

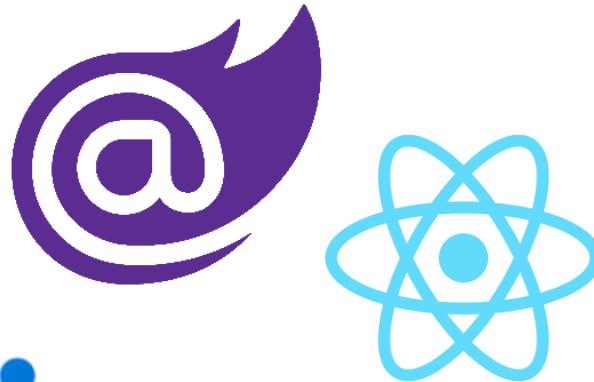
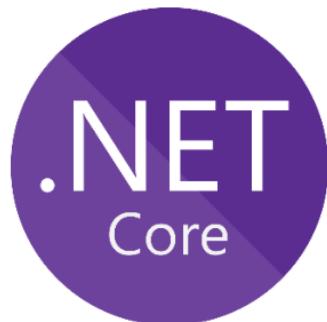
.NET 9 – Stand der Dinge



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Meine Person- Thorsten Kansy

Freier Consultant, Software Architekt,
Entwickler, Trainer & Fachautor



Azure Cosmos DB



Mein Service- Ihr Benefit

- Individuelle Inhouse Trainings
- (Online on-demand) Projektbegleitung
- Beratung
 - Problemanalyse und Lösungen
 - Technologieentscheidungen



Agenda

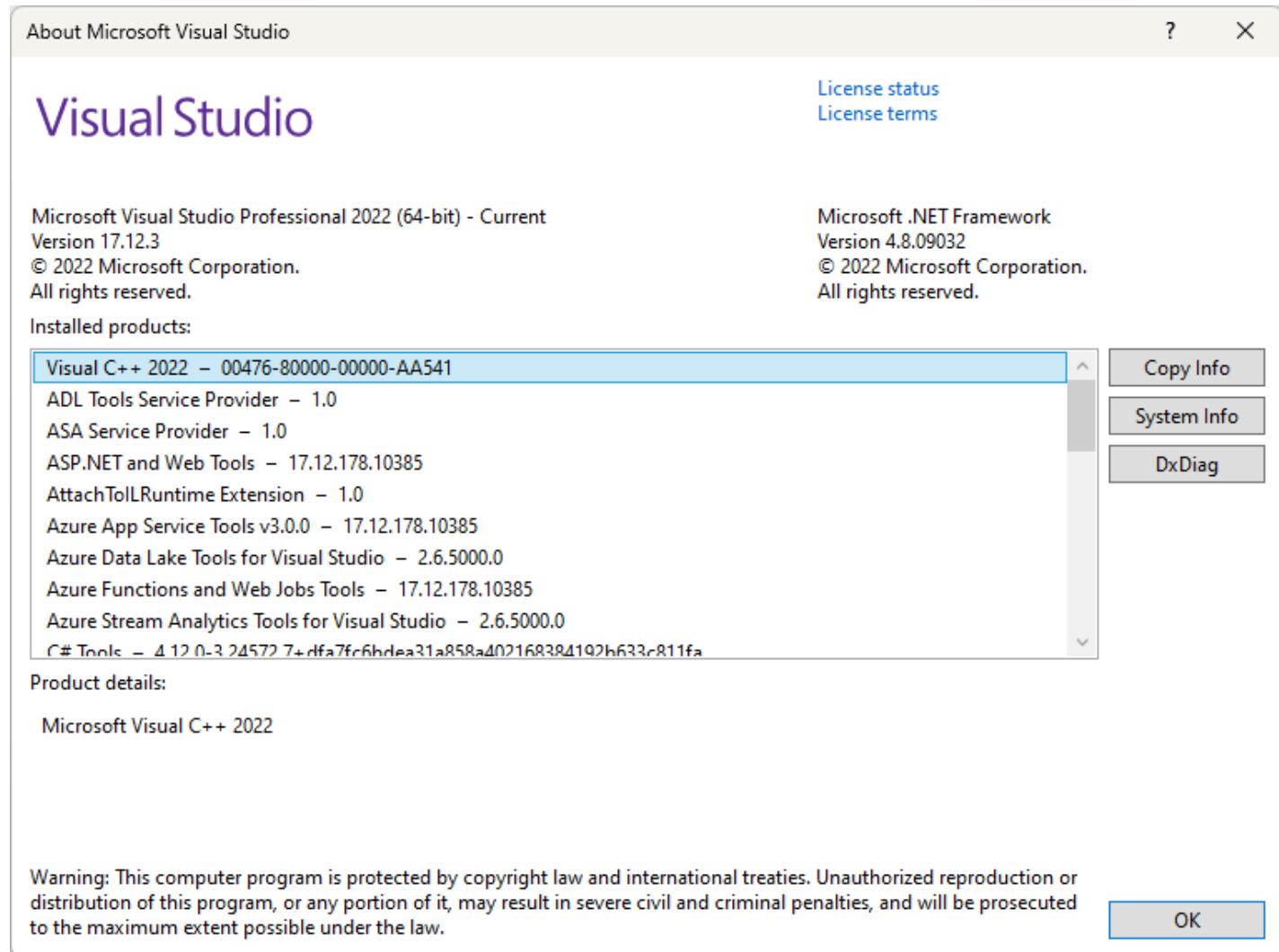
- Verwendete Software
- „One .NET“ Roadmap
- Was kann .NET 9?
- C# 13
- Fazit

