EXPERIMENT NO:7

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

Procedure:

1.Creation of project on Sonarqube

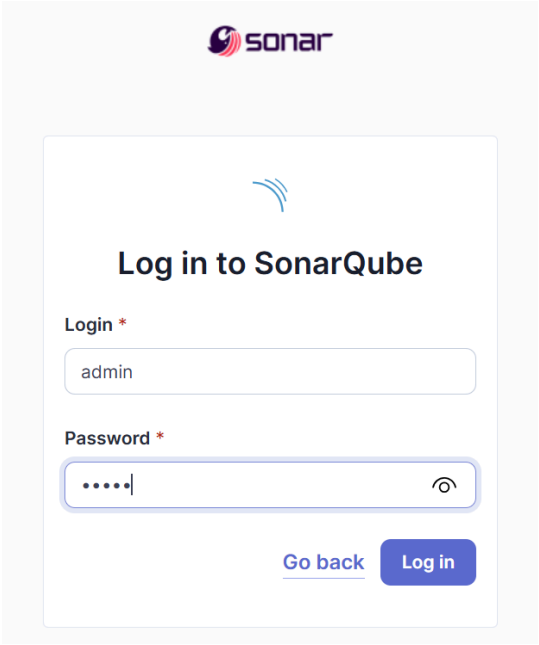
1. Open the command prompt and perform this command

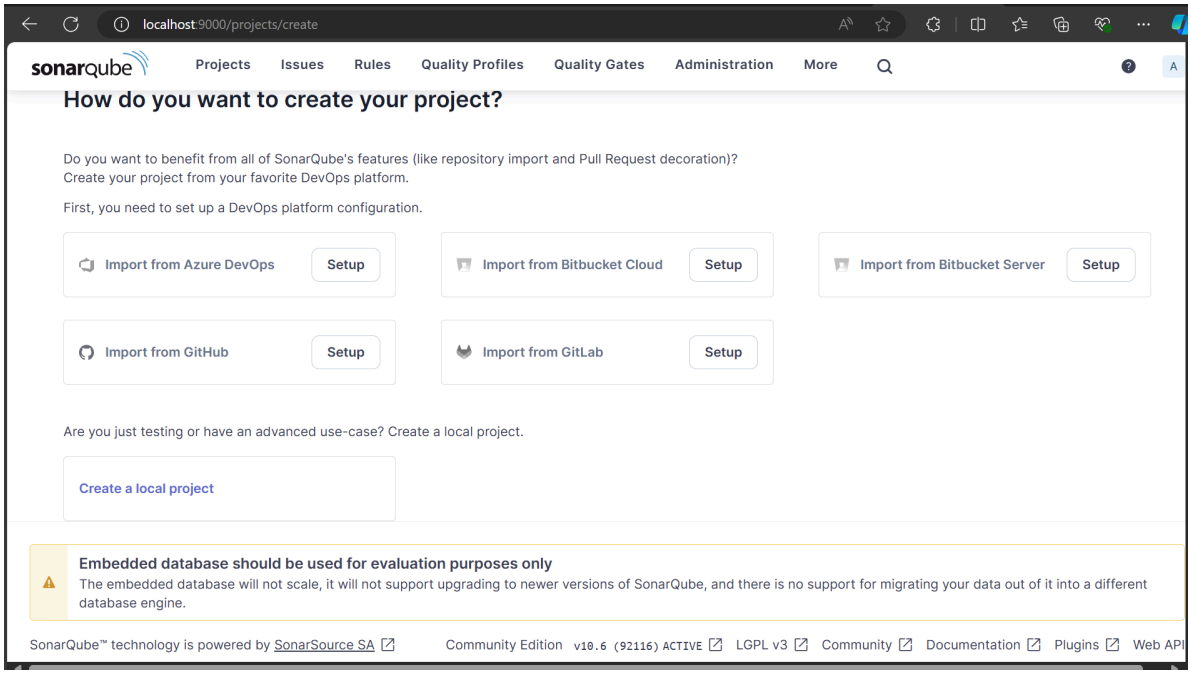
(**Docker must be Installed before running this command.**)

docker run -d --name sonarqube -e SONAR_ES_BOOTSTRAP_CHECKS_DISABLE=true -p 9000:9000 sonarqube:latest

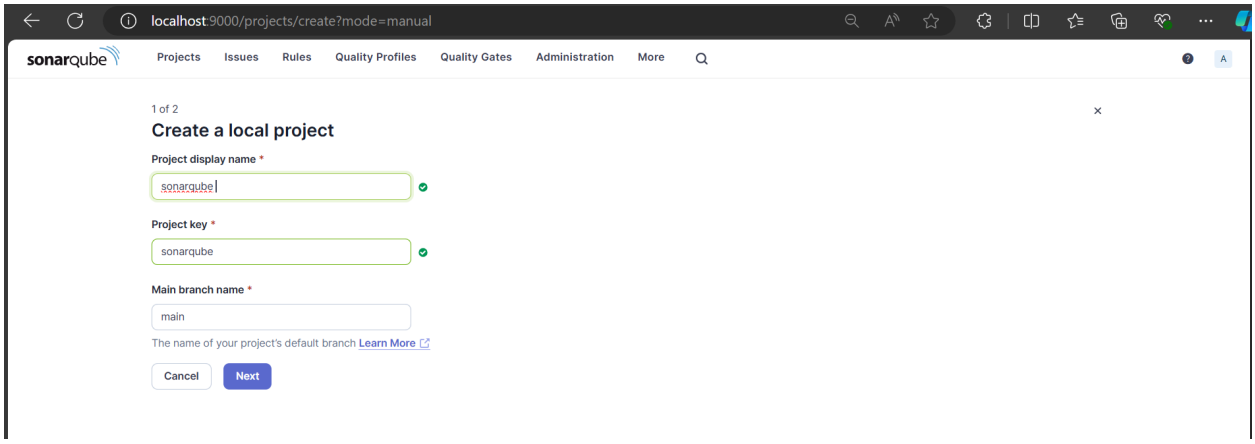
```
PS C:\Users\Sadneya> docker run -d --name sonarqube -e SONAR_ES_BOOTSTRAP_CHECKS_DISABLE=true -p 9000:9000 sonarqube:latest
Unable to find image 'sonarqube:latest' locally
latest: Pulling from library/sonarqube
7478e0ac0f23: Pull complete
90a925ab929a: Pull complete
7d9a34308537: Pull complete
80338217a4ab: Pull complete
1a5fd5c7e184: Pull complete
7b87d6fa783d: Pull complete
bd819c9b5ead: Pull complete
4f4fb700ef54: Pull complete
Digest: sha256:72e9feec71242af83faf65f95a40d5e3bb2822a6c3b2cda8568790f3d31aecde
Status: Downloaded newer image for sonarqube:latest
19948c8162691fd8be61d035e355c4fe4a6a2fd0a15237e94f75c0857ff7e2ff
```

2. Then after its successful execution, run the sonarqube at http://localhost:9000
3. Then Login as Username admin and password admin.

