

## **System description:**

Creating course and test schedules, maintaining modifications to these schedules, sharing rooms with other events, and allocating students to certain classes are all supported by the complete educational scheduling system known as UniTime.

It is a distributed system that enables various university and departmental schedule administrators to coordinate efforts to create and change a schedule that satisfies their various organizational demands while minimizing student course conflicts. It may be interfaced with an existing student information system or used independently to build and maintain a school's class and/or test schedule.

# static code analysis:

The screenshot displays the SonarQube web interface for a project named 'unltime'. The interface is divided into several sections:

- Filters:** Includes Quality Gate (Passed: 1, Failed: 0), Reliability (A rating: 0, B: 0, C: 0, D: 0, E: 1), Security (A rating: 0, B: 0, C: 0, D: 0, E: 1), and Security Review (A: ≥ 80%, B: 70% - 80%, C: 50% - 70%, D: 30% - 50%, E: < 30%).
- Project Details:** Shows the project 'unltime' with a 'Passed' status. The last analysis was 12 hours ago. Key metrics include: Bugs (969), Vulnerabilities (136), Hotspots Reviewed (0.0%), Code Smells (51k), Coverage (0.0%), Duplications (12.6%), and Lines (543k).
- Message:** A yellow warning box 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."
- Footer:** Indicates the SonarQube technology is powered by SonarSource SA, Community Edition - Version 10.0 (build 68432) - LGPL v3 - Community - Documentation - Plugins - Web API.

The interface is shown in two states, with the left sidebar filters being expanded and collapsed. The top navigation bar includes links for Projects, Issues, Rules, Quality Profiles, Quality Gates, and Administration. The bottom status bar shows the system temperature (24°C) and the date (5/5/2023).

Projects - SonarQube

localhost:9000/projects

sonarqube

Projects Issues Rules Quality Profiles Quality Gates Administration

Duplications

- < 3% 0 |
- 3% - 5% 0 |
- 5% - 10% 0 |
- 10% - 20% 1 |
- > 20% 0 |
- No data 0 |

Size

- X.S < 1k 0 |
- S 1k - 10k 0 |
- M 10k - 100k 0 |
- L 100k - 500k 0 |
- XL > 500k 1 |

Languages

- Java 1 |
- XML 1 |

Search

Tags

No available filters. Clear other filters to see options.

Search

Search by project name or key

1 project(s)

Perspective: Overall Status Sort by: Name

☆ 'unitime' Passed Last analysis: 12 hours ago

Bugs	Vulnerabilities	Hotspots Reviewed	Code Smells	Coverage	Duplications	Lines
969 E	136 E	0.0% E	51k A	0.0% E	12.6% E	543k XL Java, XML

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 10.0 (build 68432) - LGPL v3 - Community - Documentation - Plugins - Web API

'unitime' - Overview - SonarQube

localhost:9000/dashboard?id=unitime

sonarqube

Projects Issues Rules Quality Profiles Quality Gates Administration

☆ 'unitime' / main ✓ ?

The last analysis has warnings. See details Version 4.8

Overview Issues Security Hotspots Measures Code Activity

Project Settings Project Information

QUALITY GATE STATUS

Passed

All conditions passed.

