

C# Attributes: Power and Flexibility for Your Code

UNDERSTANDING THE HIDDEN POWER OF ATTRIBUTES



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Overview



What are attributes?

Uses of attributes

Code, design, and run time usage

Applying attributes to code elements

Attribute inheritance

Get started in Visual Studio



Course Outline



**Understanding the
Hidden Power of
Attributes**

**Leveraging the
Power of Prebuilt
Attributes in Your
Code**

**Gaining Flexibility
and Expanding
Your Solutions with
Custom Attributes**



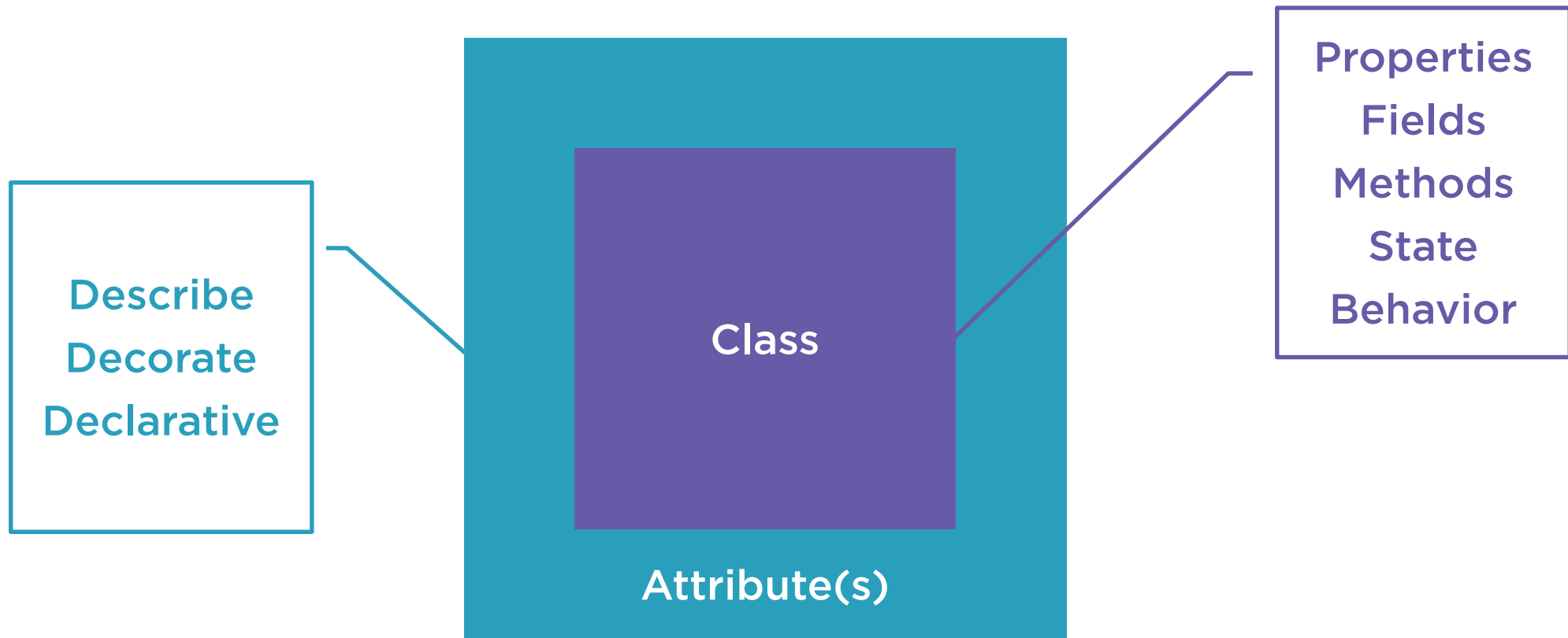
“...a powerful method of associating metadata, or declarative information, with code...”

