## Swift static code analysis

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

### [Hard-coded credentials are security-sensitive](https://rules.sonarsource.com/swift/RSPEC-2068)

[Security Hotspot](https://rules.sonarsource.com/swift/RSPEC-2068)

### [Methods and field names should not be the same or differ only by capitalization](https://rules.sonarsource.com/swift/RSPEC-1845)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1845)

### [Cipher algorithms should be robust](https://rules.sonarsource.com/swift/RSPEC-5547)

[Vulnerability](https://rules.sonarsource.com/swift/RSPEC-5547)

### [Using weak hashing algorithms is security-sensitive](https://rules.sonarsource.com/swift/RSPEC-4790)

[Security Hotspot](https://rules.sonarsource.com/swift/RSPEC-4790)

### [Cognitive Complexity of functions should not be too high](https://rules.sonarsource.com/swift/RSPEC-3776)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-3776)

### ["try!" should not be used](https://rules.sonarsource.com/swift/RSPEC-3661)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-3661)

### [String literals should not be duplicated](https://rules.sonarsource.com/swift/RSPEC-1192)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1192)

### [Functions and closures should not be empty](https://rules.sonarsource.com/swift/RSPEC-1186)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1186)

### [Collection elements should not be replaced unconditionally](https://rules.sonarsource.com/swift/RSPEC-4143)

[Bug](https://rules.sonarsource.com/swift/RSPEC-4143)

### [Collection sizes comparisons should make sense](https://rules.sonarsource.com/swift/RSPEC-3981)

[Bug](https://rules.sonarsource.com/swift/RSPEC-3981)

### [All branches in a conditional structure should not have exactly the same implementation](https://rules.sonarsource.com/swift/RSPEC-3923)

[Bug](https://rules.sonarsource.com/swift/RSPEC-3923)

### [Infix operators that end with "=" should update their left operands](https://rules.sonarsource.com/swift/RSPEC-3110)

[Bug](https://rules.sonarsource.com/swift/RSPEC-3110)

### [Precedence and associativity of standard operators should not be changed](https://rules.sonarsource.com/swift/RSPEC-3083)

[Bug](https://rules.sonarsource.com/swift/RSPEC-3083)

### [Return values from functions without side effects should not be ignored](https://rules.sonarsource.com/swift/RSPEC-2201)

[Bug](https://rules.sonarsource.com/swift/RSPEC-2201)

### [Related "if/else if" statements and "cases" in a "switch" should not have the same condition](https://rules.sonarsource.com/swift/RSPEC-1862)

[Bug](https://rules.sonarsource.com/swift/RSPEC-1862)

### [Identical expressions should not be used on both sides of a binary operator](https://rules.sonarsource.com/swift/RSPEC-1764)

[Bug](https://rules.sonarsource.com/swift/RSPEC-1764)

### [All code should be reachable](https://rules.sonarsource.com/swift/RSPEC-1763)

[Bug](https://rules.sonarsource.com/swift/RSPEC-1763)

### [Loops with at most one iteration should be refactored](https://rules.sonarsource.com/swift/RSPEC-1751)

[Bug](https://rules.sonarsource.com/swift/RSPEC-1751)

### ["IBInspectable" should be used correctly](https://rules.sonarsource.com/swift/RSPEC-4186)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-4186)

### [Functions should not have identical implementations](https://rules.sonarsource.com/swift/RSPEC-4144)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-4144)

### [Ternary operators should not be nested](https://rules.sonarsource.com/swift/RSPEC-3358)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-3358)

### [Closure expressions should not be nested too deeply](https://rules.sonarsource.com/swift/RSPEC-3087)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-3087)

### [Backticks should not be used around symbol names](https://rules.sonarsource.com/swift/RSPEC-2961)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2961)

### [Operators should be surrounded by whitespace in function definitions](https://rules.sonarsource.com/swift/RSPEC-2960)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2960)

### [Two branches in a conditional structure should not have exactly the same implementation](https://rules.sonarsource.com/swift/RSPEC-1871)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1871)