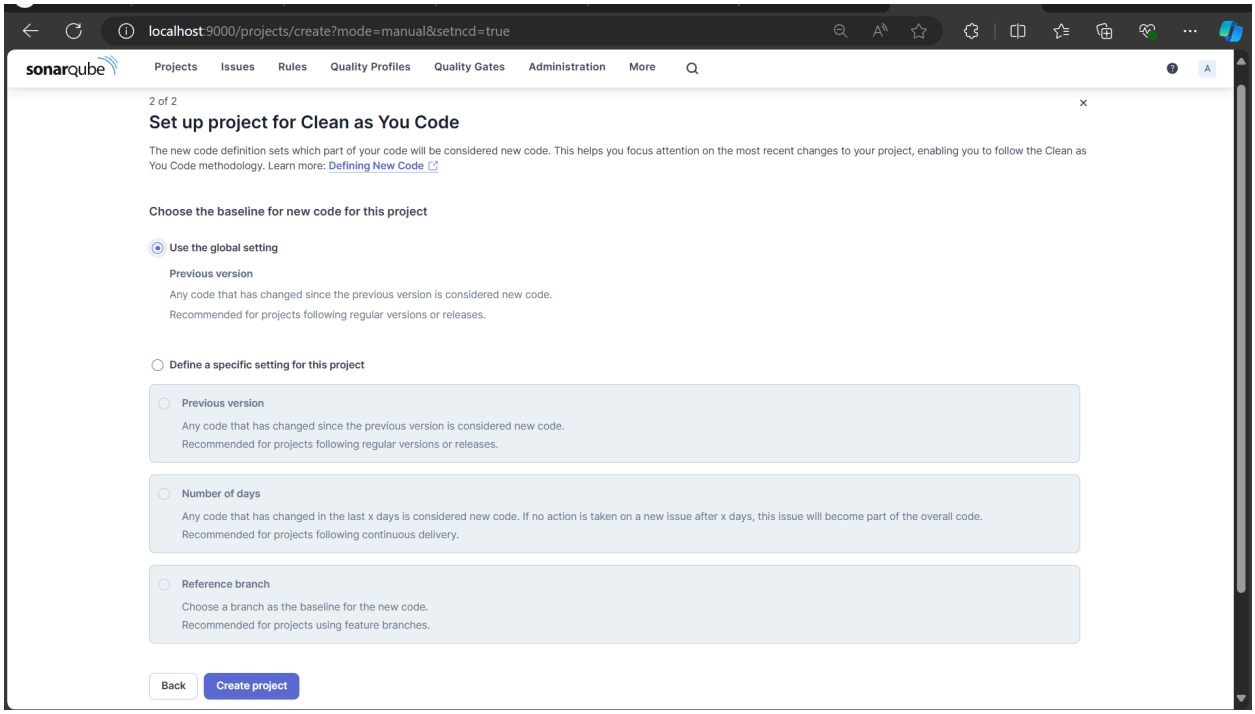




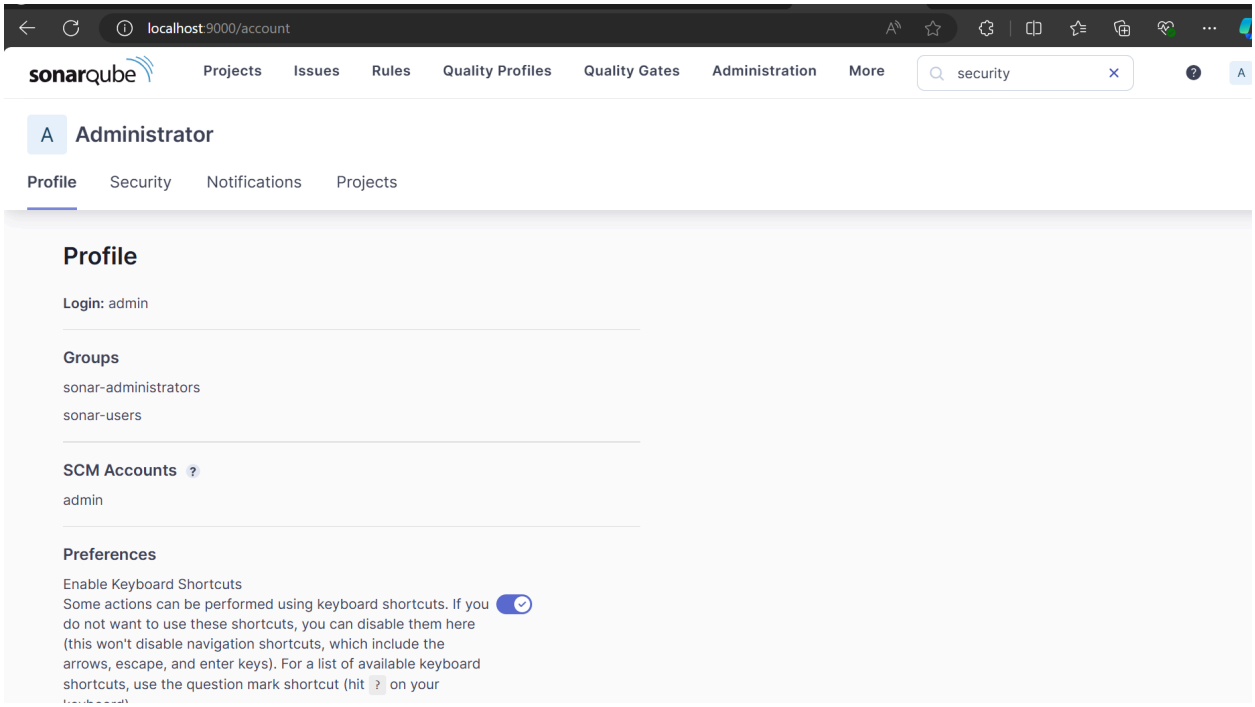
4. Then create a project. Here I have given the name “sonarqube”. Keep branch name main only and then click on next.



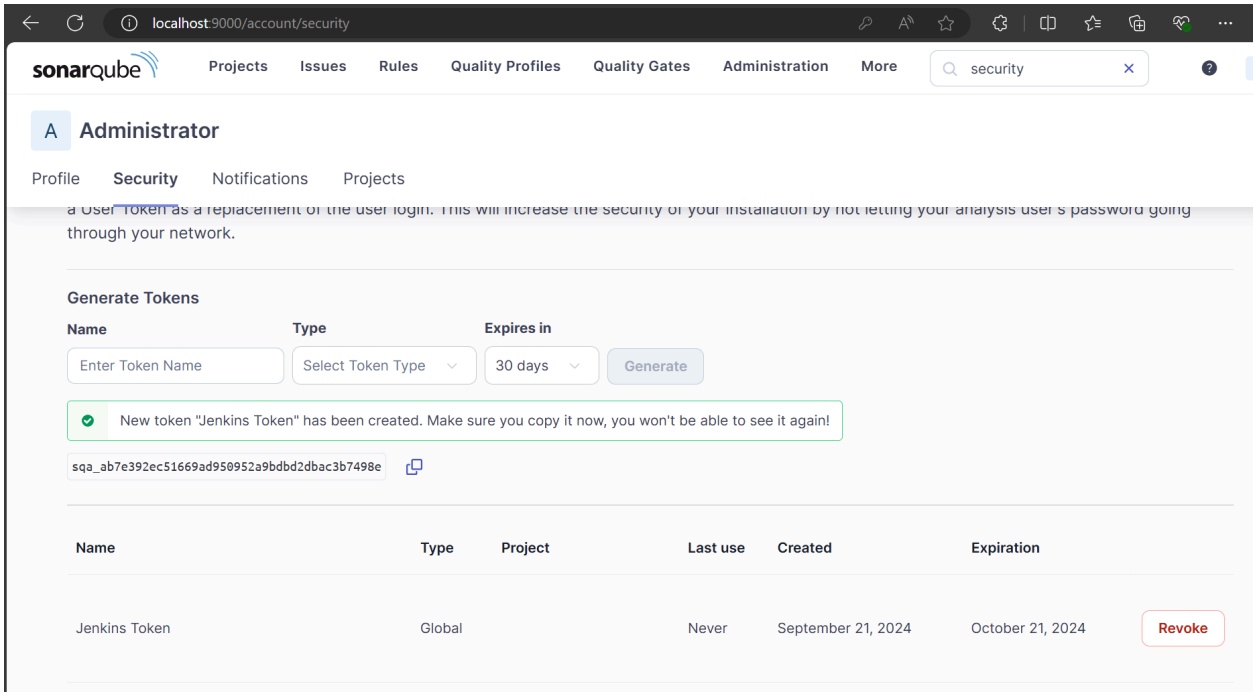
5. Then in the Setup project for clean as you code they will ask to choose the baseline for new code for this project. Choose Use the global setting.Then click on create project.



