Parasoft Findings for SonarQube

View online: https://docs.parasoft.com/x/z7K9Bw

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Introduction

The Parasoft Findings Plugin for SonarQube allows you to view static analysis test results within SonarQube. It grants SonarQube the ability to analyze data from Parasoft XML reports and use it to report bugs, vulnerabilities, or code smells from within SonarQube. See Uploading Project Results for more details.

The plugin can consume the following report types:

- Parasoft Analyzers static analysis XML reports generated by Parasoft C/C++test, Jtest and dotTEST tools.

Requirements

- A Parasoft product must be installed on the same machine as the SonarQube server since the plugin loads rules from a Parasoft product installation.
- For C/C++test, the Standard edition must be used as the Professional edition does not include the required rule files.
- SonarQube versions 8.9-9.5 are supported.
- Language projects versions 2022.2+ are supported.

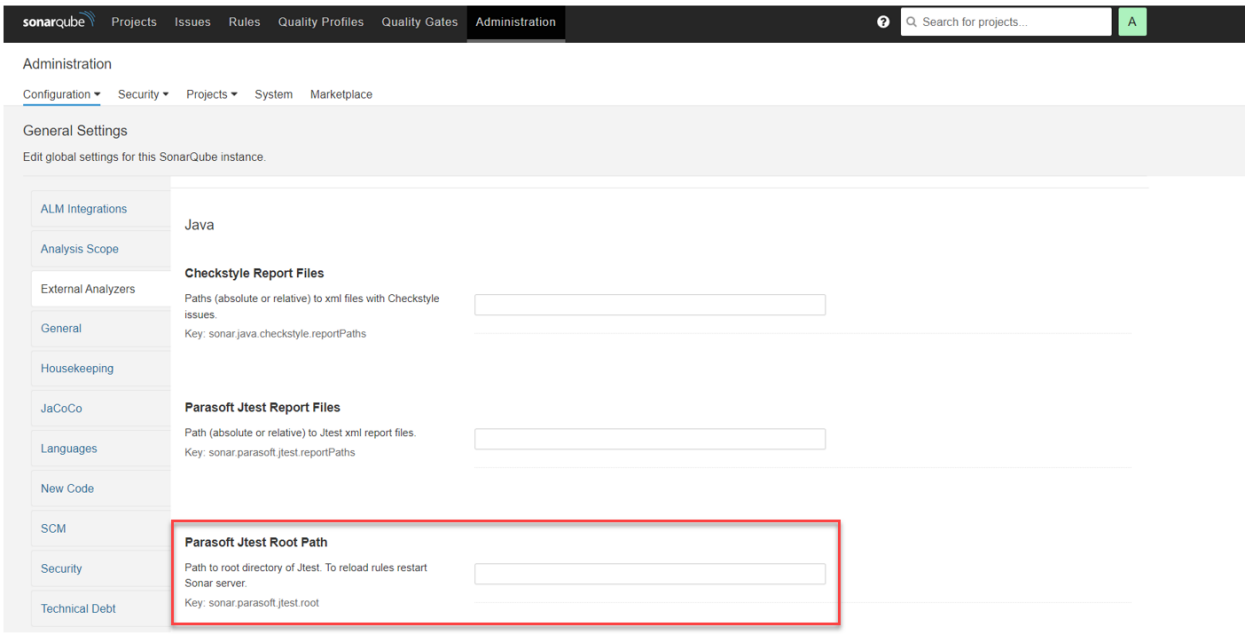
Installing the Parasoft Findings Plugin

1. Go to the `integration/sonarqube` directory of your Parasoft product and locate the Parasoft plugin jar:
    - `com.parasoft.xtest.reports.sonar-10.6.1-RELEASE.jar`
2. Copy the plugin jar into the SonarQube `extensions/plugins` directory.
3. Restart the SonarQube server.

See https://docs.sonarqube.org/latest/setup/install-plugin/ for more details.

Setting the Root Path to the Parasoft Product

1. In the SonarQube web UI go to **Administration > Configuration > General Settings > External Analyzers**.
2. Locate the **Root Path** setting under the appropriate programming language.



3. In the field enter the absolute path to the Parasoft product installation and click **Save**.
4. Restart the SonarQube server so that the rule definitions are loaded.
5. After the server has restarted, go to **Quality Profiles** in the web UI and select the built-in Parasoft profile under the appropriate supported language. Verify that the rule definitions are loaded successfully under the profile.

If zero or only one rule is loaded, then loading of rules failed. In this case:

a. Check that the root path is correct.
b. Review the SonarQube web server logs for any error messages.

