**Kotlin static code analysis**

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

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

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

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

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

### [Encryption algorithms should be used with secure mode and padding scheme](https://rules.sonarsource.com/kotlin/RSPEC-5542)

[Vulnerability](https://rules.sonarsource.com/kotlin/RSPEC-5542)

### [Server hostnames should be verified during SSL/TLS connections](https://rules.sonarsource.com/kotlin/RSPEC-5527)

[Vulnerability](https://rules.sonarsource.com/kotlin/RSPEC-5527)

### [Server certificates should be verified during SSL/TLS connections](https://rules.sonarsource.com/kotlin/RSPEC-4830)

[Vulnerability](https://rules.sonarsource.com/kotlin/RSPEC-4830)

### [Cryptographic keys should be robust](https://rules.sonarsource.com/kotlin/RSPEC-4426)

[Vulnerability](https://rules.sonarsource.com/kotlin/RSPEC-4426)

### [Weak SSL/TLS protocols should not be used](https://rules.sonarsource.com/kotlin/RSPEC-4423)

[Vulnerability](https://rules.sonarsource.com/kotlin/RSPEC-4423)

### ["SecureRandom" seeds should not be predictable](https://rules.sonarsource.com/kotlin/RSPEC-4347)

[Vulnerability](https://rules.sonarsource.com/kotlin/RSPEC-4347)

### [Cipher Block Chaining IVs should be unpredictable](https://rules.sonarsource.com/kotlin/RSPEC-3329)

[Vulnerability](https://rules.sonarsource.com/kotlin/RSPEC-3329)

### [Hashes should include an unpredictable salt](https://rules.sonarsource.com/kotlin/RSPEC-2053)

[Vulnerability](https://rules.sonarsource.com/kotlin/RSPEC-2053)

### [Regular expressions should be syntactically valid](https://rules.sonarsource.com/kotlin/RSPEC-5856)

[Bug](https://rules.sonarsource.com/kotlin/RSPEC-5856)

### ["runFinalizersOnExit" should not be called](https://rules.sonarsource.com/kotlin/RSPEC-2151)

[Bug](https://rules.sonarsource.com/kotlin/RSPEC-2151)

### ["ScheduledThreadPoolExecutor" should not have 0 core threads](https://rules.sonarsource.com/kotlin/RSPEC-2122)

[Bug](https://rules.sonarsource.com/kotlin/RSPEC-2122)

### [Jump statements should not occur in "finally" blocks](https://rules.sonarsource.com/kotlin/RSPEC-1143)

[Bug](https://rules.sonarsource.com/kotlin/RSPEC-1143)

### [Using clear-text protocols is security-sensitive](https://rules.sonarsource.com/kotlin/RSPEC-5332)

[Security Hotspot](https://rules.sonarsource.com/kotlin/RSPEC-5332)

### [Accessing Android external storage is security-sensitive](https://rules.sonarsource.com/kotlin/RSPEC-5324)

[Security Hotspot](https://rules.sonarsource.com/kotlin/RSPEC-5324)

### [Receiving intents is security-sensitive](https://rules.sonarsource.com/kotlin/RSPEC-5322)

[Security Hotspot](https://rules.sonarsource.com/kotlin/RSPEC-5322)

### [Broadcasting intents is security-sensitive](https://rules.sonarsource.com/kotlin/RSPEC-5320)

[Security Hotspot](https://rules.sonarsource.com/kotlin/RSPEC-5320)

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

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

### [Using pseudorandom number generators (PRNGs) is security-sensitive](https://rules.sonarsource.com/kotlin/RSPEC-2245)

[Security Hotspot](https://rules.sonarsource.com/kotlin/RSPEC-2245)

### [Empty lines should not be tested with regex MULTILINE flag](https://rules.sonarsource.com/kotlin/RSPEC-5846)

[Code Smell](https://rules.sonarsource.com/kotlin/RSPEC-5846)

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

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

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

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

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

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

### [Mobile database encryption keys should not be disclosed](https://rules.sonarsource.com/kotlin/RSPEC-6301)

[Vulnerability](https://rules.sonarsource.com/kotlin/RSPEC-6301)

