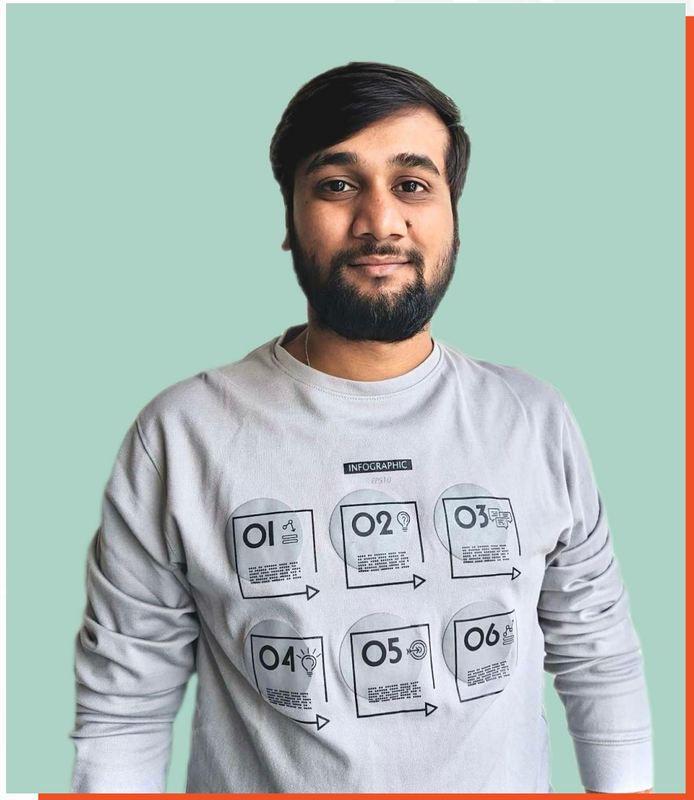
4th DOT NET DAY

Source Generator in .Net

ITPath Solutions

SPEAKER



TOPIC

Source Generator in .Net

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Agenda

- What is Source Generator?
- Components
- Prerequisites
- Demo
- Pros and Cons
- Key Notes

What is Source Generator?

- Introduced in C# 9.
- Dynamic code generation during the compilation time.
- Integrated with C# compiler (Roslyn)

What is Source Generator?

- Introduce
- Dynamic compilation time.
- Integrate

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What is Source Generator?

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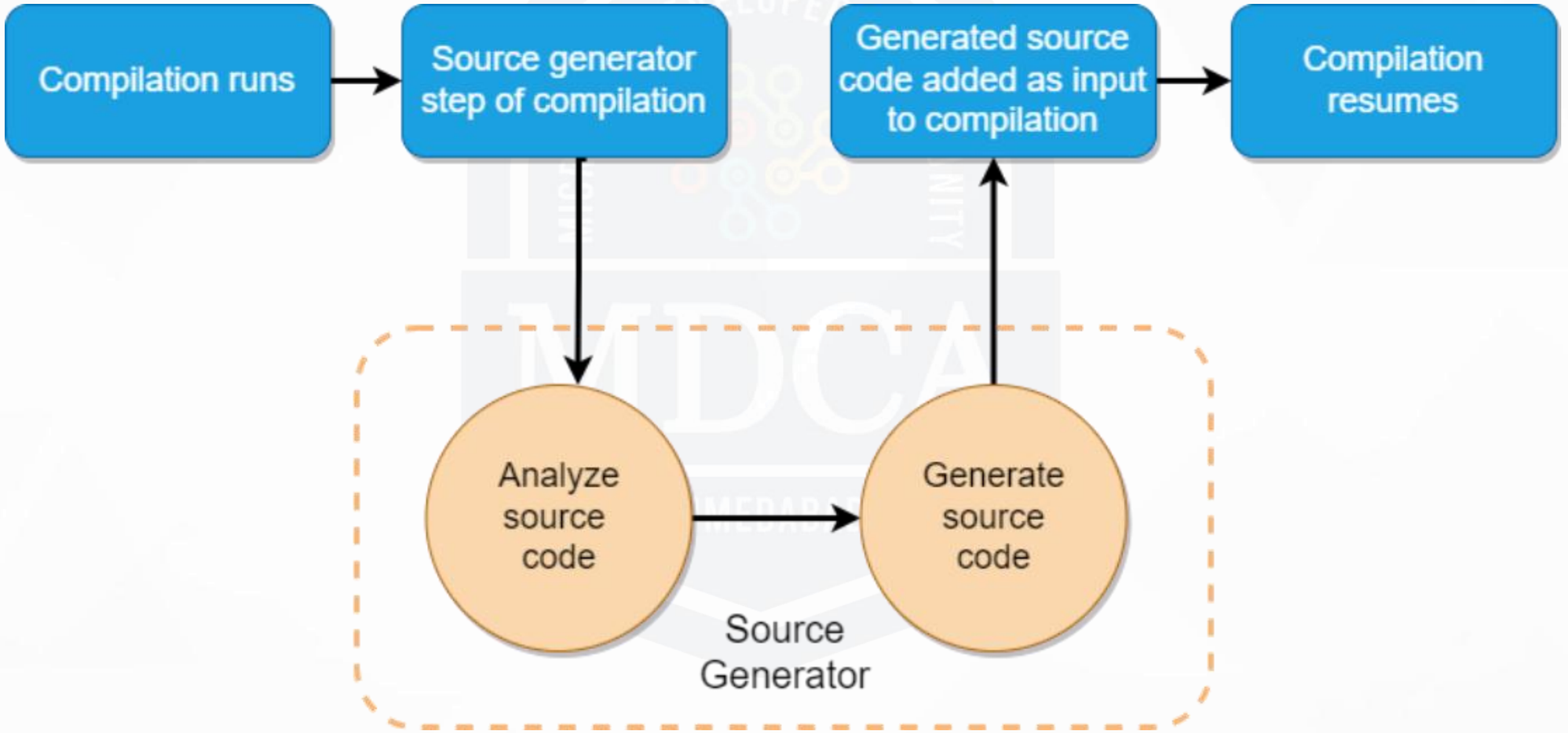
- .NET Standard 2.0 Assembly
- Loaded by Roslyn alongside the analyzer
- Focuses on two major things:
  - Syntax Tree
  - File generated by Source Generator

What is Source Generator?



Components

- ISyntaxReceiver
  - Collect and filter syntax nodes during the compilation process based on specific conditions.
- ISourceGenerator
  - Generate code based on the filtered syntax nodes collected by ISyntaxReceiver

Prerequisites

- Visual Studio 2022
- Individual Component:
  - .NET Compiler Platform SDK
- Class Library with .NET Standard 2.0 OR 2.1
- Nuget Packages:
  - Microsoft.CodeAnalysis.CSharp.Workspace
  - Microsoft.CodeAnalysis.Analyzers

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Demo

Pros

- Reducing boilerplate code
- Improving performance
- Enabling new coding patterns
- Adapting to changing requirements
- Generating code for cross-cutting concerns
- Team Productivity

Cons

- Compatibility
- Complexity

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Key Notes

- Compatible with AOT (Ahead Of Time)
- Source Generator is compatible with .Net Framework 4.72+

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Any Questions?

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THANK YOU

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