

09. – 12.12.2019
Frankfurt am Main



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.NET Core Bereit für den Einsatz?

#ittage

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Agenda

- .NET Core Roadmap
- Übersicht
- Was kann .NET Core 3.x und was nicht?
- Fazit

A photograph of two farmers working in a rice paddy field. They are wearing traditional conical hats; the one on the left is covered with a pink and white floral patterned cloth, and the one on the right is covered with a yellow cloth. The field is filled with young rice plants in shallow water. A dark blue horizontal band is overlaid across the middle of the image, containing the text 'Verwendete Software' in white.

Verwendete Software

Verwendete Software

- Visual Studio 2019 16.5 (Preview)
- .NET Core 3.1



.NET Core Roadmap



.NET Core Roadmap

Upcoming Ship Dates

Milestone	Release Date
.NET Core 2.2.x, 2.1.x, 1.x (servicing)	Approximately every 1-2 months or as needed (see also releases)
.NET Core 3.0	Preview releases Final version in second half of 2019 - see Schedule in Preview 3 (from 2019/3). Ship date will be announced at the Build 2019 conference. Previous announcements: original 2018/5 and update 2018/10 .

Note: Dates are calendar year (as opposed to fiscal year).



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



06-08.05.2019

Update: Build 2019

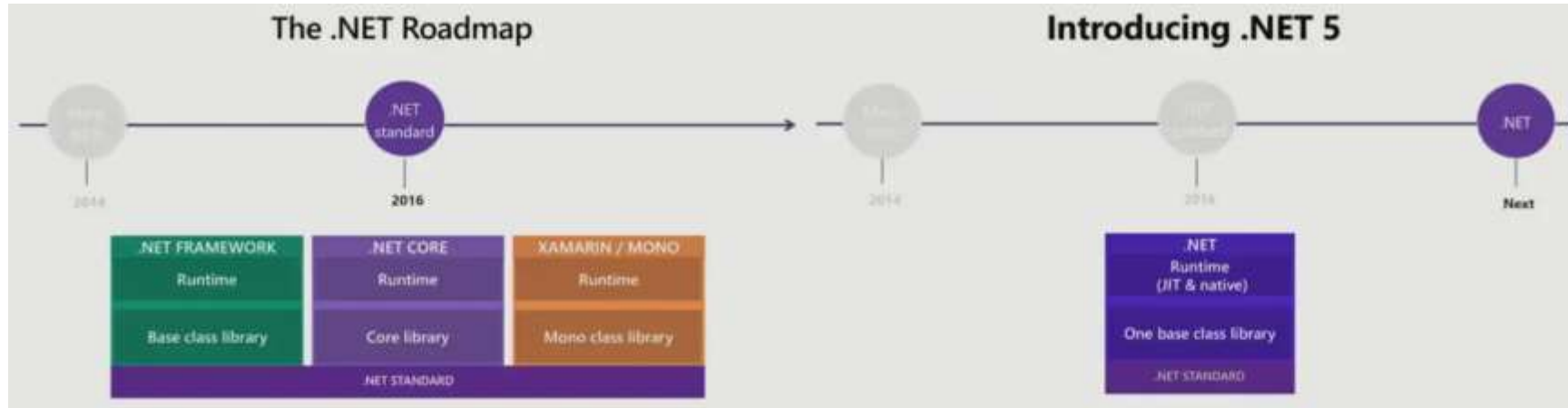


- .NET Core 3.0 (@.NET Conf 23.09.2019)
- **.NET Core 3.1 (03.12.2019)**
- .NET 5.0 Nov 2020
- Major releases every year
- LTS (Long Term Support, 3 Jahre) grade Versionen



<https://www.microsoft.com/en-us/build>

Update: Build 2019



.NET Framework + .NET Core + Mono/ Xamerin

=

.NET 5.0

Demo

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

Update: Build 2019

- .NET Framework 4.8 ist die letzte .NET Framework Feature-Version
- Migration auf 4.8 nur bei neuen Features notwendig

