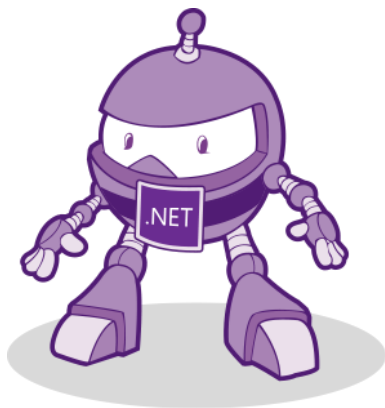


COECYS 2020

# .NET Core

## Desarrollo Multiplataforma

Explorando .NET Core





# Hola!

## Geovani de León (Yova)

Ingeniero de Software en PensoTec

Docente Universitario USAC –CUNOR-

Líder de Microsoft Dev Group Cobán

<https://github.com/yovafree>

.NET Evangelyst

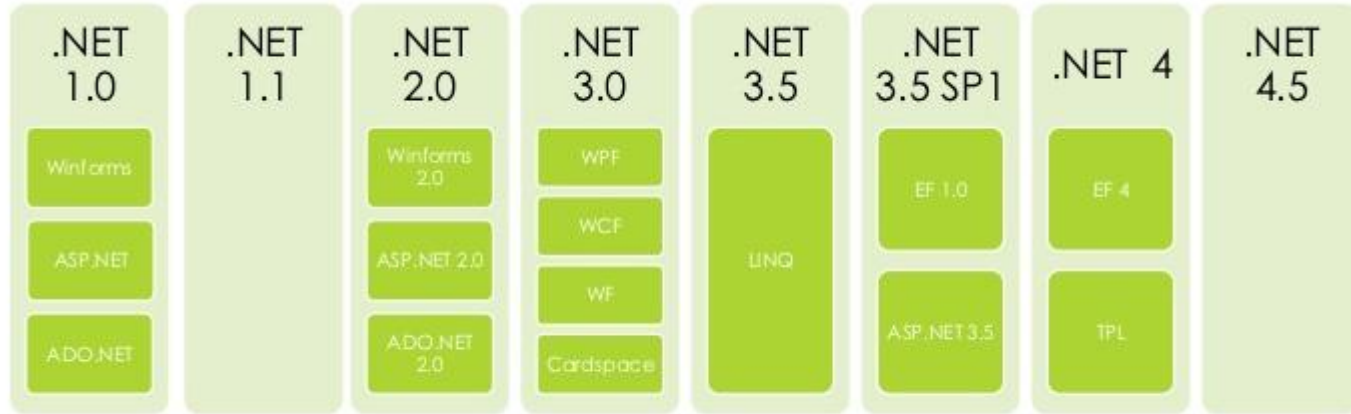
# Agenda

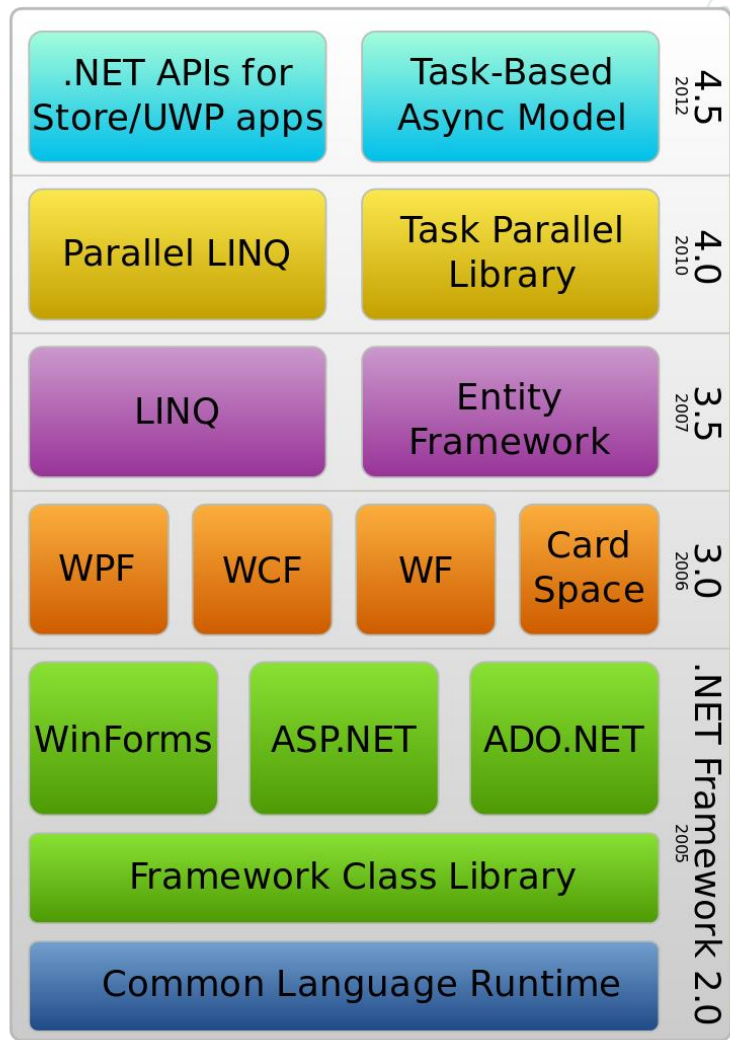
- ⦿ Qué es .NET Framework
- ⦿ Entorno de .NET
- ⦿ Qué es .NET Standard
- ⦿ .NET Core
