

## TOP 40 Static Code Analysis Tools (Best Source Code Analysis Tools)

Last Updated: [April 3, 2022](#)

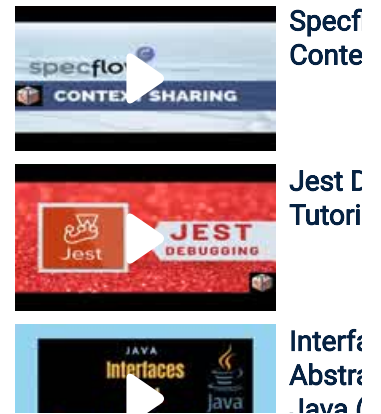
### List and comparison of the top best Static Code Analysis Tools:

Can we ever imagine sitting back and manually reading each line of code to find flaws? To ease our work, several types of static analysis tools are available in the market which helps to analyze the code during the development and detect fatal defects early in the SDLC phase.

Such defects can be eliminated before the code is actually pushed for functional QA. A defect found later is always expensive to fix.

Read this to get an idea of what can help you the most based on your needs –





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This is the list of top **source code analysis tools** for different languages.

=>> **Contact us** to suggest listing here.

**What You Will Learn:** [hide]

Best Static Code Analysis Tools Comparison

- #1) Raxis
- #2) SonarQube
- #3) PVS-Studio
- #4) DeepSource
- #5) Embold
- #6) SmartBear Collaborator
- #7) CodeScene Behavioral Code Analysis
- #8) Reshift
- #9) RIPS Technologies
- #10) Veracode
- #11) Fortify Static Code Analyzer
- #12) Parasoft
- #13) Coverity
- #14) CAST
- #15) CodeSonar
- #16) Understand
- Other Tools

Conclusion

Recommended Reading



# Best Static Code Analysis

Here is the list of the top 10 Static Code

1. Raxis
2. SonarQube
3. PVS-Studio
4. DeepSource
5. Embold

6. SmartBear Collaborator
7. CodeScene Behavioral Code Analysis
8. reshift
9. RIPS Technologies
10. Veracode
11. Fortify Static Code Analyzer
12. Parasoft
13. Coverity
14. CAST
15. CodeSonar
16. Understand

**Here is a detailed review of each.**

## #1) Raxis



Raxis does one better than automated tools that often discover false findings that waste time and effort.

Raxis scopes an amount of time that works best for your company's code and assigns a security-focused former developer to analyze your code for both general security and business-logic vulnerabilities.

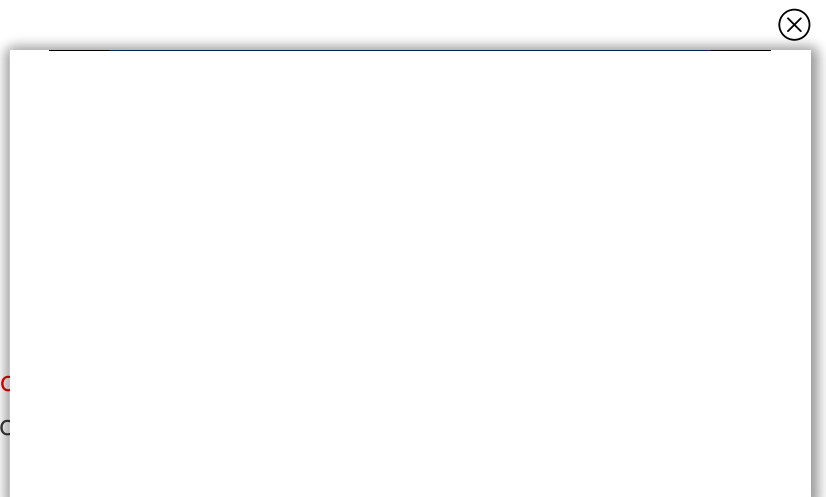
Raxis communicates throughout to be sure your input is used within the code review, and they provide a report that details each finding with screenshots and remediation advice. A high-level summary that can be provided to management and a debriefing call are also included.

=> **Visit Raxis Information Security Website**

## #2) SonarQube



SonarQube is a household name in **Code** developers to write cleaner and safer c



With thousands of automated Static Code Analysis rules in more than 25 programming languages, while integrating directly with your DevOps platform, SonarQube is your teammate to enhance your development workflow and guide your teams.