### [Flow intermediate operation results should not be left unused](https://rules.sonarsource.com/kotlin/RSPEC-6314)

[Bug](https://rules.sonarsource.com/kotlin/RSPEC-6314)

### [Equals method should be overridden in data classes containing array fields](https://rules.sonarsource.com/kotlin/RSPEC-6218)

[Bug](https://rules.sonarsource.com/kotlin/RSPEC-6218)

### [Unicode Grapheme Clusters should be avoided inside regex character classes](https://rules.sonarsource.com/kotlin/RSPEC-5868)

[Bug](https://rules.sonarsource.com/kotlin/RSPEC-5868)

### [Alternatives in regular expressions should be grouped when used with anchors](https://rules.sonarsource.com/kotlin/RSPEC-5850)

[Bug](https://rules.sonarsource.com/kotlin/RSPEC-5850)

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

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

### ["=+" should not be used instead of "+="](https://rules.sonarsource.com/kotlin/RSPEC-2757)

[Bug](https://rules.sonarsource.com/kotlin/RSPEC-2757)

### [Values should not be uselessly incremented](https://rules.sonarsource.com/kotlin/RSPEC-2123)

[Bug](https://rules.sonarsource.com/kotlin/RSPEC-2123)

### [Related "if/else if" statements should not have the same condition](https://rules.sonarsource.com/kotlin/RSPEC-1862)

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

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

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

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

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

### [Variables should not be self-assigned](https://rules.sonarsource.com/kotlin/RSPEC-1656)

[Bug](https://rules.sonarsource.com/kotlin/RSPEC-1656)

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

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

### [Enabling file access for WebViews is security-sensitive](https://rules.sonarsource.com/kotlin/RSPEC-6363)

[Security Hotspot](https://rules.sonarsource.com/kotlin/RSPEC-6363)

### [Enabling JavaScript support for WebViews is security-sensitive](https://rules.sonarsource.com/kotlin/RSPEC-6362)

[Security Hotspot](https://rules.sonarsource.com/kotlin/RSPEC-6362)

### [Using unencrypted files in mobile applications is security-sensitive](https://rules.sonarsource.com/kotlin/RSPEC-6300)

[Security Hotspot](https://rules.sonarsource.com/kotlin/RSPEC-6300)

### [Using biometric authentication without a cryptographic solution is security-sensitive](https://rules.sonarsource.com/kotlin/RSPEC-6293)

[Security Hotspot](https://rules.sonarsource.com/kotlin/RSPEC-6293)

### [Using unencrypted databases in mobile applications is security-sensitive](https://rules.sonarsource.com/kotlin/RSPEC-6291)

[Security Hotspot](https://rules.sonarsource.com/kotlin/RSPEC-6291)

### [Authorizing non-authenticated users to use keys in the Android KeyStore is security-sensitive](https://rules.sonarsource.com/kotlin/RSPEC-6288)

[Security Hotspot](https://rules.sonarsource.com/kotlin/RSPEC-6288)

### [Kotlin coroutines API for timeouts should be used](https://rules.sonarsource.com/kotlin/RSPEC-6316)

[Code Smell](https://rules.sonarsource.com/kotlin/RSPEC-6316)

### [The return value of functions returning "Deferred" should be used](https://rules.sonarsource.com/kotlin/RSPEC-6315)

[Code Smell](https://rules.sonarsource.com/kotlin/RSPEC-6315)

### [ViewModel classes should create coroutines](https://rules.sonarsource.com/kotlin/RSPEC-6313)

[Code Smell](https://rules.sonarsource.com/kotlin/RSPEC-6313)

### [Extension functions on CoroutineScopes should not be declared as "suspend"](https://rules.sonarsource.com/kotlin/RSPEC-6312)

[Code Smell](https://rules.sonarsource.com/kotlin/RSPEC-6312)

### [Suspending functions should not be called on a different dispatcher](https://rules.sonarsource.com/kotlin/RSPEC-6311)