- ⦿ Características de .NET Core
- ⦿ Futuro de .NET Core
- ⦿ Demos

## Qué es .NET Framework

- ◎ Es un conjunto de librerías lanzados por Microsoft en 2002
- ◎ Lenguajes empleados en .NET Framework: C#, Visual Basic, J#, F#
- ◎ Tecnología nativa de Microsoft, solo corre sobre sistemas operativos Windows

# Historía de .NET





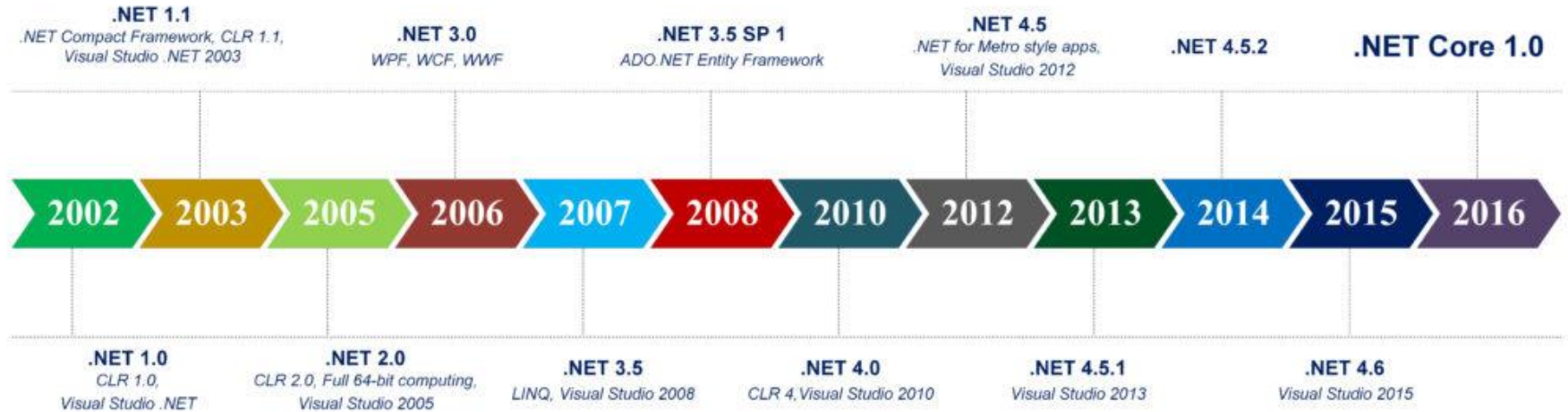
## Qué es .NET Standard

- © .NET Standard es un conjunto de API que se implementan mediante la biblioteca de clases base de una implementación de .NET.