MEASURES

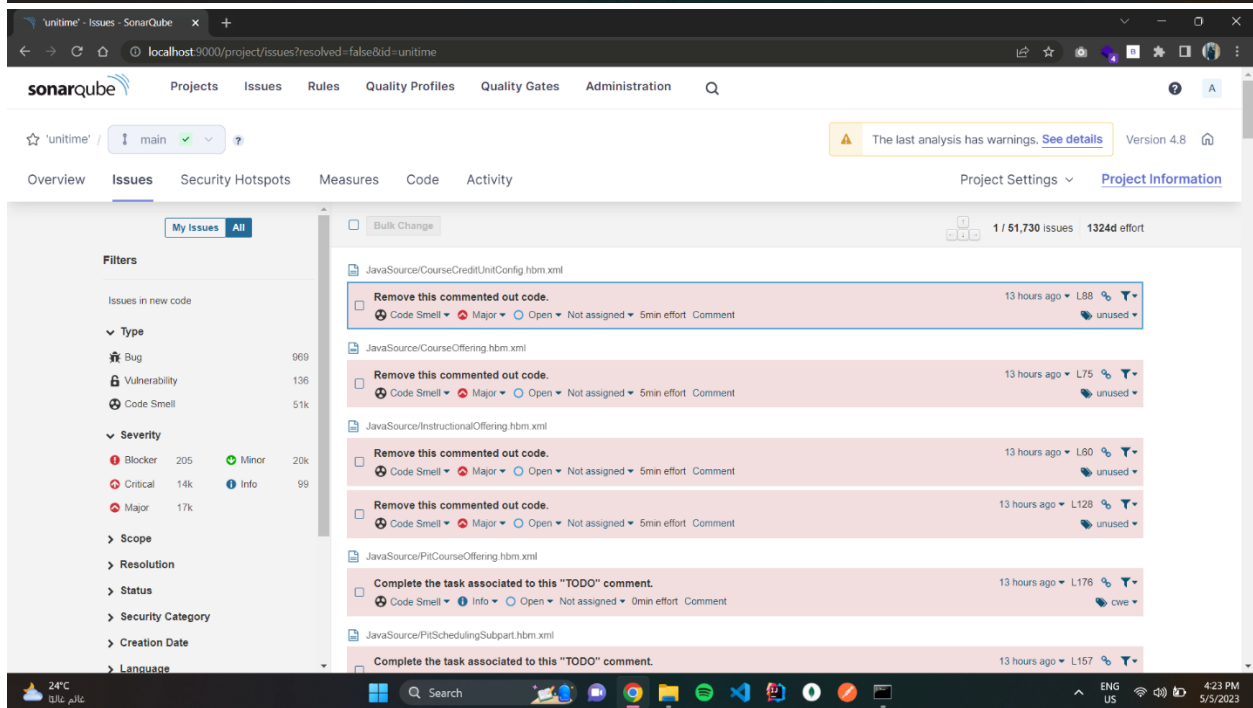
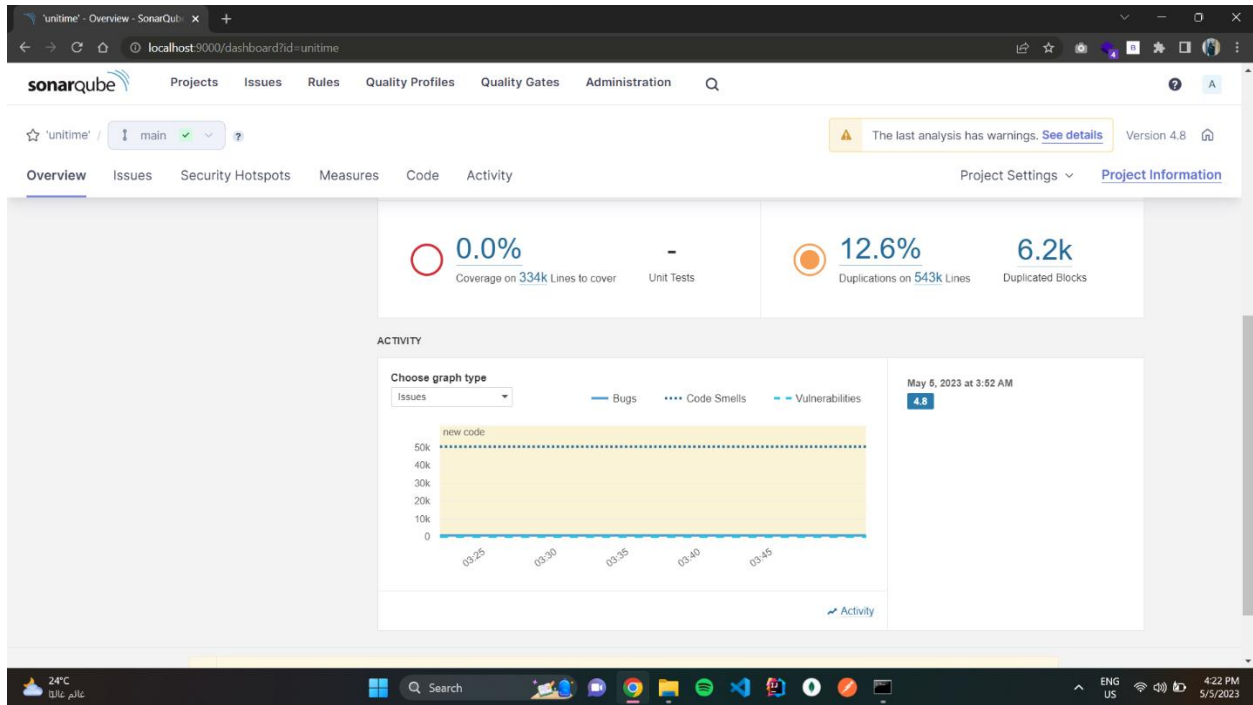
New Code