Verwendete Software



Verwendete Software

- Visual Studio 2022 17.12+
- .NET 9



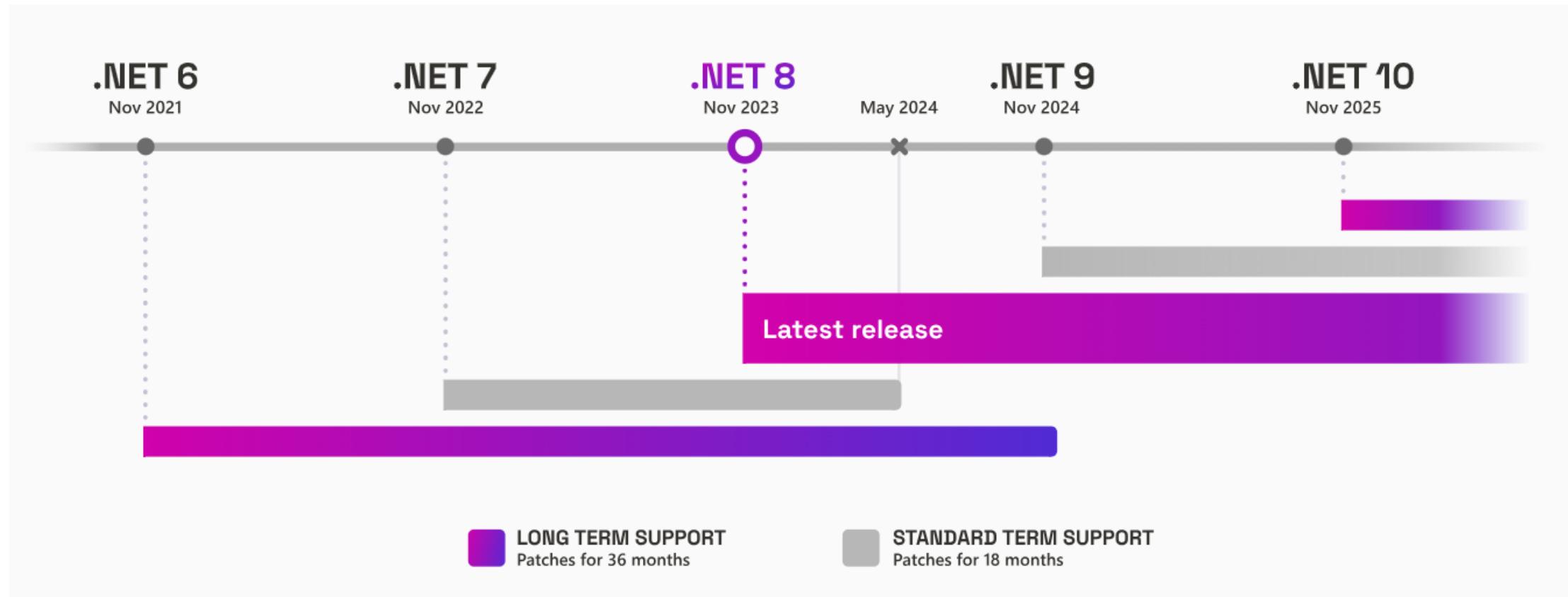


„One .NET“ Roadmap

„One .NET“

- Offizieller Name: .NET 9 (ohne "Core", ohne ".0")
- Aber ASP.NET **Core** 9 und Entity Framework **Core** 9