SonarQube fits with your existing tools and proactively raises a hand when the quality or security of your codebase is at risk.

=> **Visit SonarQube Website**

### #3) PVS-Studio



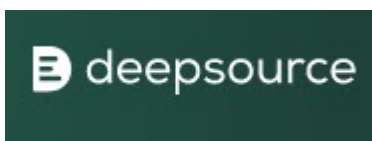
PVS-Studio is a tool for detecting bugs and security weaknesses in the source code of programs, written in C, C++, C#, and Java. It works in Windows, Linux, and macOS environment.

It is possible to integrate it into Visual Studio, IntelliJ IDEA, and other widespread IDE. The results of the analysis can be imported into SonarQube.

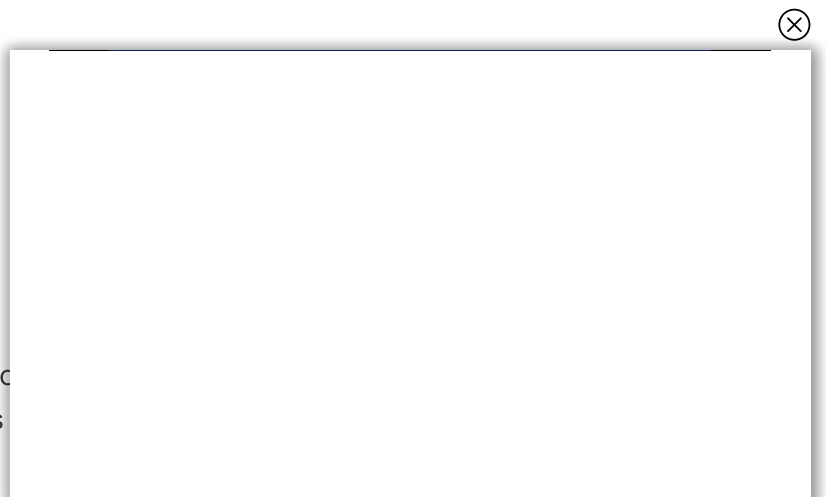
Enter the **#top40 promo code** in the message field on the download page to get the PVS-Studio license for a month instead of 7 days.

=> **Visit PVS-Studio Website**

### #4) DeepSource



DeepSource is a great static analysis tool to detect security issues early in your software's



It is arguably one of the fastest and less noisy static analysis tools on this list. It integrates seamlessly with your pull request workflow and detects bug risks, anti-patterns, performance, and security issues before they end up seriously tampering with your production.

Developers won't have an issue setting up or using the tool as it doesn't demand configuring complex build pipelines and integrates natively with GitHub, GitLab, and Bitbucket. Moreover, DeepSource can generate fixes for some of the most common issues it raises and automatically format your code.

DeepSource is free to use for open-source projects and small teams. For enterprises, DeepSource offers a self-hosted deployment option.

=> **Visit DeepSource Website**

## #5) Embold



Embold is an intelligent software analytics platform that supports developers and teams in building higher quality software in less time, by speeding up code reviews.

It automatically prioritizes hotspots in the code and provides clear visualizations. With its multi-vector diagnostic technology, it analyses software from multiple lenses, including software design, and enables users to manage and improve their software quality transparently.

You can run Embold on the cloud, or for IntelliJ IDEA users, download a free plugin directly in your IDE.

=> **Visit Embold Website**



## #6) SmartBear Collaborat

SmartBear Collaborator is a code review tool that is suitable for remote as well as co-located teams. It has comprehensive review capabilities to review various documents like design, requirements, documentation, user stories, test plans, and source code.

It can be integrated with GitHub, GitLab, Bitbucket, Jira, Eclipse, Visual Studio, etc. For the proof of review, it offers the features of electronic signatures. It provides detailed reports. The tool can be used by businesses of any size.

SmartBear contains many more features like tracking & managing defects, customizing review templates, collaborating on software artifacts & documents, etc. It can be tried for free and the price starts at \$554 per year for a 5 user pack.

=> **Visit SmartBear Collaborator Website**

## #7) CodeScene Behavioral Code Analysis

CodeScene prioritizes technical debt and code quality issues based on how the organization actually works with the code. Hence, CodeScene limits the results to information that is relevant, actionable and translates directly into business value.