6. Then click on your account profile and select my account.Inside this click on security option.



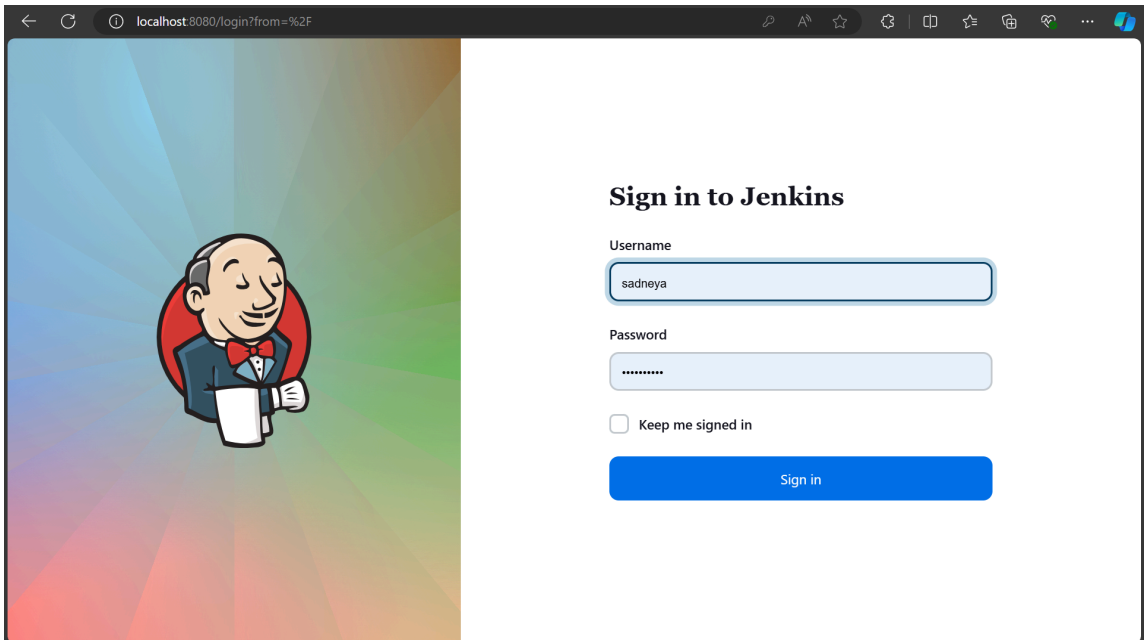
7. Then set the name of your token and here I have chosen the global scope of the token and then clicked on generate token, thus token created successfully.(Here I have given my token name as ‘jenkins token’.)



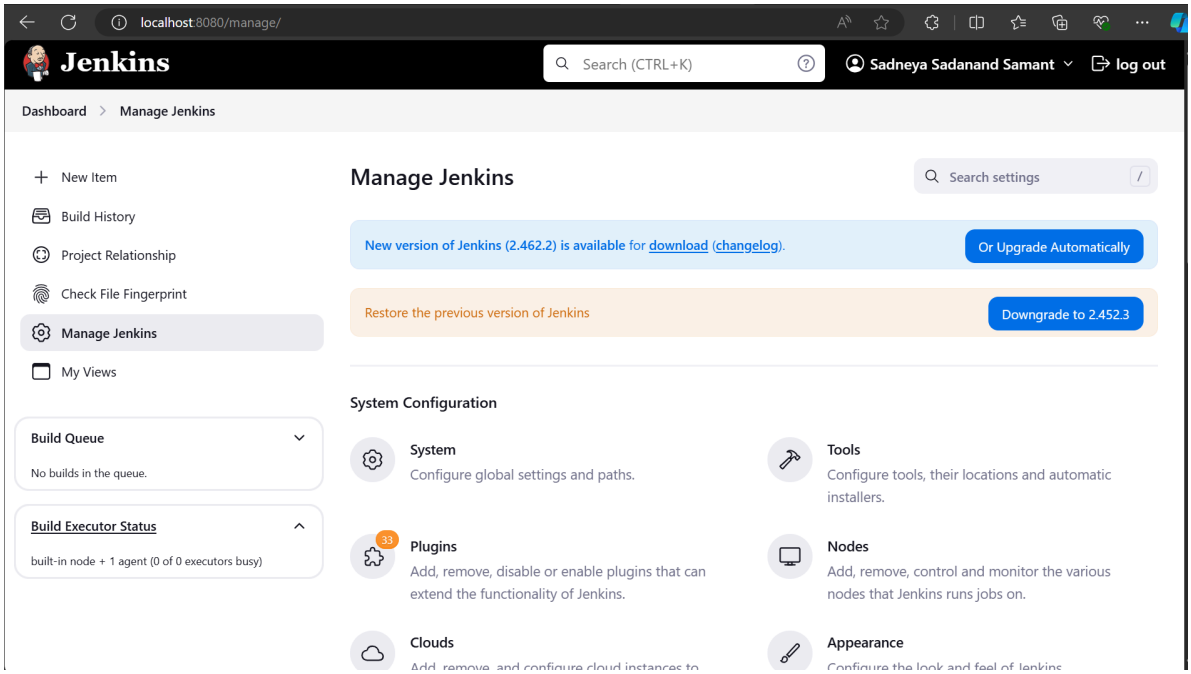
Copy and paste this token as it will be used ahead in Jenkins.

2.Creation Freestyle project on Jenkins

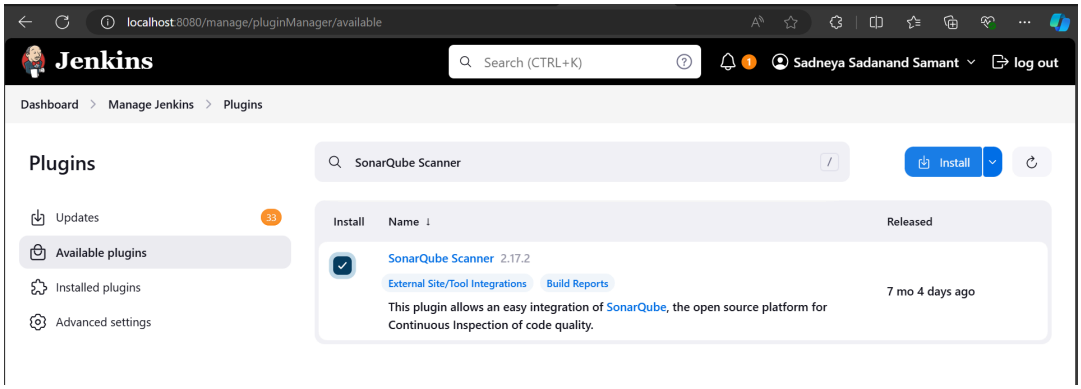
1. Run the jenkins at http://localhost:8080 and enter username and password and click on sign in