- Microsoft hält sich aber selbst nicht überall daran

Der .NET (Core) Roadmap



<https://dotnet.microsoft.com/en-us/platform/support/policy/dotnet-core>



<https://github.com/dotnet/core/blob/master/roadmap.md>

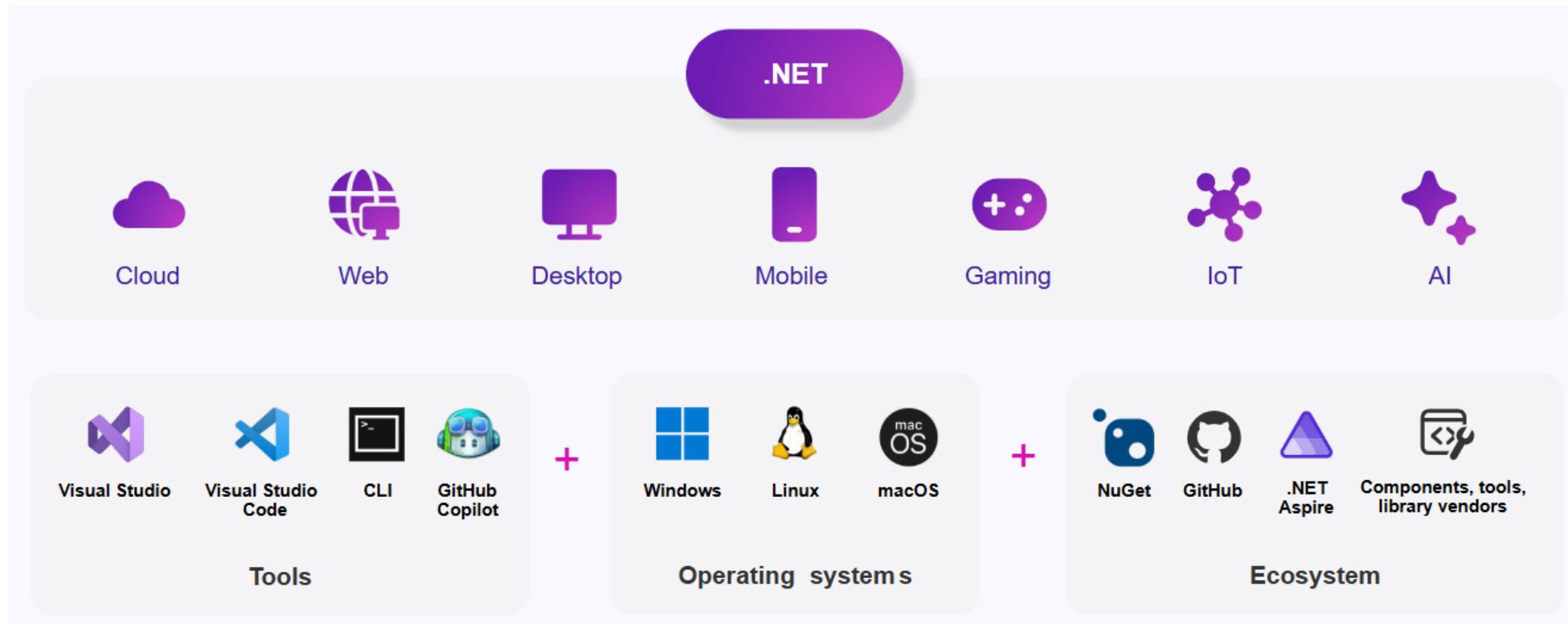
Und .NET Framework?

