

SonarQube

Steps we follow to use SonarQube “Static Analysis code”

1-Run command that appeared in SonarQube to compile and build project

Then it **BUILD SUCCESS**

```
[INFO] 1802/2668 source files have been analyzed
[INFO] 1853/2668 source files have been analyzed
[INFO] 1904/2668 source files have been analyzed
[INFO] 1956/2668 source files have been analyzed
[INFO] 2014/2668 source files have been analyzed
[INFO] 2069/2668 source files have been analyzed
[INFO] 2123/2668 source files have been analyzed
[INFO] 2177/2668 source files have been analyzed
[INFO] 2216/2668 source files have been analyzed
[INFO] 2258/2668 source files have been analyzed
[INFO] 2301/2668 source files have been analyzed
[INFO] 2359/2668 source files have been analyzed
[INFO] 2402/2668 source files have been analyzed
[INFO] 2435/2668 source files have been analyzed
[INFO] 2456/2668 source files have been analyzed
[INFO] 2488/2668 source files have been analyzed
[INFO] 2521/2668 source files have been analyzed
[INFO] 2554/2668 source files have been analyzed
[INFO] 2600/2668 source files have been analyzed
[INFO] 2652/2668 source files have been analyzed
[INFO] SCM Publisher 2668/2668 source files have been analyzed (done) | time=54523ms
[INFO] CPD Executor 518 files had no CPD blocks
[INFO] CPD Executor Calculating CPD for 2012 files
[WARNING] Too many duplication groups on file JavaSource/org/unitime/timetable/onlineSectioning/custom/purdue/PurdueCourseRequestsValidationProvider.java. Keep only the first 100 groups.
[INFO] CPD Executor CPD calculation finished (done) | time=3488ms
[INFO] Analysis report generated in 7024ms, dir size=29.3 MB
[INFO] Analysis report compressed in 12846ms, zip size=7.6 MB
[INFO] Analysis report uploaded in 307ms
[INFO] ANALYSIS SUCCESSFUL, you can find the results at: http://localhost:9000/dashboard?id=static_analysis_code
[INFO] Note that you will be able to access the updated dashboard once the server has processed the submitted analysis report
[INFO] More about the report processing at http://localhost:9000/api/ce/task?id=AYfeKmwYdd08cks2sW4n
[INFO] Analysis total time: 32:25.629 s
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 01:46 h
[INFO] Finished at: 2023-05-02T22:32:16+02:00
[INFO] -----
C:\Users\user\Documents\GitHub\SW-Maintenance->A555_
```

2-We opened SonarQube on <http://localhost:9000> this screen appeared with analysis for code

The screenshot shows the SonarQube web interface. The top navigation bar includes links for Projects, Issues, Rules, Quality Profiles, Quality Gates, and Administration. A search bar is present on the right. The main content area displays a project named 'UniTime' with a 'Passed' status. The project details include a star icon, the project name, and the last analysis time (19 hours ago). Below this, a summary of analysis results is shown: 993 Bugs (E), 136 Vulnerabilities (E), 0.0% Hotspots Reviewed (E), 51k Code Smells (A), 0.0% Coverage (R), 12.6% Duplications (O), and 543k Lines (XL). The interface also includes a sidebar with filters for Quality Gate (Passed/Failed) and Reliability (A-E rating). A warning message at the bottom states: '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.'

3-The overview of code and it was with 993 bugs

The screenshot displays the SonarQube web interface. The top navigation bar includes links for Projects, Issues, Rules, Quality Profiles, Quality Gates, and Administration. A search bar is present on the right. The main content area is divided into two sections: 'QUALITY GATE STATUS' and 'MEASURES'.

