

CHICAGO

INTERNATIONAL  
SOFTWARE DEVELOPMENT  
CONFERENCE 2015

goto;  
conference

# The Future of C#

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Conference: May 11-12 / Workshops: 13-14

# The C# world is changing fast!

## Roslyn

Language “engine” for C# and VB

Compiler, language service, static analysis driver

## Open Source

Roslyn and .NET Core

## Cross platform

.NET and dev tools

Visual Studio Code, OmniSharp

## Open design

Language, REPL, etc.

# Roslyn – C# language engine

## Batch compiler *and* IDE driver

Throughput and correctness vs responsiveness and error tolerance

## Object model of code

Syntax, static semantics

Immutable

Complete

Efficient

## Open source

C# in C#, VB in VB

On GitHub, taking contributions

# Today's talk

C# 6 Language features

C# IDE, analyzers, debugging

Build an analyzer

C# 7 open design

# Tuples – multiple results

```
public (int sum, int count) Tally(IEnumerable<int> values)
{
    int sum = 0;
    int count = 0;
    foreach (var value in values)
    {
        sum += value;
        count++;
    }
    return (sum, count);
}
```

```
(var s, var c) = Tally(myValues);
```

# Nullable reference types

```
class Person
{
    public string First { get; }
    public string Last { get; }
    public string? Middle { get; }

    public int NameLength => First.Length + Last.Length + Middle.Length;
    // Warning: 'Middle' may be null

    public Person(string first, string last, string? middle = null)
    {
        First = first;
        Middle = middle;
    } // Warning: 'Last' not initialized
}
```

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# Questions?

*Please remember to evaluate via the GOTO  
Guide App*

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