CodeScene also goes beyond traditional tools by measuring the organization and people's side of your system to detect coordination bottlenecks in the software architecture, off-boarding risks, and knowledge gaps.

Finally, CodeScene integrates into your CI/CD pipeline to act as an extra team member that predicts delivery risks and offers context-aware quality gates to supervise the health of your code.



=> **Visit CodeScene Website**

## #8) Reshift

Reshift is a SaaS-based software platform that helps software development teams identify more vulnerabilities faster in their own code before deploying to production.

Reducing the cost and time of finding and fixing vulnerabilities, identifying the potential risk of data breaches, and helping software companies achieve compliance and regulatory requirements.

=> **Visit Reshift Website**

## #9) RIPS Technologies

RIPS is the only code analysis solution that performs language-specific security analysis. It detects the most complex security vulnerabilities deeply nested within the source code that no other tools are able to find.

It supports major frameworks, SDLC integration, relevant industry standards, and can be deployed as self-hosted software or used as software-as-a-service. With its high accuracy and no false-positive noise, RIPS is the ideal choice for analyzing Java and PHP applications.

=> **Visit RIPS Technologies Website**



## #10) Veracode

Veracode is a static analysis tool that is built on the SaaS model. This tool is mainly used to analyze the code from a security point of view.

This tool uses binary code/bytecode and hence ensures 100% test coverage. This tool proves to be a good choice if you want to write secure code.

**Website Link:** [Veracode](#)

## #11) Fortify Static Code Analyzer

Fortify, a tool from HP which lets a developer build an error-free and secure code. This tool can be used by both development and security teams by working together to find and fix security-related issues. While scanning the code, it ranks the issues found and ensures the most critical ones are fixed first.

**Website Link:** [Micro Focus Fortify Static Code Analyzer](#)

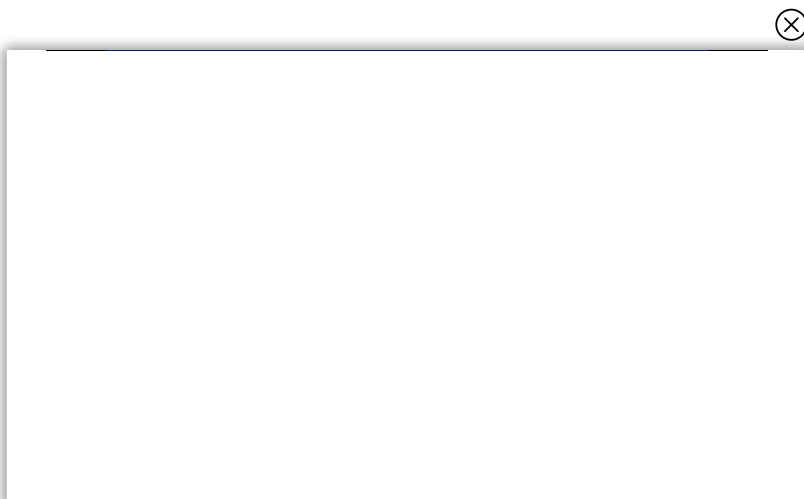
## #12) Parasoft

Parasoft, no doubt one of the best tools for Static Analysis Testing. This is slightly different when compared to other static analysis tools because of its ability to support various types of static analysis techniques like Pattern Based, Flow-Based, Third Party Analysis, and Metrics and Multivariate analysis.

Another good thing about the tool is beside identifying defects it allows provides a feature that prevents defects.

**Website Link:** [Parasoft](#)

## #13) Coverity





Coverity Scan is an open-source cloud-based tool. It works for projects written using C, C++, Java C# or JavaScript. This tool provides a very detailed and clear description of the issues which help in faster resolution. A good choice if you are looking for an open-source tool.