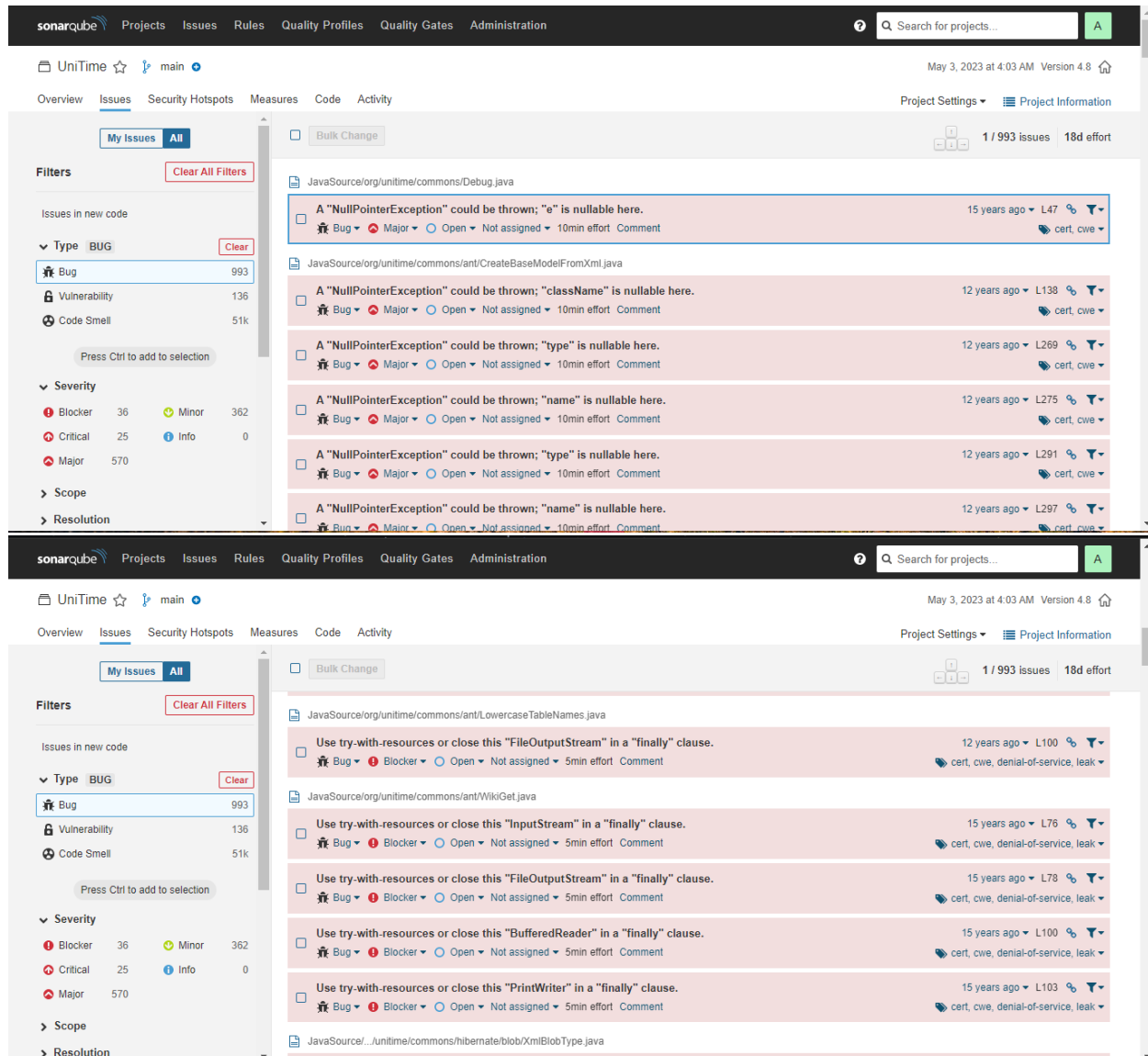
QUALITY GATE STATUS: A green box indicates 'Passed' with the text 'All conditions passed.'

MEASURES: This section shows various code quality metrics:

- New Code:** Since May 3, 2023, Started 22 hours ago.
- Overall Code:** 993 Bugs (Reliability: E).
- 136 Vulnerabilities** (Security: E).
- 472 Security Hotspots** (Security Review: E, 0.0% Reviewed).
- 1301d Debt** (Maintainability: A).
- 51k Code Smells** (Maintainability: A).
- 0.0% Coverage** on 334k Lines to cover (Unit Tests).
- 12.6% Duplications** on 543k Lines (6.2k Duplicated Blocks).

The bottom navigation bar includes links for Overview, Issues, Security Hotspots, Measures, Code, and Activity. The Project Settings and Project Information links are also visible.

4-List of all Bugs in the system



The screenshot displays the SonarQube interface for a project named 'UniTime'. The top navigation bar includes 'sonarqube', 'Projects', 'Issues', 'Rules', 'Quality Profiles', 'Quality Gates', and 'Administration'. A search bar is present on the right. The main header shows 'UniTime' with a star icon, a 'main' branch, and the date 'May 3, 2023 at 4:03 AM' and 'Version 4.8'. The 'Issues' tab is selected, showing a list of bugs. The left sidebar contains filters for 'Type' (BUG, Vulnerability, Code Smell) and 'Severity' (Blocker, Critical, Major, Minor, Info). The main content area shows a list of bugs, including 'A "NullPointerException" could be thrown; "e" is nullable here.' and 'Use try-with-resources or close this "FileOutputStream" in a "finally" clause.'.

