

Cppcheck Plugin

Plugin Information

View Cppcheck on the plugin site for more information.

This plugin generates the trend report for CppCheck, a tool for static C/C++ code analysis.

Description

The Cppcheck plug-in scans for Cppcheck report files in the build workspace and reports the issues detected during static C/C++ code analysis.

The following features are provided by this plug-in:

- Configuration of the files to scan after a build, build status evaluation and graph.
- Trend reports showing the number of detected issues per type.
- Results summary and results details including new issues and solved issues.
- Listing of source code with highlighted issues.
- Show all violations highlighted on a single page.
- [Dashboard View](#) portlet showing number of issues per job.
- Remote access API (REST API).
- Works with most project/job types.

Please use the [Mailing Lists](#) or [issue tracker](#) to ask questions, create feature request or bug reports.

Screenshots

Version 1.15, 1.16.

The screenshots illustrate the Cppcheck plugin's capabilities. The 'Cppcheck Results' panel shows detailed error messages, such as 'The function 'screenshotFind' is never used.' and 'Prefer prefix ++/-- operators for non-primitive types.' The 'Project Detail' view displays a line graph showing the number of issues detected over time, with a table below it listing the number of issues for each type. The 'Builds' table provides a summary of build jobs, including their status, duration, and the number of issues detected. The code editor snippet shows the source code with highlighted errors, such as 'The function 'screenshotFind' is never used.' and 'Prefer prefix ++/-- operators for non-primitive types.'

Build Job	Status	Duration	Issues
Build Job 1	Failed	N/A	3 days 3 hr - #1
Build Job 2	Failed	21 min - #5	N/A
Build Job 3	Warning	3 days 5 hr - #1	52
Build Job 4	Warning	17 min - #5	N/A
Build Job 5	Warning	3 days 3 hr - #5	N/A
Build Job 6	Failed	N/A	N/A

Usage

- Install **Cppcheck** tool to the system. If you use master Jenkins server and several build slaves, install it to all slaves that will run the analysis.
- For each job configuration page:
 - Add **Execute shell** build step to generate Cppcheck report or create the report file in your build scripts (Ant, Maven, Make, ...).
 - Activate **Publish Cppcheck results in Post-build Actions** and provide at least the path to the generated Cppcheck report (cppcheck.xml).
 - Optionally configure build status evaluation (**Advanced** button).
 - Optionally configure graph (second level **Advanced** button).
- **Always prefer new XML version 2 for the output format.** XML version 1 is supported in the plugin too, but Cppcheck doesn't report some issues with the legacy format.

```
# Minimal set of arguments
cppcheck --xml --xml-version=2 SOURCE_DIRECTORY 2> cppcheck.xml

# Enable all checks
cppcheck --enable=all --inconclusive --xml --xml-version=2
SOURCE_DIRECTORY 2> cppcheck.xml

# Analysis in multiple parallel threads
cppcheck -j 4 --enable=all --inconclusive --xml --xml-version=2
SOURCE_DIRECTORY 2> cppcheck.xml
```



Report in a sub-directory of the workspace (advanced)

The plugin expects that all paths in the input report file (**cppcheck.xml**) are relative to the workspace root directory. If the Cppcheck tool is executed from a sub-directory, the plugin will be unable to pair the paths in the report with the files on disk and the **source codes with the highlighted errors won't be available in the details.**

```
# In the workspace root directory
cd SUBDIRECTORY
cppcheck --enable=all --inconclusive --xml --xml-version=2
INPUT_DIRECTORY 2> cppcheck.xml
```

See the warning in the Console Output below. The invalid absolute path is missing **SUBDIRECTORY** between **workspace** and **INPUT_DIRECTORY** directories.

```
[Cppcheck] Starting the cppcheck analysis.
[Cppcheck] Processing 1 files with the pattern '**/cppcheck.xml'.
[Cppcheck] [WARNING] - The source file 'file:/SHORTENED/work/jobs
/JOB_NAME/workspace/INPUT_DIRECTORY/mainwindow.cpp'
doesn't exist on the slave. The ability to display its source code has
been removed.
...
```