Since May 5, 2023

Started 13 hours ago

Overall Code

969 Bugs	Reliability E
136 Vulnerabilities	Security E
472 Security Hotspots	0.0% Reviewed Security Review E
1301d Debt	51k Code Smells Maintainability A



sonarqube

Projects Issues Rules Quality Profiles Quality Gates Administration

'unitime' / main

Overview Issues Security Hotspots Measures Code Activity

Project Settings Project Information

1 / 51,730 issues 1324d effort

JavaSource/CourseCreditUnitConfig.hbm.xml

Remove this commented out code. 13 hours ago L88

Code Smell Major Open Not assigned 5min effort Comment unused

JavaSource/CourseOffering.hbm.xml

Remove this commented out code. 13 hours ago L75

Code Smell Major Open Not assigned 5min effort Comment unused

JavaSource/InstructionalOffering.hbm.xml

Remove this commented out code. 13 hours ago L60

Code Smell Major Open Not assigned 5min effort Comment unused

JavaSource/PitCourseOffering.hbm.xml

Complete the task associated to this "TODO" comment. 13 hours ago L176

Code Smell Info Open Not assigned 0min effort Comment cwe

JavaSource/PitSchedulingSubpart.hbm.xml

Complete the task associated to this "TODO" comment. 13 hours ago L157

24°C عالم غاتا

sonarqube

Projects Issues Rules Quality Profiles Quality Gates Administration

'unitime' / main

Overview Issues Security Hotspots Measures Code Activity

Project Settings Project Information

Filters Assigned to me All Status To review Overall code Security Hotspots Reviewed 0.0%

472 Security Hotspots to review

Review priority: HIGH

Authentication 2

'token' detected in this expression, review this potentially hard-coded secret. ...localization/impl/ImportTranslations.java

'token' detected in this expression, review this potentially hard-coded secret. ...ble/events/QueryEncoderBackend.java

SQL Injection 207

Review priority: MEDIUM

Denial of Service (DoS) 21

'token' detected in this expression, review this potentially hard-coded secret.

Hard-coded secrets are security-sensitive java:S6418

Status: TO REVIEW

This security hotspot needs to be reviewed to assess whether the code poses a risk

Change status

Assignee: Not assigned

Where is the risk? What's the risk? Assess the risk How can I fix it?

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

Open in IDE Get Permalink

```
281 }
282 }
283
284 public static void main(String[] args) {
285     try {
286         ImportTranslations task = new ImportTranslations();
287         task.setBaseDir(System.getProperty("source", "/Users/muller/git/unitime"));
288         task.setSource(System.getProperty("source", "/Users/muller/git/unitime") + File.separator + "JavaSource");
289         task.setLocales(System.getProperty("locale", "cs"));
290         task.setToken(System.getProperty("token", "b191dd443ab1800fc1a09ef23e50c0b0"));
291     }
292 }
```

'token' detected in this expression, review this potentially hard-coded secret. Comment

24°C عالم غاتا

sonarqube Projects Issues Rules Quality Profiles Quality Gates Administration

'unitime' / main

The last analysis has warnings. See details Version 4.8

Overview Issues Security Hotspots Measures Code Activity Project Settings Project Information

Filters Assigned to me All Status To review Overall code Security Hotspots Reviewed 0.0%

SQL Injection 267

Review priority MEDIUM

Denial of Service (DoS) 21

Weak Cryptography 18

Review priority LOW

Insecure Configuration 139

Log Injection 20

Others 5

472 of 472 shown

Where is the risk? What's the risk? Assess the risk How can I fix it?

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

task.setSource(System.getProperty("source", "/Users/muller/git/unitime"));  
task.setLocale(System.getProperty("locale", "cs"));  
task.setToken(System.getProperty("token", "b191d443ab1800f1e09ef23e50db0"));

'token' detected in this expression, review this potentially hard-coded secret.

task.execute();  
} catch (Exception e) {  
e.printStackTrace();  
}

Comment

Formatting Help "Bold" "Code" "Bulleted point" Comment

sonarqube Projects Issues Rules Quality Profiles Quality Gates Administration

'unitime' / main

The last analysis has warnings. See details 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

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% 60.0% 80.0% 100%

'unitime' - Code - SonarQube

localhost:9000/code?id=unitime

sonarqube

ProjectsIssuesRulesQuality ProfilesQuality GatesAdministration

'unitime' / main

The last analysis has warnings. [See details](#) Version 4.8

OverviewIssuesSecurity HotspotsMeasuresCodeActivity

Project SettingsProject Information

Search for files...

↑↓to select files←→to navigate

	Lines of Code	Bugs	Vulnerabilities	Code Smells	Security Hotspots	Coverage	Duplications
'unitime'							
↳ JavaSource	543,029	969	136	50,625	472	0.0%	12.6%

1 of 1 shown

Embedded database should be used for evaluation purposes only  
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Community Edition - Version 10.0 (build 68432) - LGPL v3 - [Community](#) - [Documentation](#) - [Plugins](#) - [Web API](#)

24°C عالم

Search

4:30 PM 5/5/2023

## bug fix:

1-Fixing .equals() issues in file

"JavaSource/org/unitime/timetable/webutil/timegrid/PdfExamGridTable.java"

Description:

Comparing in Java should be done with the function **.equals()** but comparing in this file is done with operator **=**