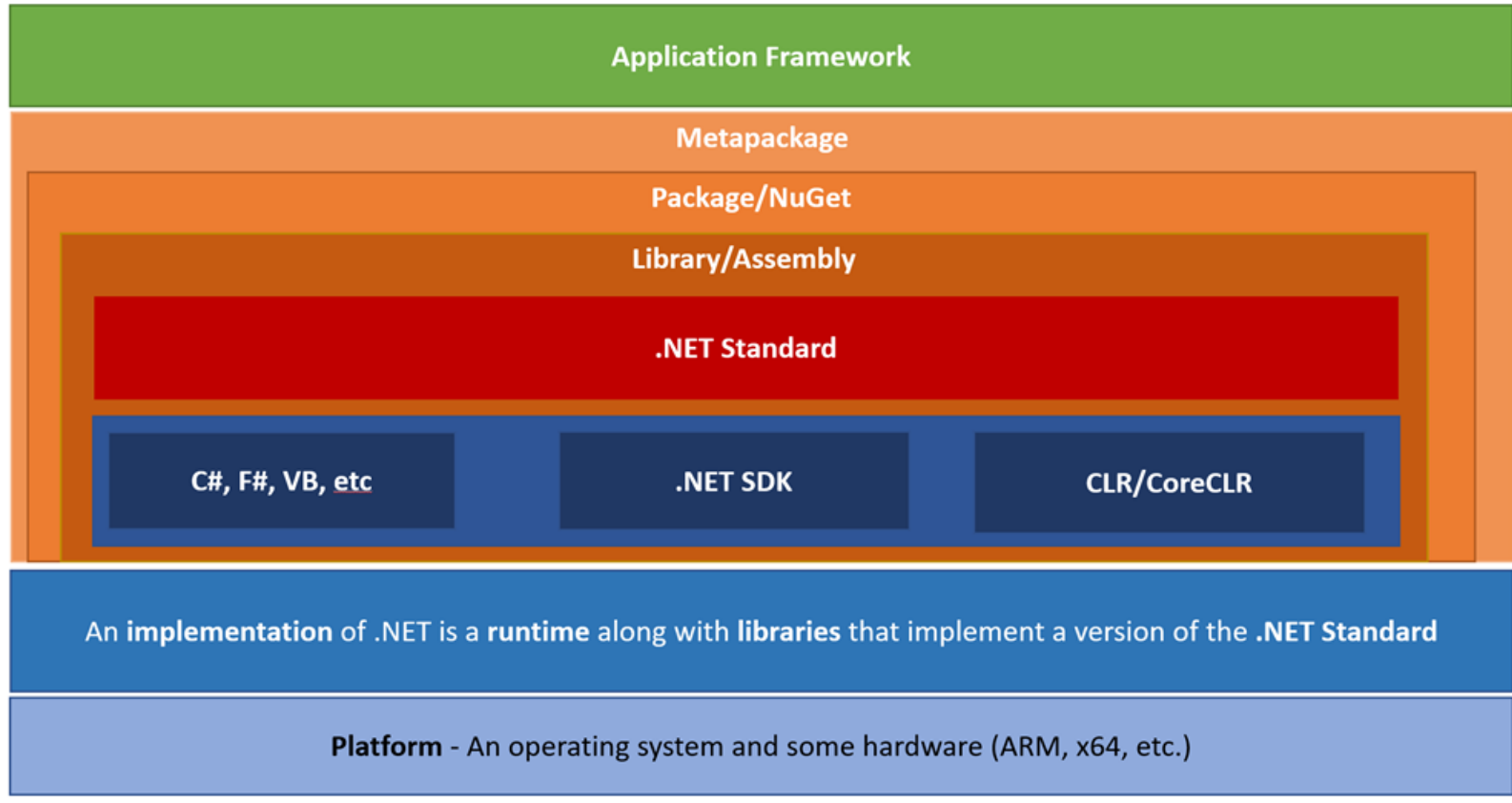


# Versiones de .NET

## The release history of .NET Framework



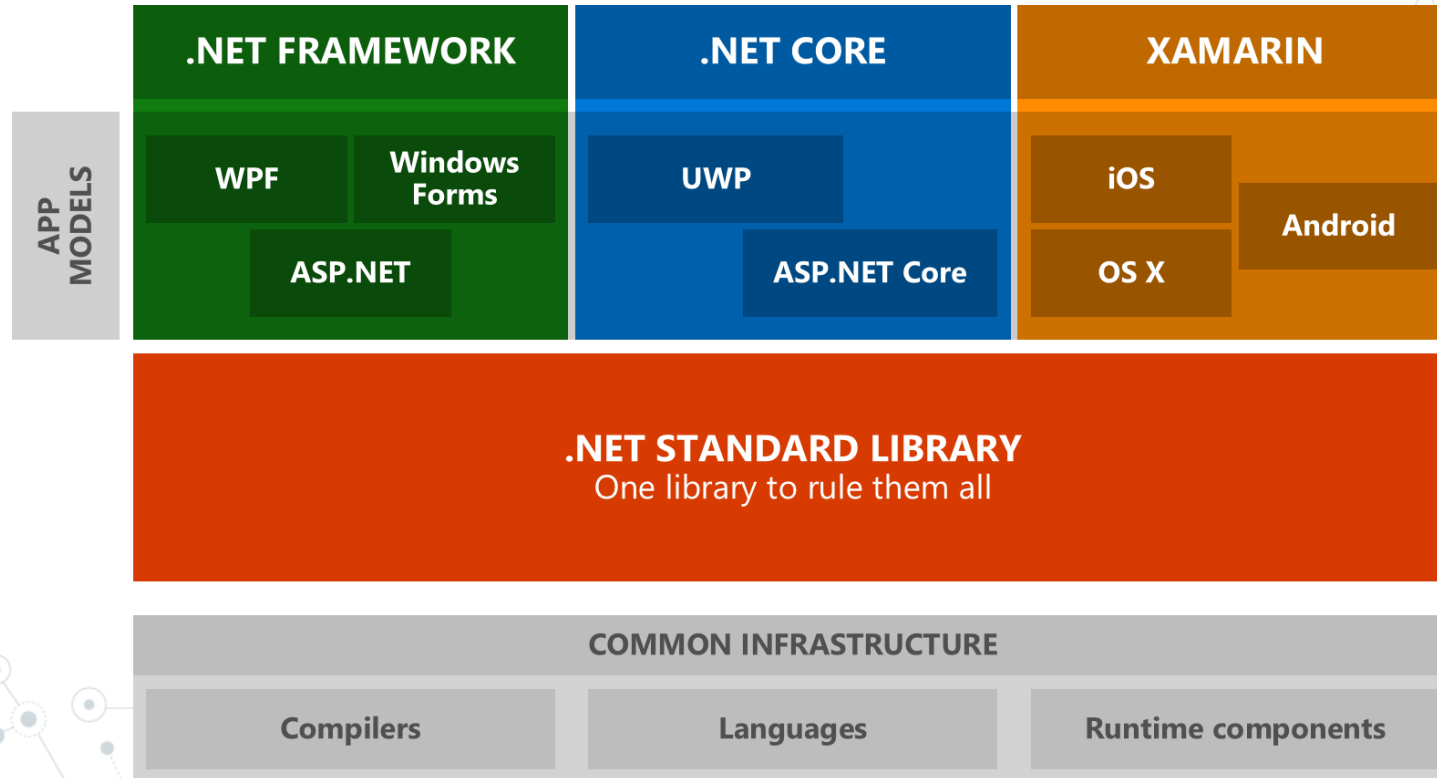
# .NET - “Do you know .NET?”