There are basically two solutions for this issue. The first one is to execute the Cppcheck analysis directly from the workspace root directory to make SUBDIRECTORY part of the path.

```
# In the workspace root directory
# cd SUBDIRECTORY
# cppcheck --enable=all --inconclusive --xml --xml-version=2
INPUT_DIRECTORY 2> cppcheck.xml

cppcheck --enable=all --inconclusive --xml --xml-version=2 SUBDIRECTORY
/INPUT_DIRECTORY 2> SUBDIRECTORY/cppcheck.xml
```

But the above solution is not much suitable for larger projects that are using for example recursive GNU/Make based build scripts where the Cppcheck analysis is executed for each sub-project (sub-directory). It is better to modify the paths in the report files after they are created.

```
# In the workspace root directory
cd SUBDIRECTORY
cppcheck --enable=all --inconclusive --xml --xml-version=2
INPUT_DIRECTORY 2> cppcheck.xml
sed -i 's%\(<location file="\)\%\1SUBDIRECTORY/%' cppcheck.xml
```

The sed command above adds "SUBDIRECTORY/" to the beginning of the paths in the location elements. Note this method is not limited only to sed, you can use whatever tool that is able to replace string in a file.

```
<location file="INPUT_DIRECTORY/mainwindow.cpp" line="1134"/>
<location file="SUBDIRECTORY/INPUT_DIRECTORY/mainwindow.cpp" line="1134"
/>
```

Remote access API (REST API)

Use the URLs below to access the Cppcheck specific data.

Description of possibilities

- http://SERVER/job/JOB_NAME/BUILD_NUMBER/cppcheckResult/api

Data

- http://SERVER/job/JOB_NAME/BUILD_NUMBER/cppcheckResult/api/xml
- http://SERVER/job/JOB_NAME/BUILD_NUMBER/cppcheckResult/api/json
- etc.

Example of XML data:

```

<cppcheckStatistics>
  <numberErrorSeverity>0</numberErrorSeverity>
  <numberInformationSeverity>7</numberInformationSeverity>
  <numberNoCategorySeverity>0</numberNoCategorySeverity>
  <numberPerformanceSeverity>20</numberPerformanceSeverity>
  <numberPortabilitySeverity>0</numberPortabilitySeverity>
  <numberStyleSeverity>22</numberStyleSeverity>
  <numberTotal>54</numberTotal>
  <numberWarningSeverity>5</numberWarningSeverity>
</cppcheckStatistics>

```

Example of JSON data:

```

{
  "numberErrorSeverity" : 0,
  "numberInformationSeverity" : 7,
  "numberNoCategorySeverity" : 0,
  "numberPerformanceSeverity" : 20,
  "numberPortabilitySeverity" : 0,
  "numberStyleSeverity" : 22,
  "numberTotal" : 54,
  "numberWarningSeverity" : 5
}

```

Known Issues

Open Issues (27 issues)

T	Key	Summary	P	S tatus	Re soluti on	C reated	U pdated
	JENKIN S-55549	CppCheck Cannot load sidepanel.jelly	⬆	Op en	Unres olved	Jan 11, 2019	Feb 15, 2019
	JENKIN S-55520	Running plugin by class call in Declarative pipeline	⬆	Op en	Unres olved	Jan 10, 2019	Jan 10, 2019
	JENKIN S-54870	Allow "Publish cppCheck results" for failed builds	⬆	Op en	Unres olved	Nov 26, 2018	Dec 03, 2018
	JENKIN S-54246	publishCppcheck in pipeline fails job not stage	⬇	Op en	Unres olved	Oct 25, 2018	Oct 25, 2018
	JENKIN S-54209	Can't read file: Can't access the file	⬆	Op en	Unres olved	Oct 23, 2018	Jan 31, 2019
	JENKIN S-53006	Cppcheck results was showing unchanged to solved but without fixing the issue	⬆	Op en	Unres olved	Aug 13, 2018	Aug 13, 2018
	JENKIN S-52933	Cppcheck trend doesn't appear with plugin 1.23	⊘	Op en	Unres olved	Aug 08, 2018	Sep 19, 2018
	JENKIN	Cppcheck Publisher error	⬇	Op	Unres	Aug 08,	Sep 20,

