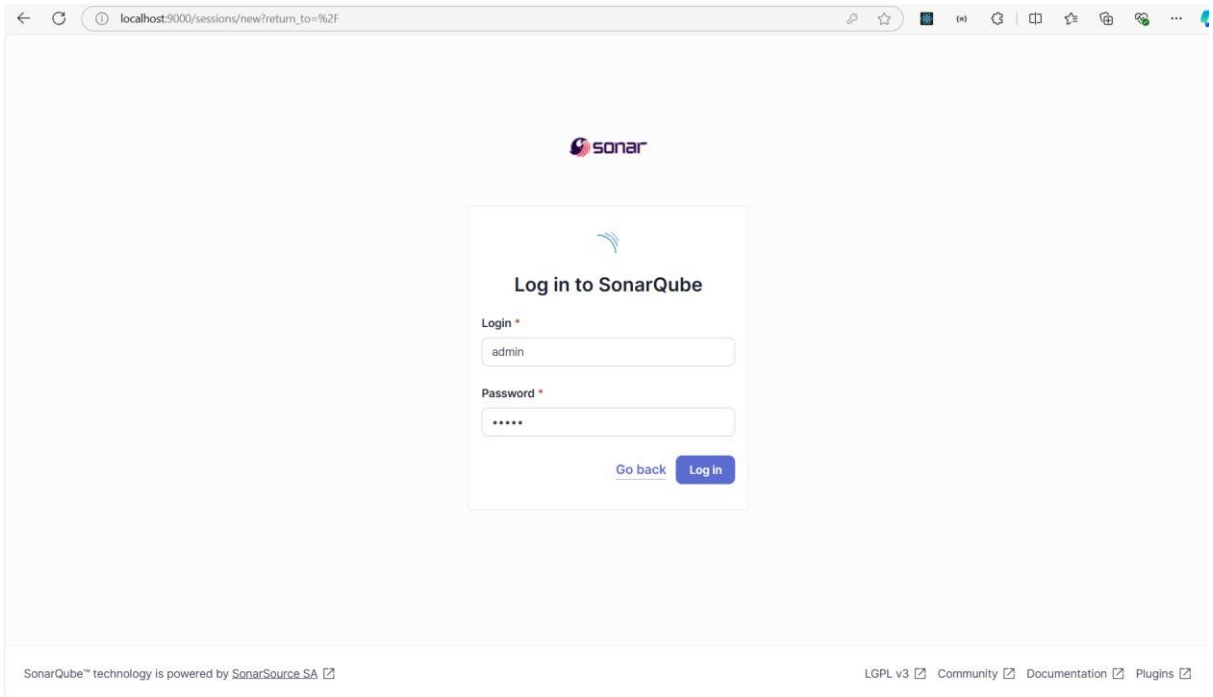
EXPERIMENT 7

Aim: To understand Static Analysis SAST process and learn to integrate Jenkins SAST to SonarQube/GitLab.

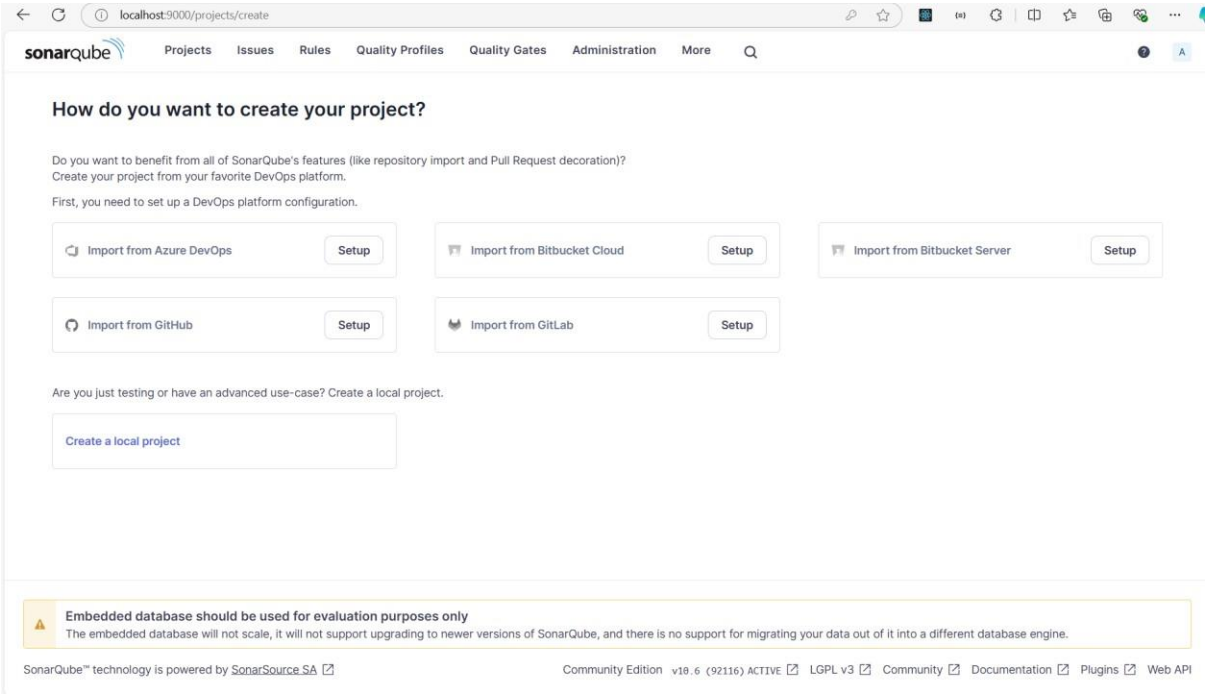
Step 1: Open Windows PowerShell and run the following command –
docker run -d --name sonarqube -e SONAR_ES_BOOTSTRAP_CHECKS_DISABLE=true -p 9000:9000 sonarqube:latest
WARNING: Run the following command only once

