Chapter No. 1
"Installing the Xamarin Product Range for Android and iOS"
In this package, you will find:

A Biography of the author of the book

A preview chapter from the book, Chapter NO.1 "Installing the Xamari Product Range for Android and iOS"

A synopsis of the book’s content

Information on where to buy this book

About the Author

Paul F. Johnson has been writing about software since the days of the old 8-bit micros in the 1980s, with his first piece on software being published in 1984 for BBC Micro. From there, his passion to learn and develop increased, along with his love for chemistry. For many years, he married the two at the University of Salford, culminating in commercial work for RiscStation Ltd. as well as working on the award winning Scribus desktop publishing application.

For many years, he contributed a great amount of time to the Fedora Project (a community-based Linux distribution sponsored by RedHat) and, in 2002, he started becoming interested in the Mono project from Ximian. That was the beginning of the end of his time in the field of education and, over the next 10 years, he learned how to code in VB.NET. and C#. Ximian was sold to Novell, which was in turn bought out, and from that, Xamarin was born. The rest is history.

With the advent of a workable .NET system that can be used in a non-Windows environment, the stage was set for the hard work to begin. When Xamarin released monodroid, he could see that his years of learning could now be turned into a profit. He started developing code full-time for the platform. Shortly afterwards, he began working on iOS devices as well.

For More Information:

At the start of 2013 he, along with Andrei and his good friend Scott, formed Sporkish, the objective being to produce unbeatable software for the mobile world.

This is his first foray into the world of books, though he has had many articles published in the Overload and C Vu journals of Association of C and C++ Users (he edited the latter for over a year). He is currently developing mobile applications for Farmtrack Pty (Australia) and HelloU (London, UK), and is in discussions with Packt Publishing on the publication of another book, this time on AI and Expert Systems.

Paul is 42, lives with his wife, dog, cats, and son, and drinks way too much coffee!
Welcome to this book! What you will find between the covers of this book will hopefully set you on your way to producing your own iOS applications; not only that, it will also help you to start writing code that can be moved with the minimum fuss to Android and Windows 8 mobile phones and tablets. Hold on to your hats folks!

What This Book Covers

Chapter 1, Installing the Xamarin Product Range for Android and iOS, explains how to set up your PC or Mac to develop apps for your iOS device.

Chapter 2, The User Interface, deals with creating a user interface and its key components.

Chapter 3, Views and Layouts, explains how creating a user interface isn't just about putting buttons on a screen; you also need to start with the right application type.

Chapter 4, Controllers, gives the basics of the two most used forms of Navigation and View. iOS uses an MVC system (Model, View, Controller). We've had the first two, now let's see about controllers.

Chapter 5, UI Controls, explains how the controls are more than just buttons and textboxes; we can really go to town on how these bad boys look.

Chapter 6, Events, explains how, without events, your iOS device is nothing more than a lump of plastic. iOS is rich in events, and they're all here.

Chapter 7, Gestures, covers the operations that iOS makes a big play on, such as being able to pinch, sweep, and move around the screen. These operations are called gestures and they're very simple to use!

Chapter 8, Threading, deals with iOS as a multithreaded system. How these threads interact determines how an app will behave.

Chapter 9, Threading Tasks, deals with task scheduling as well as asynchronous tasks. It explains how Android works with these tasks.

Chapter 10, Animation, gives an insight into animation, as it is an important part of any app.

Chapter 11, Handling Data, explains how it is surprisingly easy to handle and manipulate large amounts of complex data within C# and iOS.
Chapter 12, Peripherals, explains how to code to take advantage of the calling and texting feature on your phone as well as use the GPS system.

Chapter 13, User Preferences, explains how to store your settings for the built-in system as well as create your own cross-platform settings code. Storing your settings is a very important part of any app.

Chapter 14, Testing and Publishing, deals with how to test and publish the app after you have finished developing it.

For More Information:
Installing the Xamarin Product Range for Android and iOS

The Xamarin product range covers iOS, OS X, and Android development. This enables the .NET Framework development on devices that do not natively support it via the respected and mature Mono framework.

In this chapter we will cover the following topics:

• Installing Xamarin.iOS, Xamarin.Android, and Xamarin Studio
• Setting up a Windows machine to develop apps for iOS

Installing Xamarin.iOS and Xamarin.Android

Installing Xamarin for Windows and OS X is a very similar and simple process. Before you download, you will need to ensure that your computer has the following requirements as the minimum specifications:

<table>
<thead>
<tr>
<th>Windows</th>
<th>Mac</th>
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<tbody>
<tr>
<td>• Windows 7 or Windows 8</td>
<td>• OS X Lion or Mountain Lion</td>
</tr>
<tr>
<td>• Visual Studio 2010 or 2012</td>
<td>• Xcode v4.6 or above</td>
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</tbody>
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For both, the general rule is the more memory you have the better. You also need to have a live network connection.

