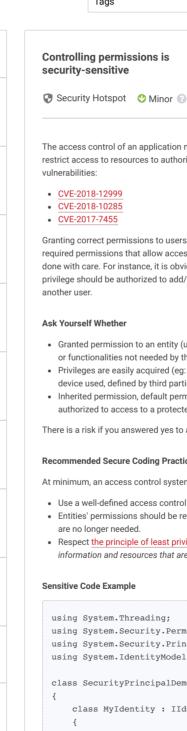
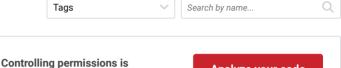


Code Smell





Analyze your code

The access control of an application must be properly implemented in order to restrict access to resources to authorized entities otherwise this could lead to

- CVE-2018-12999
- CVE-2018-10285
- CVE-2017-7455

Granting correct permissions to users, applications, groups or roles and defining required permissions that allow access to a resource is sensitive, must therefore be done with care. For instance, it is obvious that only users with administrator privilege should be authorized to add/remove the administrator permission of another user.

Ask Yourself Whether

- Granted permission to an entity (user, application) allow access to information or functionalities not needed by this entity.
- Privileges are easily acquired (eg: based on the location of the user, type of device used, defined by third parties, does not require approval ...).
- Inherited permission, default permission, no privileges (eg: anonymous user) is authorized to access to a protected resource

There is a risk if you answered yes to any of those questions.

Recommended Secure Coding Practices

At minimum, an access control system should:

- Use a well-defined access control model like RBAC or ACL.
- Entities' permissions should be reviewed regularly to remove permissions that are no longer needed.
- Respect the principle of least privilege ("an entity has access only the information and resources that are necessary for its legitimate purpose").

Sensitive Code Example

```
using System. Threading;
using System.Security.Permissions;
using System.Security.Principal;
using System.IdentityModel.Tokens;
class SecurityPrincipalDemo
{
    class MyIdentity : IIdentity // Sensitive, custom IIdent
        // ...
    class MyPrincipal : IPrincipal // Sensitive, custom IPri
```

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

```
[System.Security.Permissions.PrincipalPermission(Securit
    static void CheckAdministrator()
    {
        WindowsIdentity MyIdentity = WindowsIdentity.GetCurr
        HttpContext.User = ...; // Sensitive: review all ref
        AppDomain domain = AppDomain.CurrentDomain;
        domain.SetPrincipalPolicy(PrincipalPolicy.WindowsPri
        MyIdentity identity = new MyIdentity(); // Sensitive
        MyPrincipal MyPrincipal = new MyPrincipal(MyIdentity
        Thread.CurrentPrincipal = MyPrincipal; // Sensitive
        domain.SetThreadPrincipal(MyPrincipal); // Sensitive
        // All instantiation of PrincipalPermission should b
        PrincipalPermission principalPerm = new PrincipalPer
        principalPerm.Demand();
        SecurityTokenHandler handler = ...;
        // Sensitive: this creates an identity.
        ReadOnlyCollection<ClaimsIdentity> identities = hand
     // Sensitive: review how this function uses the identit
    void modifyPrincipal(MyIdentity identity, MyPrincipal pr
        // ...
}
```

See

- OWASP Top 10 2017 Category A5 Broken Access Control
- SANS Top 25 Porous Defenses
- MITRE, CWE-276 Incorrect Default Permissions
- MITRE, CWE-732 Incorrect Permission Assignment for Critical Resource
- MITRE, CWE-668 Exposure of Resource to Wrong Sphere
- MITRE, CWE-277 Insecure Inherited Permissions

Deprecated

This rule is deprecated, and will eventually be removed.

Available In:

sonarcloud 👌 | sonarqube

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