	S-52932		en	olved	2018	2018	
	JENKIN S-52915	cppcheck help text is a bit misleading		Open	Unresolved	Aug 07, 2018	Aug 07, 2018
	JENKIN S-52864	Cppcheck plugin fails to resolve files in details view		Open	Unresolved	Aug 03, 2018	Jan 02, 2019
	JENKIN S-52845	Wrong documentation for Cppcheck report XMLs		Open	Unresolved	Aug 02, 2018	Aug 02, 2018
	JENKIN S-49712	Allow separate selection of categories for Failure threshold and Error threshold		Open	Unresolved	Feb 23, 2018	Feb 23, 2018
	JENKIN S-46649	Cppcheck-plugin architecture from github		Open	Unresolved	Sep 05, 2017	Sep 06, 2017
	JENKIN S-46635	CppCheck - System throws error: javax.xml.bind.UnmarshalException, Premature end of file		Open	Unresolved	Sep 04, 2017	May 01, 2018
	JENKIN S-42613	Cppcheck publisher has no access to source files (experimental version for pipeline)		Open	Unresolved	Mar 09, 2017	Feb 26, 2018
	JENKIN S-41704	Clicking On `Cppcheck Results` From A Multi-Branch Pipeline Build Results In javax.servlet.ServletException: org.apache.commons.jelly.JellyTagException		Reopened	Unresolved	Feb 03, 2017	Jan 03, 2019
	JENKIN S-36731	Sorting results by column should be stable		In Progress	Unresolved	Jul 16, 2016	Feb 16, 2017
	JENKIN S-32748	Support CWE mapping in upcoming cppcheck 1.73		Open	Unresolved	Feb 03, 2016	Feb 03, 2016
	JENKIN S-30026	Parser fails in case workspace path contains a hash character.		Open	Unresolved	Aug 19, 2015	Aug 19, 2015
	JENKIN S-28270	Combine duplicate errors		Open	Unresolved	May 06, 2015	May 06, 2015

Showing 20 out of 27 issues

Changelog

Release 1.24 (Sep 12, 2018)

- Fixed: [JENKINS-52864](#) - NPE with Cppcheck plugin 1.23 RESOLVED

Release 1.23 (Jul 30, 2018)

- Fixed: [JENKINS-52607](#) - Cppcheck-Plugin does show up in snippet-generator CLOSED
- Fixed: [JENKINS-52604](#) - Cppcheck report XMLs field doesn't retain data after update to 1.22 IN REVIEW
- Fixed: [JENKINS-41704](#) - Clicking On `Cppcheck Results` From A Multi-Branch Pipeline Build Results In javax.servlet.ServletException: org.apache.commons.jelly.JellyTagException REOPENED

Release 1.22 (Jul 10, 2018)

- Implemented: JENKINS-35096 - Basic Pipeline support
- Fixed: JENKINS-42727 - Waiting for checkpoint on concurrent build

Release 1.21 (Aug 5, 2015)

- Implemented: [pull request](#) - Expand environment variables in the report file pattern

Release 1.20 (Sep 27, 2014)

- Fixed: [JENKINS-24834](#) - CPP check report background colours not displaying for new or resolved issues since upgrade
 - There was an incompatible change in Jenkins core, since version 1.581.
- Fixed: [JENKINS-24037](#) - CPPCheck Plugin: You need "worspace" message instead of "workspace"
- Implemented: [JENKINS-24007](#) - Put a warning about report in legacy format to build log
- Implemented: [JENKINS-23247](#) - Display trends graph last 10/20 successful/fail builds in CPPcheck plugin.
 - Number of builds displayed in the trend graph can be limited in configuration.
 - Destination of several labels in configuration fixed (on click action).

Release 1.19 (Jul 27, 2014)

- Fixed: [JENKINS-23185](#) - Setting build status to FAILURE for new error when errors were fixed
- Implemented: [JENKINS-23888](#) - Add query parameter support for filtering errors based on new, resolved or unchanged
- Implemented: [JENKINS-23891](#) - Redesign of configuration page
- Implemented: [JENKINS-23575](#) - Post-Build-Step "Publish Cppcheck results" not available in job generator project
- Rejected: [JENKINS-17450](#) - "warning" and "performance" not counted

Release 1.18 (May 25, 2014)

- Partially fixed: [JENKINS-22823](#) - Cppcheck plugin can't connect to report file
- Partially fixed: [JENKINS-11354](#) - CppCheck plugin cannot find CppCheck report
 - Issues with legacy Java 1.5.
- Implemented: [JENKINS-22965](#) - Cppcheck plugin shall display the inconclusive messages
- Implemented: [JENKINS-23086](#) - Cppcheck plugin shall display verbose information

Release 1.17 (May 18, 2014)

- Release process failed, skipping this version.