[Code Smell](https://rules.sonarsource.com/kotlin/RSPEC-6311)

### [Dispatchers should be injectable](https://rules.sonarsource.com/kotlin/RSPEC-6310)

[Code Smell](https://rules.sonarsource.com/kotlin/RSPEC-6310)

### [Functions returning Flow/Channel should not be suspending](https://rules.sonarsource.com/kotlin/RSPEC-6309)

[Code Smell](https://rules.sonarsource.com/kotlin/RSPEC-6309)

### [Suspending functions should be main-safe](https://rules.sonarsource.com/kotlin/RSPEC-6307)

[Code Smell](https://rules.sonarsource.com/kotlin/RSPEC-6307)

### [Coroutine usage should adhere to structured concurrency principles](https://rules.sonarsource.com/kotlin/RSPEC-6306)

[Code Smell](https://rules.sonarsource.com/kotlin/RSPEC-6306)

### ["MutableStateFlow" and "MutableSharedFlow" should not be exposed](https://rules.sonarsource.com/kotlin/RSPEC-6305)

[Code Smell](https://rules.sonarsource.com/kotlin/RSPEC-6305)

### [Operator "is" should be used instead of "isInstance()"](https://rules.sonarsource.com/kotlin/RSPEC-6202)

[Code Smell](https://rules.sonarsource.com/kotlin/RSPEC-6202)

### [Character classes in regular expressions should not contain the same character twice](https://rules.sonarsource.com/kotlin/RSPEC-5869)

[Code Smell](https://rules.sonarsource.com/kotlin/RSPEC-5869)

### [Regular expressions should not be too complicated](https://rules.sonarsource.com/kotlin/RSPEC-5843)

[Code Smell](https://rules.sonarsource.com/kotlin/RSPEC-5843)

### [Native features should be preferred to Guava](https://rules.sonarsource.com/kotlin/RSPEC-4738)

[Code Smell](https://rules.sonarsource.com/kotlin/RSPEC-4738)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

### [Repeated patterns in regular expressions should not match the empty string](https://rules.sonarsource.com/kotlin/RSPEC-5842)

[Bug](https://rules.sonarsource.com/kotlin/RSPEC-5842)

### [Delivering code in production with debug features activated is security-sensitive](https://rules.sonarsource.com/kotlin/RSPEC-4507)

[Security Hotspot](https://rules.sonarsource.com/kotlin/RSPEC-4507)

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

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

### ["suspend" modifier should not be redundant](https://rules.sonarsource.com/kotlin/RSPEC-6318)

[Code Smell](https://rules.sonarsource.com/kotlin/RSPEC-6318)

### [Character classes should be preferred over reluctant quantifiers in regular expressions](https://rules.sonarsource.com/kotlin/RSPEC-5857)

[Code Smell](https://rules.sonarsource.com/kotlin/RSPEC-5857)

### [Multi-line comments should not be empty](https://rules.sonarsource.com/kotlin/RSPEC-4663)

[Code Smell](https://rules.sonarsource.com/kotlin/RSPEC-4663)

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

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

### [Code annotated as deprecated should not be used](https://rules.sonarsource.com/kotlin/RSPEC-1874)

[Code Smell](https://rules.sonarsource.com/kotlin/RSPEC-1874)

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

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

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

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

### [Unnecessary imports should be removed](https://rules.sonarsource.com/kotlin/RSPEC-1128)

[Code Smell](https://rules.sonarsource.com/kotlin/RSPEC-1128)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

### [Lambdas should not have too many lines](https://rules.sonarsource.com/kotlin/RSPEC-5612)

[Code Smell](https://rules.sonarsource.com/kotlin/RSPEC-5612)

### [Kotlin parser failure](https://rules.sonarsource.com/kotlin/RSPEC-2260)

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

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

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

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

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

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

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

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

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

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

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

### [Unicode-aware versions of character classes should be preferred](https://rules.sonarsource.com/kotlin/RSPEC-5867)

[Code Smell](https://rules.sonarsource.com/kotlin/RSPEC-5867)

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

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