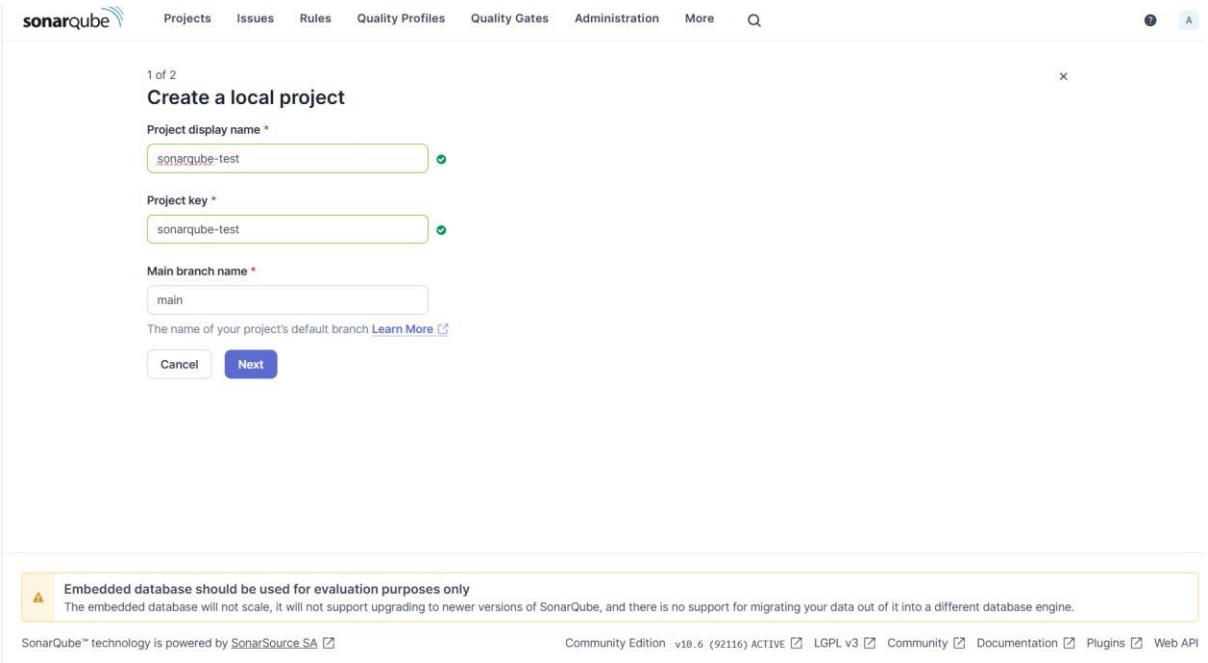


Step 2: Visit http://localhost:9000/ to open SonarQube. Login with username: admin and password: admin.



Step 3: Click on create a local project and name the project as sonarqube-test and key as sonarqube-test and click on the next button. In the next step select the “Use the global setting” option and click on create project.


localhost:9000/projects/create
sonarqube
Projects
Issues
Rules
Quality Profiles
Quality Gates
Administration
More
How do you want to create your project?
Do you want to benefit from all of SonarQube's features (like repository import and Pull Request decoration)?
Create your project from your favorite DevOps platform.
First, you need to set up a DevOps platform configuration.
Import from Azure DevOps
Setup
Import from Bitbucket Cloud
Setup
Import from Bitbucket Server
Setup
Import from GitHub
Setup
Import from GitLab
Setup
Are you just testing or have an advanced use-case? Create a local project.
Create a local project
Embedded database should be used for evaluation purposes only
The embedded database will not scale, it will not support upgrading to newer versions of SonarQube, and there is no support for migrating your data out of it into a different database engine.
SonarQube™ technology is powered by SonarSource SA
Community Edition v10.6 (92116) ACTIVE
LGPL v3
Community
Documentation
Plugins
Web API


