The Visual Studio 2015 Checklist

ANTI-INFLAMMATORY

5 ways to take the pain out of coding

SSW ENTERPRISE SOFTWARE DEVELOPMENT

Hi Developers,

My name is Adam Cogan, and since 1990, I've been developing custom solutions for businesses across a range of industries.

As a Microsoft Regional Director and SSW Chief Architect, I can testify that the key to success for a developer is knowing how to get the most out of Visual Studio.

Knowing how to leverage this great tool can save you time and pain by automating, debugging, and testing your code for you.

This short checklist will show you how

Do you want to?

1. **Slash the amount of boilerplate code you have to write?**
2. **Test faster?**
3. **Streamline your development process?**
4. **Create a cross-platform app?**
5. **Debug LINQ and lambdas (painlessly)?**

Thanks to all who helped: Adam Cogan //@adamcogan Chris Briggs //@chrisbriggsy Marlon Marescia //@MarlonMarescia David Berkes //@designhut Joanna Feely //@joannafeely

1 Boilerplates without the burn IF?

```
if (input ! = null)
    classify = “positive”;
else
    classify = “negative”;
```

The pain

Up until this point, .NET developers had to write a lot of boilerplate code in order to properly format strings or check for null.

The practice

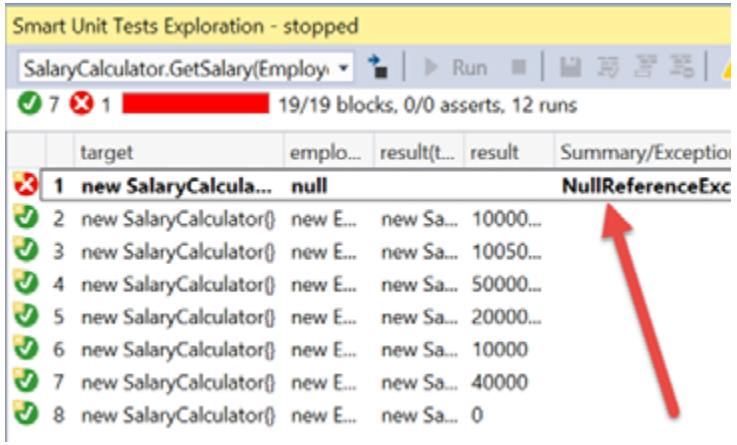
The new C# 6 that comes with Visual Studio 2015 is a game changer that empowers devs to do more with less. Null-conditional operators – Boil down previously laborious code into a single question mark. String Interpolation – Formatting strings on the fly was previously a task which required a stack of boilerplate code. With the new Visual Studio 2015, it has slashed the amount of boilerplate and greatly improved readability.

nameof expressions – Now when we throw an exception, we can use the nameof expressions feature to create robust code, which is more resistant to common mistakes when refactoring. The benefit of this change is when refactor our code, we don’t need to worry about searching for magic strings.

The promise

Whereas previously we had to write multiple lines of code, we are now able to replace that with a single line, which then compiles to the same low level code – we do less work for the same result**.**

2 Intelligent testing to save you in testing times



The pain

It is difficult to measure test quality as there are a number of different available metrics - for example, code coverage and number of assertions. Furthermore, when we write code to test, there are number of questions that we must answer, such as, "is the code easily testable?" and "are we only testing the happy path or have we included the edge cases?"

However, the most important question a dev can ask themselves is, " What assertions should I test? ".

The practice

This is where IntelliTest comes into play. The feature, formerly known as Smart Unit Testing (and even more formerly known as PEX), will help you answer this question by intelligently analyzing your code. Then, based upon the information gathered, it will generate a unit test for each scenario it finds.

The promise

In short, by using IntelliTest, you will increase code coverage, greatly increase the number of assertions tested, and increase the amount of edge cases tested. By adding automation to your testing, you save yourself time in the long run and reduce the risk of problems in your code caused by simple human error.

3 Streamline your development process with hipster tools

The pain

The current trend in web development is to use a large range of front-end libraries to give a great user experience.

However, .NET devs know it is no easy task to manage all of these on top of a large script folder. Previously we tried unsuccessfully to streamline the process by using NuGet.