For More Information:
Installing the Xamarin Product Range for Android and iOS

Downloading the software
The website is able to check the operating system you are using and, when you select download, the correct version for your operating system will be downloaded.

You will need to give Xamarin some basic information before you are allowed to download the evaluation copy. The evaluation will allow you to develop and deploy apps for 30 days, after which you will need to purchase a copy. If you have placed any apps on the Apple store or Google Play, they will no longer function.

On a PC, double-click on the XamarinInstaller.exe file (Windows 8 users should run this file as an administrator). For Mac users, double-click on the installer.

Installing the software
Depending on your network connection, this can take anywhere up to an hour as each package is downloaded in turns and then installed. The installation process is automatic, and anything required for the software to work is installed with the exception of Xcode—it is simple to check whether you have this installed on your Mac: click on the Applications directory and look near the bottom for the icon. If it's not there, go to the App Store and type in Xcode. The download is free. Unless you have a reason to change the defaults, accept the default setup options by clicking on Next each time an option is presented.

Enabling Visual Studio to build and run iOS applications
For Windows to create, build, and deploy iOS applications, it must be connected to a Mac somewhere on a network. The Mac must also have Xamarin.iOS installed. This is a two-part process.

For More Information:
On the Mac

1. Click on the Apple icon and select **System Preferences**.

2. Then you need to select the **Security & Privacy** preference option.

3. Then the firewall will need to be switched off. While this is not normally a good idea, a majority of internal networks have a sufficiently good firewall at any router. If you are not happy with this, leave the setting—you just won't be able to run or develop for iOS under Windows.

On the PC

When Xamarin.iOS for Visual Studio is installed, it also installs a small listener service called **Bonjour**. When you try to create an iOS application, Bonjour will attempt to automatically find a Mac on your network. This may fail, and if it does you will see the following screenshot:

For More Information:

Installing the Xamarin Product Range for Android and iOS

You don't need to worry about the error. Click on **Dismiss**. You will be presented with a window that allows you to enter the IP address of your Mac.

In this example, the IP address from the Mac on my network has the address shown in the preceding screenshot. When you click on **OK**, Bonjour will attempt to attach to Mac. If it is successful, you will be presented with the following screenshot:

As soon as you see the window shown in the preceding screenshot on your screen, you are nearly there. The next step is to click on the host machine (highlighted in the preceding screenshot) and click on **Connect**. Once done, you're set up on the PC to develop for iOS under Windows.

All of the tools for development (like the Simulator—a simulated iOS device) can be either on one of the iPhone or iPad ranges).

For More Information:  
If the Bonjour service was unable to automatically determine the Mac, you may need to manually set up the service. This can be performed very easily.

Assuming you’re on Windows 7, the following steps will help you set up the Bonjour service:

1. Click on the Start button and select Control Panel.
2. On the Control Panel, click on Administrative Tools and from there select Services. You will be presented with a window, as shown in the following screenshot:

3. Ensure that the status is Started and the startup type is Automatic. (This will start the Bonjour service when Windows is restarted.)

When using a PC to develop iOS applications, ensure that both the PC and Mac are running the same version of Xamarin.iOS—if they are out of step, you will need to install a newer version of Xamarin.iOS on the device that is out of step.

For More Information:
Installing additional code for Android development

This is different under iOS and PC but the end effect is the same.

When Xamarin.Android is installed on either platform, the compiler and the minimal set of the Android Software Developers Kit (SDK) is installed. This will let you get going with the development but not allow you to target a range of devices. It is, therefore, important to install the SDK for other versions of the Android operating system. This is preformed using the Android SDK Manager.

To access SDK Manager on a PC, select Start and on the All Programs menu there is a menu option called Android SDK Tools under which is the Android SDK Manager. Select the SDK Manager and you will be presented with a new window that allows you to select the SDK you want.

For iOS users

A part of the installation process on a Mac installs the Xamarin IDE (Integrated Development Environment) — Xamarin Studio. This is similar in many ways to Visual Studio and performs a very similar job.

To access the SDK Manager on Xamarin Studio, select Tools followed by Open Android SDK Manager.

For More Information:
In both cases, you will be presented with the following screenshot from the SDK Manager. It is simplest to select all the SDKs and click on the Install packages... button to start the process. Depending on your network connection speed, this process may take a while.

![Android SDK Manager Screenshot]

**Summary**

That's it—you're set up on both a Mac and PC to create amazing applications for Android and iOS. Your development environments are set up. For the rest of this book, though, I will concentrate solely on the development of iOS applications and leave Android to the companion book.

For More Information:

Where to buy this book


Free shipping to the US, UK, Europe and selected Asian countries. For more information, please read our shipping policy.

Alternatively, you can buy the book from Amazon, BN.com, Computer Manuals and most internet book retailers.