C# & .NET Standards

Osmosys Software Solutions

www.osmosys.co

Items to cover

- Documentation
- C# coding standards
    - Code style
    - Code analysis
- ASP.NET WebAPI best practices
- OWASP security best practices
- Enforcing coding standards using EditorConfig
- Assessment for all

Documentation

1. All documentation for .NET/C# coding standards followed at Osmosys are published on [Github](#).

2. We maintain an excel sheet that specifies all the EditorConfig rules along with explanation and our preferences.

Coding standards

- We have derived our coding standards from [Microsoft's coding style guidelines](#)
- Coding standards are categorized in two types: **Code style** and **Code analysis**
- **Code style**
  - Cover standards and rules that are close to the appearance of the code and the way it has to be written. For eg: Naming conventions, indentation, code blocks etc.
- **Code analysis**
  - Covers standards that are close to code implementation. For eg: Managing depth of inheriting classes, writing maintainable code etc.

ASP.NET WebAPI best practices

- Microsoft has documented all the best practices to be followed when developing an ASP.NET WebAPI/MVC application [here](#)
- These best practices focus more on the implementation aspect.

.NET security best practices

- OWASP has compiled a document listing basic security practices to be followed while developing .NET applications [here](#).
- This document covers topics on security in various areas like User authentication and authorization, database, network, input validations, encryption etc.

EditorConfig

- EditorConfig is a tool used to configure coding style/analysis rules. It enforces these rules on the developer.
- We have three levels of severity
    - Suggestion – Suggests a better way of re-writing code.
    - Warning – Not a showstopper but may cause issues if not resolved.
    - Error – Faulty code even if build succeeds. Must be resolved.