


-  Secrets
-  ABAP
-  Apex
-  C
-  **C++**
-  CloudFormation
-  COBOL
-  C#
-  CSS
-  Flex
-  Go
-  HTML
-  Java
-  JavaScript
-  Kotlin
-  Kubernetes
-  Objective C
-  PHP
-  PL/I
-  PL/SQL
-  Python
-  RPG
-  Ruby
-  Scala
-  Swift
-  Terraform
-  Text
-  TypeScript
-  T-SQL
-  VB.NET
-  VB6
-  XML



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

Comma operator should not be used

Analyze your code

 Code Smell  Major  based-on-misra

The comma operator takes two expressions, executes them from left to right, and returns the result of the second one. The use of this operator is generally detrimental to the readability and reliability of code, and the same effect can be achieved by other means.

It is especially error-prone in array subscripts where it might be misinterpreted as accessing a multidimensional array. The use of a comma in this context is deprecated since C++20 (it might be repurposed in a later edition of the standard to actually access multidimensional arrays, but until then, it should really not be used).

Noncompliant Code Example

```
i = a += 2, a + b; // Noncompliant. What's the value of i ?

a[1, 2] = 3; // Noncompliant: 1 is ignored. This is not an ac

x = a[i++, j = i + 1, j*2]; // Noncompliant. What index is us
```

Compliant Solution

```
a += 2;
i = a + b;

j = i + 1;
x = a[j*2];
++i;
```

Exceptions

Use of comma operator is tolerated in initialization and increment expressions of `for` loops.

```
for(i = 0, j = 5; i < 6; i++, j++) { ... }
```

See

- MISRA C:2004, 12.10 - The comma operator shall not be used.
- MISRA C++:2008, 5-18-1 - The comma operator shall not be used.
- MISRA C:2012, 12.3 - The comma operator should not be used

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