# APIs en .NET Standard 2.0

<b>XML</b>	XLinq • XML Document • XPath • Schema • XSL
<b>SERIALIZATION</b>	BinaryFormatter • Data Contract • XML
<b>NETWORKING</b>	Sockets • HTTP • Mail • WebSockets
<b>IO</b>	Files • Compression • MMF
<b>THREADING</b>	Threads • Thread Pool • Tasks
<b>CORE</b>	Primitives • Collections • Reflection • Interop • Linq

# Implementación de .NET Standard

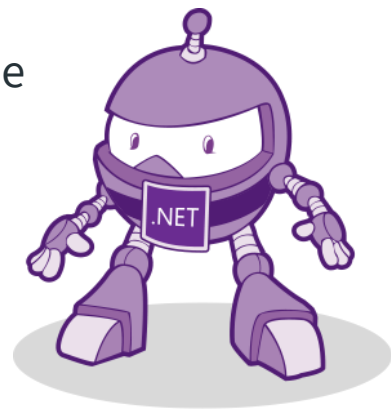


# .NET Core

## .NET Core

- © .NET Core es una implementación multiplataforma de .NET diseñada para controlar cargas de trabajo de servidor y en la nube a escala.
- © Se ejecuta en Windows, macOS y Linux.
- © Implementa .NET Standard, de forma que cualquier código que tenga como destino .NET Standard se puede ejecutar en .NET Core.

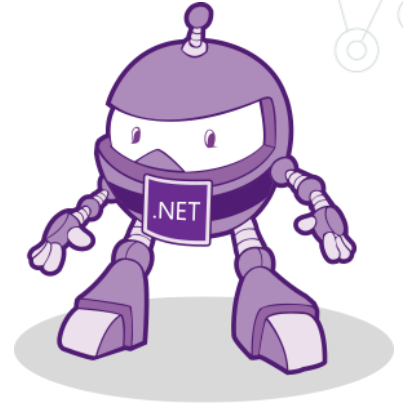
ASP.NET Core, Windows Forms y Windows Presentation Foundation (WPF) se ejecutan todos en .NET Core.



## Características de .NET Core

- ◎ Modular
- ◎ Preparado para la nube
- ◎ Open Source
- ◎ Editores o herramientas de desarrollo
- ◎ Cross Platform