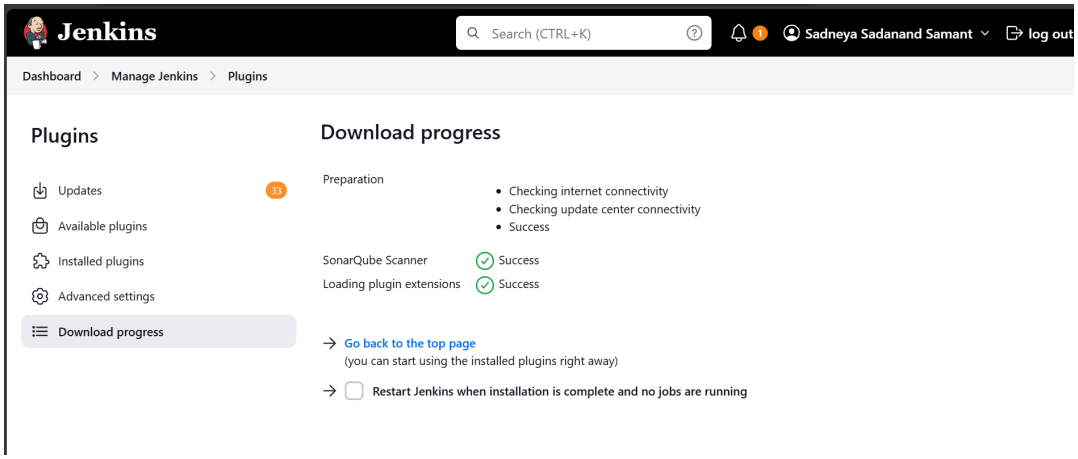


2. Then Click on manage Jenkins.

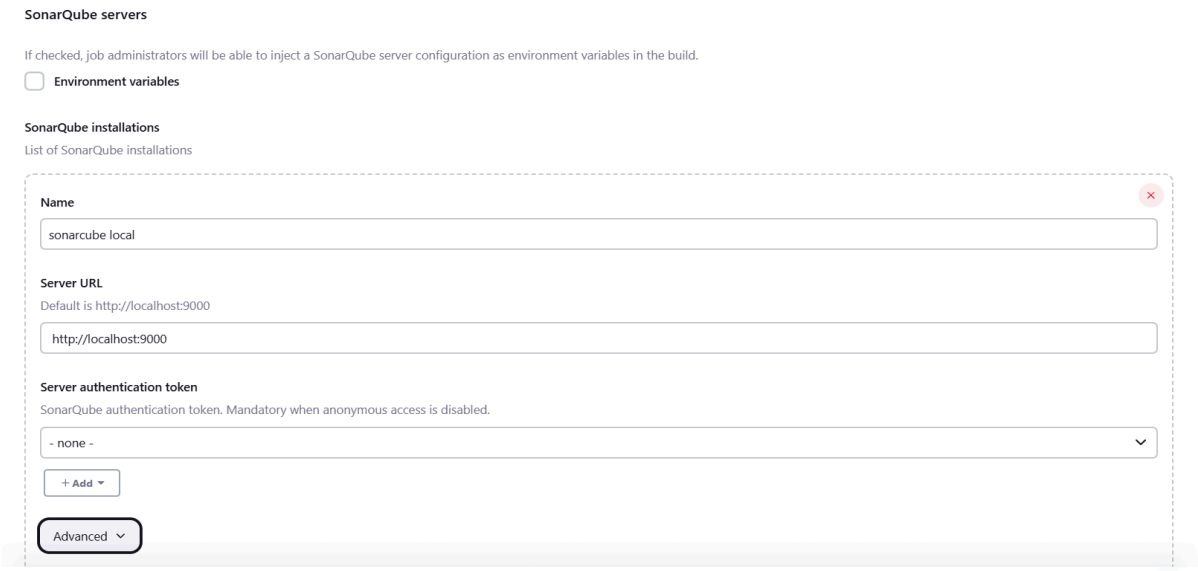


3. Here click on Plugins.Inside Available Plugins search for SonarQube Scanner and then click on Install.Then again restart Jenkins.

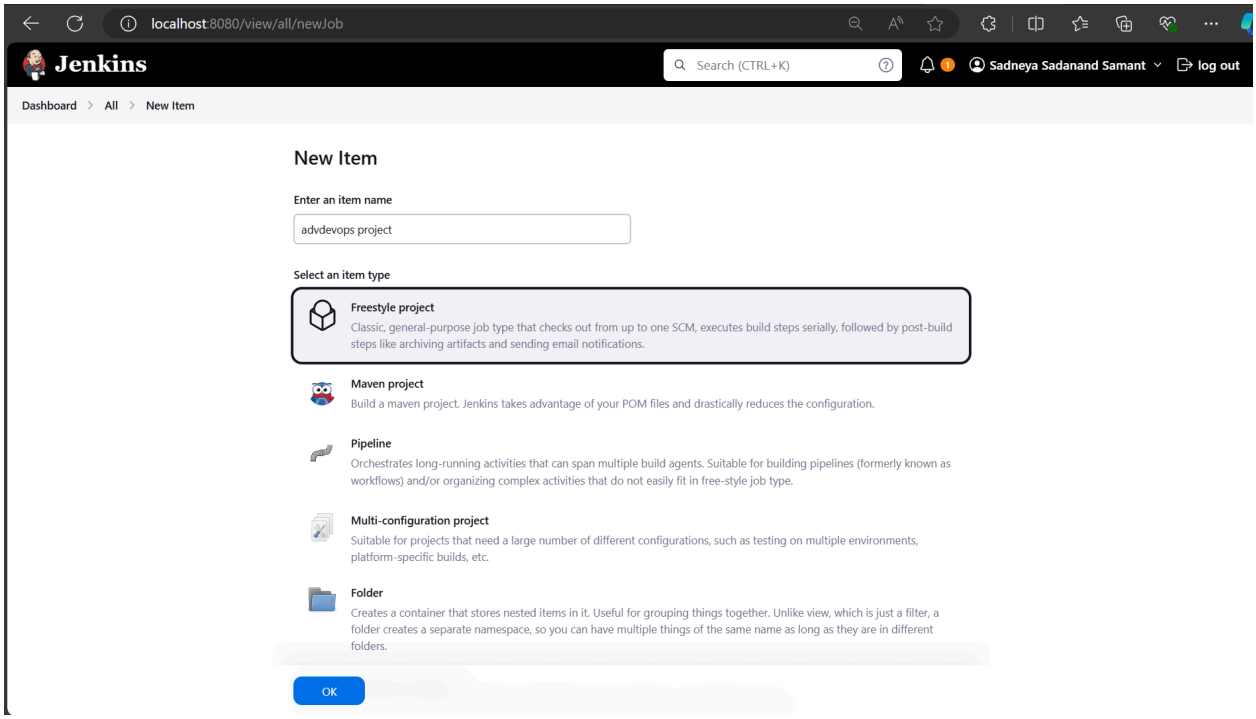




4. Then go back to Manage Jenkins and click on system and search for sonarqube server.

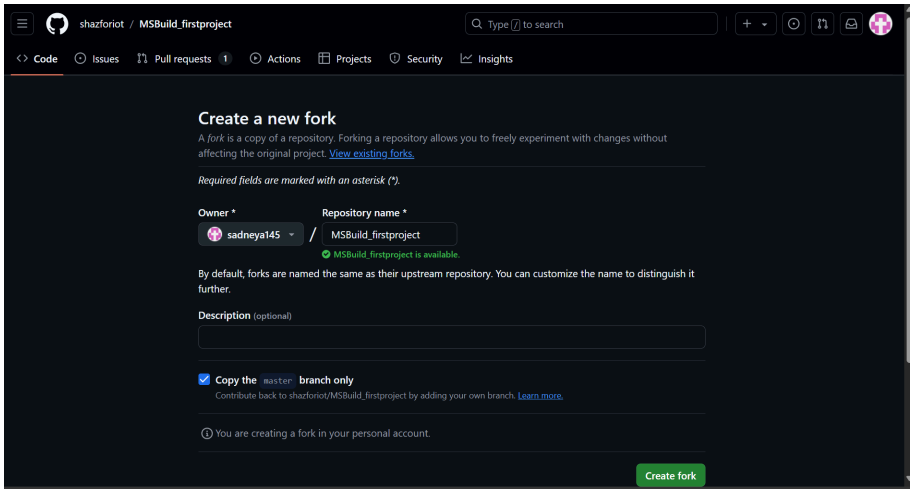


5. Click on the environment variables and give name to SonarQube installation.(here I have given the name as “sonarqube local”) then give the server URL as https://localhost:9000 then save and apply these changes.
6. Then select item type Freestyle Project and give name to your project here I have given name “advdevops project".Then click on ok.