- .NET Framework 4.8.x ist die letzte .NET Framework Feature-Version
 - Letztes Patch hatte 4.8.1
- Migration auf 4.8.x nur bei neuen Features notwendig

Übersicht

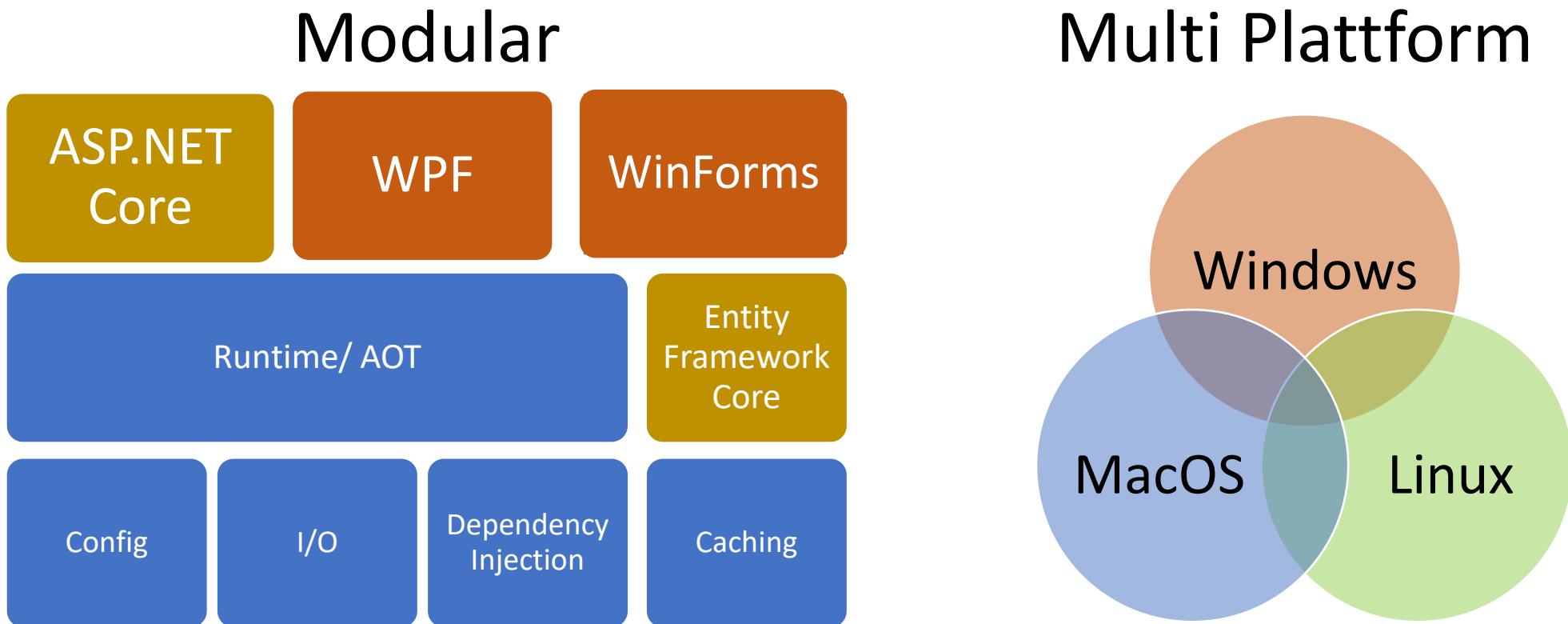


.NET 9



<https://devblogs.microsoft.com/dotnet/announcing-dotnet-9/>

.NET Komponenten



Was spricht für .NET?