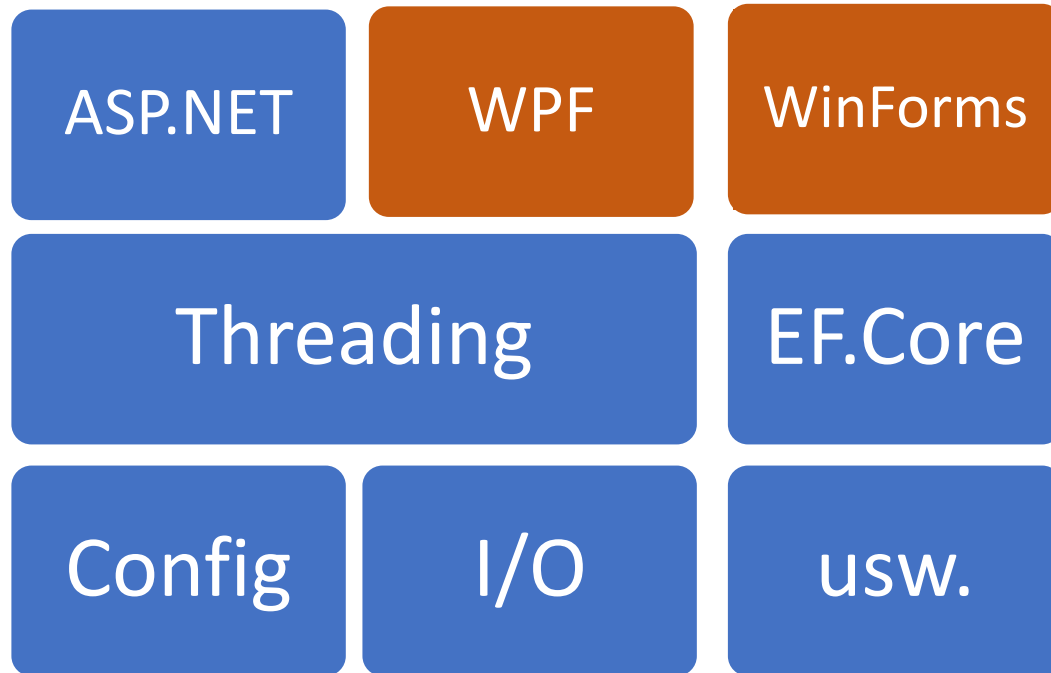


Übersicht

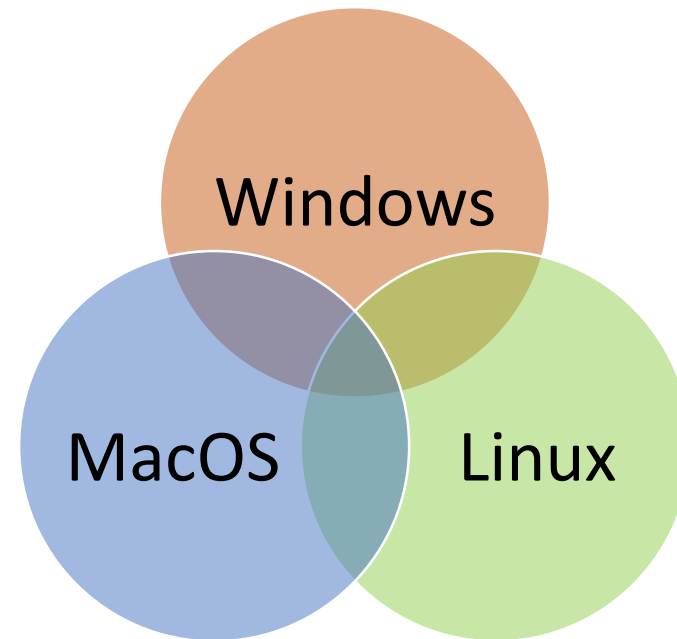


.NET-Core-Aufbau

Modular



Multi Plattform



Was spricht für .NET Core?

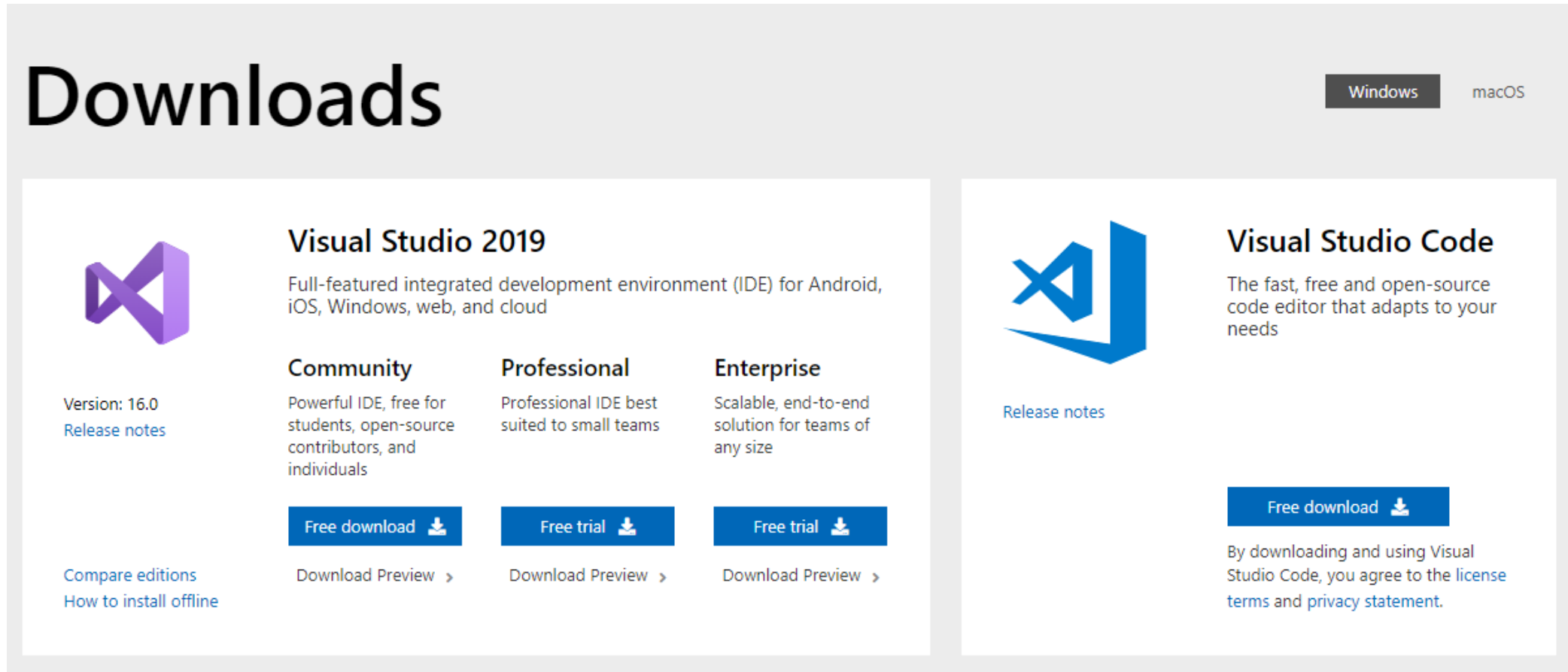
- Multiplattform
 - Windows
 - Linux
 - MacOS
- Höhere Performance
 - Modularität
 - ASP.NET, z. B. Entkopplung von `System.Web.dll`
- Geringerer Ressourcenverbrauch
 - Modularität