sonarqube
Projects
Issues
Rules
Quality Profiles
Quality Gates
Administration
More
1 of 2
Create a local project
Project display name *
sonarqube-test
Project key *
sonarqube-test
Main branch name *
main
The name of your project's default branch Learn More
Cancel
Next
Embedded database should be used for evaluation purposes only
The embedded database will not scale, it will not support upgrading to newer versions of SonarQube, and there is no support for migrating your data out of it into a different database engine.
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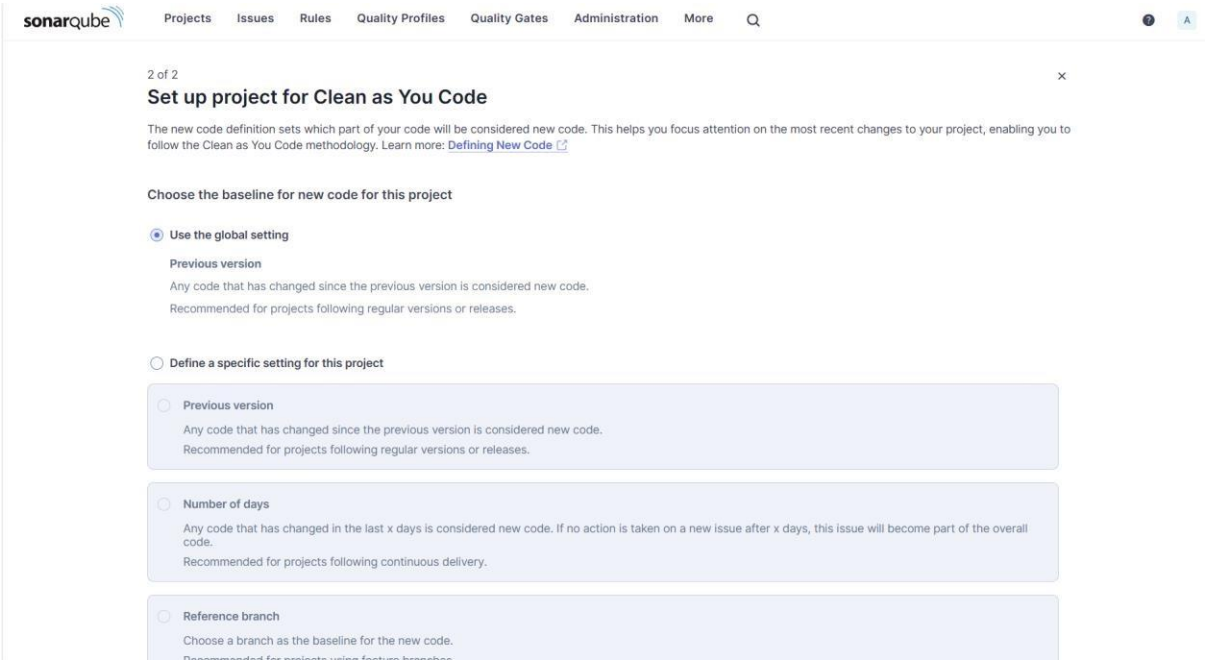
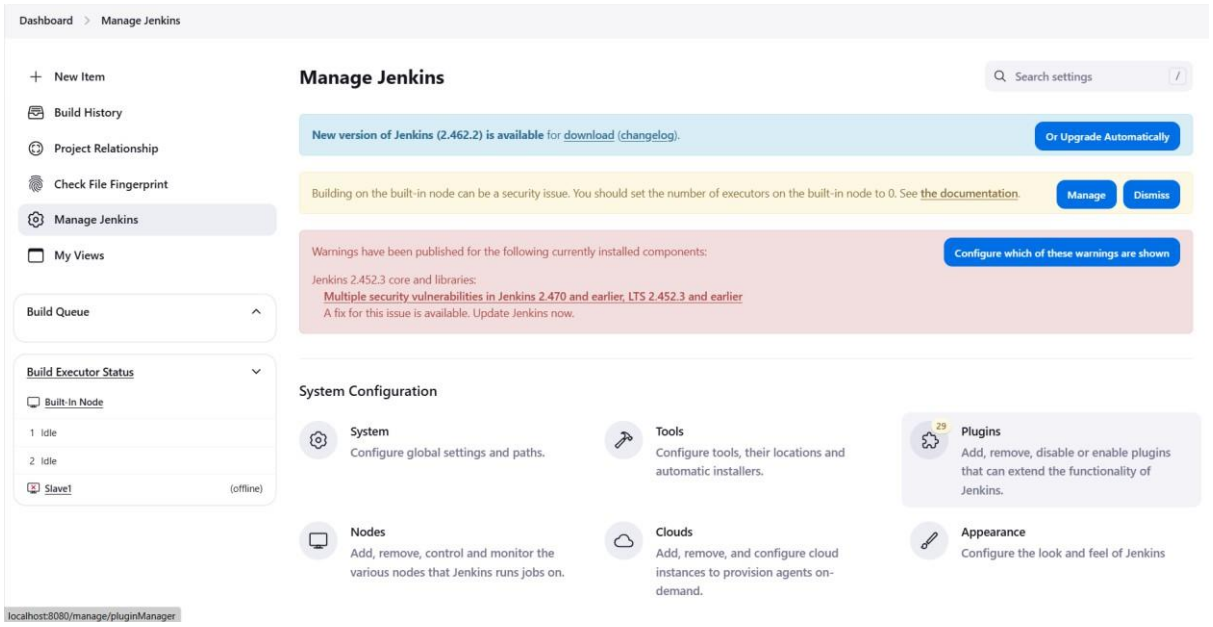
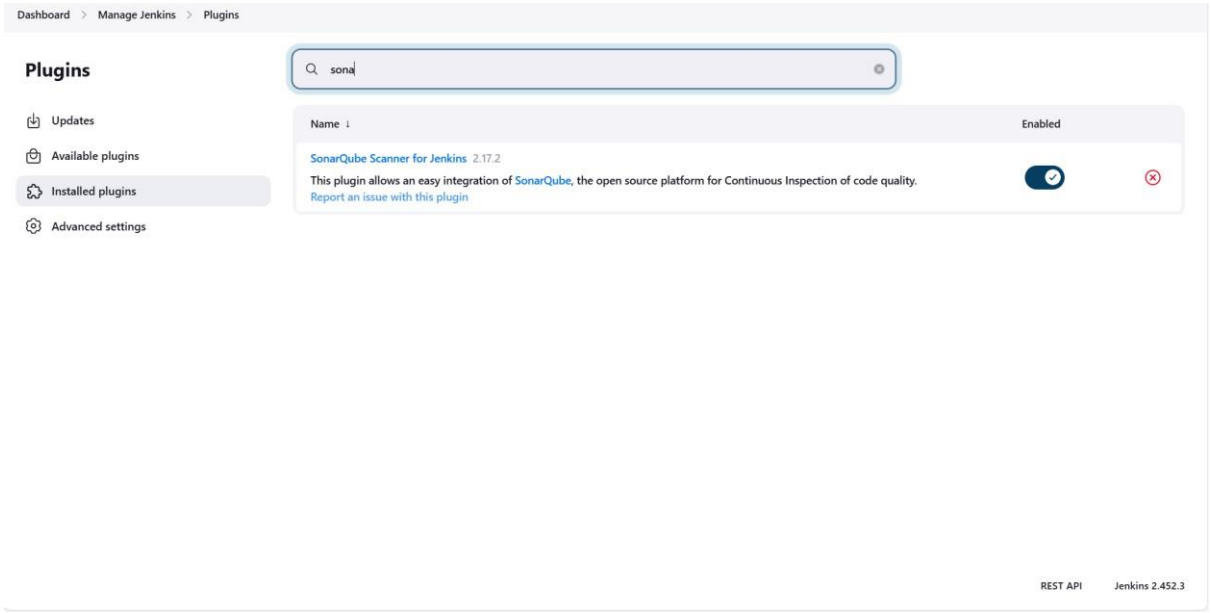
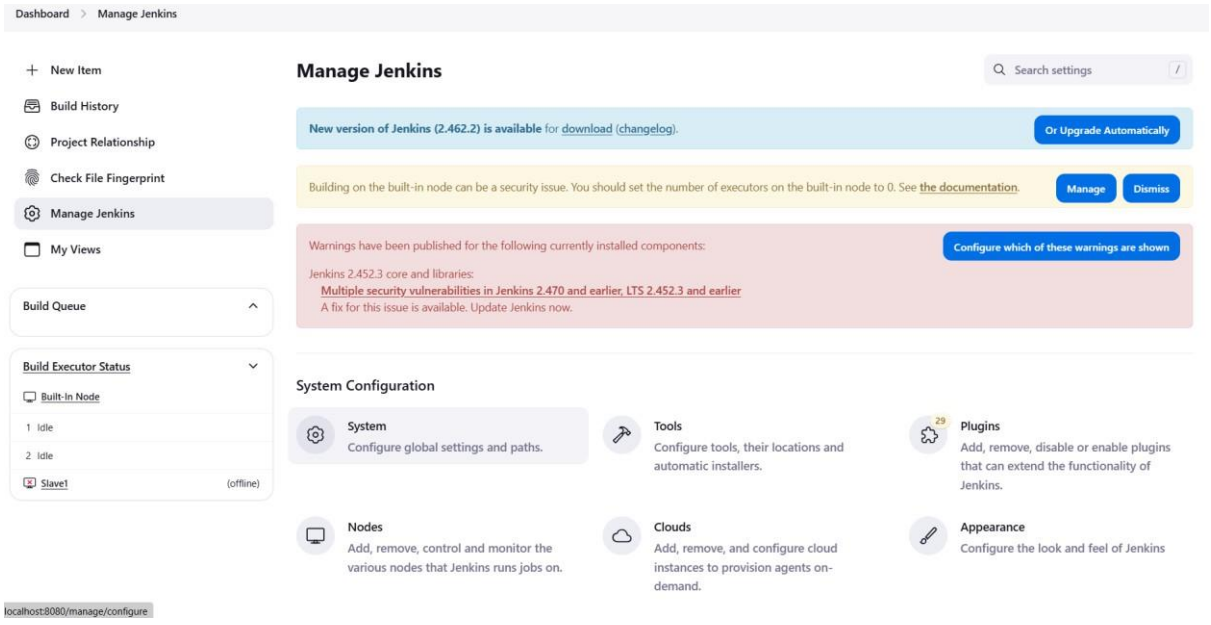


