Cppcheck C/C++ static analyser

CONCEPTS

By default only errors are shown. Add --enable=style (or all) to see warnings, style and performance findings.

Sources files or project
↓ preprocess
Configurations #ifdef variants
↓ analyse
Checks --enable ids
↓ report
Findings text / XML

RUNNING

cppcheck *<file>*
Check one file

cppcheck *<dir>*
Check all sources in a folder, recursively

cppcheck -j *<n>* *<dir>*
Check with n threads

cppcheck -q *<dir>*
Quiet: print only findings

cppcheck -i *<path>* *<dir>*
Skip a file or folder

CHECKS AND LEVELS

cppcheck --enable=warning *<dir>*
Add warnings

cppcheck --enable=style *<dir>*
Add style findings

cppcheck --enable=performance,portability *<dir>*
Add several groups (comma list)

cppcheck --enable=all *<dir>*
Enable every group

cppcheck --check-level=exhaustive *<dir>*
Deeper, slower analysis

cppcheck --check-config *<dir>*
Show missing includes and config problems

CONFIGURATION

cppcheck -I *<dir>* *<path>*
Add an include directory

CONFIGURATION (cont.)

cppcheck -D*<name>* *<path>*
Define a macro, check only that config

cppcheck --std=c++20 *<path>*
Set the C++ standard

cppcheck --library=*<name>* *<path>*
Load a library config (posix, qt, ...)

PROJECTS AND INCREMENTAL RUNS

cppcheck --project=compile_commands.json
Use a compilation database

cppcheck --project=compile_commands.json -i*<dir>*
Exclude a folder from a project

cppcheck --cppcheck-build-dir=*<dir>* *<path>*
Cache results, enable whole-program checks

OUTPUT

cppcheck --template=gcc *<path>*
GCC-style lines for editors

cppcheck --template='{file}: {line}: {message}' *<path>*
Custom line format

cppcheck --xml *<path>* **2>** *<out.xml>*
XML report (written to stderr)

cppcheck --error-exitcode=*<n>*
Exit with n when findings exist

SUPPRESSIONS

cppcheck --suppress=*<id>* *<path>*
Suppress an id everywhere

cppcheck --suppress=*<id>*:*<file>* *<path>*
Suppress an id in one file

cppcheck --suppressions-list=*<file>* *<path>*
Read suppressions from a text file

cppcheck --inline-suppr *<path>*
Honour cppcheck-suppress comments

// cppcheck-suppress *<id>*
Suppress on the next or same line