**Website Link:** [Coverity](#)

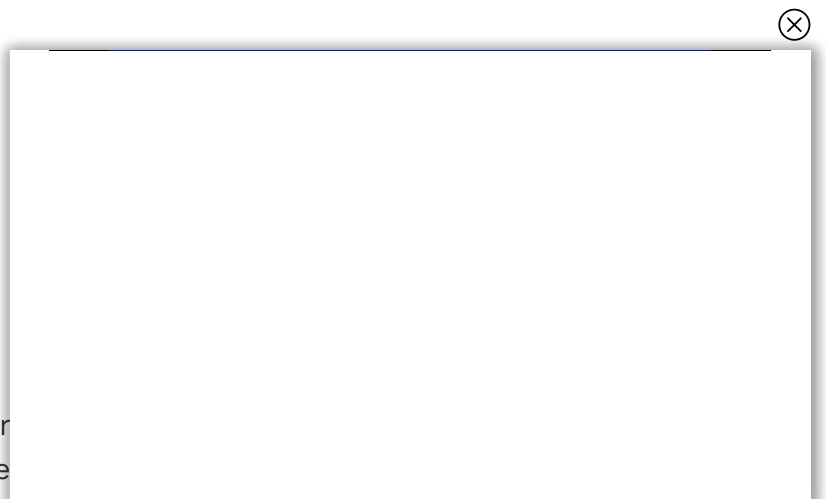
## #14) CAST

An automated tool that can be used to analyze more than 50+ languages works excellently regardless of the size of the project. In addition, it provides a Dashboard to users which helps in measuring quality and productivity.

**Website Link:** [CAST](#)

## #15) CodeSonar

A Static analysis tool by Grammatech r also helps in finding out domain-relate



checkpoints and also built-in checks can be configured as per the requirement.

Overall a great tool to detect security vulnerabilities and its ability to do a deep static analysis makes this stand out from the rest of the other static analysis tools available in the market.

**Website Link:** [CodeSonar](#)


## #16) Understand

Just like its name, this tool lets user UNDERSTAND code by analyzing, measuring, visualizing and maintaining. This allows quick analysis of massive codes. This is one tool that is mainly used by the aerospace and automakers industry. Supports major languages like C/C++, ADA, COBOL, FORTRAN, PASCAL, Python and other web languages.

**Website Link:** [Understand](#)

## #17) Code Compare

Code Compare – is a file and folder comparison and merge tool. Over 70,000 users actively use Code Compare while resolving merge conflicts and **deploying source code changes**.

Code Compare is a free compare tool designed to compare and merge differing files and folders. Code Compare integrates with all popular source control systems: TFS, SVN, Git, Mercurial, and Perforce. Code Compare is shipped both as a standalone file diff tool and a  Visual Studio extension.

### Key features:

- Text Comparison and Merging
- Semantic Source Code Comparison
- Folder Comparison
- Visual Studio Integration
- Version Control Integration and n

## #18) Visual Expert

Visual Expert is a unique static code analysis tool for SQL Server, Oracle, and PowerBuilder code.

**Visual Expert toolbox offers 200+ features to reduce maintenance and avoid regressions when making modifications as mentioned below:**

- Code Review
- CRUD Matrix
- E/R Diagrams synchronized with code view.
- Code Performance Analysis
- Code exploration
- Impact analysis
- Source Code Documentation
- Code Comparison

## #19) Clang Static Analyzer

This is an open-source tool that can be used to analyze a C, C++ code. It uses the clang library, hence forming a reusable component and can be used by multiple clients.

**Website Link: [Clang Static Analyzer](#)**

## #20) CppDepend

A very easy-to-use tool when compared to other static analysis tools. As the name suggests, this tool is used to analyze C/C++ codes. Supports different code quality metrics, provides the facility to monitor trends, has an add-in to integrate with Visual Studio, allows writing custom queries and com

**Website Link: [CppDepend](#)**

## #21) Klocwork

Apart from finding semantics and syntactical vulnerabilities in the code. This tool is integrated with Eclipse, Visual Studio, and IntelliJ IDEA. It provides a line by line check and provides a feature

**Website Link:** [Klocwork](#)

## **#22) Cppcheck**

Another free static analysis tool for C/C++. The good thing about this tool is its integration with several other development tools like Eclipse, Jenkins, CLion, Visual Studio and many more. Its installer can be found at [sourceforge.net](https://sourceforge.net).

**Website Link:** [Cppcheck](#)

## **#23) Helix QAC**

Helix QAC is an excellent static analysis testing tool for C and C++ code from Perforce (formerly PRQA). The tool comes with a single installer and supports platforms like Windows 7, Linux RHEL 5 and Solaris 10. This gives very clear diagnostics which helps in identifying the root cause and quick defect fixes.