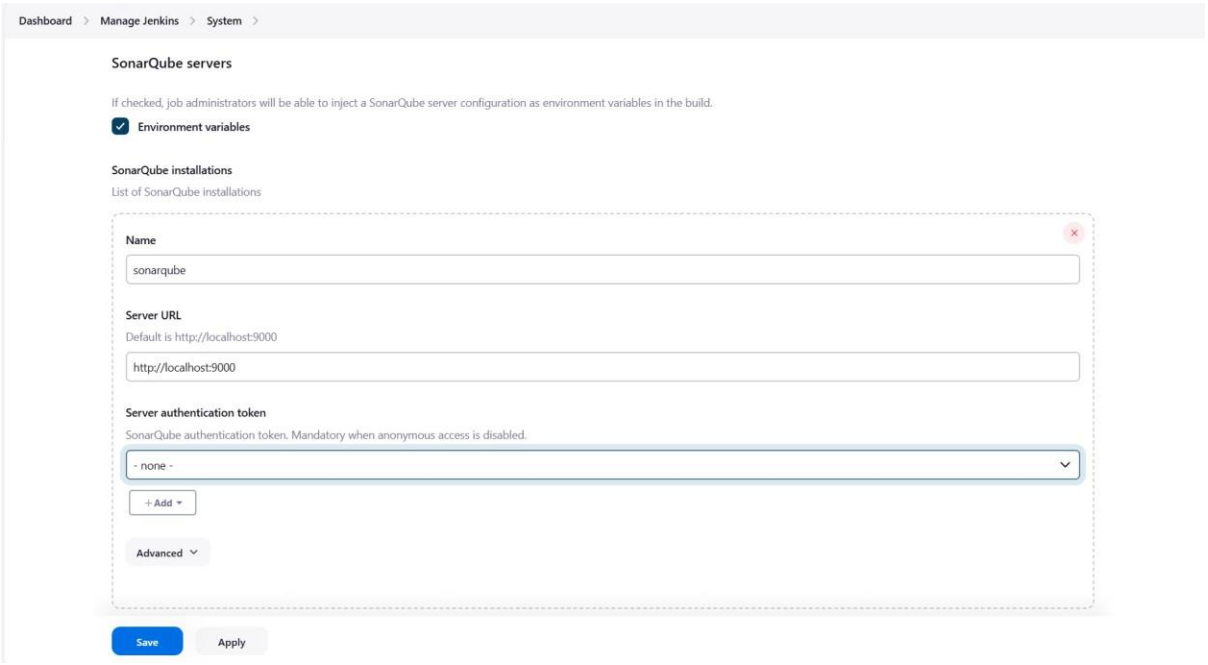
Step 4: Open Jenkins using http://localhost:8080/ and select Manage Jenkins, then select the Plugins and select available plugins from sidebar and search for SonarQube Scanner and install it. Once installed you can view the installed plugin in installed plugins section in sidebar.