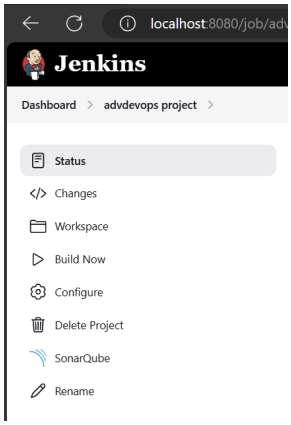


7. Choose the Github repository : https://github.com/shazforiot/MSBuild_firstproject.git

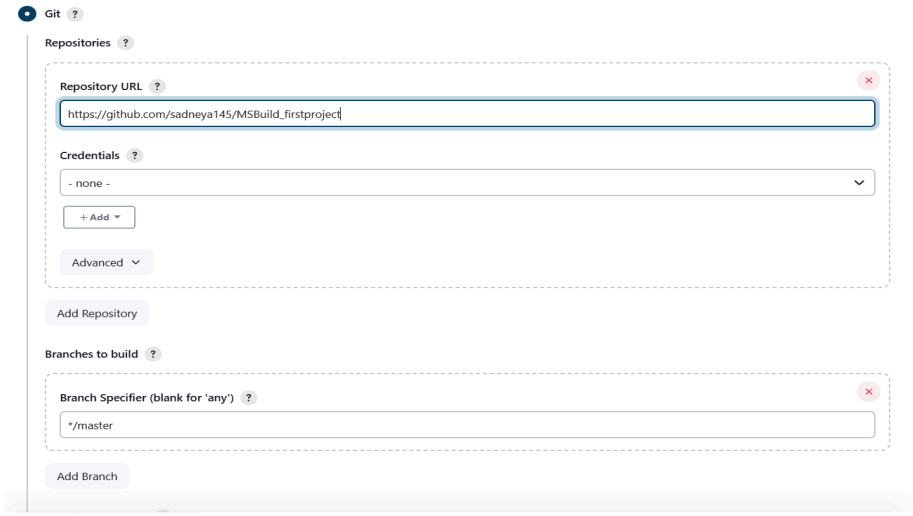
It is a sample hello-world project with no vulnerabilities and issues.It is just for testing purposes. Fork This Repository.



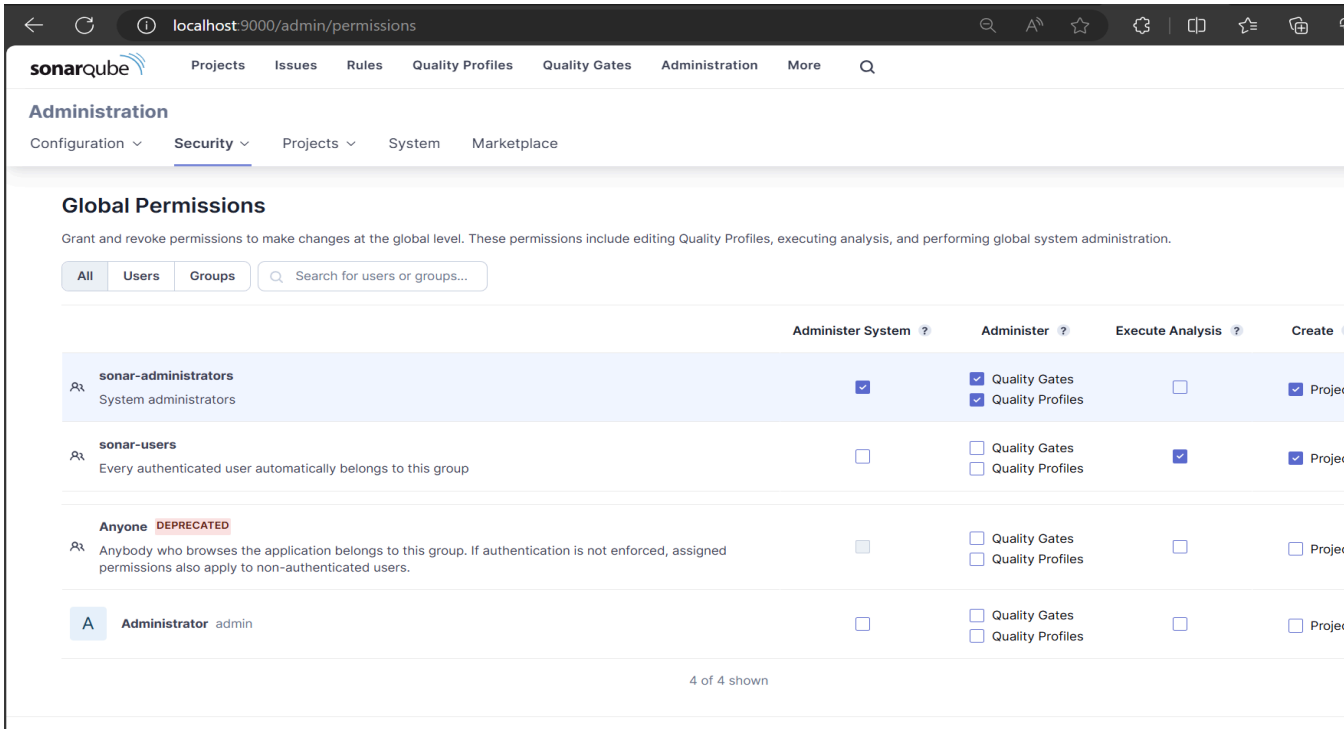
8. Then click on your project and then go to configure.



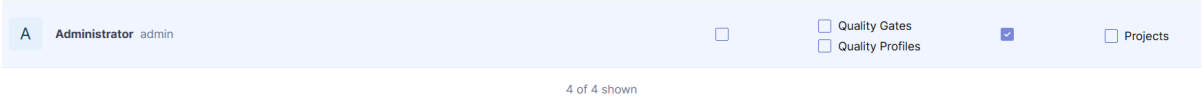
9. Then enable Git and add that github Repository URL.select */master branch.



