Experiment No. 5

Jenkins Integration with SonarQube

Maven project, test class:

```
1   package integration;
2
3   public class sonar_test1
4   {
5       private int n=10;
6       public void f1(int n1)
7       {
8           n1=20;
9       }
        Run | Debug
0       public static void main(String[] args) {
1           System.out.println("Hello sonarqube!");
2           System.out.println("jenkins!");
3       }
4   }
5
```

Uploaded on github:

AkanshA0 third commit		05b121a 17 minutes ago	8 commits
src/main/java/integration	third commit		17 minutes ago
pom.xml	second commit		22 minutes ago

Start Jenkins:

```
E:\A_semester_5\CICD>java -jar jenkins.war --httpPort=8081
Running from: E:\A_semester_5\CICD\jenkins.war
webroot: $user.home/.jenkins
```

Download and start sonarqube:

```
      3 Dir(s)   54,674,284,544 bytes free

E:\A_semester_5\CICD\sonarqube-8.4.1.35646\bin\windows-x86-64>StartSonar.bat
wrapper  | --> Wrapper Started as Console
```

Install plugins for SonarQube on Jenkins:

Installing Plugins/Upgrades

Preparation

- Checking internet connectivity
- Checking update center connectivity
- Success

SonarQube Scanner   🔵 Success

Loading plugin extensions   🔵 Success

Go back to the top page
(you can start using the installed plugins right away)

Restart Jenkins when installation is complete and no jobs are running

SonarQube configuration on Jenkins:

SonarQube servers

Environment variables	☐ Enable injection of SonarQube server configuration as build environment variables
	If checked, job administrators will be able to inject a SonarQube server configuration as environment variables in the buil
SonarQube installations	Name

Name

SonarQube_cicd1

Server URL

http://localhost:9000

Default is http://localhost:9000

Server authentication token - none - ⌄   🔑 Add ⌄

SonarQube authentication token. Mandatory when anonymous access is disabled.

Add SonarQube

List of SonarQube installations

Project configuration:

Pre Steps

Add pre-build step ⌄

Build

Root POM	pom.xml	❓
Goals and options	clean install sonar:sonar -Dsonar.host.url=http://localhost:9000 -Dsonar.analysis.mode=publish	❓

Advanced...

Post Steps

○ Run only if build succeeds ○ Run only if build succeeds or is unstable ◉ Run regardless of build result

Should the post-build steps run only for successful builds, etc.

Add post-build step ⌄

Save   **Apply**

Console output:

```
[INFO] CPD Executor Calculating CPD for 0 files
[INFO] CPD Executor CPD calculation finished (done) | time=0ms
[INFO] Analysis report generated in 236ms, dir size=83 KB
[INFO] Analysis report compressed in 59ms, zip size=13 KB
[INFO] Analysis report uploaded in 4335ms
[INFO] ANALYSIS SUCCESSFUL, you can browse http://localhost:9000/dashboard?id=cicd%3Alab2
[INFO] Note that you will be able to access the updated dashboard once the server has processed the submitted analysis re
[INFO] More about the report processing at http://localhost:9000/api/ce/task?id=AXQXSjl0Fq__oIfYeyYD
[INFO] Analysis total time: 33.996 s
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  01:10 min
[INFO] Finished at: 2020-08-22T23:19:34+05:30
[INFO] ------------------------------------------------------------------------
Waiting for Jenkins to finish collecting data
[JENKINS] Archiving C:\Users\akank\.jenkins\workspace\cicd_lab1\pom.xml to cicd/lab2/1.0/lab2-1.0.pom
[JENKINS] Archiving C:\Users\akank\.jenkins\workspace\cicd_lab1\target\lab2-1.0.jar to cicd/lab2/1.0/lab2-1.0.jar
channel stopped
Finished: SUCCESS
```

Code analysis in SonarQube triggered:

Overview   **Issues**   Security Hotspots   Measures   Code   Activity   Project Settings ▾   ☰ Project Information