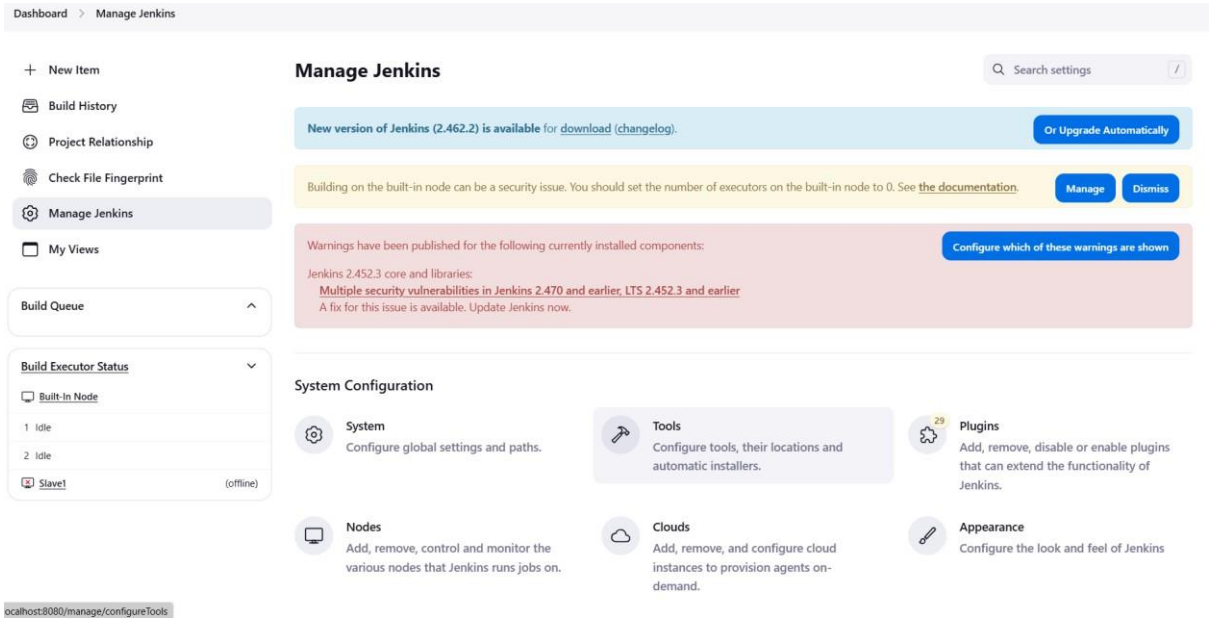


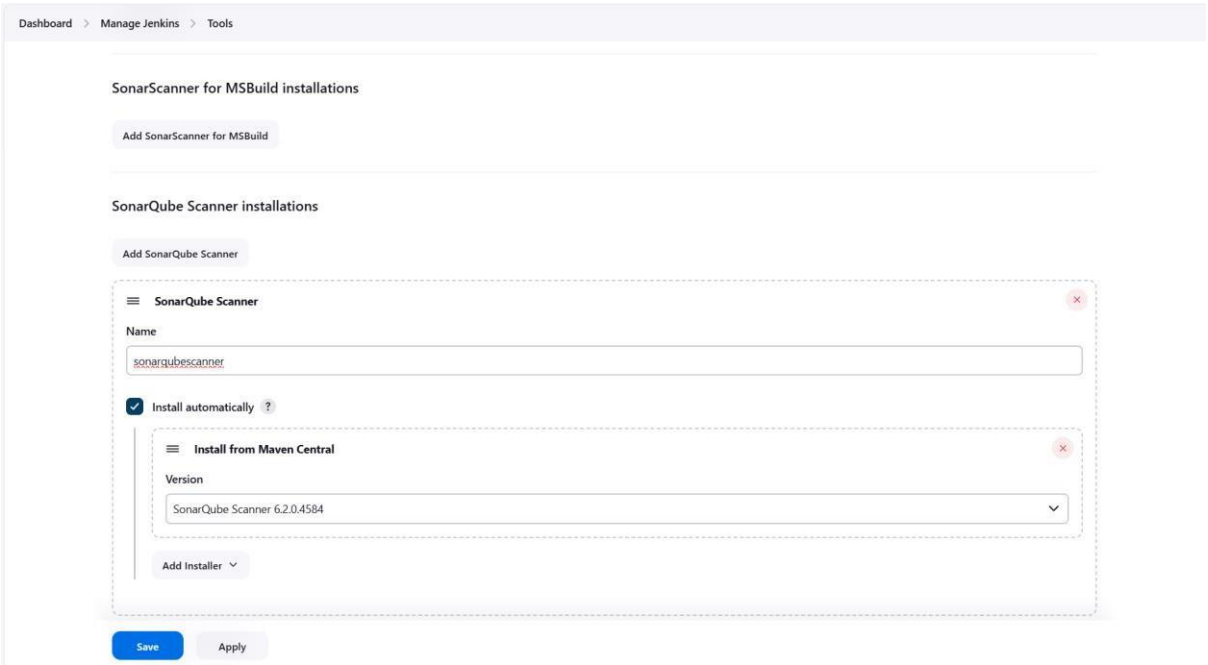
Step 5: Select Manage Jenkins, then select the System and then scroll down to SonarQube Server. Name the server as sonarqube and set the server url as http://localhost:9000/ then click on save.



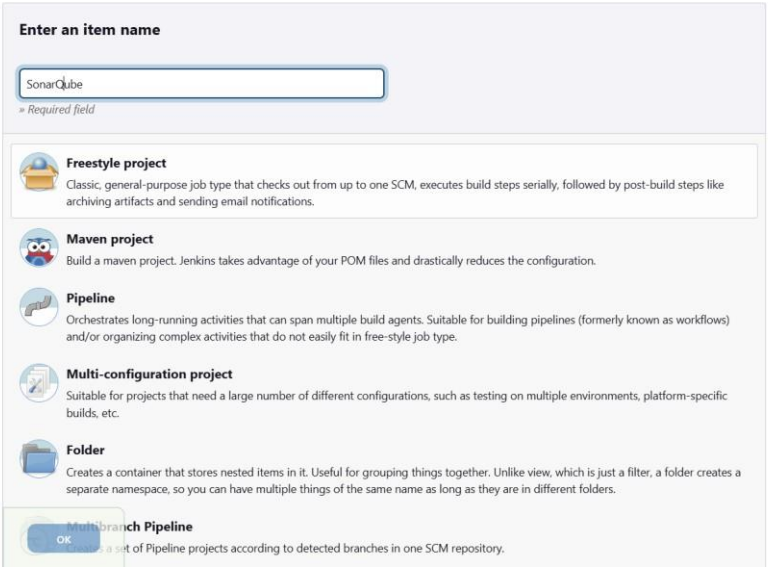


Step 6: Go to Jenkins Dashboard and select Manage Jenkins, then select the Tools and then scroll down to SonarQube Scanner installations. Name the sonarqube scanner as sonarqubescanner and select install automatically then click on save.