# .NET Core



MODULAR



MULTI PLATAFORMA

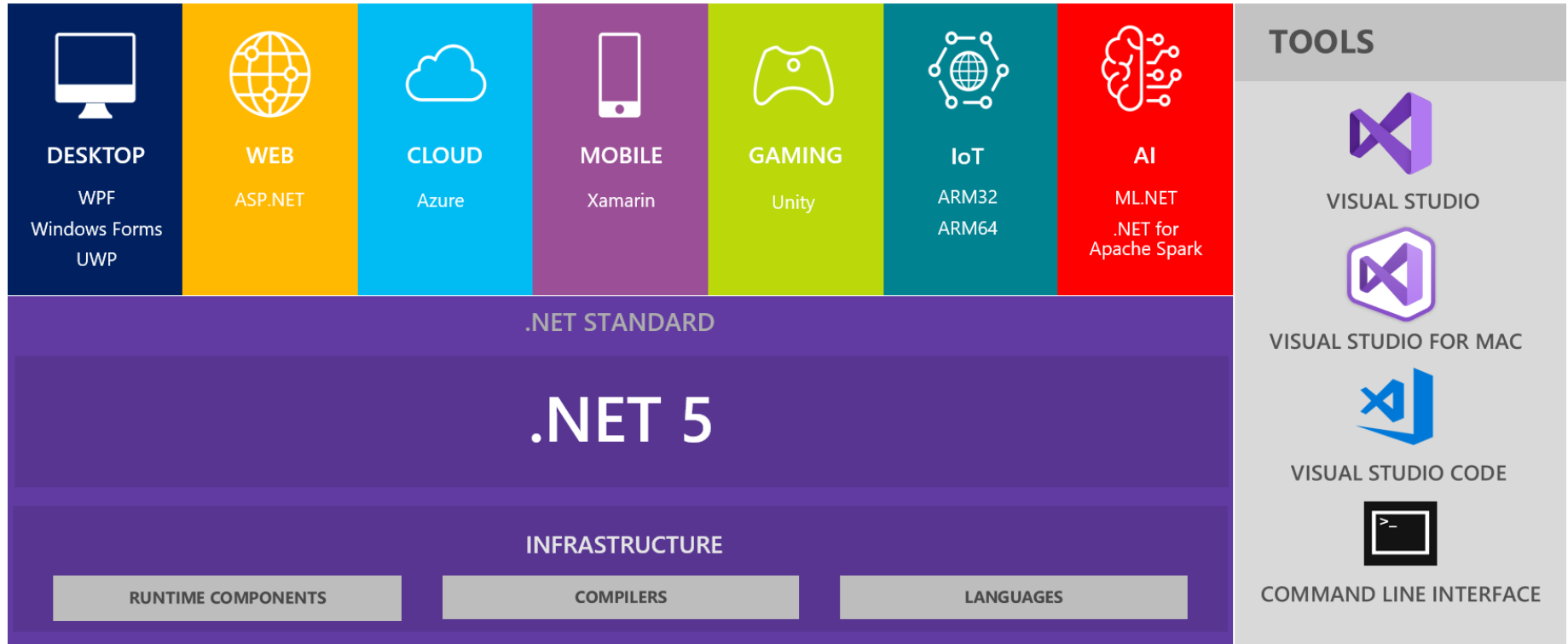


OPEN SOURCE



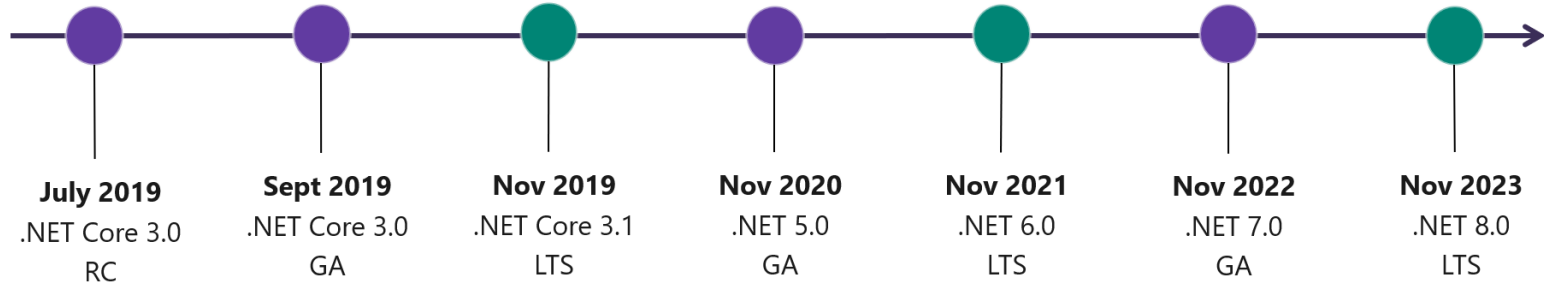
CLI

# Ámbito de .NET – Una plataforma unificada



# Versiones de .NET Core y su nueva versión 3.1

## El futuro de .NET Core



- .NET Core 3.0 release in September
- .NET Core 3.1 = Long Term Support (LTS)
- .NET 5.0 release in November 2020
- Major releases every year, LTS for even numbered releases
- Predictable schedule, minor releases if needed

Fuente: <https://devblogs.microsoft.com/dotnet/introducing-net-5/>



## ¿Qué hay de nuevo en .NET Core 3?

- ◎ Language improvements C# 8.0
- ◎ .NET Standard 2.1
- ◎ Windows Native Interop
- ◎ Linux
  - GPIO Support for Raspberry Pi
  - ARM64 Linux support
  - Docker and cgroup memory Limits



The background of the slide features a complex, light gray network pattern. It consists of numerous small circles, some of which are solid gray and others are hollow with a gray outline. These circles are interconnected by a web of thin, light gray lines, creating a dense, interconnected mesh that covers the entire slide area.

# 80%

API .NET a .NET Core

A decorative network diagram in the top-left corner, featuring a complex web of interconnected nodes and lines. Some nodes are highlighted with blue circles, and others with blue dots.

**¿Cómo  
empiezo?**



## Download .NET

Downloads for .NET Framework and .NET Core, including ASP.NET and ASP.NET Core

🔗 Not sure where to start? See the [Hello World in 10 minutes tutorial](#) to install .NET and build your first app.