Release 1.16 (April 30, 2014)

- Implemented: [JENKINS-18109](#) - Show all violations highlighted on a single page
- Implemented: [JENKINS-22388](#) - Possible to move cppcheck summary into main job hudson page?
- Implemented: [JENKINS-22784](#) - Color palette for lines in the graph
- Rejected: [JENKINS-22554](#) - Resolve files with relative paths
- Rejected: [JENKINS-22761](#) - Missing links to source in cppcheck plugin
- Wiki: New section "Report in a sub-directory of the workspace (advanced)" added.

Release 1.15 (March 22, 2014)

- Fixed: [JENKINS-17363](#) - Ludicrously slow load time (with lazyloading)
- Fixed: [JENKINS-19437](#) - Implement load on demand functionality in Cppcheck
- Fixed: [JENKINS-22073](#) - ProjectAction should render graph, optimize build.xml size
 - Changes in data storage that heavily reduces memory consumption and increases performance during a common Jenkins use.
 - Stored data now contains only statistics per type (just several numbers), full report is lazy-loaded only while it is needed in the results page. Compare with parsing of a giant XML that contains all information about each issue detected by Cppcheck and multiply by number of builds just to show a simple trend graph.
 - Data format is very different but the code should satisfy a backward compatibility.
 - The plugin update will have full impact after all builds from a previous version will completely role out and only new data are present.
- Fixed: [JENKINS-17450](#) - "warning" and "performance" not counted
- Fixed: [JENKINS-18029](#) - Selected line with static analysis violation is hidden because breadcrumb covers it
- Fixed: [JENKINS-17540](#) - ConversionException reading build.xml
- Fixed: [JENKINS-21346](#) - Not working with cppcheck 1.63
- Fixed: [JENKINS-22114](#) - When looking at the source code of an error - the latest source is used
- Fixed: [JENKINS-7279](#) - cppcheck plugin will not show results for multiconfiguration project
- Fixed: [JENKINS-22214](#) - Fix findings from FindBugs static analysis
- Fixed: [JENKINS-22213](#) - Broken backward compatibility with version 1.14
- Implemented: [JENKINS-22215](#) - Side panel menu is missing on pages with listing of source codes
- Implemented: [JENKINS-21928](#) - Redesign of results page
- Implemented: [JENKINS-21927](#) - Redesign of build summary page
- Implemented: [JENKINS-10651](#) - Add cppcheck to "Dashboard View"

- Implemented: [JENKINS-14481](#) - Quickly identify only the new errors
- Rejected: [JENKINS-21714](#) - More data from REST API
- Rejected: [JENKINS-16700](#) - Parsing throws exceptions. javax.xml.bind.UnmarshalException
- Rejected: [JENKINS-20894](#) - When the upstream build fails, it won't show cppcheck test results
- All existing Jira tasks with Resolved status checked, optionally tested and closed.
- Description, Screenshots, Usage, Remote access API and Known Issues sections added to wiki.

Release 1.14 (October 7, 2013)

* Add option to not fail builds if a report is not found.

Release 1.13 (December 19, 2012)

* Fix [JENKINS-14908](#) - Enable Maven project support.

Release 1.12 (November 12, 2012)

* Fix [JENKINS-15707](#) - Cppcheck Trend graph is blank even though the plugin processes stats correctly

Release 1.11 (November 04, 2012)

* Fix [JENKINS-15523](#) - cppcheck: WARNING: Failed to resolve class

Release 1.10 (July 18, 2012)

* Fix internal error by computing between newError and previousError: wrong inverse between performance severity and information severity

Release 1.9 (May 5, 2012)

* Fix [JENKINS-13657](#) - Cppcheck does not work with the "Flexible Publish Plugin"

Release 1.8 (May 1, 2012)

* Fix [JENKINS-13589](#) - Calculation errors of threshold crossing

Release 1.7 (April 22, 2012)

* Fix [JENKINS-12364](#) - Cannot drill down to source code with cppcheck when build source is checked out using SVN

Release 1.6 (April 21, 2012)

* Fix [JENKINS-11114](#) - Separate errors report on build report page by severity type.

