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C++ static code analysis

Unique rules to find Bugs, Vulnerabilities, Security Hotspots, and Code Smells in your C++ code

All rules 578

Vulnerability 13

Bug 111

Security Hotspot 18

Code Smell 436

Quick Fix 68

Tags

Search by name...

"memset" should not be used to delete sensitive data

Vulnerability

POSIX functions should not be called with arguments that trigger buffer overflows

Vulnerability

XML parsers should not be vulnerable to XXE attacks

Vulnerability

Function-like macros should not be invoked without all of their arguments

Bug

The address of an automatic object should not be assigned to another object that may persist after the first object has ceased to exist

Bug

Assigning to an optional should directly target the optional

Bug

Result of the standard remove algorithms should not be ignored

Bug

"std::scoped_lock" should be created with constructor arguments

Bug

Objects should not be sliced

Bug

Immediately dangling references should not be created

Bug

"pthread_mutex_t" should be unlocked in the reverse order they were locked

Bug

"pthread_mutex_t" should be properly initialized and destroyed

Bug

"pthread_mutex_t" should not be consecutively locked or unlocked twice

Obsolete POSIX functions should not be used

Analyze your code

Code Smell Major obsolete cert

To ensure future code portability, obsolete POSIX functions should be removed. Those functions, with their replacements are listed below:

Obsolete	Use Instead
asctime	strftime
asctime_r	strftime
bcmp	memcmp
bcopy	memmove memcpy
bsd_signal	sigaction
bzero	memset
ctime	strftime
ecvt	sprintf
fcvt	sprintf
ftime	no replacement function
gcvt	sprintf
getcontext	Rewrite to use POSIX threads.
gethostbyaddr	getnameinfo
gethostbyname	getaddrinfo
getwd	getcwd
index	strchr
makecontext	Rewrite to use POSIX threads.
mktemp	mkstemp
pthread_attr_getstackaddr	pthread_attr_getstack
pthread_attr_setstackaddr	pthread_attr_setstack
rand_r	rand
rindex	strrchr
scalb	scalbln, 'scalblnf' or 'scalblnl' instead of this function
swapcontext	Rewrite to use POSIX threads.
ualarm	'timer_create', 'timer_delete', 'timer_getoverrun', 'timer_gettime', or 'timer_settime' instead of this function
usleep	'nanosleep' or 'setitimer' function
utime	utimensat
vfork	fork
wcswcs	wcsstr

Available In:

sonarlint | sonarcloud | sonarqube Developer Edition

 Bug
"std::move" and "std::forward" should not be confused  Bug
A call to "wait()" on a "std::condition_variable" should have a condition  Bug
A pointer to a virtual base class shall only be cast to a pointer to a derived class by means of dynamic_cast  Bug
Functions with "noreturn" attribute should not return  Bug
RAII objects should not be temporary  Bug
"memcmp" should only be called with pointers to trivially copyable types with no padding  Bug
"memcpy", "memmove", and "memset" should only be called with pointers to trivially copyable types  Bug
"std::auto_ptr" should not be used  Bug
Destructors should be "noexcept"  Bug