**Website Link:** [Helix QAC](#)

## **#24) Goanna**

A security static analysis tool for C/C++ and allows integration with Microsoft Visual Studio, Eclipse, Texas Instruments Code Composer and many more IDE's. This can be run like a compiler and hence allows analyzing file-level details in addition to whole projects. Also, has excellent error reporting feature.

**Website Link:** [Goanna](#)

## **#25) Polyspace**

Polyspace bug-finder helps in finding defects for C/C++; this is integrated with Eclipse and also is compliant with coding rule standards like MISRA C, MISRA C++, and JSF++.



**Website Link:** [Polyspace](#)

## **#26) Sourcemeter**

A tool that helps in analyzing C/C++, Java, and JavaScript code. One of the good things about this tool is it allows integration with other tools like FindBugs. Basic Version of this tool is free. If you need, you can decide whether the free

**Website Link:** [Sourcemeter](#)

## #27) ConQAT

An excellent tool that can be used for clone detection supports multiple languages, allows integration with other static analysis tools, provides a dashboard that shows the details on the issues found and other quality metrics.

**Website Link:** [ConQAT](#)

## #28) JArchitect

An excellent tool that makes analyzing Java code simple and easier supports for Code Query over LINQ, provides a number of code metrics, allows code comparison between builds and comes with a very good customizable reporting feature.

**Website Link:** [JArchitect](#)

## #29) OCLint

A standalone tool used for analyzing C/C++ and Objective- C programs, this supports Linux and Mac OS platforms. It does everything a static analysis tool is expected to do like finding bugs, unused piece of code, redundant code, and in addition to all that, it comes with a very customizable configuration which really helps user customize as per their needs.

**Website Link:** [OCLint](#)

## #30) Watchtower

This tool is mainly used by a security specialist who wants to perform manual code reviews, works best on the local system, but can also scan remote websites. Maintains an extensive configuration file and hence different reporting options can be configured. Creation of alternate config files helps in the execution of multiple projects simultaneously.

**Website Link:** [Watchtower](#)

## #31) OWASP Code Crawler

A Static analysis tool for .NET and Java

**Website Link:** [OWASP Code Crawler](#)

## #32) OWASP Orizon

A tool that can be used by a security specialist from a different point of view. It also provides a set of APIs that can be used to provide code review services.



**Website Link:** [OWASP Orizon](#)

### #33) PC-Lint and Flexe Lint

This is the best Static Analysis tool used to test C/C++ source code. PC Lint works on windows OS whereas Flexe Lint is designed to work on non-windows OS, and runs on systems that support a C compiler including UNIX.

**Website Link:** [PC-Lint and Flexe Lint](#)

### #34) IBM Rational Software Analyzer

IBM Rational provides the user with different types of tool, one such tool is the software analyzer which can be used for static analysis of code. This tool is designed on an extensible framework and integrates well with other Rational products.

**Website Link:** [IBM Rational Software Analyzer](#)

## Other Tools

### #35) Eclair

This static analysis tool is a very flexible and easily configurable tool and supports almost all platforms like Windows, UNIX, Linus, Mac OS X. This tool comes with an ability to verify conformance against a number of coding standard as well as other coding standards which include proprietary and project-based standards.

**Website Link:** [Eclair](#)

### #36) Rosecheckers

If you are looking for a tool to ensure the developed code is compliant with CERT coding rules, you can opt for Rosecheckers. It is available for free is SourceForge. This tool does check for C/C++ codes and sometimes finds the problem which other static analysis tools cannot find, but this cannot be considered a full-grown standalone tool due to its inability to fully test since this is only a prototype.

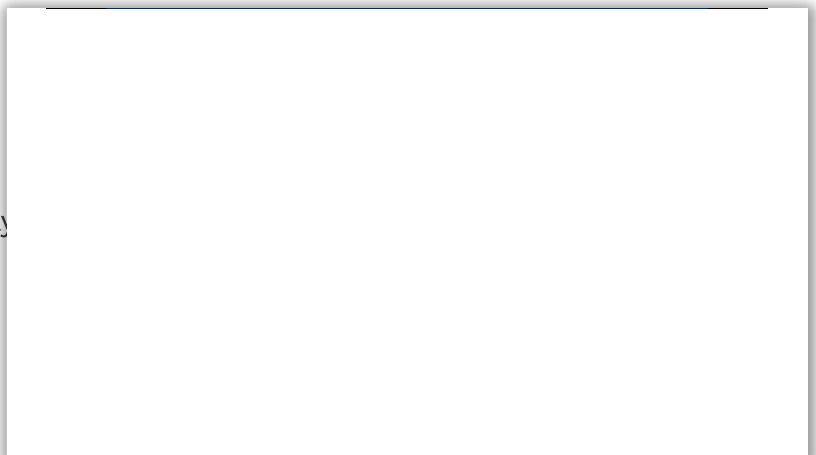
**Website Link:** [Rosecheckers](#)