Aber was ist mit .NET Standard?

- Gemeinsame Funktionen für alle .NET Branches/Flavors
 - .NET Framework
 - .NET Core
 - Xamarin
- Jeweils in der aktuellen Version
- Erleichtert die Erstellung von Cross-Code

Visual Studio in Stellung bringen



The screenshot shows the 'Downloads' page for Visual Studio. At the top right, there are tabs for 'Windows' (selected) and 'macOS'. The page is divided into two main sections: 'Visual Studio 2019' and 'Visual Studio Code'. The 'Visual Studio 2019' section features a purple logo, the version '16.0', and a 'Release notes' link. It lists three editions: 'Community' (free for students and open-source contributors), 'Professional' (best for small teams), and 'Enterprise' (scalable for large teams). Each edition has a 'Free download' or 'Free trial' button with a download icon, and a 'Download Preview' link. The 'Visual Studio Code' section features a blue logo, a 'Release notes' link, and a 'Free download' button. Below the button, it states: 'By downloading and using Visual Studio Code, you agree to the license terms and privacy statement.'

Downloads

Windows macOS

Visual Studio 2019


Full-featured integrated development environment (IDE) for Android, iOS, Windows, web, and cloud

Version: 16.0
[Release notes](#)

[Compare editions](#)
[How to install offline](#)

Community


Powerful IDE, free for students, open-source contributors, and individuals

[Free download](#) 

[Download Preview](#) >

Professional


Professional IDE best suited to small teams

[Free trial](#) 

[Download Preview](#) >

Enterprise

Scalable, end-to-end solution for teams of any size


[Free trial](#) 

[Download Preview](#) >

Visual Studio Code

The fast, free and open-source code editor that adapts to your needs

[Release notes](#)

[Free download](#) 