Windows

Linux

macOS

Docker

### .NET Core

**.NET Core 3.1**

.NET Core is a cross-platform version of .NET for building websites, services, and console apps.

Run Apps 🕒	<a href="#">Download .NET Core Runtime</a>
Build Apps 🕒	<a href="#">Download .NET Core SDK</a>
Advanced 🕒	<a href="#">All .NET Core downloads...</a>

### .NET Framework

**.NET Framework 4.8**

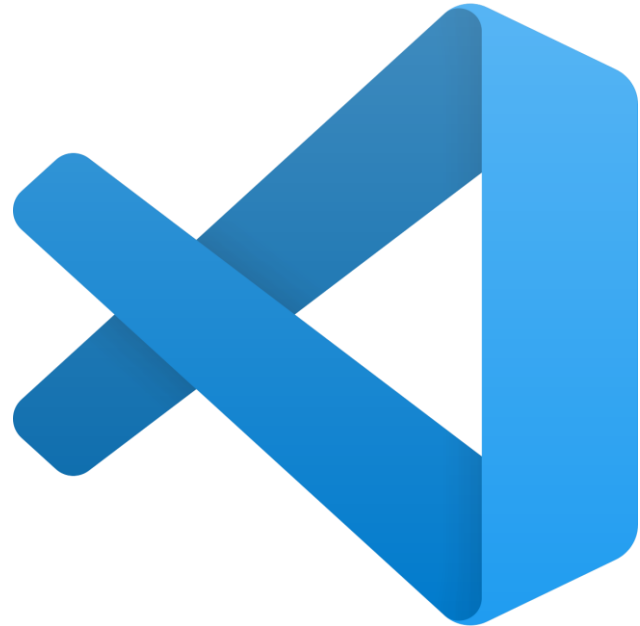
.NET Framework is a Windows-only version of .NET for building any type of app that runs on Windows.

Run Apps 🕒	<a href="#">Download .NET Framework Runtime</a>
Build Apps 🕒	<a href="#">Download .NET Framework Dev Pack</a>
Advanced 🕒	<a href="#">All .NET Framework downloads...</a>

<https://dotnet.microsoft.com/download>

## Necesitamos un IDE! – Visual Studio Code

© <https://code.visualstudio.com/>



# Demo 1

Hola Mundo

# Mi primer proyecto



```
dotnet new console -n demo01  
dotnet run
```

# Tipos de proyectos

🕒 `dotnet new --help`

Templates	Short Name	Language	Tags
Console Application	console	[C#], F#, VB	Common/Console
Class library	classlib	[C#], F#, VB	Common/Library
WPF Application	wpf	[C#]	Common/WPF
WPF Class library	wpflib	[C#]	Common/WPF
WPF Custom Control Library	wpfcustomcontrollib	[C#]	Common/WPF
WPF User Control Library	wpfusercontrollib	[C#]	Common/WPF
Windows Forms (WinForms) Application	winforms	[C#]	Common/WinForms
Windows Forms (WinForms) Class library	winformslib	[C#]	Common/WinForms
Worker Service	worker	[C#]	Common/Worker/Web
Unit Test Project	mstest	[C#], F#, VB	Test/MSTest
NUnit 3 Test Project	nunit	[C#], F#, VB	Test/NUnit
NUnit 3 Test Item	nunit-test	[C#], F#, VB	Test/NUnit
xUnit Test Project	xunit	[C#], F#, VB	Test/xUnit
Razor Component	razorcomponent	[C#]	Web/ASP.NET
Razor Page	page	[C#]	Web/ASP.NET
MVC ViewImports	viewimports	[C#]	Web/ASP.NET



## Conociendo NuGet

- © NuGet es un administrador de paquetes gratuito y de código abierto diseñado para la plataforma de desarrollo de Microsoft.