Microsoft

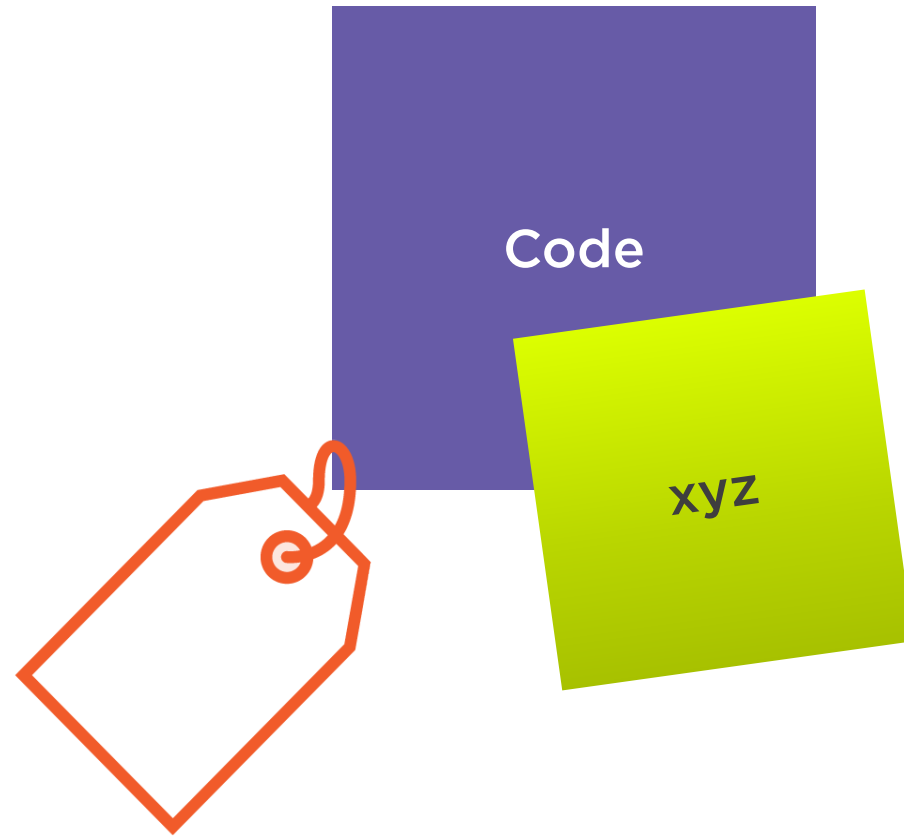
<https://docs.microsoft.com/en-us/dotnet/csharp/programming-guide/concepts/attributes/>



What Are Attributes?



What Are Attributes?



What Are Attributes?



Additional information about your code



Compiled into assembly



Prebuilt or custom



Uses of Attributes

Code time

Coding
Compilation
Debugging

Design time

Visual GUI designer
IDE

Run time

ASP.NET
Azure Functions
Reflection



Uses of Attributes

- Configure conditional code compilation
- Control debugging experience
- Mark code as deprecated
- Add metadata without code comments
- Define data validation rules
- Control serialization/deserialization
- Control runtime rendering/display
- Expose internals
- Mark methods as test methods
- Specify design time data/appearance
- Configure serverless functions bindings



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[Display]



Assembly
Classes & structs
Interfaces & enums
Methods
Fields
Properties
Constructors
Delegates
Events
Parameters
Return values