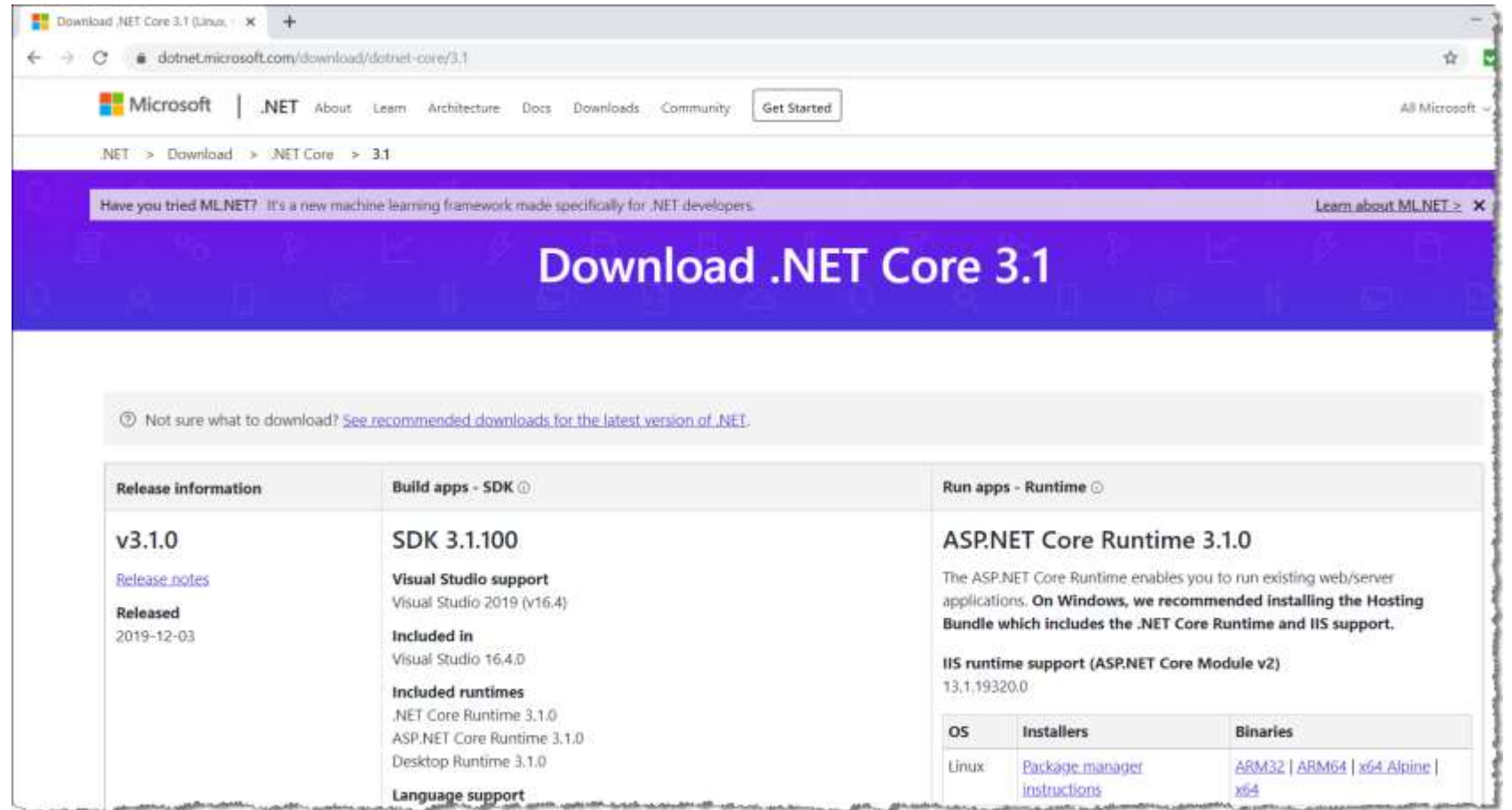
By downloading and using Visual Studio Code, you agree to the [license terms](#) and [privacy statement](#).



<https://www.visualstudio.com/de/downloads>

.NET Core in Stellung bringen

- Windows
- Linux
- MacOS



The screenshot shows the Microsoft website page for downloading .NET Core 3.1. The page features a blue header with the text "Download .NET Core 3.1". Below the header, there is a navigation menu and a "Get Started" button. A purple banner at the top of the main content area contains the text "Have you tried ML.NET? It's a new machine learning framework made specifically for .NET developers." and a link to "Learn about ML.NET".

Below the banner, there is a section titled "Download .NET Core 3.1" with a sub-section "Not sure what to download? See recommended downloads for the latest version of .NET." This section contains three columns of information:

