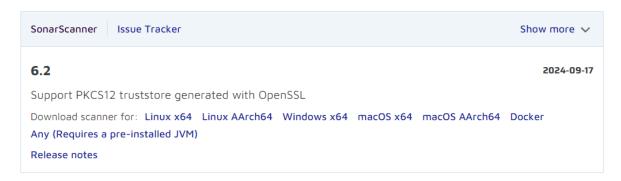
Experiment 8

1. Download Sonar Scanner: Access the SonarQube documentation and download the SonarQube scanner CLI from this link:

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

SonarScanner CLI



The SonarScanner CLI is the scanner to use when there is no specific scanner for your build system.

The SonarScanner does not yet officially support ARM architecture. Still, early adopters reported it is working fine. If you encounter problems, don't hesitate to share your experience with us on the **SonarQube** ② or **SonarCloud** ② Community Forum but keep in mind that there is no support at this time.



The SonarScanners run on code that is checked out. See **Verifying the code checkout step of your build**.

Configuring your project

Create a configuration file in your project's root directory called sonar-project.properties.

```
# must be unique in a given SonarQube instance
sonar.projectKey=my:project
# --- optional properties ---
```

2.Docker Run docker -v command.g Use this command to check if docker is installed and running on your system.

```
C:\Users\2022k>docker -v
Docker version 27.1.1, build 6312585
```

3.Install SonarQube image Command: docker pull sonarqube This command helps you to install an image of SonarQube that can be used on the local system without actually installing the SonarQube installer.

```
C:\Users\2022k>docker pull sonarqube
Using default tag: latest
latest: Pulling from library/sonarqube
Digest: sha256:72e9feec71242af83faf65f95a40d5e3bb2822a6c3b2cda8568790f3d31aecde
Status: Image is up to date for sonarqube:latest
docker.io/library/sonarqube:latest
What's next:
   View a summary of image vulnerabilities and recommendations > docker scout quickview sonarqube
C:\Users\2023k>
```

4.Keep jenkins installed on your system. Experiment Steps: Step 1: Run SonarQube image docker run -d --name sonarqube -e SONAR_ES_BOOTSTRAP_CHECKS_DISABLE=true -p 9000:9000 sonarqube:latest This command will run the SonarQube image that was just installed using docker

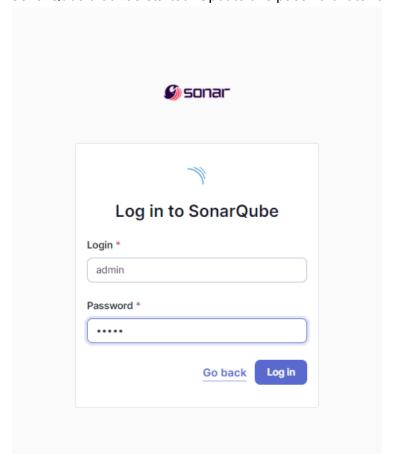
```
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

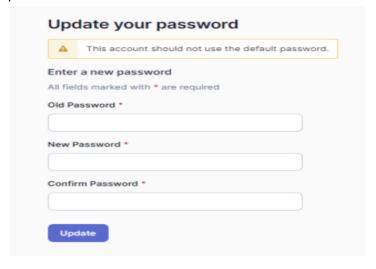
PS C:\Users\2022k> docker run -d --name sonarqube -e SONAR_ES_BOOTSTRAP_CHECKS_DISABLE=true -p 9000:9000 sonarqube:latest
Unable to find image 'sonarqube'latest' locally
latest: Pulling from library/sonarqube
7478e0ac6723: Already exists
90a925ab929a: Already exists
749a34308537: Already exists
80338217a4ab: Already exists
1a5fd5c7e184: Already exists
1a5fd5c7e184: Already exists
1a5fd5c7e184: Already exists
4649650965ad: Pull complete
bd819c9b5ead: Pull complete
Digest: sha256:72e9feec71242af83faf65f95a40d5e3bb2822a6c3b2cda8568790f3d31aecde
Status: Image is up to date for sonarqube:latest
6d247c4285980146f4e62fe0c2a278fa537f94ff932607c5fa7975aa5009e472

PS C:\Users\2022k>
```

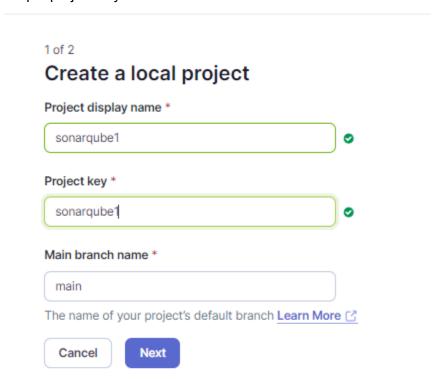
5.Once the SonarQube image is started, you can go to http://localhost:9000 to find the SonarQube that has started. Update this password later on.