### [Unused assignments should be removed](https://rules.sonarsource.com/swift/RSPEC-1854)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1854)

### [A field should not duplicate the name of its containing class](https://rules.sonarsource.com/swift/RSPEC-1700)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1700)

### ["switch" statements should not have too many "case" clauses](https://rules.sonarsource.com/swift/RSPEC-1479)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1479)

### [Sections of code should not be commented out](https://rules.sonarsource.com/swift/RSPEC-125)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-125)

### [Statements should be on separate lines](https://rules.sonarsource.com/swift/RSPEC-122)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-122)

### [Unused function parameters should be removed](https://rules.sonarsource.com/swift/RSPEC-1172)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1172)

### [Unused "private" functions should be removed](https://rules.sonarsource.com/swift/RSPEC-1144)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1144)

### [Track uses of "FIXME" tags](https://rules.sonarsource.com/swift/RSPEC-1134)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1134)

### [Local variables should not have the same name as fields or "enum" cases](https://rules.sonarsource.com/swift/RSPEC-1117)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1117)

### [Redundant pairs of parentheses should be removed](https://rules.sonarsource.com/swift/RSPEC-1110)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1110)

### [Nested blocks of code should not be left empty](https://rules.sonarsource.com/swift/RSPEC-108)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-108)

### [Functions should not have too many parameters](https://rules.sonarsource.com/swift/RSPEC-107)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-107)

### [Collapsible "if" statements should be merged](https://rules.sonarsource.com/swift/RSPEC-1066)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1066)

### [Unused labels should be removed](https://rules.sonarsource.com/swift/RSPEC-1065)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1065)

### [Using hardcoded IP addresses is security-sensitive](https://rules.sonarsource.com/swift/RSPEC-1313)

[Security Hotspot](https://rules.sonarsource.com/swift/RSPEC-1313)

### [Jump statements should not be redundant](https://rules.sonarsource.com/swift/RSPEC-3626)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-3626)

### ["break" should be the only statement in a "case"](https://rules.sonarsource.com/swift/RSPEC-2951)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2951)

### [Sequential tests should not check the same condition](https://rules.sonarsource.com/swift/RSPEC-2760)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2760)

### ["catch" clauses should do more than rethrow](https://rules.sonarsource.com/swift/RSPEC-2737)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2737)

### [Trailing closures should not begin on new lines](https://rules.sonarsource.com/swift/RSPEC-2635)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2635)

### [Fields and variables that are never updated should be constant](https://rules.sonarsource.com/swift/RSPEC-2108)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2108)

### [Classes should not be empty](https://rules.sonarsource.com/swift/RSPEC-2094)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2094)

### [Boolean checks should not be inverted](https://rules.sonarsource.com/swift/RSPEC-1940)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1940)

### [Multiple variables should not be declared on the same line](https://rules.sonarsource.com/swift/RSPEC-1659)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1659)

### [Unused local variables should be removed](https://rules.sonarsource.com/swift/RSPEC-1481)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1481)

### ["switch" statements should have at least 3 "case" clauses](https://rules.sonarsource.com/swift/RSPEC-1301)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1301)

### [Type parameter names should comply with a naming convention](https://rules.sonarsource.com/swift/RSPEC-119)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-119)

### [Local variable and function parameter names should comply with a naming convention](https://rules.sonarsource.com/swift/RSPEC-117)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-117)

### [Field names should comply with a naming convention](https://rules.sonarsource.com/swift/RSPEC-116)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-116)

### [Constant names should comply with a naming convention](https://rules.sonarsource.com/swift/RSPEC-115)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-115)

### [Protocol names should comply with a naming convention](https://rules.sonarsource.com/swift/RSPEC-114)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-114)

### [Boolean literals should not be redundant](https://rules.sonarsource.com/swift/RSPEC-1125)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1125)

### [URIs should not be hardcoded](https://rules.sonarsource.com/swift/RSPEC-1075)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1075)

