

# Getting Started with Developing Cross-Platform Apps with Xamarin Forms



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# Xamarin

- **C# language** – Allows you to use a familiar syntax and sophisticated features like Generics, Linq and the Parallel Task Library.
- **Mono .NET framework** – Provides a cross-platform implementation of the extensive features in Microsoft's .NET framework.
- **Compiler** – Depending on the platform, produces a native app (eg. iOS) or an integrated .NET application and runtime (eg. Android). The compiler also performs many optimizations for mobile deployment such as linking away un-used code.
- **IDE tools** – The Xamarin Studio IDE and the Xamarin plug-in for Visual Studio allow you to create, build and deploy Xamarin projects.

# How does it work on different platforms?

- **iOS** – C# is ahead-of-time (AOT) compiled to ARM assembly language. The .NET framework is included, with unused classes being stripped out during linking to reduce the application size.
- **Android** – C# is compiled to IL and packaged with MonoVM + JIT'ing. Unused classes in the framework are stripped out during linking. The application runs side-by-side with Java/ART (Android runtime)
- **Windows** – C# is compiled to IL and executed by the built-in runtime, and does not require Xamarin tools. Designing Windows applications following Xamarin's guidance makes it simpler to re-use the code on iOS and Android.

# Development

- Xamarin Studio on Mac OS
- Visual Studio with Xamarin Plugin on Windows

# Xamarin Forms

- Xamarin.Forms is a cross-platform UI toolkit
- James Montemagno slides -  
<http://www.slideshare.net/Xamarin/introduction-to-xamarinforms>

# Xamarin Forms Views & Layouts

- Pages
- Layouts
- Views
- Cells

At runtime, each control will be mapped to its native equivalent, which is what will be rendered.

# Resources

- <https://developer.xamarin.com/guides/>
- <https://developer.xamarin.com/guides/xamarin-forms/getting-started/>
- Creating Mobile Apps with Xamarin.Forms – Charles Petzold – free eBook
- <https://github.com/xamarin/app-crm>
- <https://github.com/xamarinhq/app-evolve>
- <https://forums.xamarin.com/categories/presentations>