Filters

Issues in new code

Type: **BUG** (993), Vulnerability (136), Code Smell (51k)

Severity: Blocker (36), Critical (25), Major (570), Minor (362), Info (0)

Bugs List:

- JavaSource/org/unitime/commons/Debug.java: A "NullPointerException" could be thrown; "e" is nullable here. (15 years ago, L47, cert, cwe)
- JavaSource/org/unitime/commons/anti/CreateBaseModelFromXml.java: A "NullPointerException" could be thrown; "className" is nullable here. (12 years ago, L138, cert, cwe)
- JavaSource/org/unitime/commons/anti/CreateBaseModelFromXml.java: A "NullPointerException" could be thrown; "type" is nullable here. (12 years ago, L269, cert, cwe)
- JavaSource/org/unitime/commons/anti/CreateBaseModelFromXml.java: A "NullPointerException" could be thrown; "name" is nullable here. (12 years ago, L275, cert, cwe)
- JavaSource/org/unitime/commons/anti/CreateBaseModelFromXml.java: A "NullPointerException" could be thrown; "type" is nullable here. (12 years ago, L291, cert, cwe)
- JavaSource/org/unitime/commons/anti/CreateBaseModelFromXml.java: A "NullPointerException" could be thrown; "name" is nullable here. (12 years ago, L297, cert, cwe)
- JavaSource/org/unitime/commons/anti/LowercaseTableNames.java: Use try-with-resources or close this "FileOutputStream" in a "finally" clause. (12 years ago, L100, cert, cwe, denial-of-service, leak)
- JavaSource/org/unitime/commons/anti/WikiGet.java: Use try-with-resources or close this "InputStream" in a "finally" clause. (15 years ago, L76, cert, cwe, denial-of-service, leak)
- JavaSource/org/unitime/commons/anti/WikiGet.java: Use try-with-resources or close this "FileOutputStream" in a "finally" clause. (15 years ago, L78, cert, cwe, denial-of-service, leak)
- JavaSource/org/unitime/commons/anti/WikiGet.java: Use try-with-resources or close this "BufferedReader" in a "finally" clause. (15 years ago, L100, cert, cwe, denial-of-service, leak)
- JavaSource/org/unitime/commons/anti/WikiGet.java: Use try-with-resources or close this "PrintWriter" in a "finally" clause. (15 years ago, L103, cert, cwe, denial-of-service, leak)
- JavaSource/org/unitime/commons/hibernate/blob/XmlBlobType.java

sonarqube

ProjectsIssuesRulesQuality ProfilesQuality GatesAdministration

UniTimemain

May 3, 2023 at 4:03 AMVersion 4.8

OverviewIssuesSecurity HotspotsMeasuresCodeActivity

Project SettingsProject Information

My IssuesAll

Filters

Clear All Filters

Issues in new code

TypeBUGClear

993

Vulnerability136

Code Smell51k

Press Ctrl to add to selection

Severity

Blocker36Minor362

Critical25Info0

Major570

Scope

Resolution

Bulk Change

1 / 993 issues18d effort

JavaSource/...untime/commons/hibernate/util/DatabaseUpdate.java

Use try-with-resources or close this "Statement" in a "finally" clause.

11 years agoL160

cert, cwe, denial-of-service, leak

JavaSource/org/unitime/commons/jgroups/JGroupsUtils.java

A "NullPointerException" could be thrown; "val" is nullable here.

9 years agoL117

cert, cwe

JavaSource/org/unitime/commons/web/WebTable.java

This class overrides "equals()" and should therefore also override "hashCode()".

15 years agoL601

cert, cwe

JavaSource/org/unitime/localization/impl/DeepLTranslator.java

Use try-with-resources or close this "CloseableHttpClient" in a "finally" clause.

4 months agoL102

cert, cwe, denial-of-service, leak

JavaSource/org/unitime/localization/impl/ExportTranslations.java

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Major570

Scope

Resolution

Bulk Change

1 / 993 issues18d effort

JavaSource/...timetable/export/students/StudentSchedulingDashboardExportCSV.java

Strings and Boxed types should be compared using "equals()".

