

Schedule

- 9:00 Hello Visual Studio 2019
- 9:45 What's new in C# 8
- 11:00 SignalR: Above & Beyond Chat
- 12:00 *LUNCH – Hackfest*
- 1:00 Modernizing App & Data Patterns
- 2:00 Wrap up



Visual Studio 2019

BEST OF LAUNCH

Mike Benkovich

- Enterprise Cloud Architect & **Consultant**
- Live in **Minneapolis**
- Founder of **Imagine Technologies**, Inc.
- Developing Courses for **LinkedIn** Learning
- Blog www.benkoTIPS.com
- Follow **@mbenko** on **Twitter**
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David Pine

Microsoft MVP

Google Developer Expert

International Speaker

Technical Evangelist



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[@davidpine7](https://twitter.com/davidpine7)



[IEvangelist](https://github.com/IEvangelist)



Hello Visual Studio 2019

Visual Studio 2019 Launch

- Get Started...
- Collaborate
- Innovate
- Ship It!

Start Experience

- Faster start time
- Clone or check out code
- Search in New Projects

Visual Studio 2019 – UX and Shell

- Side-by-side installation
- Redesigned UX and Theme
- Visual Studio search experience
- Start window
- Solution Filters
- CodeLens is now in Community edition
- Per monitor awareness

Visual Studio 2019 – Tooling Improvements

- New classification colors
- IntelliCode (soon to be on by default!)
- Project file editing
- Find all references can now filter by Read/Write
- Search local/watch windows during debugging
- Export code style in Tools > Options to .editorconfig
- Code cleanup
- `dotnet format` command line tool <https://github.com/dotnet/format>

.NET Refactorings and Code fixes

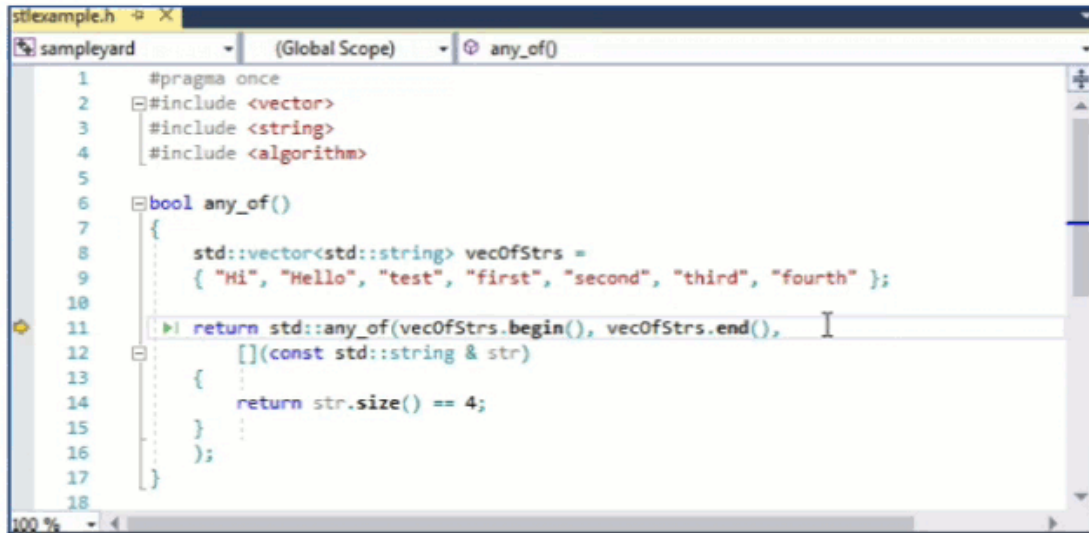
- Sync namespace and folder name
- Foreach to LINQ (and back!)
- Add missing reference for unimported types
- Invert conditional expressions
- Extract Interface to same file
- Pull members up
- Wrap/indent/align parameters/arguments
- Regex language support
- Use Expression/block body for lambda
- Remove unused expression values and parameters
- Convert anonymous type to tuple or class

Debugger Performance Updates

- Most VS windows are now async (i.e. watch, call stack)
- UI delays in most windows **down by 70%**
- Stepping block time is down by more than **half** compared to VS 2017
- C++ Out-of-Proc → 84% memory reduction for devenv.exe

Just My Code for C++

Without Just My Code (Before)