**Test case : string1="tom" , string2="tom" False with = = and True with equal()**

2-replace the function replaceAll() to replace() in

"JavaSource/org/unitime/timetable/webutil/timegrid/PdfExamGridTable.java"

Description:

replaceAll() is used with regex and it should be done with replace() instead because of regular strings

```
String myString = "_x_x_x_x_xx_";
```

```
char oldChar = 'x';  
char newChar = 'o';
```

```
String newString = myString.replace(oldChar, newChar);
```

```
Output _o_o_o_o_oo_
```

---

```
String myString = "one fish, two fish, three fish";
```

```
String target = "fish";  
String replacement = "sheep";
```

```
String newString = myString.replace(target, replacement);
```

```
Output one sheep, two sheep, three sheep
```





# ticketing system: Jira

The image displays two screenshots of the Jira web interface. The top screenshot shows a ticket titled "Fixing .equals() issues in file 'JavaSource/org/unitime/timetable/webutil/timegrid/PdfExamGridTable.java'" with a description, activity log, and details panel. The bottom screenshot shows the "Project settings" page for "University Timetabling", specifically the "Access" tab, which lists project administrators.

**Top Screenshot: Ticket Details**

**Project:** UT-1

**Title:** Fixing .equals() issues in file "JavaSource/org/unitime/timetable/webutil/timegrid/PdfExamGridTable.java"

**Description:** Comparing in Java should be done with the function `.equals()` but comparing in this file is done with operator `==`

**Activity:**

- Youssef Hussein Wahba changed the Assignee May 5, 2023 at 7:23 PM. Unassigned → Ahmed Nasr
- Youssef Hussein Wahba updated the Labels May 5, 2023 at 7:19 PM. None → Java comparison
- Youssef Hussein Wahba changed the Priority May 5, 2023 at 7:19 PM. Medium → High

**Details:**

- Assignee: Ahmed Nasr
- Reporter: Youssef Hussein Wahba
- Priority: High
- Labels: Java, comparison
- Due date: None
- Time tracking: No time logged
- Start date: May 05, 2023
- Category: None

**Bottom Screenshot: Project Settings - Access**

**Project:** University Timetabling

**Access:**

Anyone with access to the "youssefhussein1" site can access and administer this project. Upgrade your plan to customize this project's permissions. Learn more about plans

Search for names, groups or email addresses

Name	Email	Role
Ahmed Nasr	-	Administrator
Mahmoud Hassan	-	Administrator
Omar Sayed	-	Administrator
Youssef Hussein Wahba	youssefhusseinwahba@gmail.com	Administrator

Replace this call to "replaceAll()" x Board - University Timetabling x +

youssefhussein1.atlassian.net/jira/core/projects/UT/board?selectedIssue=UT-2

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Projects

RECENT

University

View all projects

UT-2

replace the function replaceAll() to replace() in "JavaSource/org/unitime/timetable/webutil/timegrid/PdfExamGridTable.java"

Attach Add a child issue Link issue ...

Description

Normal text B I ... A ...

replaceAll() is used with regex and it should be done with replace() in case of regular strings

Save Cancel

Activity

Choose All Comments History Watchers

YW Add a comment...

Pro tip: press M to comment

You're in a team-managed project. Give feedback

To Do Actions

Pinned fields

Click on the ✨ next to a field label to start pinning.

Details

Assignee Omar Sayed Assign to me

Reporter Youssef Hussein Wahba

Priority Medium

Labels Java replace

Due date None

Time tracking No time logged

Start date May 05, 2023

Category None

24°C ٢٤°C

Search

ENG US 7:34 PM 5/5/2023

Replace this call to "replaceAll()" x Board - University Timetabling x +

youssefhussein1.atlassian.net/jira/core/projects/UT/board

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Projects

RECENT

University Timetabling

View all projects

University Timetabling

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Share Filter Group by: Status NEW More

TO DO 2

Fixing .equals() issues in file "JavaSource/org/unitime/timetable/webutil/timegrid/PdfExamGridTable.java"

Java comparison

UT-1 AN

replace the function replaceAll() to replace() in "JavaSource/org/unitime/timetable/webutil/timegrid/PdfExamGridTable.java"

Java replace

UT-2 OS

+ Create

IN PROGRESS 0

DONE 0

You're in a team-managed project. Give feedback

24°C ٢٤°C

Search

ENG US 7:35 PM 5/5/2023

Team members:

-Youssef Hussein Mahmoud 20206111

-Omar Sayed Ramadan 20206042

-Ahmed Nasr Hasan Elsayed 20206129

-Mahmoud Hassan Mostafa 20206071

GitHub link: <https://github.com/Youssef-Wahba/University-Timetabling-Maintaince>

Jira link: <https://youssefhussein1.atlassian.net/jira/core/projects/UT/board>