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Kotlin static code analysis

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

All rules 98 | Vulnerability 10 | Bug 17 | Security Hotspot 15 | Code Smell 56

Tags

Search by name...

Hard-coded credentials are security-sensitive
Security Hotspot

Cipher algorithms should be robust
Vulnerability

Encryption algorithms should be used with secure mode and padding scheme
Vulnerability

Server hostnames should be verified during SSL/TLS connections
Vulnerability

Server certificates should be verified during SSL/TLS connections
Vulnerability

Cryptographic keys should be robust
Vulnerability

Weak SSL/TLS protocols should not be used
Vulnerability

"SecureRandom" seeds should not be predictable
Vulnerability

Cipher Block Chaining IVs should be unpredictable
Vulnerability

Hashes should include an unpredictable salt
Vulnerability

Regular expressions should be syntactically valid
Bug

"runFinalizersOnExit" should not be called
Bug

Kotlin coroutines API for timeouts should be used

Analyze your code

Code Smell | Major | coroutines

Sometimes there is the need to cancel the execution of a coroutine after a given period of time. You can do this manually by combining the `delay()` and `cancel()` functions. However, this technique is verbose and error-prone. An easier way to manage timeouts is using the function `withTimeout()` or `withTimeoutOrNull()`.

The `withTimeout` function will throw a `TimeoutCancellationException` when the timeout is reached, while `withTimeoutOrNull` will simply return `null` instead.

This rule raises an issue if timeout mechanisms are implemented manually instead of using appropriate built-in functions.

Noncompliant Code Example

```
suspend fun main() {
    coroutineScope {
        val job = launch {
            delay(2000L)
            println("Finished")
        }
        delay(500L)
        job.cancel()
    }
}
```

Compliant Solution

```
suspend fun main() {
    coroutineScope {
        withTimeoutOrNull(1000L){
            delay(2000L)
            println("Finished")
        }
    }
}
```

See

- Cancellation and timeouts

Available In:

sonarlint | sonarcloud | sonarqube

"ScheduledThreadPoolExecutor" should not have 0 core threads

Bug

Jump statements should not occur in "finally" blocks

Bug

Using clear-text protocols is security-sensitive

Security Hotspot

Accessing Android external storage is security-sensitive

Security Hotspot

Receiving intents is security-sensitive

Security Hotspot

Broadcasting intents is security-sensitive

Security Hotspot

Using weak hashing algorithms is security-sensitive

Security Hotspot

Using pseudorandom number generators (PRNGs) is security-sensitive

Security Hotspot

Empty lines should not be tested with regex MULTILINE flag

Code Smell

Cognitive Complexity of functions should not be too high

Code Smell