10. Go to Sonarqube http://localhost:9000/<user_name>/permissions.



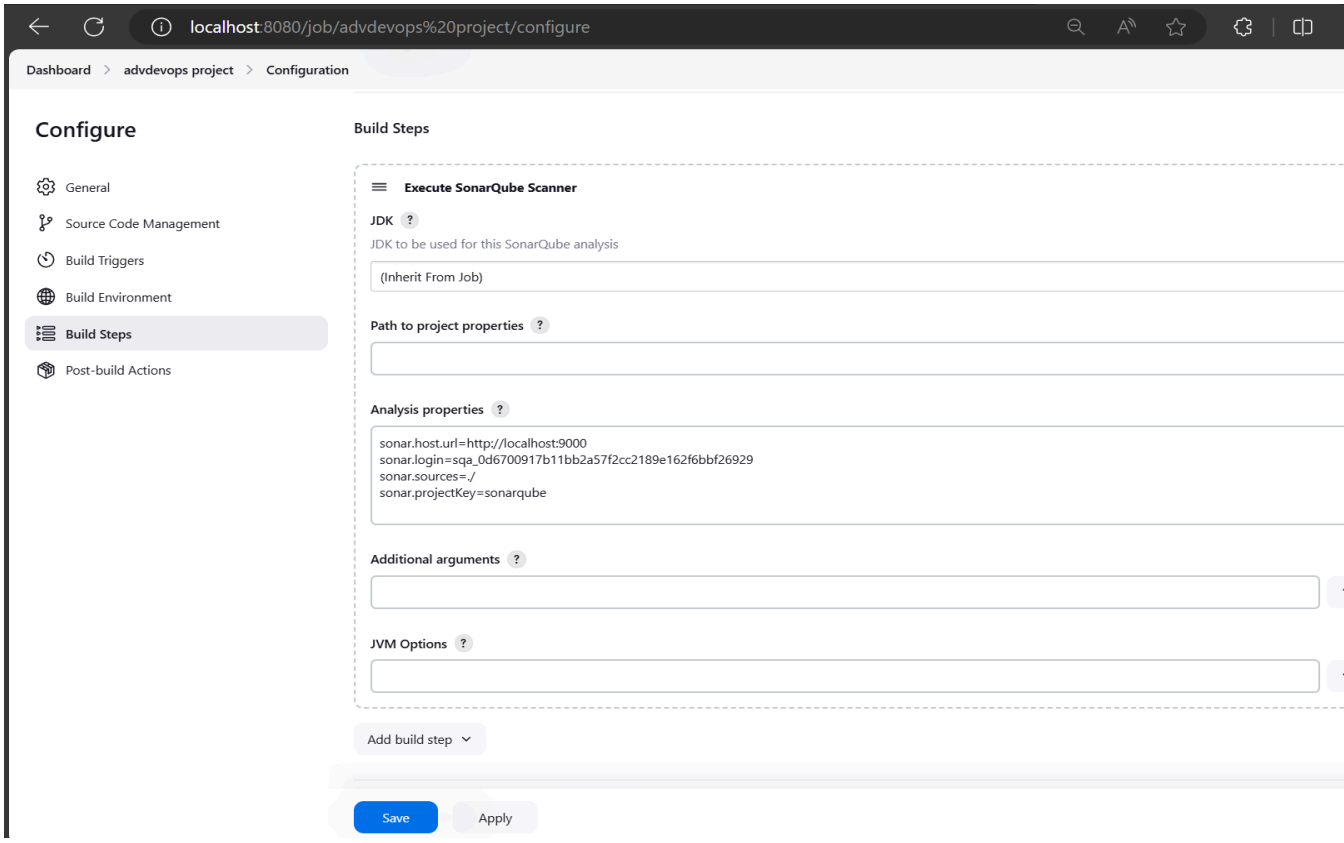
Then allow execute permissions to Admin User.



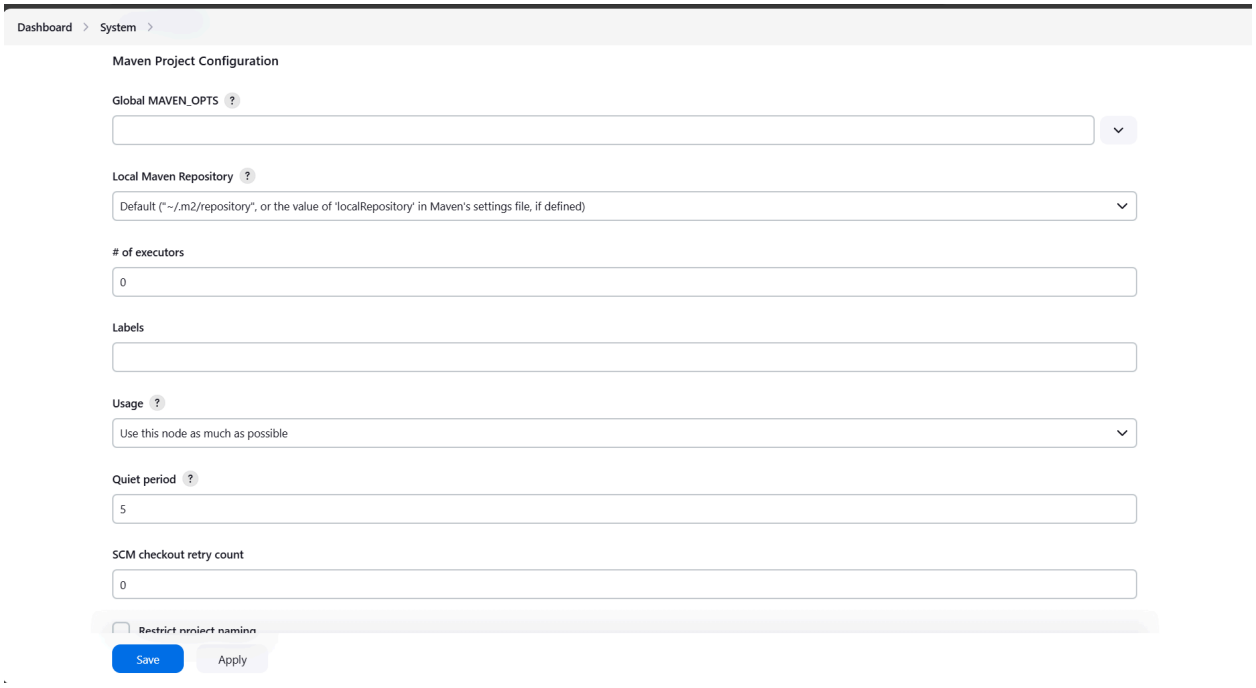
11. Then again Go inside the project and click on configure (addevops project->configure).Go there in the build steps section. Inside It add the analysis properties.

sonar.host.url=http://localhost:9000 (Your_url)
sonar.login=sqa_0d6700917b11bb2a57f2cc2189e162f6bbf26929 (login_token that You have copied on clipboard created in step 7 of creation of project of sonarqube)
sonar.sources=./
sonar.projectKey=sonarqube(project name)

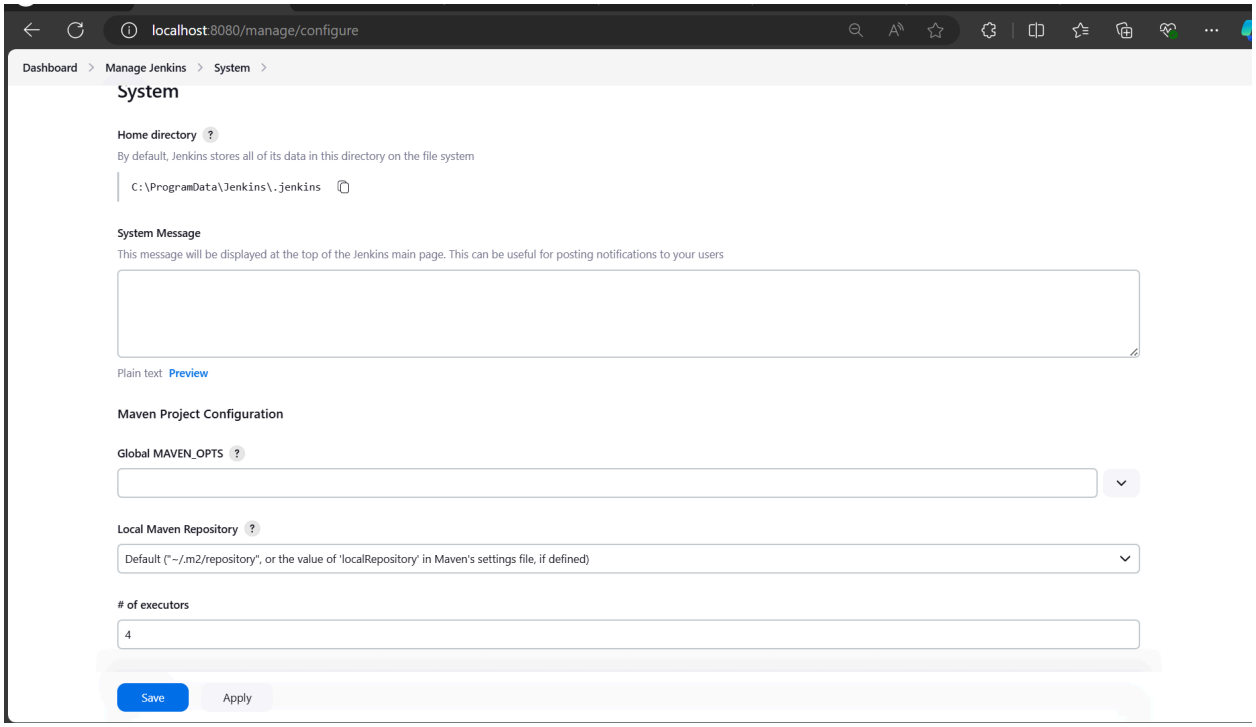
Then click on save and apply.