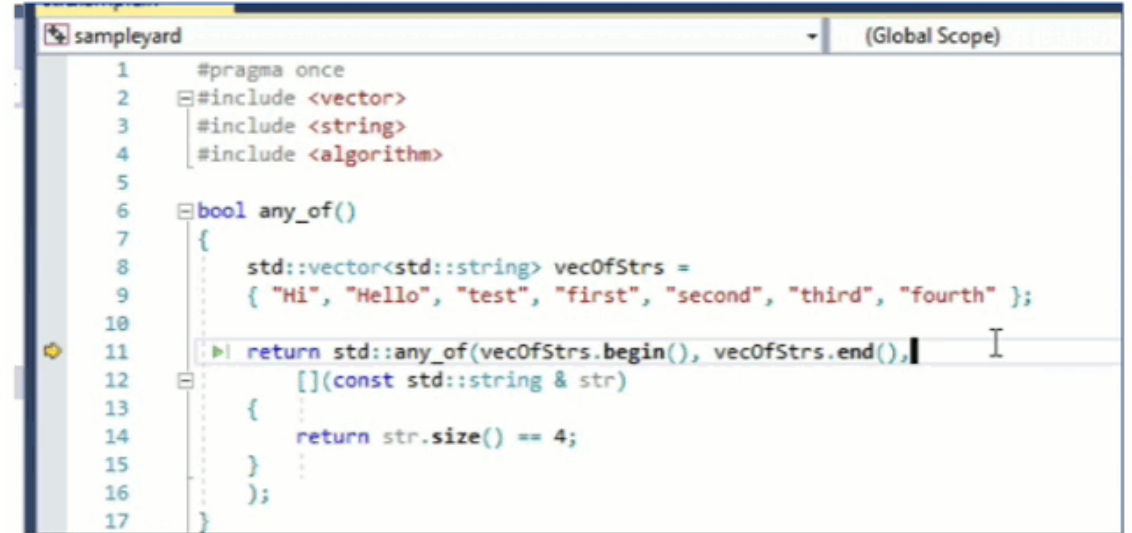


The screenshot shows a C++ IDE with a file named 'stlexample.h'. The code defines a function 'any_of' that takes a vector of strings and returns true if any string has a size of 4. A debugger breakpoint is set at line 11, and the 'Step In' button is highlighted.

```
1 #pragma once
2 #include <vector>
3 #include <string>
4 #include <algorithm>
5
6 bool any_of()
7 {
8     std::vector<std::string> vecOfStrs =
9     { "Hi", "Hello", "test", "first", "second", "third", "fourth" };
10
11     return std::any_of(vecOfStrs.begin(), vecOfStrs.end(),
12                        [](const std::string & str)
13                        {
14                            return str.size() == 4;
15                        });
16 }
17
18
```

F11 Step In

✓ Just My Code



The screenshot shows the same C++ code as the previous image, but with a green checkmark icon and the text 'Just My Code' above it. The debugger breakpoint is set at line 11, and the 'Step In' button is highlighted.

```
1 #pragma once
2 #include <vector>
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12                        [](const std::string & str)
13                        {
14                            return str.size() == 4;
15                        });
16 }
17
```

F11 Step In

Collaborate

Visual Studio IntelliCode

Contextual IntelliSense recommendations

- Leverage the wisdom of the community
- Words with C#, XAML, C++

Custom models

- Get recommendations from your private codebases
- Distribute models to your team to enhance everyone's productivity
- Available for C#



Deliver with



Azure Boards



Azure Repos



Azure Pipelines



Azure Artifacts



Azure Test Plans

GitHub

GitHub brings the **premier** social coding workflows to your team, breaking down silos and enabling Inner Source through:

- Expertise sharing
- Cross-team collaboration
- Improved code reuse
- Increased velocity

Visual Studio Live Share

Work from your own tools

- No need to clone repos or set up environments
- Pair program from across the team room, from home, or on the other side of the country

Collaborative development

- Co-edit and debug with your teammates
- Language service features, localhost, terminals and more forwarded to the guest



DEMO

LiveShare!

.NET Core 2.2 included with Visual Studio 2019

Simplified ASP.NET Core templates: Bootstrap 4, Angular 6

Web API improvements: API analyzer & conventions

HTTP/2

IIS in-process hosting

Health checks

Endpoint routing



A person is standing on a red carpet, wearing a patterned top and dark pants. The word "DEMO" is overlaid in white text on the left side of the image.

