

Beginning Web Development, Silverlight, and ASP.NET AJAX

From Novice to Professional



Laurence Moroney

Beginning Web Development, Silverlight, and ASP.NET AJAX: From Novice to Professional

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I'd like to dedicate this book to my family: my wife, Rebecca, and my wonderful children, Claudia and Christopher. I'd also like to dedicate it to the one who has made all this possible. John 3:16

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About the Author



■ **LAURENCE MORONEY** is a senior technology evangelist at Microsoft. He specializes in Silverlight and promoting how Silverlight can be used in real-world systems to enhance the user experience. Author of many computer books and hundreds of articles, he's usually found tapping at his keyboard. Outside of his computer passions, he's big into all kinds of sports, and has been involved with professional men's and women's soccer.

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Introduction

This book is aimed at equipping you, the developer, to understand the technologies that are available to allow you to rapidly build secure, quality web experiences. Note that I use the term *experiences* and not *applications* or *sites*. That is because the user experience is the heart of the future Web.

Before you can start looking at the future, it is good to understand the current suite of web development and deployment technologies that are available to you. In Part 1 of this book, you'll look at the Microsoft stack of technologies that allow you to build web services and applications, and how you'll deploy them. It will be scenario-driven, so instead of going into depth on the various APIs, you'll get your hands dirty in a step-by-step approach to building, testing, and deploying multitier web applications. You'll look at databases and how to connect your application to them, and you'll manage these connections through the deployment process. Ultimately, in the first six chapters, you'll get a whirlwind tour of the full life cycle of application development using the .NET Framework (which always looks good on a resume!).

If you are new to ASP.NET, these six chapters will condense everything you need to know to get up and running with the framework. By the end of them, you'll have learned the technology, the tools, and the servers, and gained the know-how to deploy a multiple-tier web service-based application to the enterprise server technology from Microsoft. Even if you are experienced with ASP.NET, this is a nice refresher!

Chapter 1 will give you a tour of the history of web development, from static HTML served up from the network, through activation of servers using CGI, to activation of pages using ASP, PHP, and other technologies. It ends with a survey of the managed APIs that are available for building web applications, including J2EE, PHP, and ultimately ASP.NET.

In Chapter 2, you will look into ASP.NET in a little more detail, going through the basics of web development with this API. You'll see its architecture and how it uses the concept of *controls* to generate markup from the server. You'll see how it hangs together with the standard web technologies of HTML, JavaScript, DHTML, and more. There is a great suite of tools available to the ASP.NET developer, including the free Web Developer Express, and you'll look at how to download, install, and use this to build, deploy, and debug ASP.NET server applications. Finally, you'll survey the lifetime of an ASP.NET application, learning how the framework can provide stateful communication in an inherently stateless environment.

Chapter 3 takes you further into building ASP.NET web applications through the use of web forms. You'll look into the page processing model, postbacks, and how events are handled in web applications. You'll also start to look into data in your web applications. You'll see how to download, configure, and manage a SQL Server Express instance, and how to access the data and functionality in it from code, from UI tools, and from data binding.

Chapter 4 brings you further down the data path, looking at data binding in ASP.NET and explaining the fundamentals of the ADO.NET API. You'll look into the architecture of this flexible data framework, including data providers, and the DataSet and DataAdapter components. You'll also see how some of the data-aware controls such as the GridView are used to provide great data experiences for your users.

Chapter 5 takes you in a different direction, looking at Web Services and how this vital technology is implemented using ASP.NET. You'll see how to build a web service that wraps a database and exposes its contents to users in a platform-agnostic, technology-agnostic way. With Web Services, the technology that implements the service should be abstract, and you'll see how this is achieved using XML and the WS-I basic profile. You'll see how you can build your services to be consumed by applications running on other technologies, such as Java. You'll expand on some of the examples from Chapter 4, seeing how a multitier application can be built using Web Services as the data tier, and binding controls such as the GridView to them.

Part 1 of the book wraps up in Chapter 6. Here you will look at how to get your applications deployed and running using Windows Server 2003, SQL Server, and IIS 6. You'll look at how IIS serves pages up, and go through the scenario of deploying the multiple-tier application that you built in Chapter 5, moving it in a phased manner, performing unit testing on each tier. You'll also look at how to use the tools to automatically set up the virtual web sites that your application will run in.

Once you've wrapped all that up, you'll be ready to move into Part 2, which delves into the next-generation web technologies, and take an in-depth look at AJAX extensions for .NET, Windows Communication Foundation, Windows Presentation Foundation, Silverlight, and more.