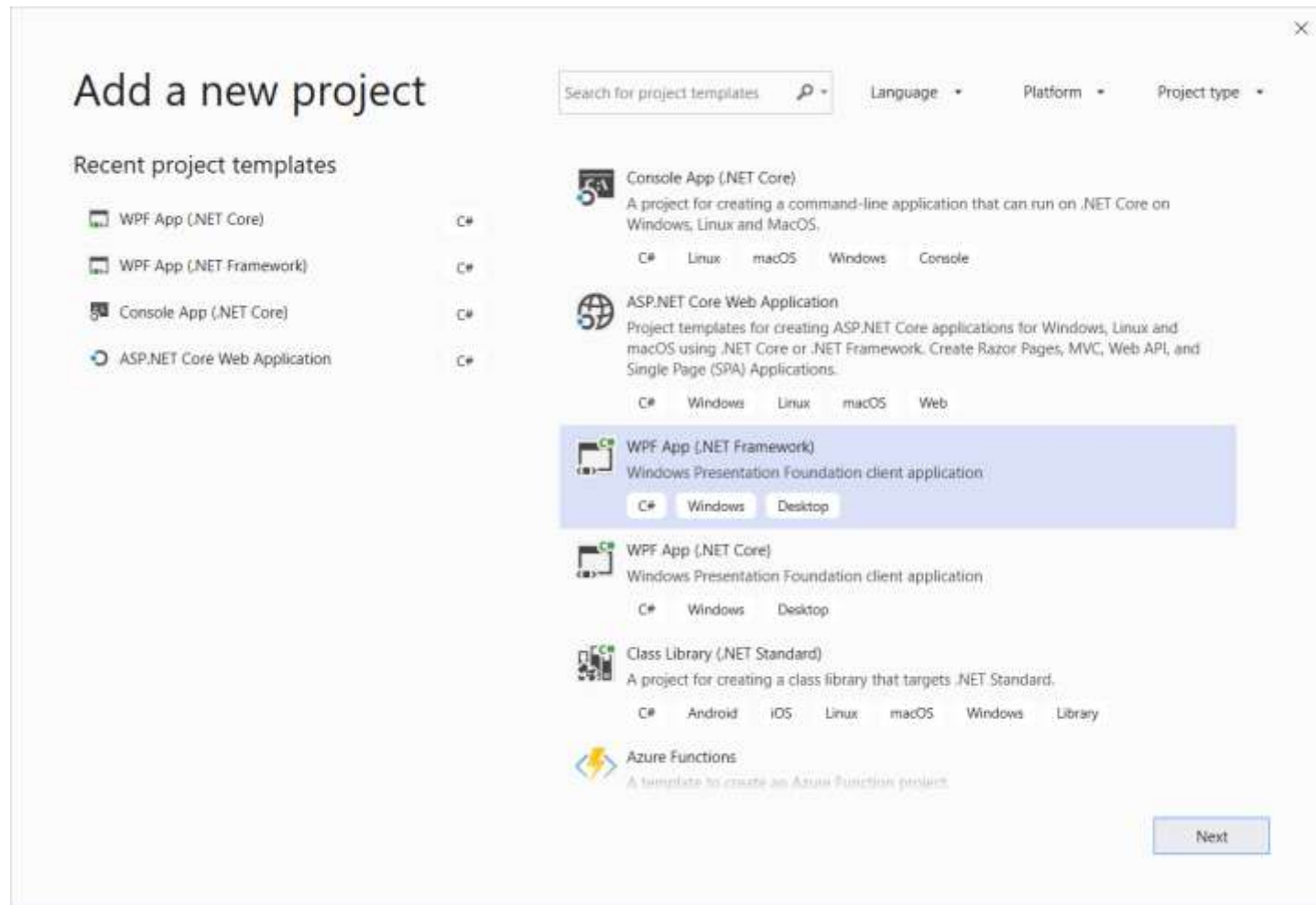
Release information	Build apps - SDK	Run apps - Runtime						
v3.1.0 Release notes Released 2019-12-03	SDK 3.1.100 Visual Studio support Visual Studio 2019 (v16.4) Included in Visual Studio 16.4.0 Included runtimes .NET Core Runtime 3.1.0 ASP.NET Core Runtime 3.1.0 Desktop Runtime 3.1.0 Language support	ASP.NET Core Runtime 3.1.0 The ASP.NET Core Runtime enables you to run existing web/server applications. On Windows, we recommended installing the Hosting Bundle which includes the .NET Core Runtime and IIS support. IIS runtime support (ASP.NET Core Module v2) 13.1.19320.0 <table border="1"><thead><tr><th>OS</th><th>Installers</th><th>Binaries</th></tr></thead><tbody><tr><td>Linux</td><td>Package manager instructions</td><td>ARM32 ARM64 x64 Alpine x64</td></tr></tbody></table>	OS	Installers	Binaries	Linux	Package manager instructions	ARM32 ARM64 x64 Alpine x64
OS	Installers	Binaries						
Linux	Package manager instructions	ARM32 ARM64 x64 Alpine x64						