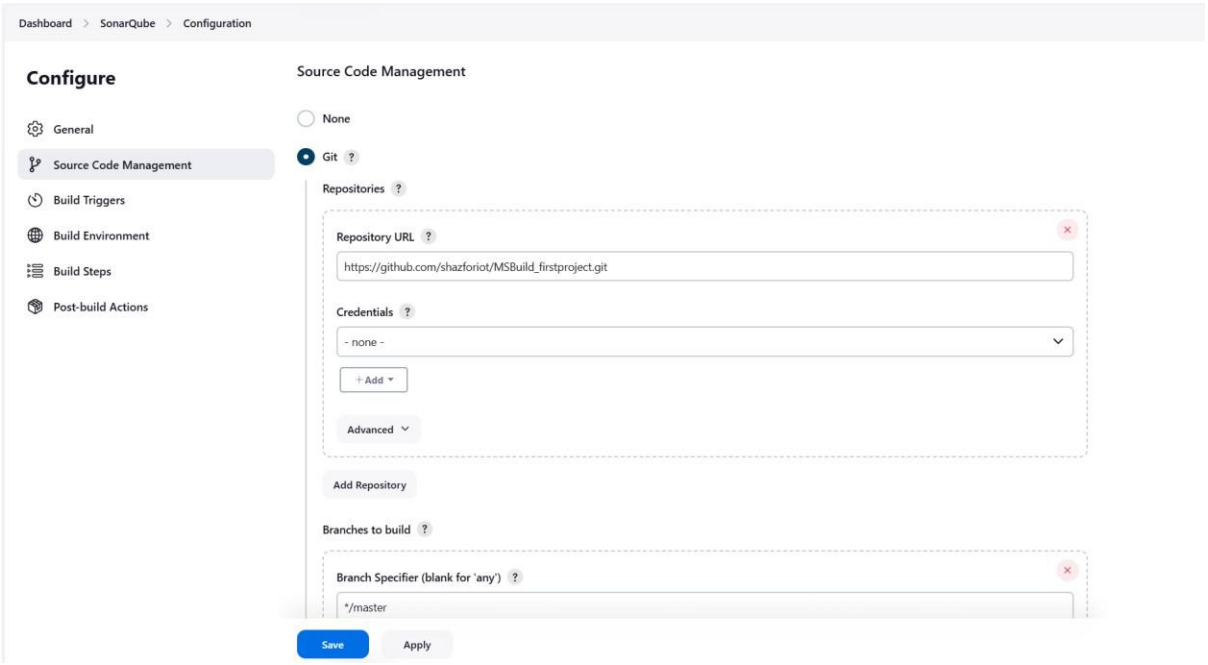




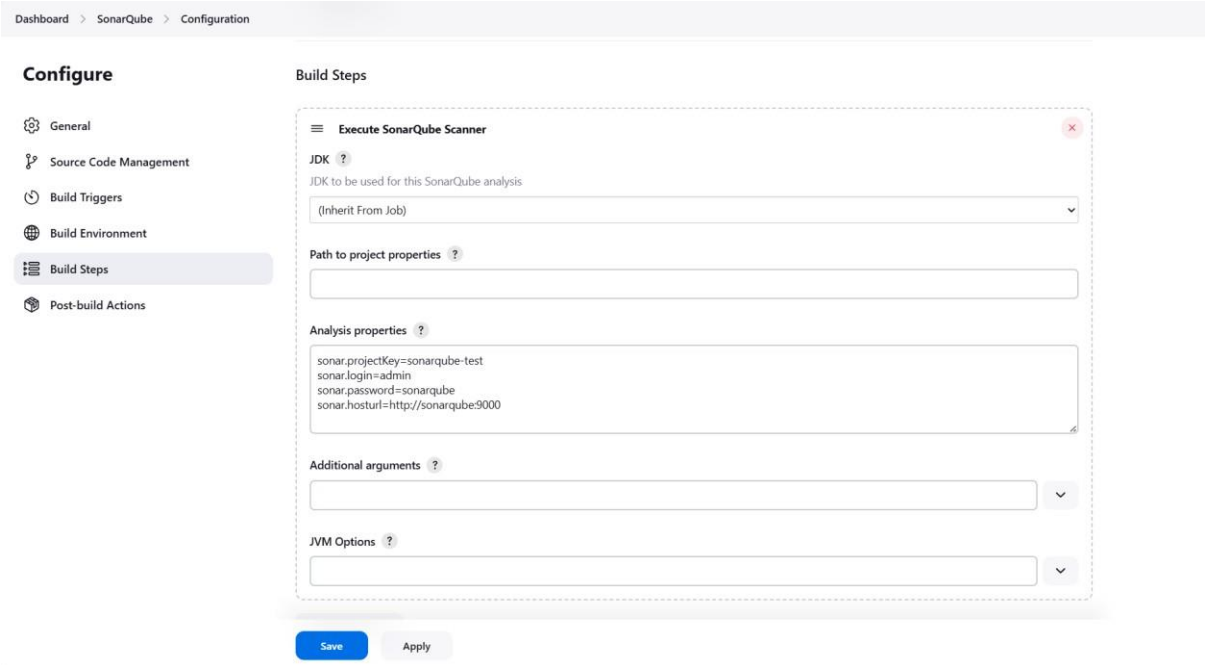
Step 7: Go to Jenkins dashboard and click on New Item and select Freestyle project and name it as SonarQube and then click on ok.

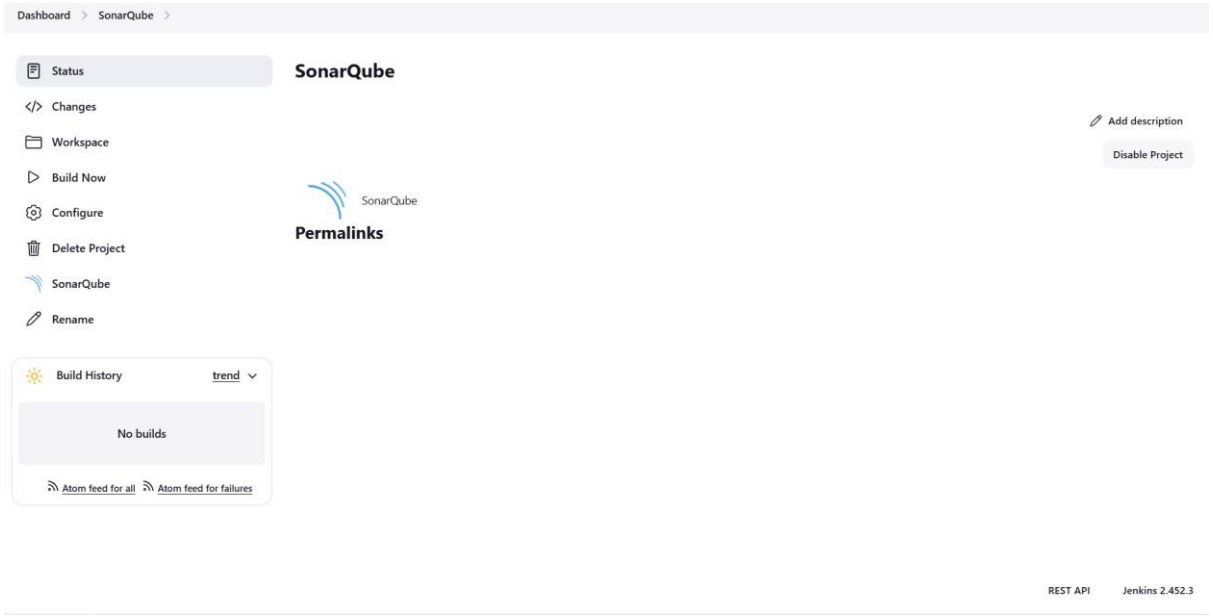


Step 8: For configuration, Select git and paste the following git repository in the repository url.
https://github.com/shazforiot/MSBuild_firstproject
This is a simple Hello world project

