

# C# and .NET – What's new?



[thriveconf.com](https://thriveconf.com)



Professional

C# and .NET

2021 Edition

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## Christian Nagel

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- Training
  - Coaching
  - Consulting
  - Development
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- Microsoft MVP
  - <https://www.cninnovation.com>
  - <https://charp.christiannagel.com>
  - <https://www.linkedin.com/in/cnagel/>
  - <https://www.twitter.com/christiannagel>



# Topics

C# 10 Highlights

Selected.NET Updates

What's next?





# Demo

Updating a .NET 5 ASP.NET Core Web  
API to .NET 6

Modern information technologies at the top event in Slovenia



# What you've seen

- Top-level statements (C# 9)
- Nullable reference types (C# 8)
- File-scoped namespace declaration
- Global using directives
- Implicit using
- Natural types with lambda expressions
- Attributes with lambda expressions
- Minimal APIs (.NET 6)



# Flashback Records (C# 9)

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Init-only accessors

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Nominal or positional

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Primary constructors (positional)

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With expressions with clones

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Equality implementations

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Deconstruction (positional only)

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Classes behind the scenes

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Inheritance

# Flashback Structural Types

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Value types

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C# tuples (7.0)

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ref struct (7.2)

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readonly struct (7.2)

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readonly instance members (8.0)

# Struct Enhancements (C# 10)

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- With expressions
- parameterless constructors and field initializers
- record struct (read-write properties)
- readonly record struct (init-only properties)







# Static Abstract Members in Interfaces

- Allow generic algorithms over numeric types



# Flashback and Future: Pattern Matching

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is operator, switch statement, switch expression

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Declaration, const, var pattern (7.0)

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Property pattern (8.0)

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Discard pattern (8.0)

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Positional pattern (8.0)

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Type pattern (9.0)

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Logical pattern (9.0)

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Relational (9.0)

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Extended property pattern (10.0)

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List and slice pattern (11.0)

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- Creating JSON, XML, source code generators?
- Nice indentation in the code
- Supports string interpolation

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# Summary

- Enhance productivity, make it easier to use!
- Top-level statements
- Enhancements with structs
- Continuous enhancements with pattern matching
- Generic math



# More Information

- <https://csharp.christiannagel.com>
- <https://github.com/ProfessionalCSharp>
- <https://github.com/cnilearn/thrive2022>

# THANK YOU



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