	My Issues **All**

Filters

⌄ **Type**	
🐞 Bug	1
🔒 Vulnerability	0
⊗ Code Smell	5

⌄ **Severity**			
🛇 Blocker	0	ⓥ Minor	2
🛇 Critical	0	ⓘ Info	0
⬣ Major	4		

⟩ Resolution

⟩ Status

⟩ Security Category

⟩ Creation Date

⟩ Language
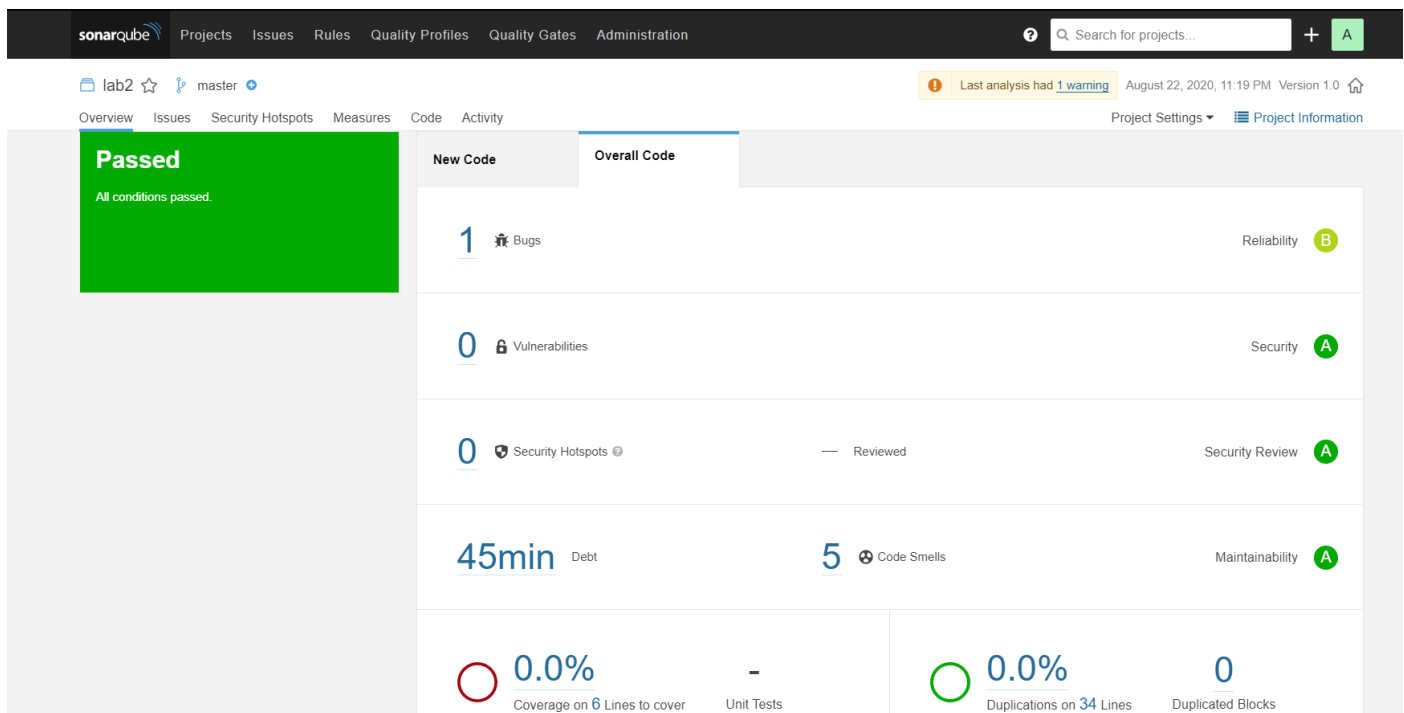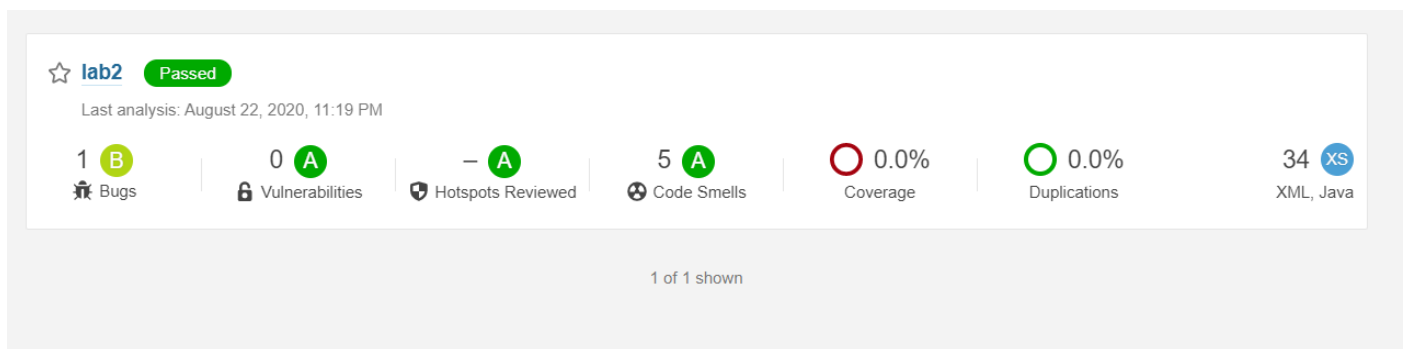
☐ Bulk Change   ↑ ↓ to select issues   ← → to navigate   ↻ **1 / 6** issues   **50min** effort

src/main/java/integration/sonar_test1.java

☐ **Rename this class name to match the regular expression '^[A-Z][a-zA-Z0-9]*$'.** Why is this an issue?   yesterday ▾ L3 🔗 ▼▾
 ⊗ Code Smell ▾ ⓥ Minor ▾ ◯ Open ▾ Not assigned ▾ 5min effort Comment   🏷 No tags ▾

☐ **Remove this unused "n" private field.** Why is this an issue?   yesterday ▾ L5 🔗 ▼▾
 ⊗ Code Smell ▾ ⬣ Major ▾ ◯ Open ▾ Not assigned ▾ 5min effort Comment   🏷 No tags ▾

☐ **Remove this useless assignment to local variable "n1".** Why is this an issue?   yesterday ▾ L8 🔗 ▼▾
 ⊗ Code Smell ▾ ⬣ Major ▾ ◯ Open ▾ Not assigned ▾ 15min effort Comment   🏷 No tags ▾

☐ **Introduce a new variable instead of reusing the parameter "n1".** Why is this an issue?   yesterday ▾ L8 🔗 ▼▾
 🐞 Bug ▾ ⓥ Minor ▾ ◯ Open ▾ Not assigned ▾ 5min effort Comment   🏷 No tags ▾

☐ **Replace this use of System.out or System.err by a logger.** Why is this an issue?   yesterday ▾ L11 🔗 ▼▾
 ⊗ Code Smell ▾ ⬣ Major ▾ ◯ Open ▾ Not assigned ▾ 10min effort Comment   🏷 No tags ▾

☐ **Replace this use of System.out or System.err by a logger.** Why is this an issue?   yesterday ▾ L12 🔗 ▼▾
 ⊗ Code Smell ▾ ⬣ Major ▾ ◯ Open ▾ Not assigned ▾ 10min effort Comment   🏷 No tags ▾

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