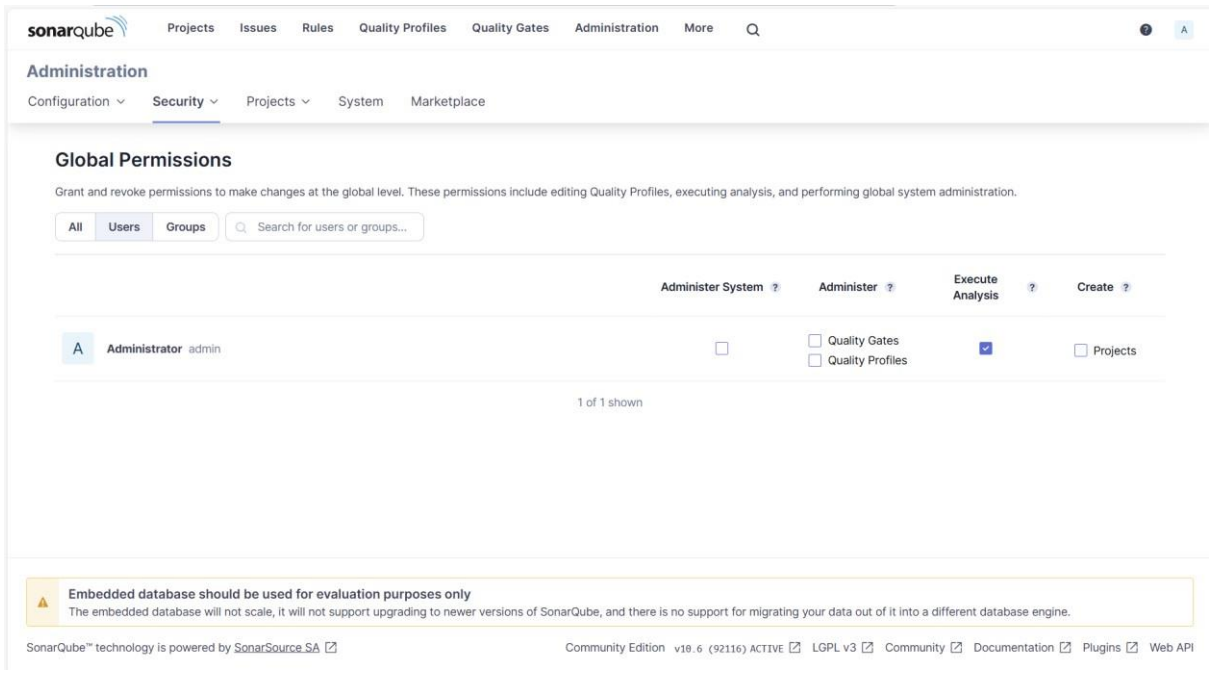


Step 9: Under the Build steps select "Execute SonarQube Scanner" option and under Analysis Properties write the following -
sonar.projectKey=sonarqube-test
sonar.login=admin
sonar.password=sonarqube
sonar.hosturl=http://sonarqube:9000
Then click on the save button.