### #37) Frama-c

An open-source tool that lets the analy

**Website Link:** [Frama-c](#)

### #38) Semmle



Open-source security analysis tool for Java and C codes.

**Website Link:** [Semmlle](#)

#### #39) PMD

PMD is an open-source code analyzer for C/C++, Java, JavaScript. This is a simple tool and can be used to find common flaws. It also detects duplicate code in java.

**Website Link:** [PMD](#)

#### #40) FindBugs

Free tool to find bugs in Java code. It supports any version of Java but requires JRE (or JDK) 1.7.0 or later to run.

**Website Link:** [FindBugs](#)

#### #41) HCL Appscan

This is used to identify vulnerabilities early in the SDLC phase. Also, supports mobile scanning.

**Further reading =>> [Top alternatives to AppScan](#)**

**Website Link:** [HCL Appscan](#)

#### #42) Flawfinder

This is an open-source tool mainly used to find security vulnerabilities in C/C++ program. It can be downloaded, installed and run on systems like UNIX.

**Website Link:** [Flawfinder](#)

#### #43) Splint

An open-source static and security analysis tool for C programs. It comes with the very basic feature but if additional annotations are provided, it can be a very powerful standard tool. ⓧ

**Website Link:** [Splint](#)

#### #44) Hfcca

Header Free Cyclomatic Complexity Analyzer. It takes care about the C/C++ headers or Java i...  
installation. This can be used for C/C++

**Website Link: [Hfcca](#)**

#### #45) Cloc

This utility written in Perl lets the user find blank lines, comment lines, and physical lines and supports multiple languages. Overall an easy to tool with good features like providing outputs in multiple formats runs on multiple systems and comes with an easy installation pack.

**Website Link: [Cloc](#)**

#### #46) SLOCCount

An open-source tool which lets user count physical source lines of code in multiple languages and on multiple platforms.

**Website Link: [SLOCCount](#)**


#### #47) JSHint

This is a free tool that supports static analysis of JavaScript.

**Website Link: [JSHint](#)**

#### #48) DeepScan

DeepScan is an advanced static analysis tool engineered to support JavaScript, TypeScript, React, and Vue.js.

You can use DeepScan to find possible runtime errors and quality issues instead of coding conventions. Integrate with your GitHub repositories to get quality insight into your web project. 

## Conclusion

Above is a summary of some of the self covering all the available tools in one a your court, feel free to bring up any tool

**=>> [Contact us](#) to suggest listing here**



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## Recommended Reading

- [Best Software Testing Tools 2022 \[QA Test Automation Tools\]](#)
- [15 BEST Version Control Software \(Source Code Management Tools\)](#)
- [13 BEST Code Review Tools For Developers in 2022 \[SELECTIVE\]](#)
- [SVN Tutorial: Source Code Management Using Subversion](#)
- [Code Refactoring: What You Need to Know About It](#)
- [Micro Focus Quality Center Tutorial \(Day 7\) - Project Analysis Using the Powerful Dashboard Tools](#)
- [Top 15 Code Coverage Tools \(For Java, JavaScript, C++, C#, PHP\)](#)
- [Top 4 Open Source Security Testing Tools to Test Web Application](#)

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[15 BEST Version Control Software \(Source Code Management Tools\)](#)

[13 BEST Code Review Tools For Developers in 2022 \[SELECTIVE\]](#)

[SVN Tutorial: Source Code Management Using Subversion](#)

[Code Refactoring: What You Need to Know About It](#)

[Micro Focus Quality Center Tutorial \(QCMaster\)](#)

[Dashboard Tools](#)

[Top 15 Code Coverage Tools \(For Java\)](#)

[Top 4 Open Source Security Testing Tools](#)

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