

# What's New in C# 9.0

---

## RECORDS AND PROPERTIES



**Roland Guijt**

MICROSOFT MVP, CONSULTANT, AUTHOR AND SPEAKER

@rolandguijt [rolandguijt.com](http://rolandguijt.com)



# Module Overview



Preparation

The case for immutability

Init-only setters

Introducing records

Records: constructors, destructors  
and equality

Clone records with the "with" keyword

Adding a record body



# What You Need For C# 9

**Visual Studio 2019 16.8.2 or higher**

**A project targeted at .NET 5 or higher**



<https://4sh.nl/CSharp9NetStandard>



# GloboTicket Achitecture



Do the properties of a DTO  
need to change?



Do the properties of a DTO  
need to change?

No



# Immutability

Objects that shouldn't change  
shouldn't be changeable

Saves you a headache in a  
multi-threaded process

C# wasn't very good at immutability





# Record

A new reference type

Immutable by design

Saves us from writing boilerplate code

Generated as a class in IL



A record is equal to another record when the property values match AND they are of the same type.



# Summary



**Immutability prevents trouble**

**Init-only setters**

**Records**