<https://dotnet.microsoft.com/download/dotnet-core/3.1>

 Demo 

„Hallo Welt“ mit Visual Studio 2019

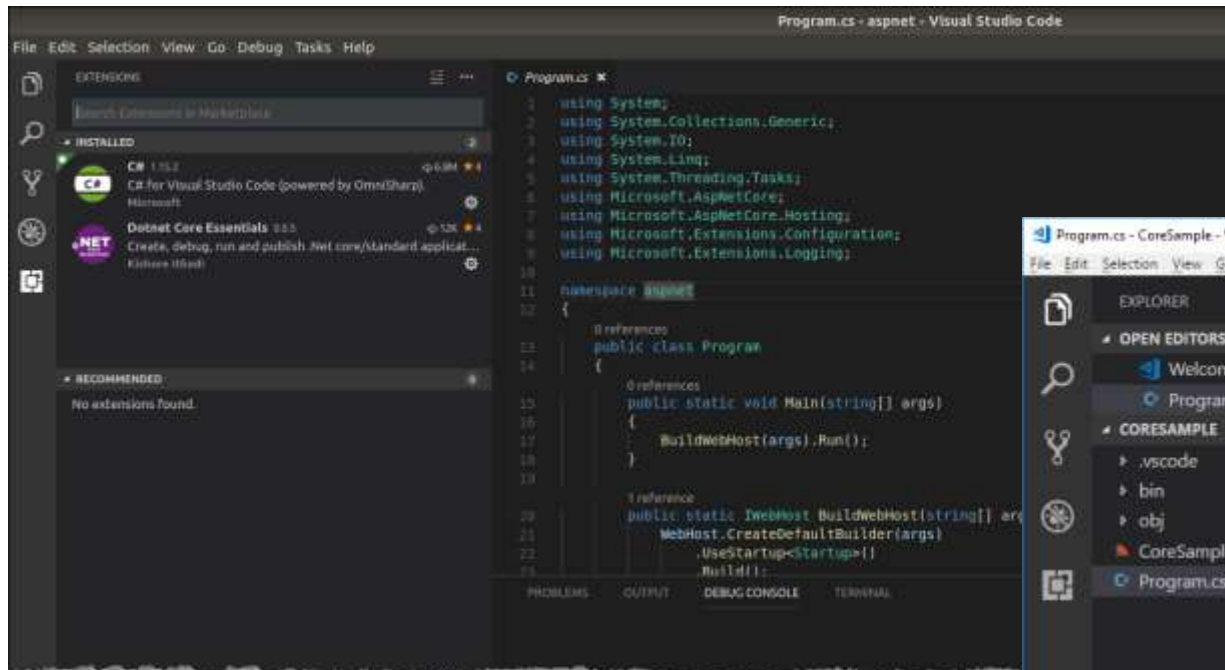


 Demo 

„Hallo Welt“ mit Visual Studio Code

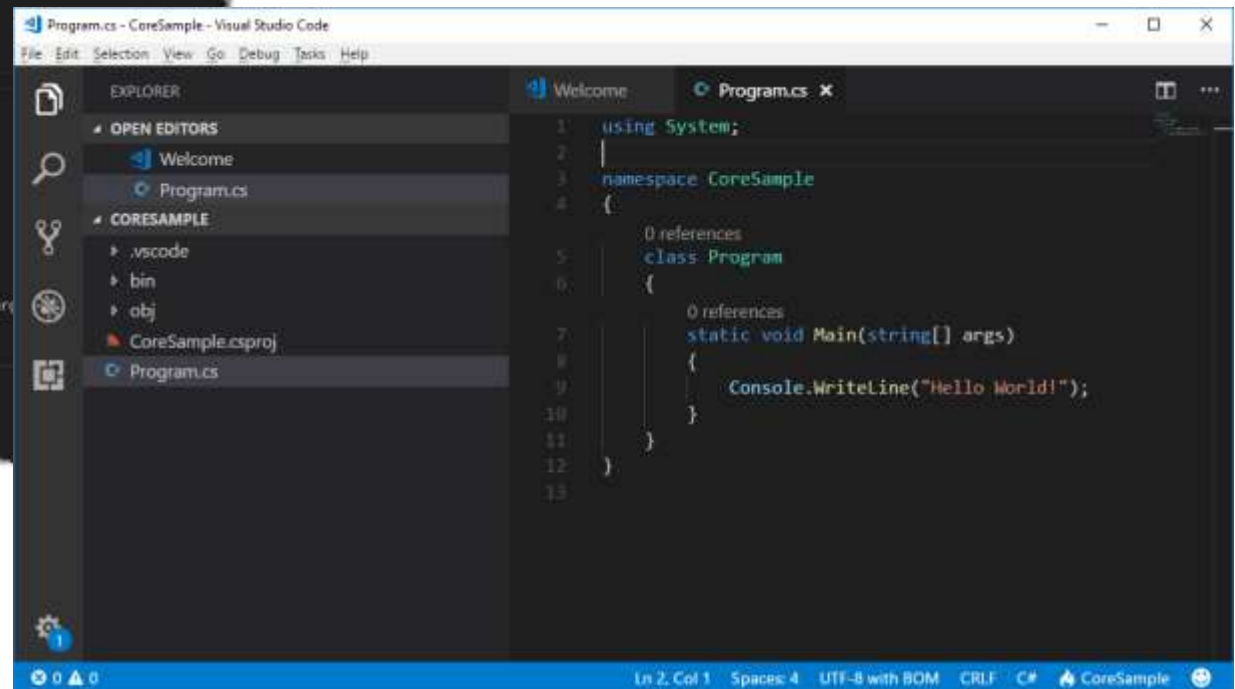
```
md CoreHW  
cd CoreHW  
dotnet <prog>.dll  
dotnet run <proj>.csproj  
  
code .
```

„Hallo Welt“ mit Visual Studio Code (Ubuntu)



This screenshot shows the Visual Studio Code interface with the Extensions view on the left. The 'INSTALLED' section lists 'C# for Visual Studio Code' and 'Dotnet Core Essentials'. The main editor area displays the code for 'Program.cs' in an ASP.NET Core project.

```
Program.cs - aspnet - Visual Studio Code
File Edit Selection View Go Debug Tasks Help
EXTENSIONS
Search Extensions in Marketplace
INSTALLED
C# 1.18.2
C# for Visual Studio Code (powered by OmniSharp)
Microsoft
Dotnet Core Essentials 2.5.5
Create, debug, run and publish .Net core/standard applicat...
Roberto Iltis
RECOMMENDED
No extensions found.
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
1 using System;
2 using System.Collections.Generic;
3 using System.IO;
4 using System.Linq;
5 using System.Threading.Tasks;
6 using Microsoft.AspNetCore;
7 using Microsoft.AspNetCore.Hosting;
8 using Microsoft.Extensions.Configuration;
9 using Microsoft.Extensions.Logging;
10
11 namespace ASPNET
12 {
13     0 references
14     public class Program
15     {
16         0 references
17         public static void Main(string[] args)
18         {
19             BuildWebHost(args).Run();
20         }
21     }
22     1 reference
23     public static IWebHost BuildWebHost(string[] args)
24     {
25         WebHost.CreateDefaultBuilder(args)
26             .UseStartup<Startup>()
27             .Build();
28     }
29 }
```



