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C# static code analysis

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

All rules 409

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"protected" members

Code Smell

Underscores should be used to make large numbers readable

Code Smell

"ToString()" calls should not be redundant

Code Smell

"==" should not be used when "Equals" is overridden

Code Smell

An abstract class should have both abstract and concrete methods

Code Smell

Multiple variables should not be declared on the same line

Code Smell

Culture should be specified for "string" operations

Code Smell

"switch" statements should have at least 3 "case" clauses

Code Smell

break statements should not be used except for switch cases

Code Smell

String literals should not be duplicated

Code Smell

Files should contain an empty newline at the end

Code Smell

Unused "using" should be removed

Code Smell

Collection properties should be readonly

Analyze your code

Code Smell Major ?

A writable collection property can be replaced by a completely different collection. Making it readonly prevents that while still allowing individual members to be set. If you want to allow the replacement of the whole collection the recommended pattern is to implement a method to remove all the elements (e.g. `System.Collections.List<T>.Clear`) and a method to populate the collection (e.g. `System.Collections.List<T>.AddRange`).

This rule raises an issue when an externally visible writable property is of a type that implements `System.Collections.ICollection` or `System.Collections.Generic.ICollection<T>`.

Noncompliant Code Example

```
using System;
using System.Collections;

namespace MyLibrary
{
    public class Foo
    {
        List<string> strings;

        public List<string> SomeStrings
        {
            get { return strings; }
            set { strings = value; } // Noncompliant
        }
    }
}
```

Compliant Solution

```
using System;
using System.Collections;

namespace MyLibrary
{
    public class Foo
    {
        List<string> strings;

        public readonly List<string> SomeStrings
        {
            get { return strings; }
        }
    }
}
```

A close curly brace should be located at the beginning of a line

 Code Smell

Tabulation characters should not be used

 Code Smell

Methods and properties should be named in PascalCase

 Code Smell

Track uses of in-source issue suppressions

 Code Smell

Exceptions

This rule does not raise issues for

- `string`, `Array` and `PermissionSet`,
- properties marked as `DataMemberAttribute`
- classes marked as `Serializable`
- properties overriding a base class member
- properties implementing interface

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