### [Class names should comply with a naming convention](https://rules.sonarsource.com/swift/RSPEC-101)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-101)

### [Function names should comply with a naming convention](https://rules.sonarsource.com/swift/RSPEC-100)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-100)

### [Track uses of "TODO" tags](https://rules.sonarsource.com/swift/RSPEC-1135)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1135)

### [Deprecated code should be removed](https://rules.sonarsource.com/swift/RSPEC-1133)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1133)

### [Neither DES (Data Encryption Standard) nor DESede (3DES) should be used](https://rules.sonarsource.com/swift/RSPEC-2278)

[Vulnerability](https://rules.sonarsource.com/swift/RSPEC-2278)

### [Functions and variables should not be defined outside of classes](https://rules.sonarsource.com/swift/RSPEC-2007)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2007)

### [Track lack of copyright and license headers](https://rules.sonarsource.com/swift/RSPEC-1451)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1451)

### [SHA-1 and Message-Digest hash algorithms should not be used in secure contexts](https://rules.sonarsource.com/swift/RSPEC-2070)

[Vulnerability](https://rules.sonarsource.com/swift/RSPEC-2070)

### [Implicitly unwrapped optionals should not be used](https://rules.sonarsource.com/swift/RSPEC-2967)

[Bug](https://rules.sonarsource.com/swift/RSPEC-2967)

### [Conditional compilation should not be used](https://rules.sonarsource.com/swift/RSPEC-3111)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-3111)

### [Modulus results should not be checked for direct equality](https://rules.sonarsource.com/swift/RSPEC-2197)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2197)

### ["switch" statements should not be nested](https://rules.sonarsource.com/swift/RSPEC-1821)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1821)

### [Cyclomatic Complexity of functions should not be too high](https://rules.sonarsource.com/swift/RSPEC-1541)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1541)

### [Control flow statements "if", "for", "for in", "while", "do while" and "switch" should not be nested too deeply](https://rules.sonarsource.com/swift/RSPEC-134)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-134)

### [Cyclomatic Complexity of classes should not be too high](https://rules.sonarsource.com/swift/RSPEC-1311)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1311)

### ["if ... else if" constructs should end with "else" clauses](https://rules.sonarsource.com/swift/RSPEC-126)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-126)

### [Expressions should not be too complex](https://rules.sonarsource.com/swift/RSPEC-1067)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1067)

### [The ternary operator should not return the same value regardless of the condition](https://rules.sonarsource.com/swift/RSPEC-2758)

[Bug](https://rules.sonarsource.com/swift/RSPEC-2758)

### [Floating point numbers should not be tested for equality](https://rules.sonarsource.com/swift/RSPEC-1244)

[Bug](https://rules.sonarsource.com/swift/RSPEC-1244)

### [Useless "if true {...}" and "if false {...}" blocks should be removed](https://rules.sonarsource.com/swift/RSPEC-1145)

[Bug](https://rules.sonarsource.com/swift/RSPEC-1145)

### [Increment (++) and decrement (--) operators should not be used in a method call or mixed with other operators in an expression](https://rules.sonarsource.com/swift/RSPEC-881)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-881)

### ["IBOutlet" variables should be private](https://rules.sonarsource.com/swift/RSPEC-4184)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-4184)

### [Filter conditions should be used as predicates to "first"](https://rules.sonarsource.com/swift/RSPEC-4173)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-4173)

### [Duplicate values should not be passed as arguments](https://rules.sonarsource.com/swift/RSPEC-4142)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-4142)

### [Force casts should not be used](https://rules.sonarsource.com/swift/RSPEC-3630)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-3630)

### [Trailing closure syntax should be used for all closure parameters at the end of a parameter list](https://rules.sonarsource.com/swift/RSPEC-2969)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2969)

### [Function type parameters should come at the end of the parameter list](https://rules.sonarsource.com/swift/RSPEC-2968)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2968)