This screenshot shows the Visual Studio Code interface for a 'CoreSample' project. The Explorer view on the left shows the project structure, including the 'Program.cs' file. The main editor area displays the code for 'Program.cs' in a CoreSample project.

```
Program.cs - CoreSample - Visual Studio Code
File Edit Selection View Go Debug Tasks Help
EXPLORER
OPEN EDITORS
Welcome
Program.cs
CORESAMPLE
.vscode
bin
obj
CoreSample.csproj
Program.cs
Welcome
Program.cs x
1 using System;
2
3 namespace CoreSample
4 {
5     0 references
6     class Program
7     {
8         0 references
9         static void Main(string[] args)
10        {
11            Console.WriteLine("Hello World!");
12        }
13    }
14 }
```


 Demo 



Was kann .NET Core 3.x und was nicht

Was wird nicht mehr unterstützt?

- ASP.NET Webforms
- ASP.NET Webservice
- .NET Remoting
- WCF (REST & SOAP)
- 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>

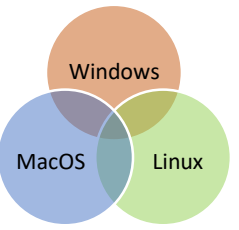
Multi-Plattform-Code

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
```

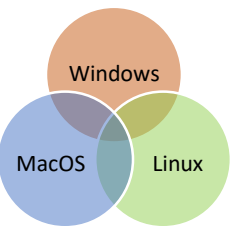
```
Install-Package Microsoft.DotNet.Analyzers.Compatibility
```



Entity Framework Core

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

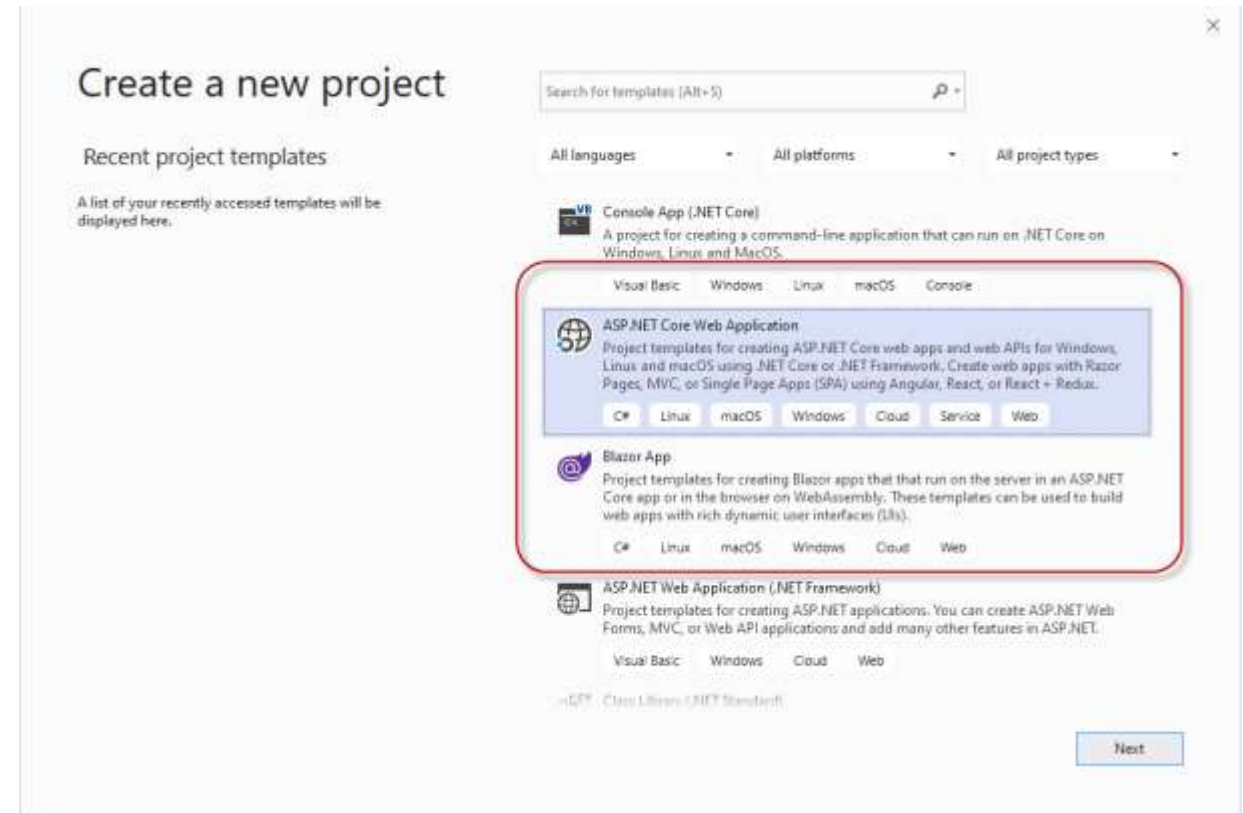
 Demo 



ASP.NET Core (Razor, Blazor, WebAPI)