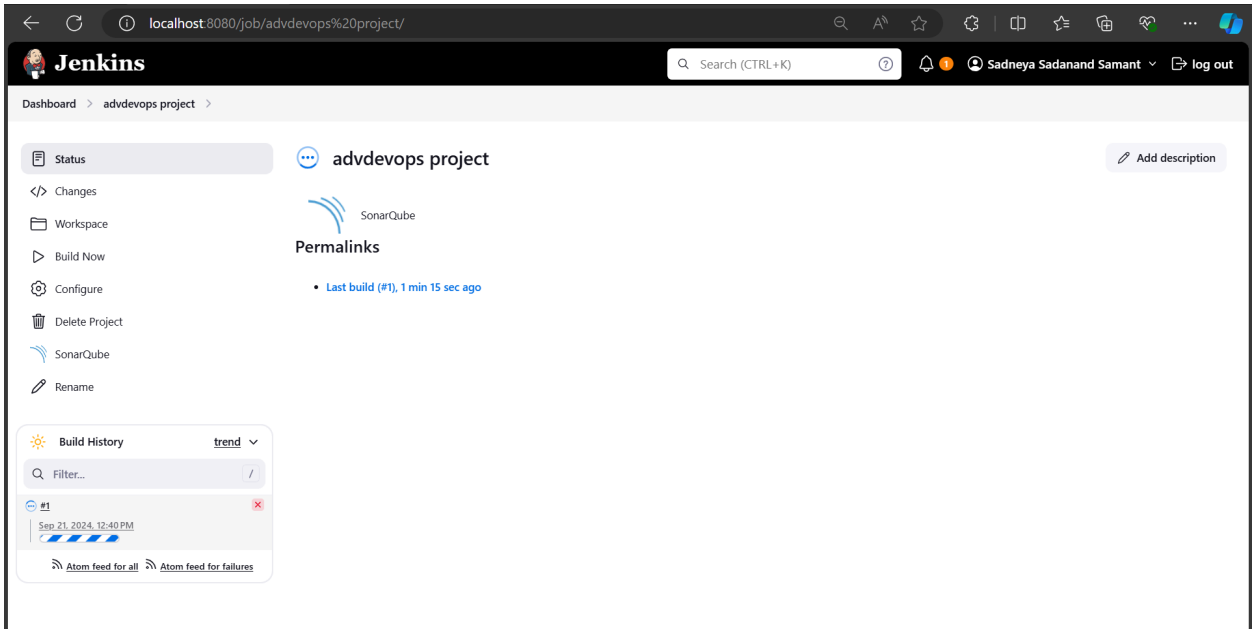
12. Then again go into manage Jenkins and check the number of executors if it is zero then set to two or more.If it is zero then it will not build successfully and give error.