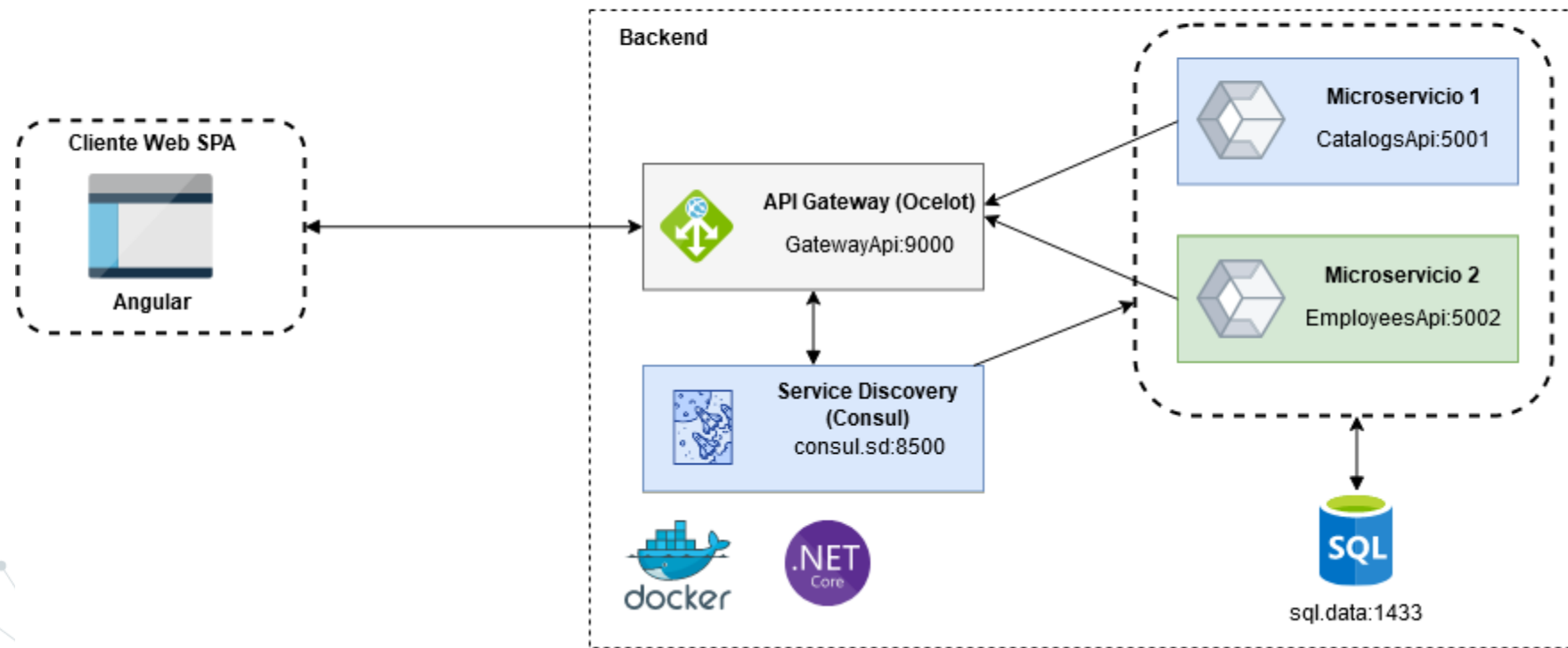
# Demo 2

.NET Core MVC

# Demo 3

Microservicios con .NET Core, Contenedores y mucho más!

## Diagrama de Arquitectura



# Demo 4

Jupyter y ML .NET

Referencia: <https://devblogs.microsoft.com/cesardelatorre/using-ml-net-in-jupyter-notebooks/>

## Siguientes pasos

- ◎ gRPC .NET Core
- ◎ Razor para .NET Core
- ◎ Async / Await
- ◎ Blazor
- ◎ Persistencia (Entity Framework Core y LINQ)
  - Base de Datos (SQL Server, MySQL, PostgreSQL)
- ◎ Microservicios

IoT



# Gracias!

## ¿Preguntas?

Puedes contactarme mediante:

@yovafree

<https://github.com/yovafree>



## Repositorio de las demos

© <https://github.com/yovafree/net-core-coecys-2020>