### [Trailing closure syntax should not be used when multiple parameters are of function type](https://rules.sonarsource.com/swift/RSPEC-2958)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2958)

### [Comments should not be nested](https://rules.sonarsource.com/swift/RSPEC-2523)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2523)

### [Track parsing failures](https://rules.sonarsource.com/swift/RSPEC-2260)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2260)

### [Classes should not have too many lines of code](https://rules.sonarsource.com/swift/RSPEC-2042)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2042)

### [Types should be defined in separate source files](https://rules.sonarsource.com/swift/RSPEC-1996)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1996)

### [Files should not be too complex](https://rules.sonarsource.com/swift/RSPEC-1908)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1908)

### [Functions should not have too many lines of code](https://rules.sonarsource.com/swift/RSPEC-138)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-138)

### [Closures should not have too many lines](https://rules.sonarsource.com/swift/RSPEC-1188)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1188)

### ["switch case" clauses should not have too many lines of code](https://rules.sonarsource.com/swift/RSPEC-1151)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1151)

### [Functions should not contain too many return statements](https://rules.sonarsource.com/swift/RSPEC-1142)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1142)

### [Files should not have too many lines of code](https://rules.sonarsource.com/swift/RSPEC-104)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-104)

### [Lines should not be too long](https://rules.sonarsource.com/swift/RSPEC-103)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-103)

### [Parentheses should be omitted when trailing closure is the only argument](https://rules.sonarsource.com/swift/RSPEC-4233)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-4233)

### [Tuples should not be too large](https://rules.sonarsource.com/swift/RSPEC-4188)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-4188)

### [Functions should not return constants](https://rules.sonarsource.com/swift/RSPEC-3400)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-3400)

### [Operator functions should call existing functions](https://rules.sonarsource.com/swift/RSPEC-3086)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-3086)

### [Optionals should not be force-unwrapped](https://rules.sonarsource.com/swift/RSPEC-2966)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2966)

### ["self" should only be used when required](https://rules.sonarsource.com/swift/RSPEC-2963)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2963)

### ["get" should be omitted in read-only computed properties and subscripts](https://rules.sonarsource.com/swift/RSPEC-2962)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2962)

### [Statements should not end with semicolons](https://rules.sonarsource.com/swift/RSPEC-2959)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2959)

### ["return" should be omitted from single-expression closures](https://rules.sonarsource.com/swift/RSPEC-2957)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2957)

### [Access control should be specified for top-level definitions](https://rules.sonarsource.com/swift/RSPEC-2950)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2950)

### [Enumeration members should comply with a naming convention](https://rules.sonarsource.com/swift/RSPEC-2343)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2343)

### [Enumeration types should comply with a naming convention](https://rules.sonarsource.com/swift/RSPEC-2342)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2342)

### [Files should not be empty](https://rules.sonarsource.com/swift/RSPEC-2309)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2309)

### [Underscores should be used to make large numbers readable](https://rules.sonarsource.com/swift/RSPEC-2148)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-2148)

### ["struct" names should comply with a naming convention](https://rules.sonarsource.com/swift/RSPEC-1642)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1642)

### [Statements should end with semicolons](https://rules.sonarsource.com/swift/RSPEC-1438)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1438)

### [Comments should not be located at the end of lines of code](https://rules.sonarsource.com/swift/RSPEC-139)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-139)

### [Lines should not end with trailing whitespaces](https://rules.sonarsource.com/swift/RSPEC-1131)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1131)

### [Files should contain an empty newline at the end](https://rules.sonarsource.com/swift/RSPEC-113)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-113)

### [A close curly brace should be located at the beginning of a line](https://rules.sonarsource.com/swift/RSPEC-1109)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1109)

### [An open curly brace should be located at the end of a line](https://rules.sonarsource.com/swift/RSPEC-1105)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-1105)

### [Tabulation characters should not be used](https://rules.sonarsource.com/swift/RSPEC-105)

[Code Smell](https://rules.sonarsource.com/swift/RSPEC-105)