- Multiplattform
 - Windows
 - Linux
 - MacOS
- Hohe Performance
 - Modularität
 - ASP.NET, z. B. Entkopplung von System.Web.dll
- Geringerer Ressourcenverbrauch
 - Modularität



Visual Studio in Stellung bringen

The screenshot shows a web browser window with the URL visualstudio.microsoft.com/de/vs/. The page features a large purple banner with the text "Visual Studio 2022 Powerhouse der KI". Below the banner, there is a paragraph about AI-enhanced features like IntelliSense and GitHub Copilot. Two prominent buttons are visible: "Visual Studio herunterladen" and "Kostenlose Testversion von GitHub Copilot herunterladen". At the bottom, a quote reads "Ihre Ideen verdienen die besten Tools." A small globe icon is in the bottom left corner, and a "Feedback" button is in the bottom right.

<https://visualstudio.microsoft.com/de/vs/>

.NET 9 in Stellung bringen

- Windows
- Linux
- MacOS



<https://dotnet.microsoft.com/download/dotnet/9.0>

The screenshot shows the Microsoft .NET download page for version 9.0.0. The main heading is "Download .NET 9.0". Below it, there's a note: "Not what you're looking for? Visit the [downloads](#) page for more options." A "9.0.0" section is highlighted with a purple arrow pointing up. It includes "Release notes" and "Latest release date December 3, 2024". Under "SDK 9.0.101", there are tables for "Build apps - SDK" and "Run apps - Runtime". The "Build apps - SDK" table shows links for Linux (Package manager instructions), macOS (Arm64 | x64), Windows (x64 | x86 | Arm64 | winget instructions), and All (dotnet-install scripts). The "Run apps - Runtime" table shows links for Linux (Arm32 | Arm32 Alpine | Arm64 | Arm64 Alpine | x64 | x64 Alpine) and macOS (Arm64 | x64). A "Feedback" button is visible on the right.



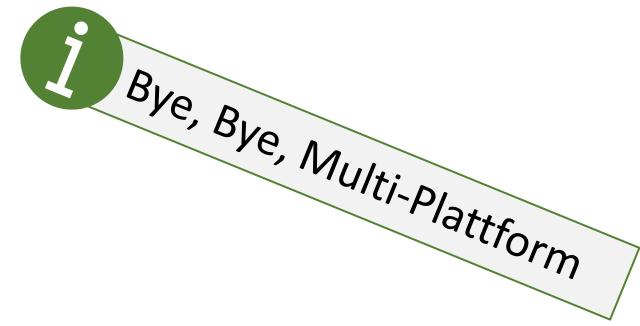
Demo

The background of the slide features a wide-angle photograph of a mountainous landscape under a clear blue sky. In the foreground, there's a rocky, sparsely vegetated hillside. A dark blue horizontal bar spans across the middle of the image, containing the text.

Was kann .NET 9?

Was wird nicht mehr unterstützt?

