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

Swift static code analysis

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

All rules 119 | Vulnerability 3 | Bug 14 | Security Hotspot 3 | Code Smell 99

Tags

Search by name...

Hard-coded credentials are security-sensitive
Security Hotspot

Methods and field names should not be the same or differ only by capitalization
Code Smell

Cipher algorithms should be robust
Vulnerability

Using weak hashing algorithms is security-sensitive
Security Hotspot

Cognitive Complexity of functions should not be too high
Code Smell

"try!" should not be used
Code Smell

String literals should not be duplicated
Code Smell

Functions and closures should not be empty
Code Smell

Collection elements should not be replaced unconditionally
Bug

Collection sizes comparisons should make sense
Bug

All branches in a conditional structure should not have exactly the same implementation
Bug

Infix operators that end with "=" should update their left operands
Bug

Precedence and associativity of standard operators should not be changed

SHA-1 and Message-Digest hash algorithms should not be used in secure contexts

Analyze your code

Vulnerability Critical

The MD5 algorithm and its successor, SHA-1, are no longer considered secure, because it is too easy to create hash collisions with them. That is, it takes too little computational effort to come up with a different input that produces the same MD5 or SHA-1 hash, and using the new, same-hash value gives an attacker the same access as if he had the originally-hashed value. This applies as well to the other Message-Digest algorithms: MD2, MD4, MD6, HAVAL-128, HMAC-MD5, DSA (which uses SHA-1), RIPEMD, RIPEMD-128, RIPEMD-160, HMACRIPEMD160.

Consider using safer alternatives, such as SHA-256, SHA-512 or SHA-3.

Noncompliant Code Example

```
import CryptoSwift

let bytes:Array<UInt8> = [0x01, 0x02, 0x03]
let digest = input.md5() // Noncompliant
```

Compliant Solution

```
import CryptoSwift

let bytes:Array<UInt8> = [0x01, 0x02, 0x03]
let digest = input.sha256() // Compliant
```

See

- OWASP Top 10 2017 Category A6 - Security Misconfiguration
- MITRE, CWE-328 - Reversible One-Way Hash
- MITRE, CWE-327 - Use of a Broken or Risky Cryptographic Algorithm
- SANS Top 25 - Porous Defenses
- SHAttered - The first concrete collision attack against SHA-1.

Deprecated

This rule is deprecated; use {rule:swift:S4790} instead.

Available In:

sonarlint | sonarcloud | sonarqube Developer Edition

Bug

Return values from functions without side effects should not be ignored

Bug

Related "if/else if" statements and "cases" in a "switch" should not have the same condition

Bug

Identical expressions should not be used on both sides of a binary operator

Bug

All code should be reachable

Bug

Loops with at most one iteration should be refactored

Bug

"IBInspectable" should be used correctly

Code Smell

Functions should not have identical implementations

Code Smell

Ternary operators should not be nested

Code Smell

Closure expressions should not be nested too deeply

Code Smell

Backticks should not be used around