Fehlendes:

- ...

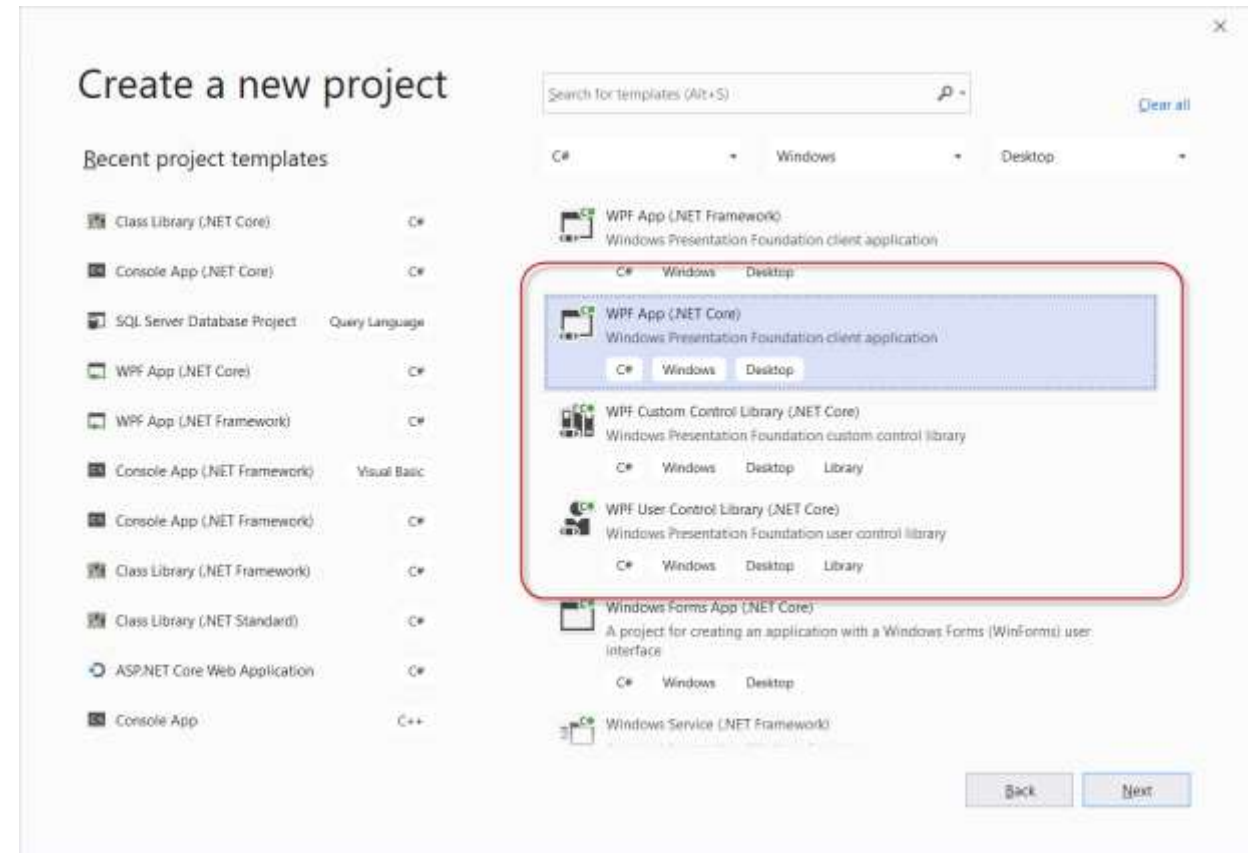


 Demo 

Windows Presentation Foundation

Fehlendes:

- Clickonce Deployment
- ...



<https://devblogs.microsoft.com/dotnet/introducing-net-core-windows-forms-designer-preview-1/>

 Demo 

Fehlendes: Alte Controls

Old Control (API)	Recommended Replacement	Other associated APIs removed
DataGrid	DataGridView	DataGridCell, DataGridRow, DataGridTableCollection, DataGridColumnCollection, DataGridTableStyle, DataGridColumnStyle, DataGridLineStyle, DataGridParentRowsLabel, DataGridParentRowsLabelStyle, DataGridBoolColumn, DataGridTextBox, GridColumnStylesCollection, GridTableStylesCollection, HitTestType
ToolBar	ToolStrip	ToolBarAppearance
ToolBarButton	ToolStripButton	ToolBarButtonClickEventArgs, ToolBarButtonClickEventHandler, ToolBarButtonStyle, ToolBarTextAlign
ContextMenu	ContextMenuStrip	
Menu	ToolStripDropDown, ToolStripDropDownMenu	MenuItemCollection
MainMenu	MenuStrip	
MenuItem	ToolStripMenuItem	

 Demo 



Fazit



Ist .NET Core bereit für den Einsatz?

- Ja, im Web-Bereich
 - WebAPI & SPA
 - MVC
 - Blazor
- Ja, im Windows-Bereich
 - Ohne Clickonce Deployment
- Ja, mit Entity Framework Core
 - hohe Performance, hohe Flexibilität
- Aber, oftmals API-Breaks zwischen Versionen

Fragen?

Links



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