3 years agoL467

cert, cwe

Change this condition so that it does not always evaluate to "false"

10 months agoL655

cert, cwe, pitfall, suspicious, unused

Change this condition so that it does not always evaluate to "false"

10 months agoL655

cert, cwe, pitfall, suspicious, unused

Change this condition so that it does not always evaluate to "false"

4 years agoL675

cert, cwe, pitfall, suspicious, unused

Change this condition so that it does not always evaluate to "false"

4 years agoL675

cert, cwe, pitfall, suspicious, unused

Change this condition so that it does not always evaluate to "false"

1 year agoL688

cert, cwe, pitfall, suspicious, unused

sonarqube

ProjectsIssuesRulesQuality ProfilesQuality GatesAdministration

UniTimemain

May 3, 2023 at 4:03 AMVersion 4.8

OverviewIssuesSecurity HotspotsMeasuresCodeActivity

Project SettingsProject Information

My IssuesAll

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Clear All Filters

Issues in new code

TypeBUGClear

993

Vulnerability136

Code Smell51k

Press Ctrl to add to selection

Severity

Blocker36Minor362

Critical25Info0

Major570

Scope

Resolution

Bulk Change

1 / 993 issues18d effort

JavaSource/...timetable/gwt/client/solver/TimetableGrid.java

Cast one of the operands of this addition operation to a "double".

6 years agoL126

cert, cwe, overflow, sans-top25-risky

Cast one of the operands of this addition operation to a "double".

6 years agoL126

cert, cwe, overflow, sans-top25-risky

Cast one of the operands of this multiplication operation to a "double".

6 years agoL130

cert, cwe, overflow, sans-top25-risky

Cast one of the operands of this addition operation to a "double".

6 years agoL135

cert, cwe, overflow, sans-top25-risky

Cast one of the operands of this addition operation to a "double".

6 years agoL139

cert, cwe, overflow, sans-top25-risky

Cast one of the operands of this addition operation to a "double".

6 years agoL139

cert, cwe, overflow, sans-top25-risky

5-Vulnerability in the code

The screenshot displays the SonarQube web interface for a project named 'UniTime'. The top navigation bar includes links for Projects, Issues, Rules, Quality Profiles, Quality Gates, and Administration. A search bar is present on the right. The main header shows the project name 'UniTime' and the current version '4.8'. The left sidebar contains a 'Filters' section with a 'Type' filter set to 'VULNERABILITY', showing 136 issues. Below this, a 'Severity' filter shows 32 Blocker, 4 Critical, and 0 Major issues. The main content area lists several vulnerability issues, all titled 'Disable access to external entities in XML parsing.' Each issue is categorized as 'Vulnerability' with a 'Blocker' severity and is marked as 'Open'. The issues are associated with the file 'JavaSource/.../hibernate/blob/XmiBlobType.java' and have a '15min effort' estimate. The right sidebar shows '1 / 136 issues' and '5d 2h effort'.

6- some of code smells in the code

The screenshot displays the SonarQube web interface for the same 'UniTime' project. The left sidebar shows the 'Type' filter set to 'CODE SMELL', displaying 51k issues. The 'Severity' filter shows 137 Blocker, 14k Critical, and 17k Major issues. The main content area lists several code smell issues. The first issue is titled 'Complete the task associated to this "TODO" comment.' and is categorized as 'Code Smell' with an 'Info' severity, marked as 'Open', and has a '0min effort' estimate. The second issue is titled 'Remove this commented out code.' and is categorized as 'Code Smell' with a 'Major' severity, marked as 'Open', and has a '5min effort' estimate. The issues are associated with the file 'JavaSource/PitCourseOffering.hbm.xml'. The right sidebar shows '1 / 50,633 issues' and '1301d effort'.

sonarqube Projects Issues Rules Quality Profiles Quality Gates Administration ? Search for projects... A

UniTime ☆ main

May 3, 2023 at 4:03 AM Version 4.8

Overview Issues Security Hotspots Measures Code Activity Project Settings Project Information

Project Overview

- > Reliability
- > Security
- > Security Review
- > Maintainability
- > Coverage
- > Duplications
- > Size
- > Complexity
- > Issues

UniTime

New Code: Since May 3, 2023

Risk Color: Worse of Reliability Rating and Security Rating Size: Lines of Code
(Only showing data for the first 500 files)

See the data presented on this chart as a list

Coverage

0.0%

20.0%

40.0%

100%

[Projects](#)
[Issues](#)
[Rules](#)
[Quality Profiles](#)
[Quality Gates](#)
[Administration](#)

[UniTime](#)

[main](#)

May 3, 2023 at 4:03 AM
Version 4.8

[Overview](#)
[Issues](#)
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[Code](#)
[Activity](#)

[Project Settings](#)
[Project Information](#)

to select files

to navigate

	Lines of Code	Bugs	Vulnerabilities	Code Smells	Security Hotspots	Coverage	Duplications
UniTime							
JavaSource	543,028	993	136	50,633	472	0.0%	12.6%

1 of 1 shown

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 - Version 9.9.1 (build 69595) - [LGPL v3](#) - [Community](#) - [Documentation](#) - [Plugins](#) - [Web API](#)