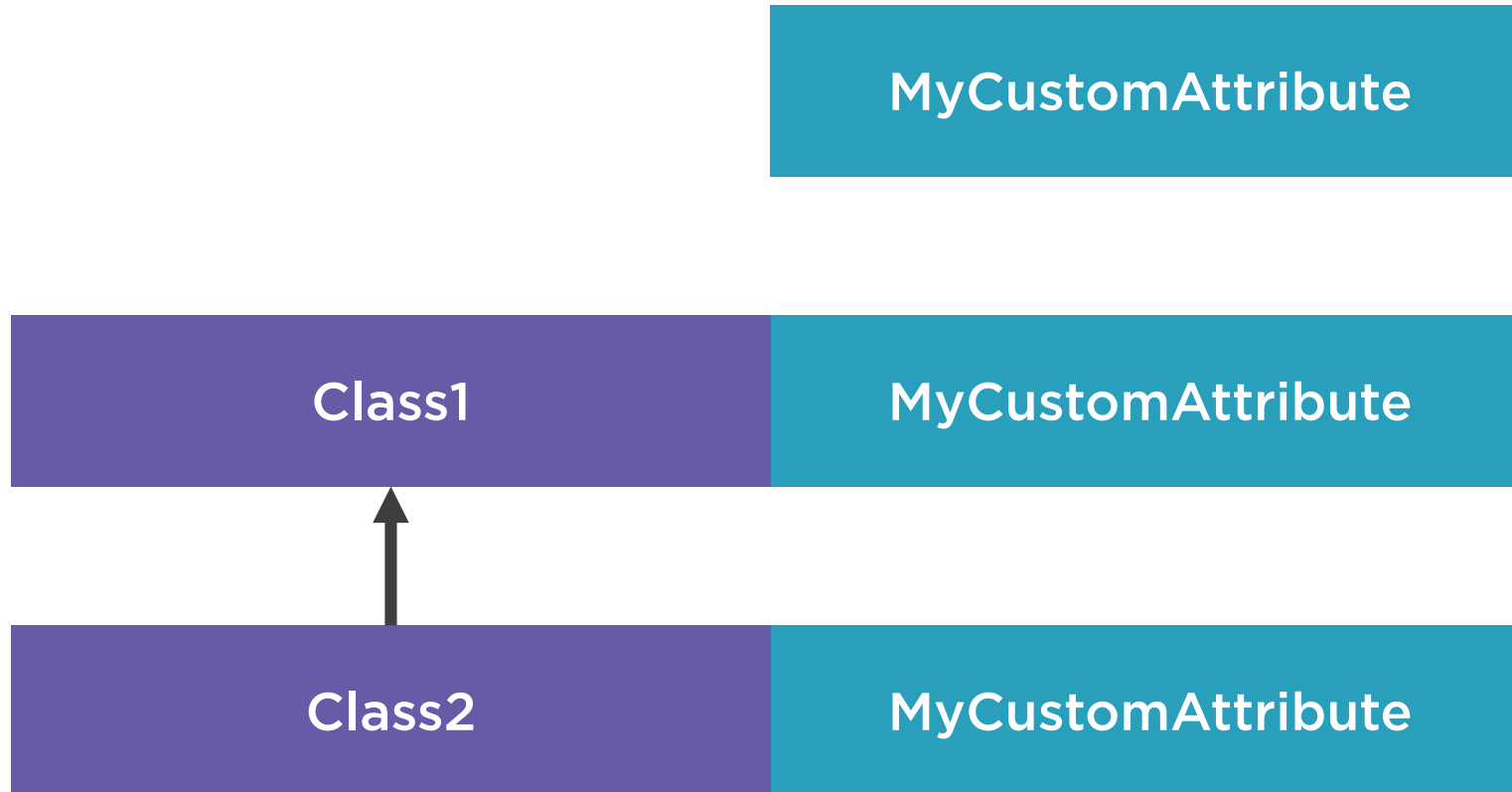
Applying Attributes to Code Elements



Not all attributes can be applied to all
code elements without causing
compilation errors



Attribute Inheritance



Demo



Creating the demo application

Create new console application

Create Contact class

Create ContactConsoleWriter class



Demo code can be downloaded from
the course page at Pluralsight.com

/before
/after



Summary



What are attributes?

- Declarative code metadata
- Compiled into assembly

Uses of attributes

- Code, design, and run time
- Control debugging experience
- Control runtime rendering/display
- Define data validation rules

Applying attributes to code elements

- Assembly, class, struct, enums
- Properties, methods, return values

Attribute inheritance

Created Visual Studio console project



Next:

Leveraging the Power of Prebuilt
Attributes in Your Code