Activating Parasoft Profiles

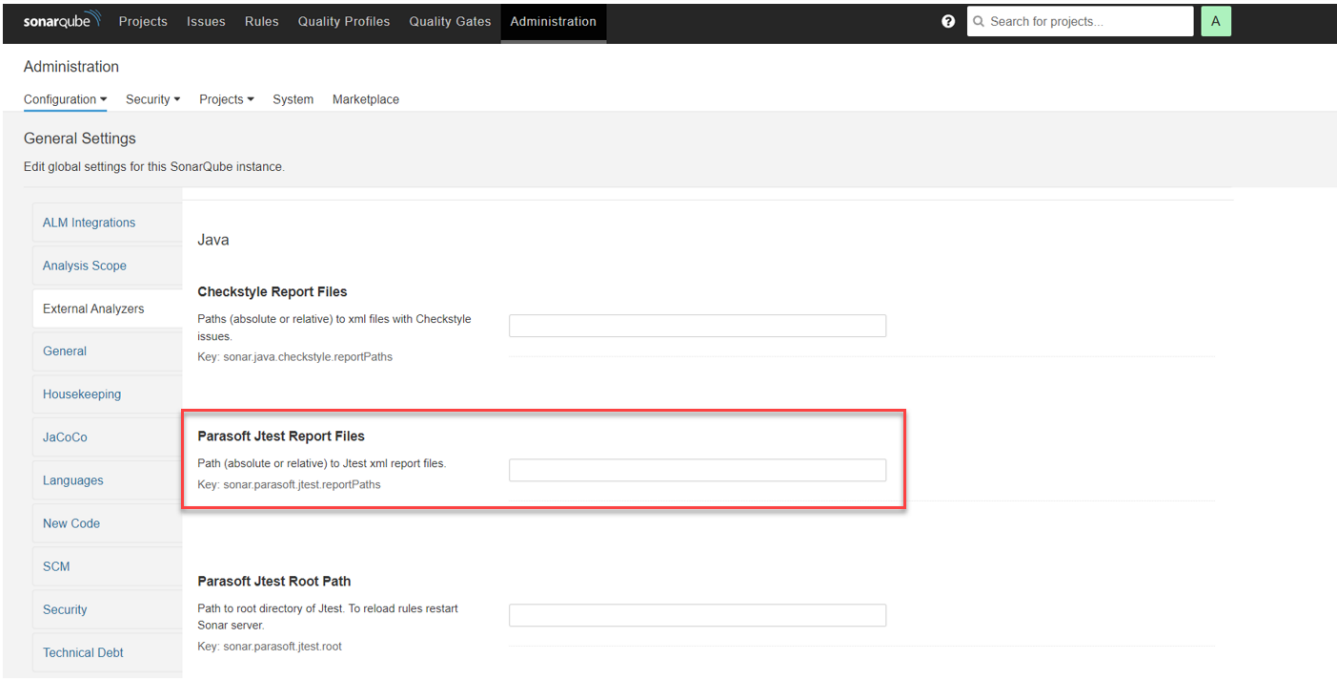
There are two ways to enable the Parasoft profile for your projects:

- To set a Parasoft profile as the default for new projects, go to **Quality Profiles** and select **Set as Default** from the gear menu to the right of the profile.
- To set a Parasoft profile for a given project, go to **Quality Profiles** section in the project settings. Select the **Change Profile** button on the right side of the appropriate language.

Setting the Report Path

For Parasoft results to be uploaded, the path to the report files must be set. There are several ways to configure this.

- To configure the path globally go to **Administration > Configuration > General Settings > External Analyzers** and find the **Report Files** setting for your Parasoft product.



Enter the path to the report.xml file of your project. For example, for Jtest using Maven:

```
target/jtest/report.xml
```

You can add multiple paths, each in a separate field. When the Parasoft scanner runs, results will be loaded from each valid report file path.

- To configure the path for a project, go to the **External Analyzers** section in the project's settings.
- To configure the path when running the sonar scanner, include the report path's settings key. For example, for Jtest using Maven:

```
mvn sonar:sonar -Dsonar.parasoft.jtest.reportPaths=target/report.xml...<additional sonar settings>
```

You can include multiple report files:

```
mvn sonar:sonar -Dsonar.parasoft.jtest.reportPaths=target/report.xml -Dsonar.parasoft.jtest.reportPaths=target/report_2.xml...<additional sonar settings>
```

Uploading Project Results

To upload Parasoft results for a project, first run the command which generates the report.xml file, and then run the usual Sonar scanner command. For example, with a Maven project setup using Jtest, a single command can be run from the root directory of your project:

```
mvn jtest:jtest sonar:sonar \
-Dsonar.projectKey=project key> \
-Dsonar.host.url=<server url> \
-Dsonar.login=<login token>
```