- ASP.NET Webforms
- ASP.NET Webservices
- .NET Remoting
- WCF (REST & SOAP) => CoreWCF
- Windows Workflow Foundation (WF)
- Xamarin



Windows Compatibility Pack

- Code Pages
- CodeDom
- Configuration
- Directory Services
- Drawing
- ODBC
- Permissions
- Ports
- Windows Access Control Lists (ACL)
- Windows Communication Foundation (WCF)
- Windows Cryptography
- Windows EventLog
- Windows Management Instrumentation (WMI)
- Windows Performance Counters
- Windows Registry
- Windows Runtime Caching
- Windows Services



<https://docs.microsoft.com/en-us/dotnet/core/porting/windows-compat-pack>

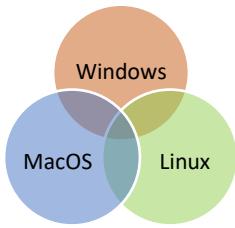
Multi-Platform-Code

Einsatz mit Guarding

```
if (RuntimeInformation.IsOSPlatform(OSPlatform.Windows))
{
    // Windows Code, Zugriff auf Registry
    using (RegistryKey key = Registry.CurrentUser.OpenSubKey(@"Software\Fabrikam\AssetManagement"))
    {
        if (key?.GetValue("LoggingDirectoryPath") is string configuredPath)
            Console.WriteLine(configuredPath);
    }
}
else if (RuntimeInformation.IsOSPlatform(OSPlatform.Linux))
{
    // Linux Code
    // ...
}
```

Install-Package Microsoft.Windows.Compatibility

Install-Package Microsoft.DotNet.Analyzers.Compatibility

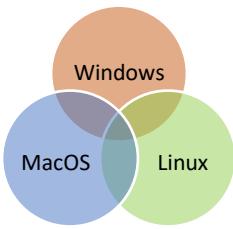


Entity Framework Core

- Relationale Datenbanken
 - SQL Server
 - DB2
 - Oracle
 - MySQL
 - PostgreSQL
 - ...
- NoSQL Datenbanken
 - Azure Comos DB



Demo



ASP.NET Core (Razor, Blazor, WebAPI)

Vollständig!

Create a new project

Search for templates (Alt+S)

Recent project templates

A list of your recently accessed templates will be displayed here.

All languages ▾ All platforms ▾ All project types ▾

VB Console App (.NET Core)
A project for creating a command-line application that can run on .NET Core on Windows, Linux and MacOS.

Visual Basic Windows Linux macOS Console

ASP.NET Core Web Application
Project templates for creating ASP.NET Core web apps and web APIs for Windows, Linux and macOS using .NET Core or .NET Framework. Create web apps with Razor Pages, MVC, or Single Page Apps (SPA) using Angular, React, or React + Redux.

C# Linux macOS Windows Cloud Service Web

@ Blazor App
Project templates for creating Blazor apps that run on the server in an ASP.NET Core app or in the browser on WebAssembly. These templates can be used to build web apps with rich dynamic user interfaces (UIs).

C# Linux macOS Windows Cloud Web

ASP.NET Web Application (.NET Framework)
Project templates for creating ASP.NET applications. You can create ASP.NET Web Forms, MVC, or Web API applications and add many other features in ASP.NET.

Visual Basic Windows Cloud Web

Class Library (.NET Standard)

Next



Demo

.NET Aspire

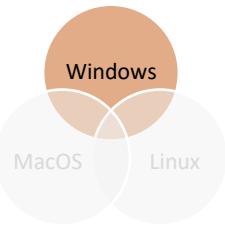
- **Orchestration:** .NET Aspire provides features for running and connecting multi-project applications and their dependencies for local development environments
- **Integrations:** .NET Aspire integrations are NuGet packages for commonly used services, such as Redis or Postgres, with standardized interfaces ensuring they connect consistently and seamlessly with your app
- **Tooling:** .NET Aspire integrations are NuGet packages for commonly used services, such as Redis or Postgres, with standardized interfaces ensuring they connect consistently and seamlessly with your app.



<https://learn.microsoft.com/en-us/dotnet/aspire/get-started/aspire-overview>



Demo



Windows Presentation Foundation

Vollständig!