DEMO

Visual Studio makes it easy to get started

Visual Studio offers multiple project templates to start creating projects

- ASP.NET Core for general purpose web and computing
- Azure Functions
- Docker Container Tools

Offline developer support for many common Azure tasks

- Azure Functions runtime
- Cosmos DB emulator
- SQL Server Express
- Azure Storage emulator

Direct integration with Azure

Easy to **test** your applications in Azure

- Direct publish to many Azure hosting services
- Ability to create common Azure service dependencies
- Cloud debugging and diagnostics integration

Azure DevOps integration for **Continuous Delivery**



DevOps

Configure CI/CD from Github

The Visual Studio Subscriptions



Professional Subscription

Professional Developer Tools and Services for Small Teams

Highlights

- ✓ Development of modern applications and services for Android, iOS, Windows, web, cloud and desktop.
- ✓ Fully extensible.
- ✓ Includes training, support and cloud credits as part of subscription benefits.
- ✓ No usage restrictions.



Enterprise Subscription

Microsoft Developer Solution for Productivity and Coordination Across Teams of Any Size

Highlights

- ✓ Advanced productivity features with real-time insights and feedback on code and quality.
- ✓ Full support across the DevOps lifecycle.
- ✓ Plan, execute and monitor your entire testing effort.
- ✓ Includes enhanced subscription benefits with access to most Microsoft software, cloud credits and advanced training options.

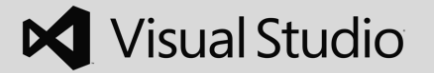


MSDN Platforms Subscription

Cloud services, software, support, and training

Highlights

- ✓ Access to a huge library of current and past Microsoft software
- ✓ Credits to use in Azure dev/test services, plus collaboration tools
- ✓ World-class technical training and priority support



Test Professional Subscription

Specialized toolset for testers to plan, execute and track your testing efforts

Highlights

- ✓ Optimized tools for testers that facilitate collaboration between test, development and operations.
- ✓ Streamline your release processes without sacrificing quality.
- ✓ Includes training, support and cloud credits as part of subscription benefits.

Support

Dev/Test Software

Training

Dev Tools

Services

Azure Access

Subscriber benefits		VS Enterprise -- Standard & Annual	VS Professional – Standard & Annual	VS Test Professional	MSDN Platforms
Tools	Visual Studio IDE edition	Enterprise	Professional	Test Professional	
	Visual Studio for Mac edition	Enterprise	Professional		
	Visual Studio Team Foundation Server 2017 and one CAL	•••	•	•••	••
	Azure DevOps Services	•	•	•	•
	Microsoft Azure monthly credit	\$150/month	\$50/month	\$50/month	\$100/month
	Microsoft Azure pay-as-you-go dev/test subscriptions	•	•	•	•
	EMS / PowerBI	• / •			
	Microsoft developer account	•	•		
	Office 365 Developer Subscription	•			
Software	Windows, Windows Server, SQL Server	•	•	•	•
	Microsoft Dynamics, all other servers (including R, SharePoint and Exchange)	•		•	•
	Microsoft Office Professional Plus (dev/test & production use)	•			
Education	Pluralsight training	• (6-month)	• (3-month)		
	MSDN Magazine	•	•	•	•
	Opsgility	• (6-month)	• (3-month)		
	Data Camp	• (3-month)	• (3-month)	• (3-month)	• (3-month)
	LinkedIn Learning	• (6-month)	• (3-month)		
Support	Technical support incidents	4	2	2	2
	Concierge Chat	•	•	•	•
	Azure Advisory Chat	•			
Extensions	Package Management	•			
	Test Manager	•		•	•
	Code Search, Exploratory Testing	•			
3 rd Party Benefits	ModernRequirements -subscription to SmartOffice4TFS / InteGREAT4TFS	•			
	WhiteSource – 6-month subscription to Bolt extension	•			
	Parasoft – 6-month subscription to Virtualize / SOAtest Desktop	•			

Call to Action – Where can I get more info?

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www.benkotips.com

Schedule a workshop to make your IT workforce cloud aware

mike@benko.com

Try it out with low hanging fruit white chips