C# and .NET – What's new?

THRIVE CONFERENCE

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C# and .NET

2021 Edition

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- Training
- Coaching
- Consulting
- Development

- Microsoft MVP
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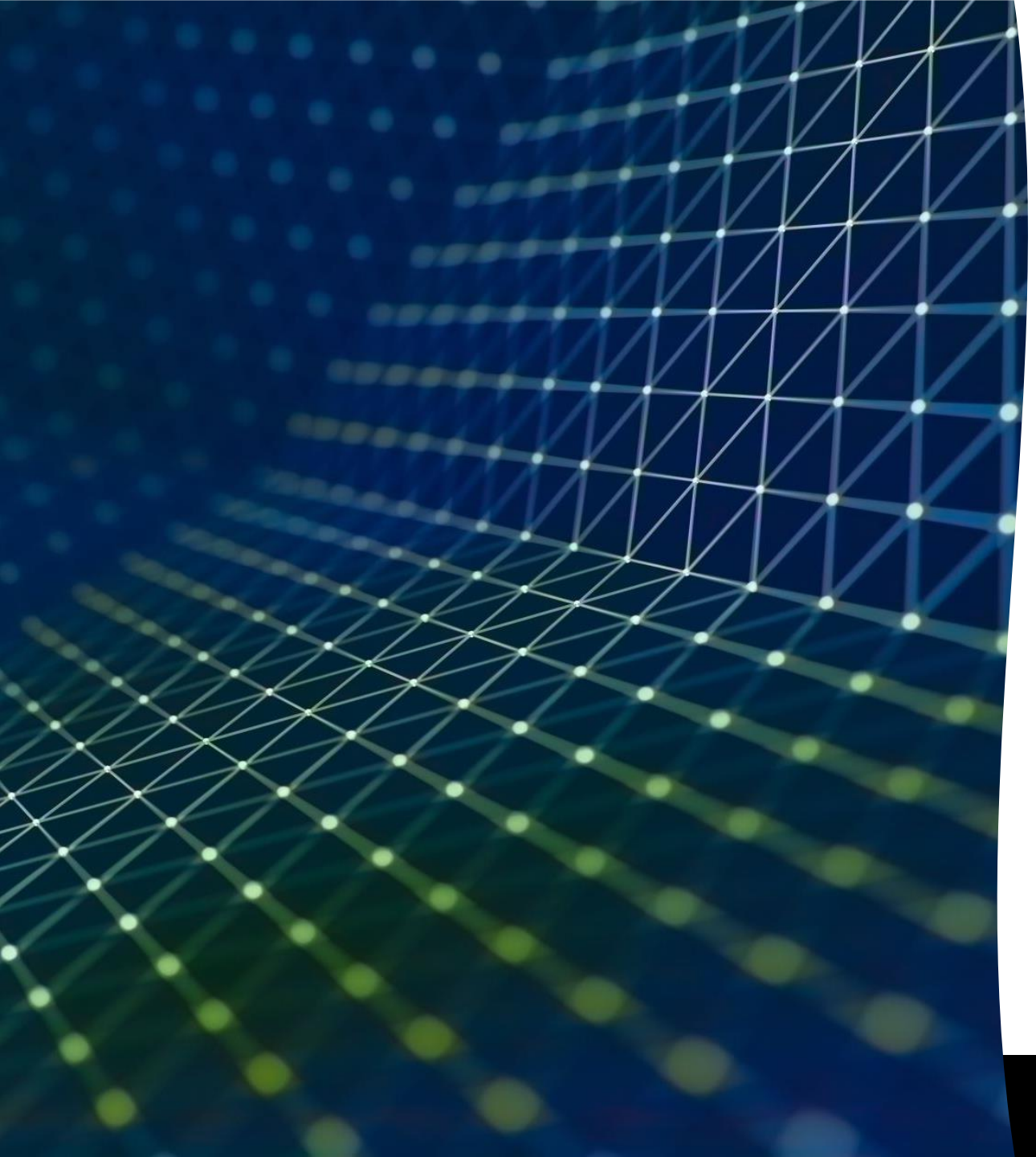

Topics

- C# 10 Highlights
- .NET Updates
- What’s next?

Demo

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

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)

- Init-only accessors
- Nominal or positional
- Primary constructors (positional)
- With expressions with clones
- Equality implementations
- Deconstruction (positional only)
- Classes behind the scenes
- Inheritance

Flashback Structural Types

- Value types
- C# tuples (7.0)
- ref struct (7.2)
- readonly struct (7.2)
- readonly instance members (8.0)

Struct Enhancements (C# 10)

- 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

is operator, switch statement, switch expression
Declaration, const, var pattern (7.0)
Property pattern (8.0)
Discard pattern (8.0)
Positional pattern (8.0)
Type pattern (9.0)
Logical pattern (9.0)
Relational (9.0)
Extended property pattern (10.0)
List and slice pattern (11.0)

Raw String Literals (C# 11)

- Creating JSON, XML, source code generators?

- Nice indentation in the code
- Supports string interpolation

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

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