Create a new project

Recent project templates

wpf

C# Windows All project types

WPF Application
A project for creating a .NET WPF Application
C# Windows Desktop

WPF Class Library
A project for creating a class library that targets a .NET WPF Application
C# Windows Desktop Library

WPF Custom Control Library
A project for creating a custom control library for .NET WPF Applications
C# Windows Desktop Library

WPF User Control Library
A project for creating a user control library for .NET WPF Applications
C# Windows Desktop Library

WPF App (.NET Framework)
Windows Presentation Foundation client application
C# XAML Windows Desktop

WPF Browser App (.NET Framework)

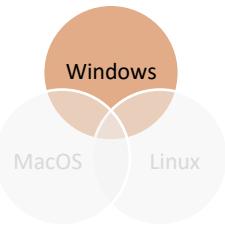
Back Next



<https://learn.microsoft.com/en-us/dotnet/desktop/wpf/what-s-new/net90?view=netdesktop-9.0>



Demo



WinForms

Vollständig!

Create a new project

Recent project templates

winform

C# Windows All project types

Windows Forms App A project template for creating a .NET Windows Forms (WinForms) App.

Windows Forms App (.NET Framework) A project for creating an application with a Windows Forms (WinForms) user interface

Windows Forms Control Library (.NET Framework) A project for creating controls to use in Windows Forms (WinForms) applications

Windows Forms Class Library A project template for creating a class library that targets .NET Windows Forms (WinForms).

ASP.NET Core Web App (Model-View-Controller)

Blazor Web App

xUnit Test Project

ASP.NET Core Web API

.NET Aspire Starter App

.NET Aspire Empty App

Back Next

The screenshot shows the 'Create a new project' dialog in Visual Studio. In the search bar at the top right, 'winform' is typed. Below the search bar, there are dropdown menus for 'C#' (selected), 'Windows' (selected), and 'All project types'. The main area displays a list of project templates under 'Recent project templates'. The 'Windows Forms App' template is highlighted with a blue background, indicating it is selected. Other listed templates include 'Windows Forms App (.NET Framework)', 'Windows Forms Control Library (.NET Framework)', 'Windows Forms Class Library', 'ASP.NET Core Web App (Model-View-Controller)', 'Blazor Web App', 'xUnit Test Project', 'ASP.NET Core Web API', '.NET Aspire Starter App', and '.NET Aspire Empty App'. At the bottom right of the dialog, there are 'Back' and 'Next' buttons.



<https://learn.microsoft.com/en-us/dotnet/desktop/winforms/what's-new/net90?view=netdesktop-9.0>



Demo

Native AOT

- Ahead-of-time Compilation
- Schnelle Ausführung, kleiner Memory-Footprint
- Leider aktuell nur Teile des .NET
 - Kein Entity Framework



<https://learn.microsoft.com/en-us/dotnet/core/deploying/native-aot/?tabs=windows%2Cnet8>



Demo

C# 13



C# 13

- Params collections
- New lock object
- New escape sequence
- Implicit index access
- More partial members
- Overload resolution priority
- LINQ

C# 13: Neuerungen

Session

IT-Konferenz für Software-Entwicklung,
-Architektur, DevOps, KI, Datenbanken,
IT-Security, Agile und IT-Management

09.–12.12.2024 | Frankfurt am Main

 Jetzt anmelden!



A photograph of a lush green forest. In the foreground, there's a wooden boardwalk made of grey planks. To the right, a set of stone steps leads up a hill. A metal railing with circular cutouts is visible on the left. The background is filled with various trees and foliage.

Fazit

Ist .NET bereit für den Einsatz?

- Ja, im Web-Bereich
 - WebAPI & SPA
 - MVC
 - Blazor
- Ja, im Windows-Bereich
 - WPF
 - WinForms
- Ja, mit Entity Framework Core
- Immer weniger API-Breaks von Version zu Version ;-)

Fragen? Jetzt oder später!



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 XING

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 X (Twitter)

@tkansy



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SQL Server meets .NET (Core)- professionally!



Ich berate, coache und trainiere im Bereich Entwicklung von .NET (Core) Anwendungen mit Microsoft SQL Server- mit Allem, was dazu gehört- und was man vielleicht weglassen sollte.