Release 1.5 (April 21, 2012)

* Fix reopened [JENKINS-10368](#) - Wrong image dimension for Cppcheck Results link on Dashboard

Release 1.4 (April 20, 2012)

* Fix [JENKINS-12504](#) - cppcheck-plugin doesn't display the latest source when cppcheck-plugin is the cause of a build failure

Release 1.3 (April 18, 2012)

* Fix [JENKINS-12301](#) - Cppcheck always display all errors
 * Fix [JENKINS-12382](#) - Typo with displayed text for cppcheck plugin configuration in Jenkins

Release 1.2 (February 06, 2012)

* Merge pull request - Add a link to the line number

Release 1.1 (January 01, 2012)

* Fix reponed [JENKINS-11096](#) - No cppcheck reports found if they stored in workspace
* Fix reponed [JENKINS-11065](#) - Add cppcheck version to the result page

Release 1.0.2 (September 28, 2011)

* Fix [JENKINS-11096](#) - No cppcheck reports found if they stored in workspace

Release 1.0.1 (September 20, 2011)

* Fix [JENKINS-9178](#) - Cppcheck plugin missing files if used by a matrix project

Release 1.0.0 (August 01, 2011)

* Fix [JENKINS-10369](#) - CppCheck results missing File and line num when xml-version=2 is used
* Fix [JENKINS-9727](#) - CPP Check should support new xml output format (version 2)

This new version supports the new Cppcheck output format (version 2).
For old output, the new mapping is:

New Category	Old Category
error	error
warning	possible error
style	style
performance	possible style
information	no category

Release 0.17 (June 17, 2011)

* Fixed [JENKINS-9727](#) - Add Cppcheck version 2 support
* Upgrade the dependency of Ivy pluign to 1.19

Release 0.16 (June 15, 2011)

* Fixed [JENKINS-9726](#) - Cannot handle empty files

Release 0.15 (March 23, 2011)

* Rerelease 0.14 to properly set required Jenkins version

Release 0.14 (March 12, 2011)

* Fixed [JENKINS-8559](#) - CppCheck links to last success or unstable build, even when the current build fails due to CppCheck errors

Release 0.13 (Feb 27, 2011)

* Fixed [JENKINS-6990](#) - List of files not correctly displayed when providing several XML files.

Release 0.11 (Feb 21, 2011)

* Fixed [JENKINS-8668](#) - Publish cppcheck results option not available in Ivy project
* Updated to Jenkins 1.397 API and metadata

Release 0.10.3

* Fixed [JENKINS-7448](#)

Release 0.10.2

* Fixed a `java.lang.NullPointerException` when the file attribute for an error is not specified.

Release 0.10.1

* Integrated [JENKINS-6862](#) fix

Release 0.10

* Fixed [JENKINS-6046](#)

* Fixed [JENKINS-5983](#)

* Added restriction to view sources only to users who has the 'WORKSPACE' permission.

Release 0.9

* Added backward compatibility with the `cppcheck` plugin 0.6 (except to display source code)

* Added a notification in the updateable list of plugins if a version of the plugin before version 0.7 was installed.

Release 0.8

* An empty source file or a directory as a the value of the file attribute are managed for the `cppcheck` result file

Release 0.7

* Added the ability to display `cppcheck` trend for each severity and the sum of all severities

* Fixed [JENKINS-4322](#) (Added the ability to reach source files on a slave node)

Note : this version requires Hudson 1.321+.

Release 0.6

* Some check boxes has been introduced to select the severities for build health

* Migrated to the `cppcheck` release (1.35)

- The "all" severity is renamed to "possible error"

- The "all style" severity is renamed to "possible style"

Release 0.5.2

* Fixed building on slaves (`java.io.NotSerializableException: java.io.PrintStream`)

Release 0.5.1

* Spelling correction

Release 0.5

* Added remote API for the plug-in results

Release 0.4

* Correction of the ambiguity of the analysis of workspace and module roots

Release 0.3

* Collecting multiple analysis files

Release 0.2

* Added the ability to go through source code
* Added the ability to configure the build status and health

Release 0.1

* Initial Release