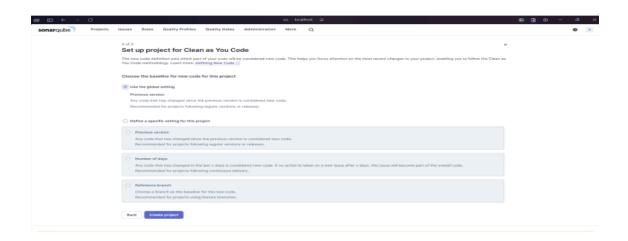
6. On this interface, login with username = 'admin' and password = 'admin'. Once logged in successfully, SonarQube will ask you to reset this password. Reset it and remember this password.



7.On the SonarQube dashboard, click Create a Local Project. Provide a project name and a unique project key.



8. Set up the project as required and click on create.



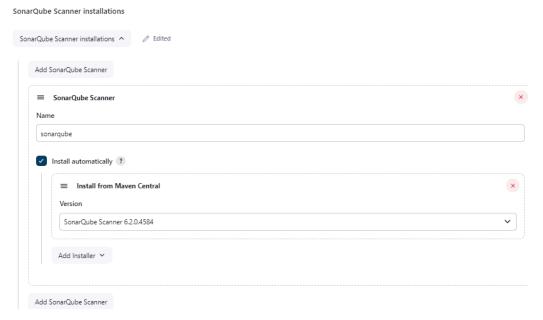
9.Go to manage jenkins → Search for Sonarqube Scanner for Jenkins and install it.



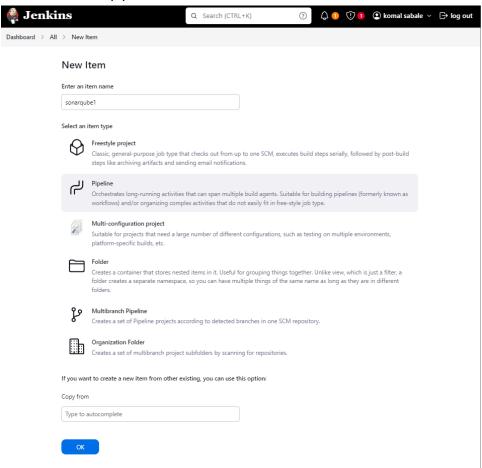
10.Now, go to Manage Jenkins \rightarrow System. Under Sonarqube servers, add a server. Add server authentication token if needed.



11.Go to Manage Jenkins \rightarrow Tools. Go to SonarQube scanner, choose the latest configuration and choose install automatically.

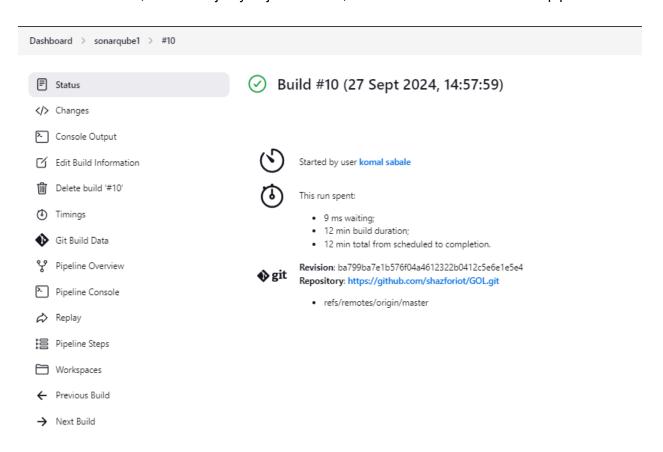


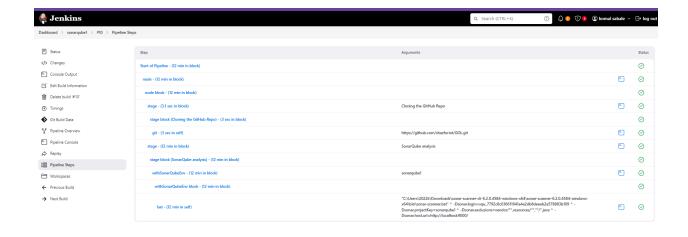
12. Create a new pipeline item in Jenkins