Furthermore, there were many smaller tasks that needed to be completed, eg minification and bundling. Previously we could use web essentials todo the necessary bundling, but recently this functionality was killed off.

Needless to say, it was always a challenging and time consuming endeavour.

The practice:

Enter Visual Studio 2015 with NPM (Node Package Manager) in-built. NPM was built from the ground up to make downloading JavaScript libraries simple. These tools existed outside of the .NET space, but in 2015 they've been brought into the fold and made easy to use.

With NPM, we specify the name of the package and the version number we want to use, and the tool does all of the hard work finding and downloading the library.

Working in tandem with NPM are task runners such as Gulp and Grunt, which are JavaScript tools that add automation, performing a range of simple yet tedious tasks.

The promise

With Visual Studio 2015, you can streamline your web application development process, spending less time on menial tasks and more time creating amazing web applications.

4 Don't get cross. Get cross-platform

The pain

When developing for mobile, the most important decision you will make (second only to, "What app am I making?") is, "What platforms will the app support?"

Writing a native app to target a single platform gives a great user experience but is rarely practical, especially to write a native app for each of the 3 main mobile platforms.An alternative route is use Cordova, which allows the use of popular JavaScript frameworks to create a single application that will run on iOS, Android, and Windows Phone.

However, apps made with Cordova don't give a great user experience.

The practice

Another solution to this problem is to use Xamarin, which now comes in the box with Visual Studio 2015, and is the best way to build cross platform applications. With Xamarin, you can develop your business logic and UI with up to 95% code re-use across iOS, Android, and Windows Phone.

Previously if you wanted to use Xamarin with Visual Studio, you had to be on the highest tier of the Xamarin licensing plan. Now with the new Visual Studio 2015, Microsoft have partnered with Xamarin to give the best Xamarin experience out of the box, by allowing anyone to use Xamarin and Visual Studio on any tier.

The promise

Now every Xamarin developer can enjoy all of the benefits, including IntelliSense, powerful debugging capabilities as well as our favorite plugins, ReSharper and Team Foundation Server (TFS).

5 Mary had a little lambda, and now she can debug him

The pain

Although LINQ and lambdas are extremely useful tools that have been regularly used ever since they were added to .NET, until Visual Studio 2015 was released, they were also very difficult to debug.

By now I'm sure every developer knows the dreaded, inescapable error message, "Expression cannot contain lambda expressions," that appears when trying to poke around lambdas while debugging.

The practice

The new Visual Studio 2015 the debugger now supports evaluation of lambda expressions – no effort required!

Please note that the current implementation only will support a Lambda expression that uses native functions; therefore common connectors such as LINQ-to-SQL are unsupported.

The promise

Now you can quickly and easily debug LINQ and Lambda expressions effectively with this new feature in Visual Studio 2015. Debugging these statements is now child's play - no more black magic or hoping and praying. It just works!

Liked this ebook? We've got another 4 hours of value

Because Visual Studio 2015 is so jam-packed with value, choosing just 5 tips to include in this checklist was hard. I've tried to keep it balanced to illustrate that it has something for every sort of developer regardless of niche or skill level, but I could never fit everything I wanted into one short list.

If you want to learn more about Visual Studio 2015, and why it's the ultimate development tool for tomorrow and today, I've got another 4 hours of value I'd love to share with you. In this half-day training course, I have the time and space to take a deeper dive, and illustrate my talking points with screen caps, code snippets, and good and bad examples.

Brainquest: Visual Studio 2015

Visual Studio 2015 and ASP.NET 5 Microsoft have released a new version of Visual Studio and it's packed full of changes to expand your development horizons and make you even more productive.

These changes highlight why Visual Studio is still the best IDE for developing software.

For web developers, there's also a new version of ASP.NET available. This new version cleans up a lot of the lingering issues that existed with the previous version. It enables deployment to the cloud as well as to OSX and Linux, and best of all, it's Open Source.

Brainquest: Kickstart your Devs for DevOps

Check out these hot new tools

A range of excellent tools has been developed to help your team achieve accelerated deployments.

This session is packed full of information you can use to streamline your current deployment process.

Gain insight on how to use this new arsenal of tools to automate your deployment, testing and performance monitoring processes.

Do one better than staying up to date - stay ahead of the crowd with this half day training course.

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