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 311 | Vulnerability 13 | Bug 74 | Security Hotspot 18 | Code Smell 206 | Quick Fix 14

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

"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
Bug

Functions with "noreturn" attribute should not return
Bug

"memcmp" should only be called with pointers to trivially copyable types with no padding
Bug

typedefs that indicate size and signedness should be used in place of the basic types

Analyze your code

Code Smell | Minor | based-on-misra

The basic numeric types `char`, `int`, `short`, `long`, `float`, `double`, and `long double` should not be used. Instead, specific-length typedefs should be. This rule helps to clarify the size of the storage, but does not guarantee portability because of the asymmetric behavior of integral promotion.

Note that it is still important to understand the integer size of the implementation, and developers should be aware of the actual implementation of the typedefs under these definitions.

Noncompliant Code Example

```
int function(unsigned short a) // Noncompliant
{
  // ...
}
```

Compliant Solution

```
#include <stdint.h>
int32_t function(uint16_t a) // Compliant
{
  // ...
}
```

See

- MISRA C:2004, 6.3 - typedefs that indicate size and signedness should be used in place of the basic types
- MISRA C++:2008, 3-9-2 - typedefs that indicate size and signedness should be used in place of the basic numerical types

See Also

- MISRA C++ 2008 Section 6.5.0 on integral promotion

Available In:

sonarlint | sonarcloud | sonarqube Developer Edition

Stack allocated memory and non-owned memory should not be freed

Bug

Closed resources should not be accessed

Bug

Dynamically allocated memory should be released

Bug

Freed memory should not be used