Go back to Jenkins, select the job you just created, and click Build Now to run the pipeline.

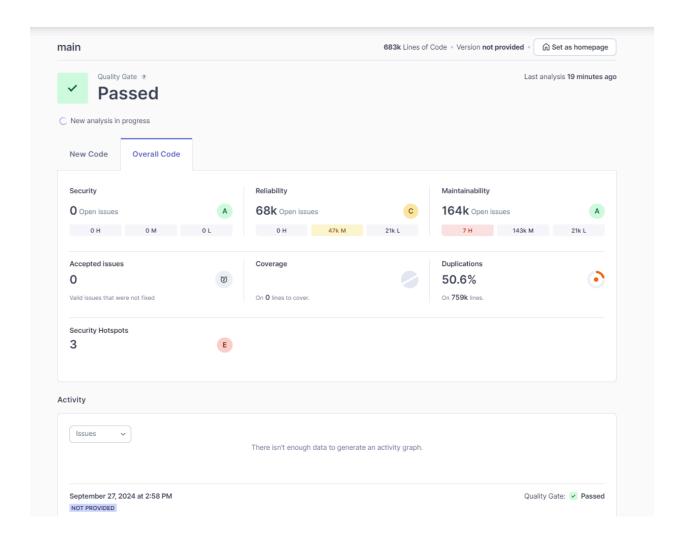






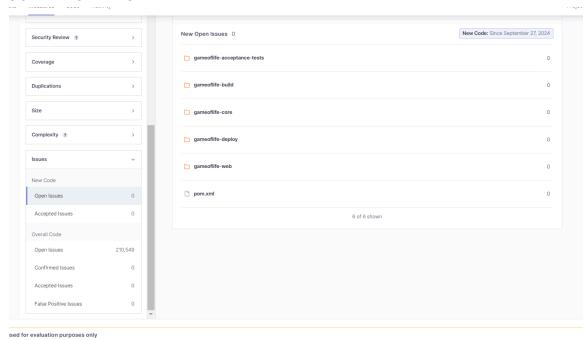


Once the build is complete, return to SonarQube to view the analysis of your project. Check for bugs, code smells, duplications, and other metrics related to the quality of your code.



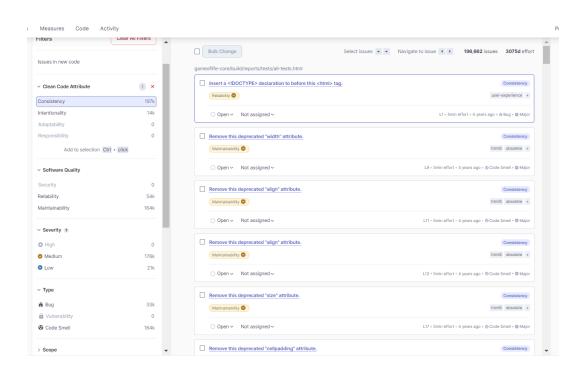
Under different tabs, check all the issues with the code.

CODE PROBLEMS

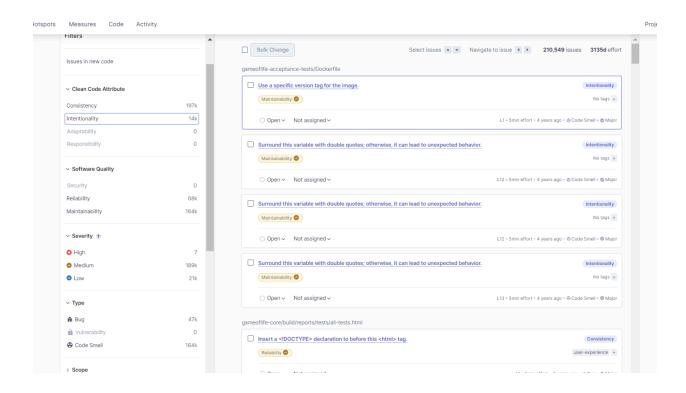


it will not support upgrading to newer versions of SonarQube, and there is no support for migrating your data out of it into a different database engine