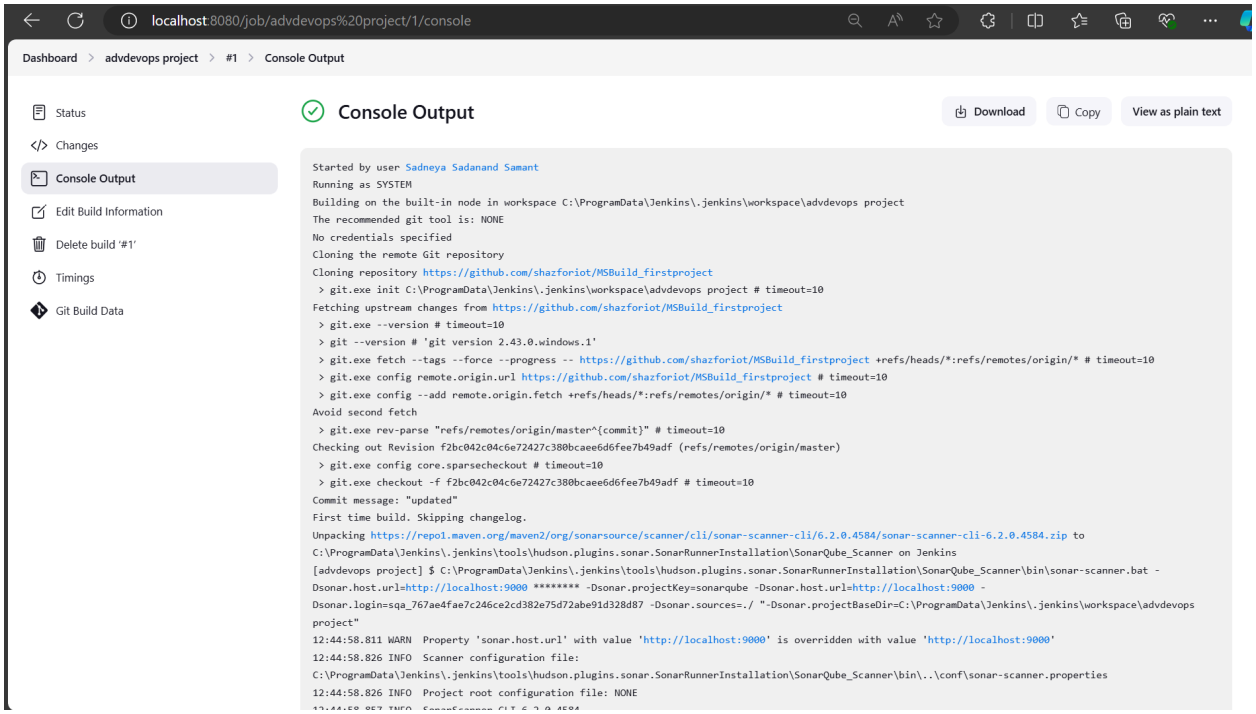


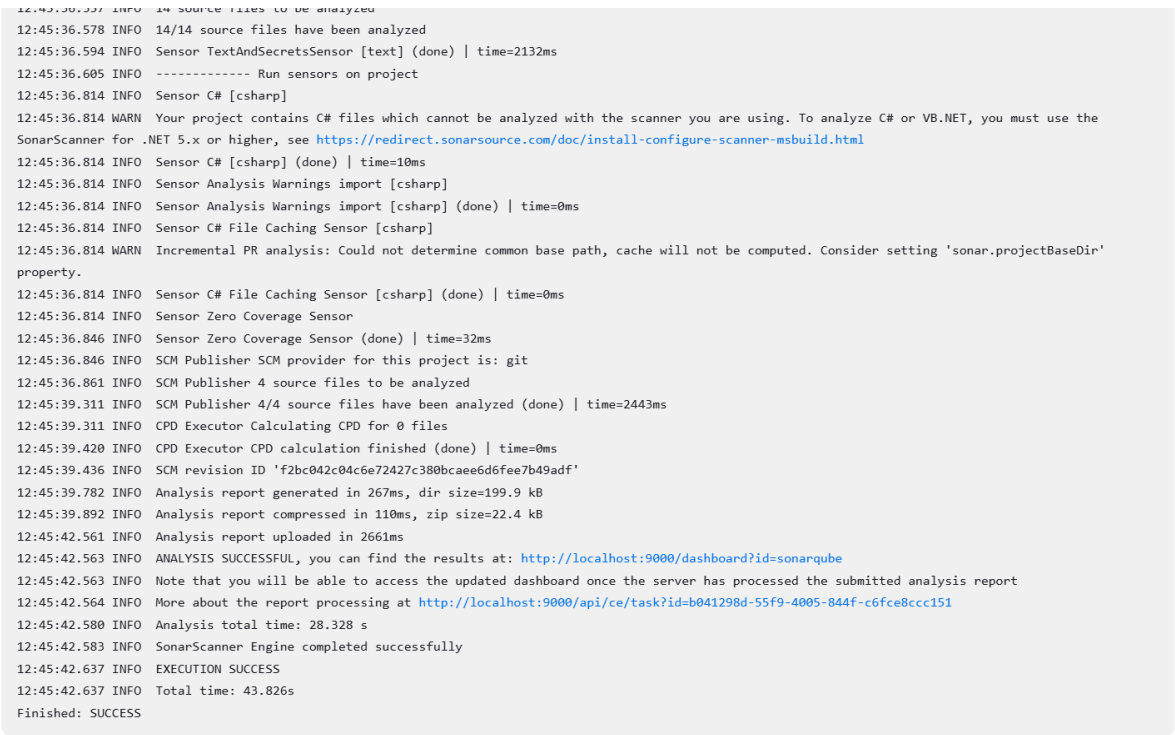
In the above image it was zero that's why my build was getting unsuccessful.Then I declared the value of # of executors to 4.



13. Then click on the build project.Thus the build is successful.see the console output.

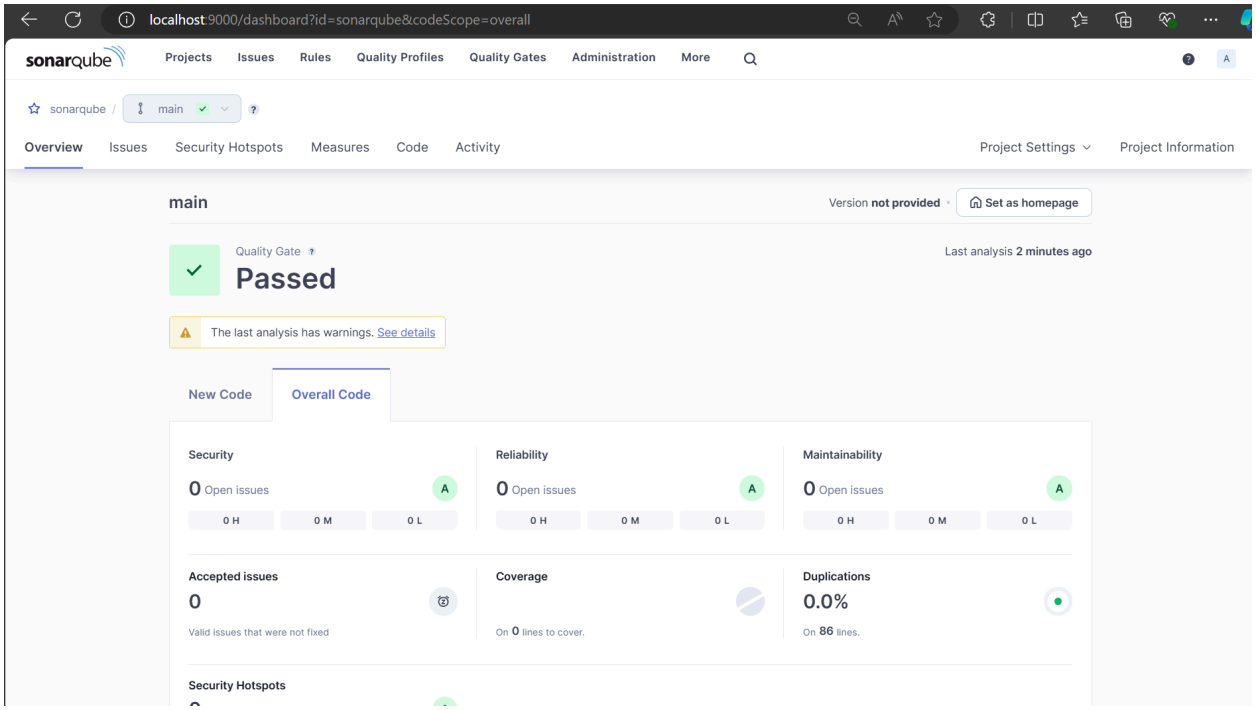


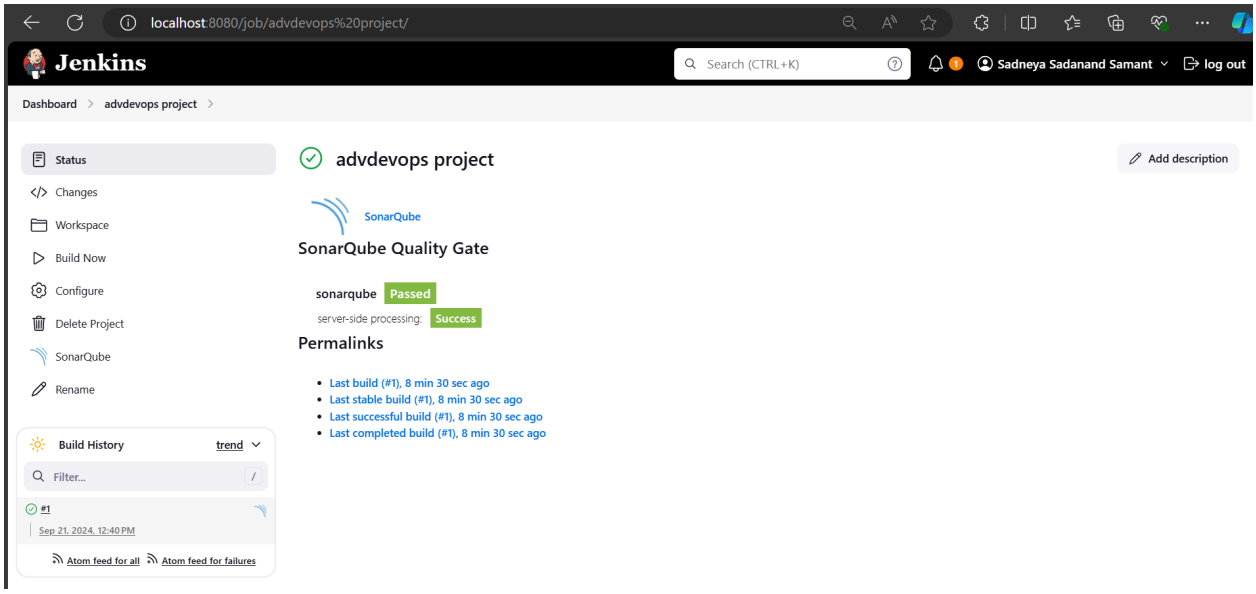




14. Then go to SonarQube.Then go inside the project that you created.where it will show output passed.

Name:Sadneya Sadanand Samant Roll No:46 Advdevops_07





Thus Project Build successfully.

Conclusion: Here we created the sonarqube project locally successfully.Then created a freestyle project on jenkins and installed a plugin named sonarqube scanner.Then we build that project by firstly adding github repository and mentioning Analysis properties which is nothing but name ,key, token.Then after saving and applying the changes, the build executed successfully.Then we also checked that sonarqube given response about passing of analysis.Thus Build is done successfully.