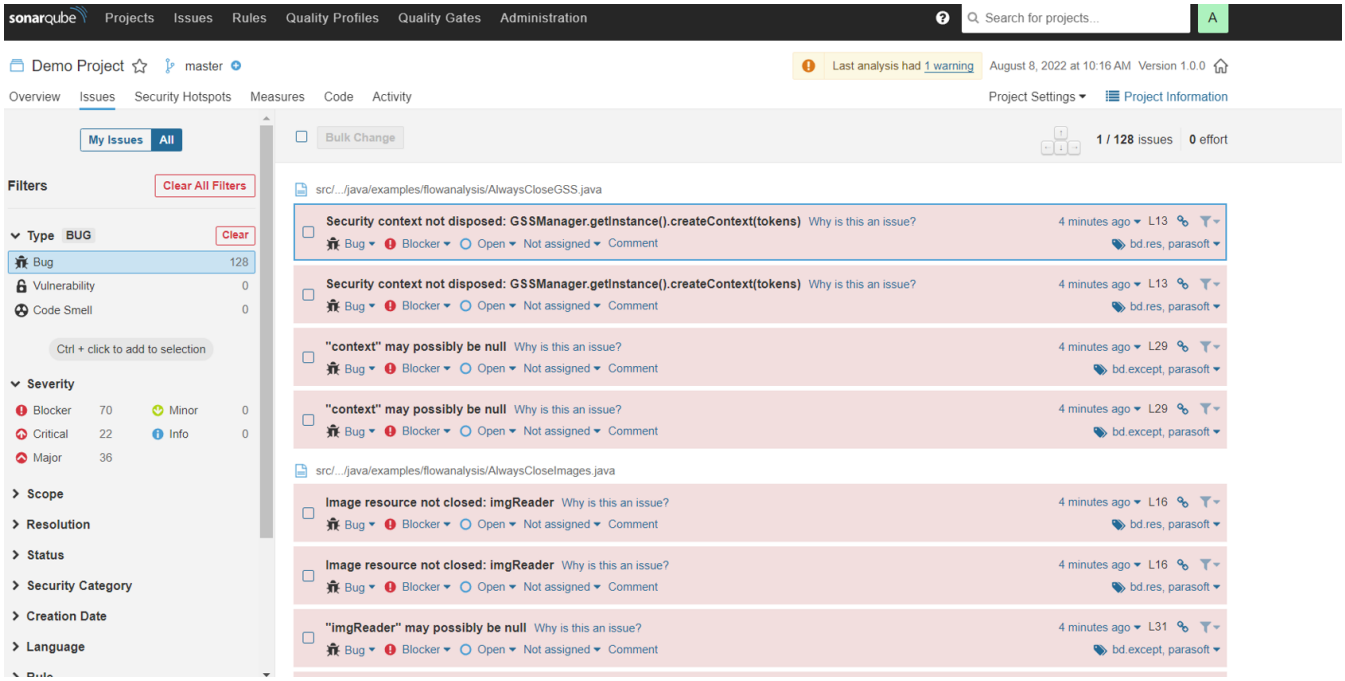
See the documentation for your Parasoft product for details on how to run static analysis and generate a report:

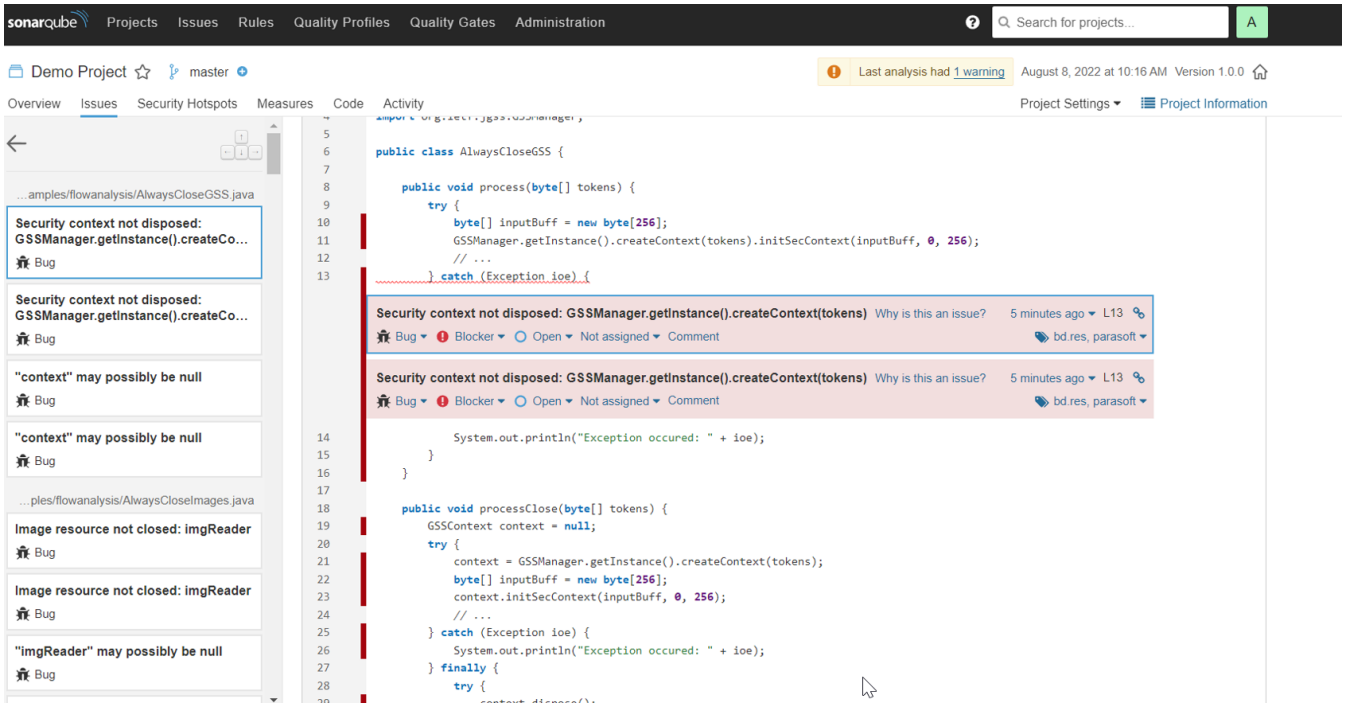
- For Jtest: https://docs.parasoft.com/display/JTEST20221/Running+Static+Analysis+1
- For dotTEST: https://docs.parasoft.com/display/CPPTEST20221/Running+Static+Analysis+1
- For C/C++test: https://docs.parasoft.com/display/DOTTEST20221/Running+Static+Analysis+1

See https://docs.sonarqube.org/latest/analysis/overview/ for details on how to run the Sonar scanner on projects using different build systems.

Viewing Test Execution Results

After the results are uploaded, they can be viewed in the project in the **Issues** tab.




sonarqube
Projects
Issues
Rules
Quality Profiles
Quality Gates
Administration
Search for projects...
Demo Project
master
Last analysis had 1 warning
August 8, 2022 at 10:16 AM Version 1.0.0
Overview
Issues
Security Hotspots
Measures
Code
Activity
Project Settings
Project Information
...amples/flowanalysis/AlwaysCloseGSS.java
Security context not disposed: GSSManager.getInstance().createCo...
Bug
Security context not disposed: GSSManager.getInstance().createCo...
Bug
"context" may possibly be null
Bug
"context" may possibly be null
Bug
...ples/flowanalysis/AlwaysCloseImages.java
Image resource not closed: imgReader
Bug
Image resource not closed: imgReader
Bug
"imgReader" may possibly be null
Bug
public class AlwaysCloseGSS {
public void process(byte[] tokens) {
try {
byte[] inputBuff = new byte[256];
GSSManager.getInstance().createContext(tokens).initSecContext(inputBuff, 0, 256);
// ...
} catch (Exception ioe) {
Security context not disposed: GSSManager.getInstance().createContext(tokens) Why is this an issue? 5 minutes ago L13
Bug Blocker Open Not assigned Comment
bd.res, parasoft
Security context not disposed: GSSManager.getInstance().createContext(tokens) Why is this an issue? 5 minutes ago L13
Bug Blocker Open Not assigned Comment
bd.res, parasoft
System.out.println("Exception occured: " + ioe);
}
}
public void processClose(byte[] tokens) {
GSSContext context = null;
try {
context = GSSManager.getInstance().createContext(tokens);
byte[] inputBuff = new byte[256];
context.initSecContext(inputBuff, 0, 256);
// ...
} catch (Exception ioe) {
System.out.println("Exception occured: " + ioe);
} finally {
try {

Unit Test Execution and Coverage

Reporting test execution and test coverage should be done using the existing industry standard solutions supported by SonarQube. Other unit test and coverage frameworks are not currently supported.

1. Run unit tests to generate test execution and coverage reports.
2. Run SonarQube scanner to upload reports.

See https://docs.sonarqube.org/latest/analysis/coverage/ for more details.