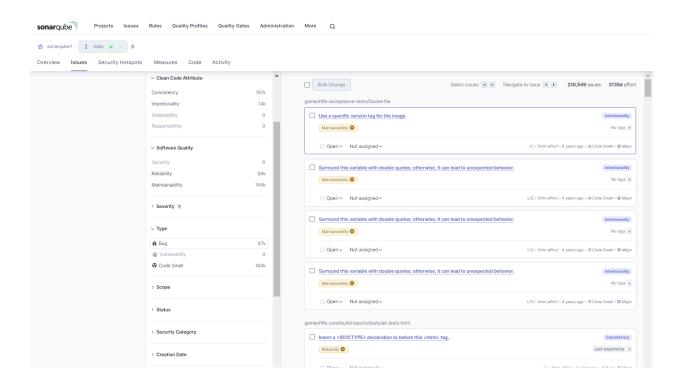
CONSISTENCY



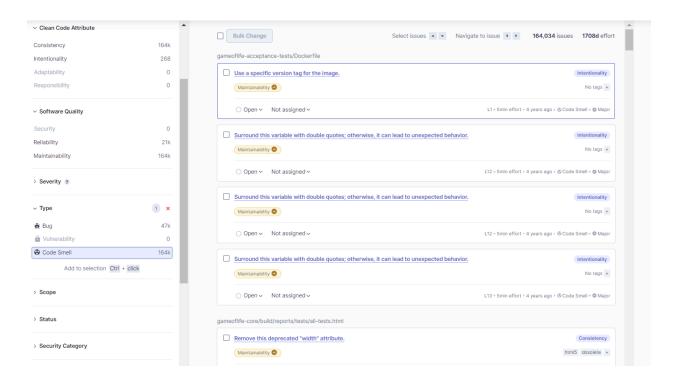
INTENTIONALITY



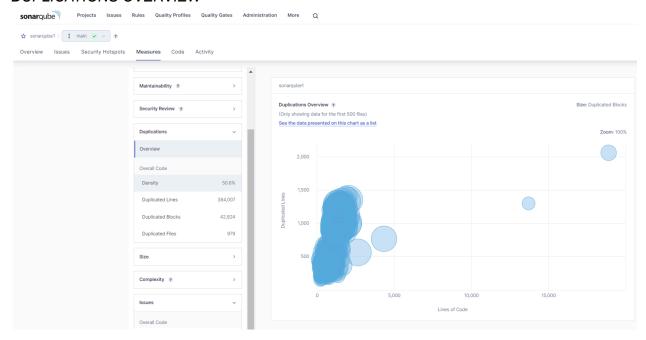
BUG



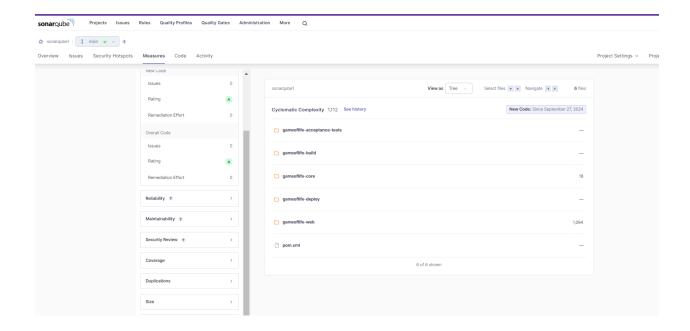
CODE SMELL



DUPLICATIONS OVERVIEW



CYCLOMATIC COMPLEXITIES



Conclusion: This experiment showed us how to integrate Jenkins and SonarQube to set up a CI/CD pipeline that performs static analysis on Java code. Through this process, the automation of the detection code issues such as bugs, code smells, and duplications. By using Docker for SonarQube and the Jenkins pipeline, we streamlined the process, making sure that the issues were highlighted during the build phase. This integration concludes the importance of code quality checks working on automation in a continuous delivery environment.