



CHRISTMAS CAME EARLY: C# 11 AND .NET 7

JAMES HUGHES CODURANCE



Outline

1. Introduction and Disclaimer
2. The Best of C# 11
3. Dotnet 7 - Breif Highlights
4. Questions



Introduction and Disclaimer

- James Hughes - Software Craftsperson
- Joined in June 2022
- Still technically preview features
- I'm not quite as prepared as I'd like to be...



The Best of C# 11





Dotnet 7 - Breif Highlights

- No demo, most changes are under the hood
- Not spending too long on this for the same reason
- Performance and ease of development has been the main focus of this release
- Not an LTS release, I'd recommend upgrading anyway



LINQ Is Fast

- Utilises intrinsics to hardware accelerate queries where possible under-the-hood
- YMMV for non-intrinsic types
- Way faster than writing your own implementation

Method	Ratio
Min	0.03
Max	0.03
Average	0.05
Sum	0.09



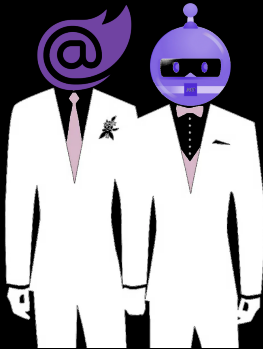
Native AOT Improvements

- No longer a preview feature
- Compiles C# to platform native code, not IL
- Massive improvements in:
 - Startup time
 - Memory usage
 - Disc size
 - Non-standard platform support
- 73% faster and 50% the size of R2R



Blazor and MAUI United as One

- Known as Blazor Hybrid
- Allows MAUI Apps to Consume Blazor Views





Easier Upgrade Path

- More Roslynn analyzers
- More code checkers during upgrades
- More compatability checkers
- More auto-fixers



Hot Reload Is Spicier

Now supports:

- Adding static lambdas to existing methods
- Adding lambdas that capture `this` (as long as they already have one of these)
- Adding new static or non-virtual methods to classes
- Adding new static fields to classes
- Adding entirely new classes



Hot Reload Is Spicier

Now supports:

- Adding static lambdas to existing methods
- Adding lambdas that capture `this` (as long as they already have one of these)
- Adding new static or non-virtual methods to classes
- Adding new static fields to classes
- Adding entirely new classes



Reflection Is No Longer So Pensive

- It's 3-4x faster
- Not as much of an improvement as LINQ, but still cool



A Bunch of QoL Improvements

- `µs` and `ns` in date and time structures.
- Proper tarball support
- Regex to RegexGenerator code fixer
- CLI tool improvements
 - More intuitive command names
 - Tab completion
 - Etc.



Any Questions

- Thanks for listening!
- Any Questions?