




 Secrets


 ABAP


 Apex


 C


 C++


 CloudFormation


 COBOL


 C#


 CSS


 Flex


 Go


 HTML


 Java


 JavaScript


 Kotlin


 Objective C


 PHP


 PL/I


 PL/SQL


 Python


 RPG


 Ruby


 Scala


 Swift


 Terraform


 Text


 **TypeScript**

 T-SQL

 VB.NET

 VB6


 XML





## TypeScript static code analysis


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


All rules279

 Vulnerability27

 Bug51

 Security Hotspot43


 Code Smell158

 Quick Fix50


Tags

Search by name...


Database queries should not be vulnerable to injection attacks

 Vulnerability


XML parsers should not be vulnerable to XXE attacks

 Vulnerability


I/O function calls should not be vulnerable to path injection attacks

 Vulnerability


OS commands should not be vulnerable to command injection attacks

 Vulnerability


Disabling Vue.js built-in escaping is security-sensitive

 Security Hotspot


Disabling Angular built-in sanitization is security-sensitive

 Security Hotspot


Hard-coded credentials are security-sensitive

 Security Hotspot


Function returns should not be invariant

 Code Smell


Assertions should be complete

 Code Smell


Tests should include assertions

 Code Smell

Octal values should not be used


 Code Smell


Switch cases should end with an unconditional "break" statement


 Code Smell

Dynamic code execution should not be vulnerable to injection attacks

Analyze your code

 Vulnerability

 Blocker

 injection cwe owaspsans-top25

Applications that execute code dynamically should neutralize any externally-provided values used to construct the code. Failure to do so could allow an attacker to execute arbitrary code. This could enable a wide range of serious attacks like accessing/modifying sensitive information or gain full system access.

The mitigation strategy should be based on whitelisting of allowed values or casting to safe types.

**Noncompliant Code Example**

eval and other functions that dynamically execute code should not be used in combination with user-input:

```
let input = req.query.input;
eval(input); // Noncompliant
(Function(input))(); // Noncompliant
(new Function(input))(); // Noncompliant
```

```
const vm = require("vm");

let input = req.query.input;
vm.runInThisContext(input); // Noncompliant
const context = {};
vm.createContext(context);
vm.runInContext(input, context); // Noncompliant
vm.runInNewContext(input, context); // Noncompliant
vm.compileFunction(input)(); // Noncompliant
(new vm.Script(input)).runInThisContext(); // Noncompliant
```

```
var Module = require('module');





let name = req.query.name;
let input = req.query.input;
var mod = new Module(name, module.parent);
mod._compile(input, name); // Noncompliant
```

In a MongoDB context, [arbitrary Javascript code](#) can be executed with the \$where operator for instance:

```
let username = req.query.username;
query = { $where: `this.username == '${username}'` } // Nonc
User.find(query, function (err, users) {
  if (err) {
    // Handle errors
  } else {
    res.render('userlookup', { title: 'User Lookup', users:
```

https://rules.sonarsource.com/typescript/RSPEC-5334

1/2

"switch" statements should not contain non-case labels
 Code Smell
A new session should be created during user authentication
 Vulnerability
JWT should be signed and verified with strong cipher algorithms
 Vulnerability
Cipher algorithms should be robust
 Vulnerability

```
}
});
```

Compliant Solution

If eval is used to parse a JSON string this should be done instead with JSON.parse:

```
let obj = JSON.parse(req.query.input); // Compliant
```

In a MongoDB context, don't use \$where operator or validate the data:

```
let username = req.query.username;
query = { username: username } // Compliant
User.find(query, function (err, users) {
  if (err) {
    // Handle errors
  } else {
    res.render('userlookup', { title: 'User Lookup', users:
  }
});
```

See

- [OWASP Top 10 2021 Category A3](#) - Injection
- [OWASP Top 10 2017 Category A1](#) - Injection
- [MITRE, CWE-20](#) - Improper Input Validation
- [MITRE, CWE-95](#) - Improper Neutralization of Directives in Dynamically Evaluated Code ('Eval Injection')
- [SANS Top 25](#) - Risky Resource Management

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