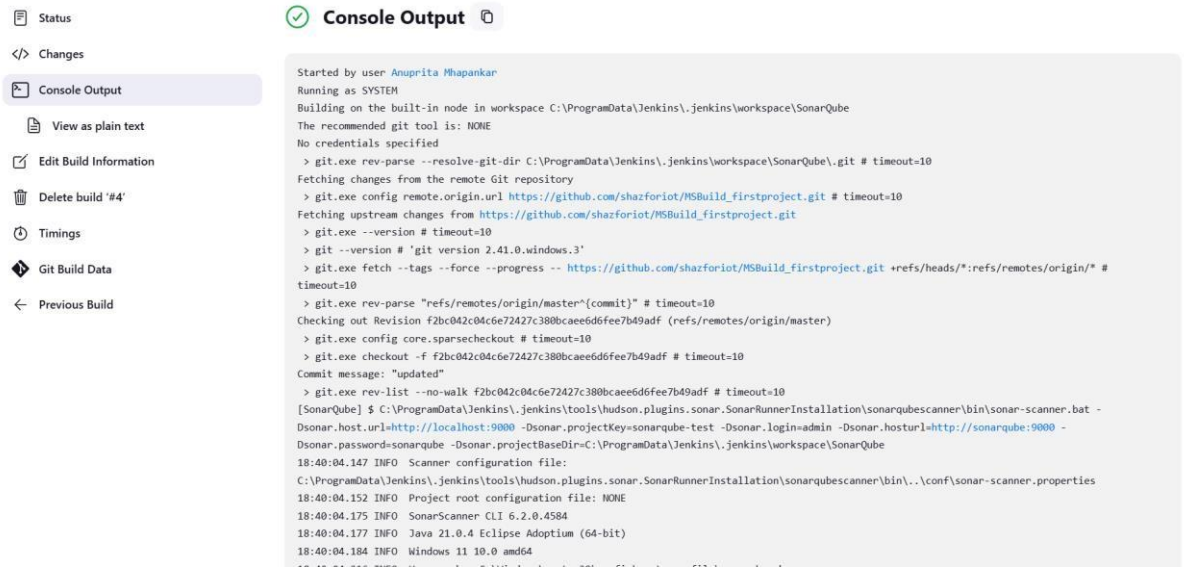


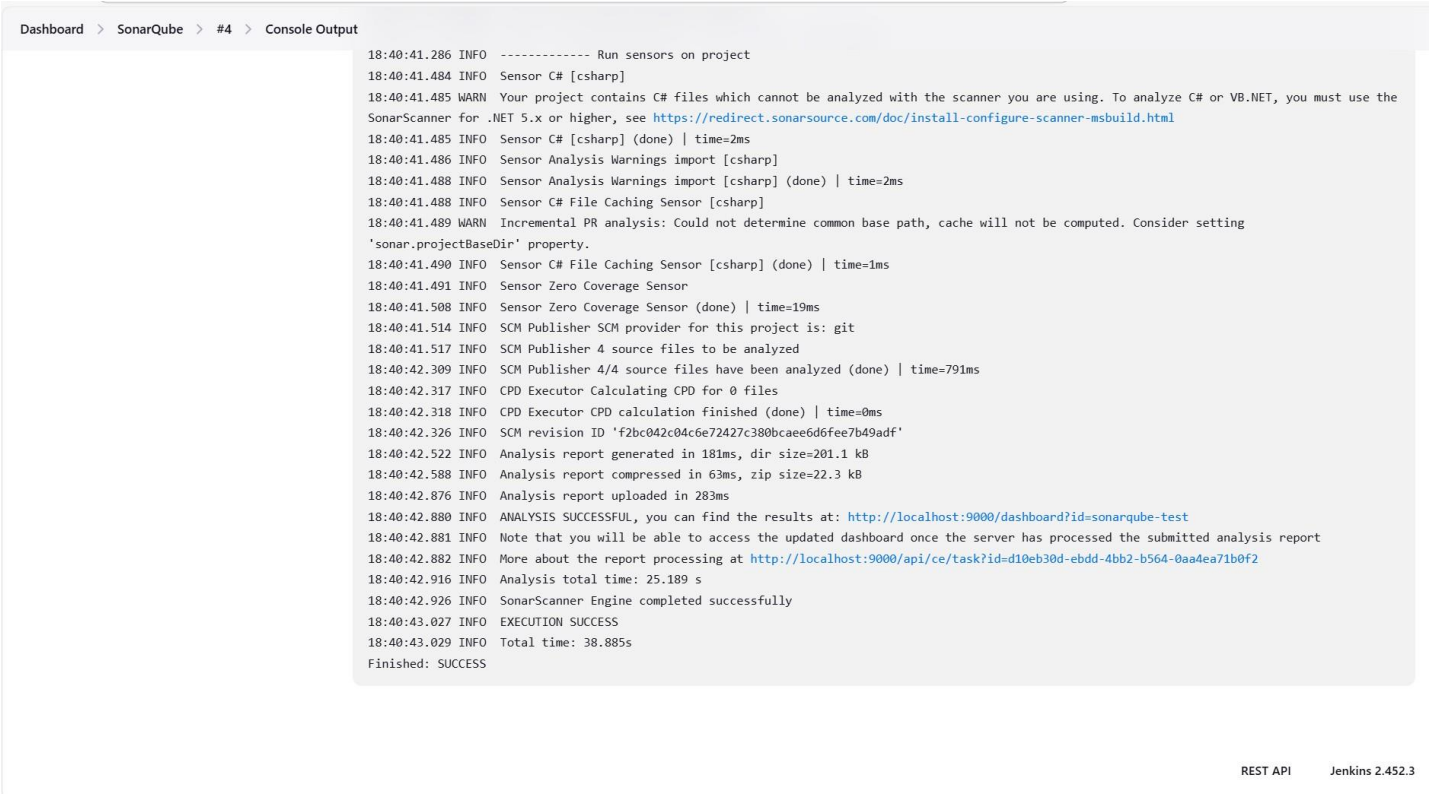


Step 10: Visit http://localhost:9000/admin/permissions and select the Users tab and for Administrator select the checkbox Execute Analysis.

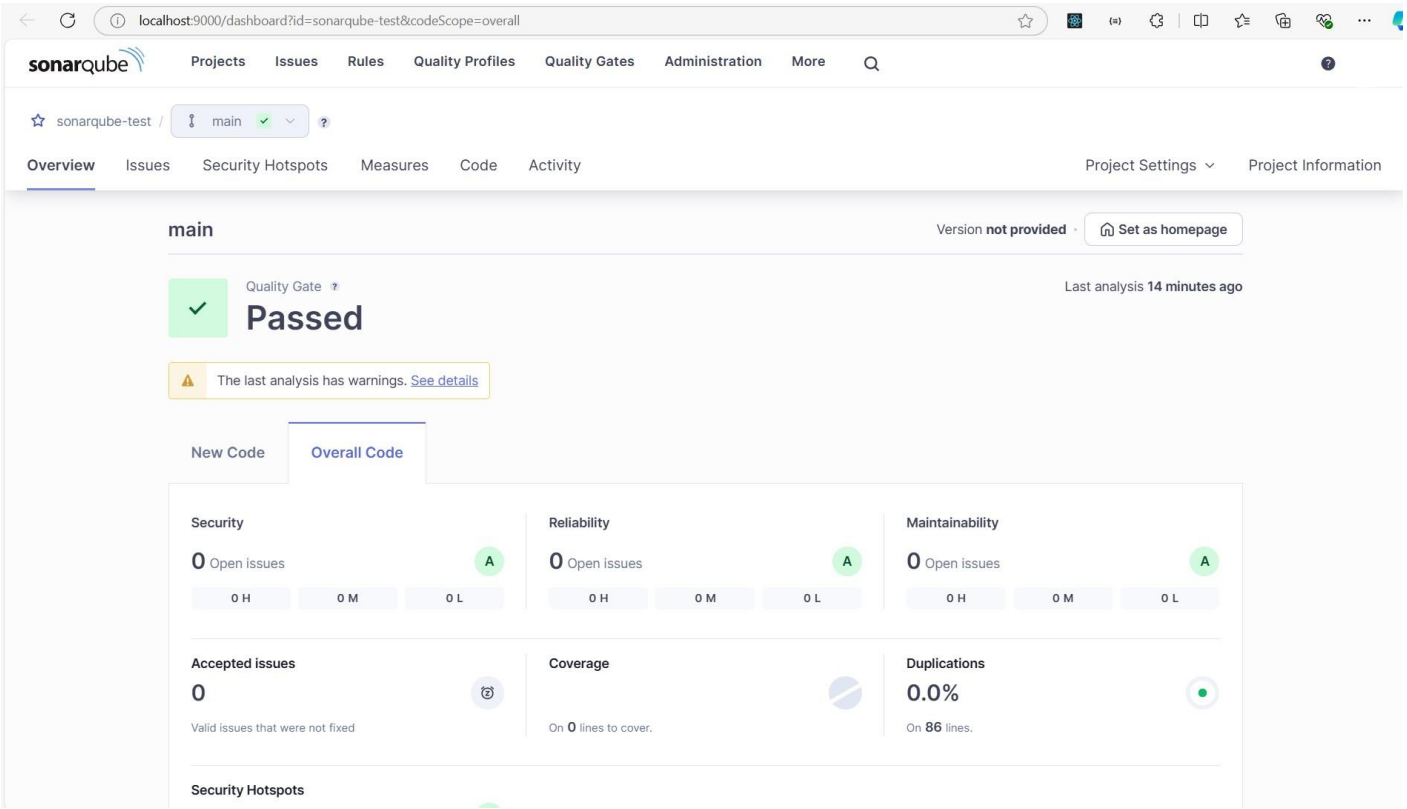


Step 11: Now, come back to Jenkins and click on Build Now. The build is success.





Step 12: Visit the following URL to see the result - http://localhost:9000/dashboard?id=sonarqube-test&codeScope=overall


localhost:9000/dashboard?id=sonarqube-test&codeScope=overall
sonarqube
Projects
Issues
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Quality Profiles
Quality Gates
Administration
More
sonarqube-test
main
Overview
Issues
Security Hotspots
Measures
Code
Activity
Project Settings
Project Information
main
Version not provided
Set as homepage
Quality Gate
Passed
Last analysis 14 minutes ago
The last analysis has warnings. See details
New Code
Overall Code
Security
0 Open issues
A
0 H
0 M
0 L
Reliability
0 Open issues
A
0 H
0 M
0 L
Maintainability
0 Open issues
A
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