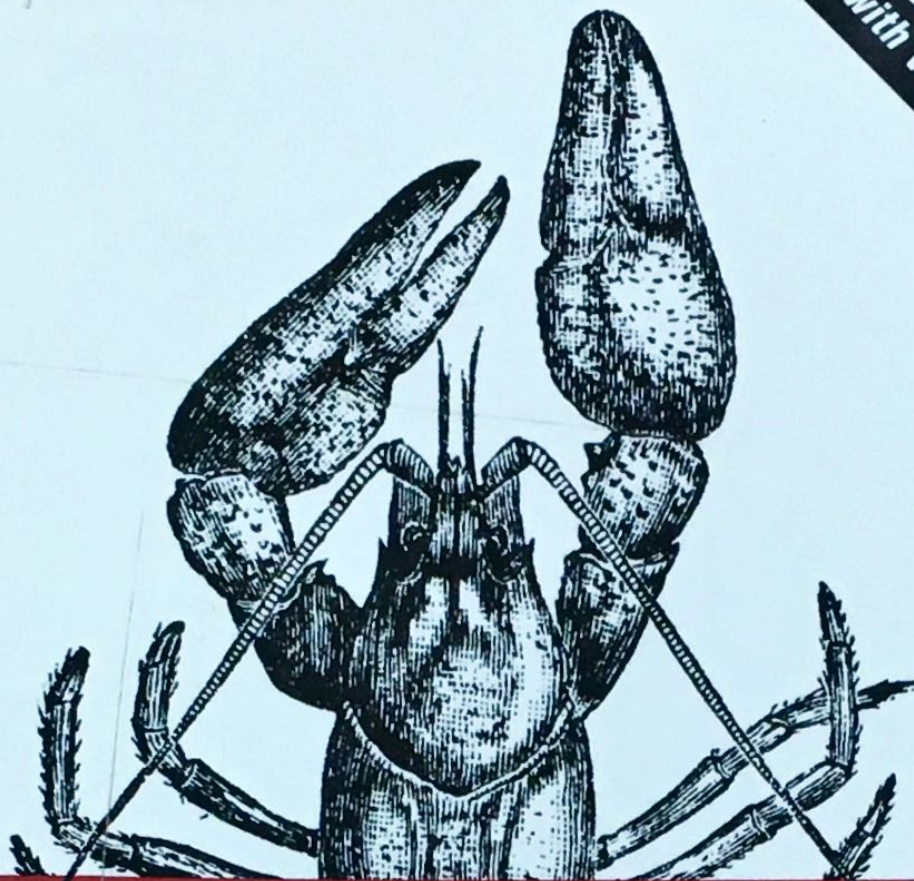


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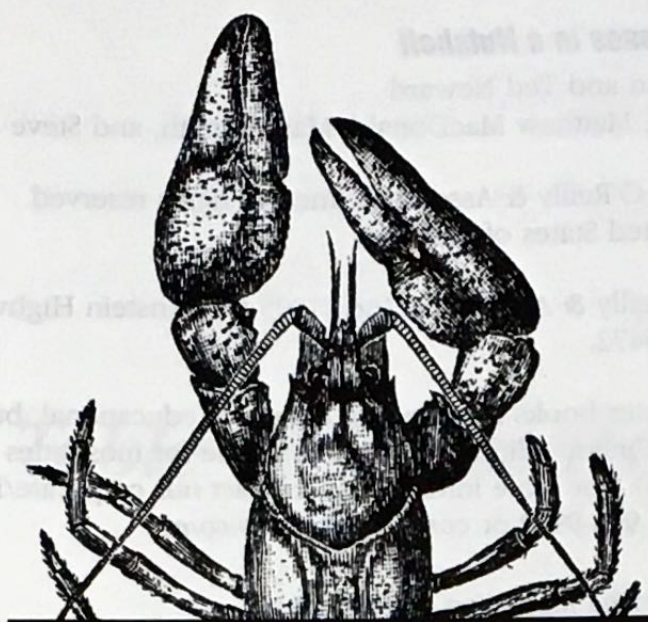


VB.NET CORE CLASSES IN A NUTSHELL

A Desktop Quick Reference

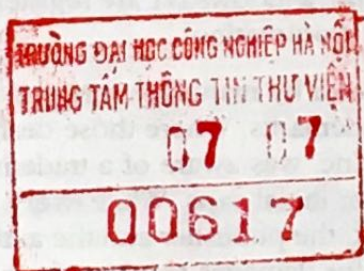
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VB.NET CORE CLASSES IN A NUTSHELL

A Desktop Quick Reference



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Preface

This book is a desktop reference for the core classes in Microsoft's .NET Framework Class Library (FCL). It is intended as a companion volume to *Visual Basic .NET Language in a Nutshell*, Second Edition, which provides a reference to the Visual Basic language.

Visual Basic .NET Core Classes in a Nutshell is divided into two parts. Part I, which consists of a single chapter, offers a very brief overview of and introduction to the .NET FCL.

Part II is a quick reference to the core classes of the FCL—22 of the most important namespaces of the FCL and their more than 700 types, complete with namespace maps, type descriptions, member signatures using VB .NET syntax, and useful cross references and annotations. Part II is also available on the CD-ROM that accompanies the book (see “What’s on the CD”).

Who This Book Is For

As a reference guide to the core classes, we think you’ll find *Visual Basic .NET Core Classes in a Nutshell* to be an essential book regardless of your level of experience with Visual Basic. Whether you are an experienced Visual Basic developer or a relatively new programmer just beginning to work with Visual Basic and the .NET platform, you’ll find that *Visual Basic .NET Core Classes in a Nutshell* provides an extremely helpful description of each type in the namespaces documented in Part II, along with a useful list of type members that features VB syntax.

How This Book Is Structured

This book consists of two parts: a single-chapter introduction, and a reference guide to 22 of the core namespaces of the .NET Framework Class Library.

The single chapter in Part I, *Introduction*, examines the significance of the .NET Framework Class Library, provides a summary of its contents, discusses the types found in .NET namespaces, and offers some suggestions for exploring the FCL.

Part II consists of 22 chapters, each of which is devoted to one of the 22 namespaces documented in this book. These namespaces provide the core (or system-level) classes defined in the .NET FCL. Excluded are the namespaces whose classes are designed to provide support for application development. The most notable of these excluded namespaces and their child namespaces are System.Data, System.Web, and System.Windows.Forms.

Part II includes chapters that document the following .NET FCL namespaces:

- Microsoft.Win32
- System
- System.Collections
- System.Collections.Specialized
- System.Diagnostics
- System.Globalization
- System.IO
- System.IO.IsolatedStorage
- System.Net
- System.Net.Sockets
- System.Reflection
- System.Reflection.Emit
- System.Runtime.InteropServices
- System.Runtime.Serialization
- System.Runtime.Serialization.Formatter
- System.Text
- System.Text.RegularExpressions
- System.Threading
- System.Timers
- System.XML
- System.XML.XPath
- System.Xml.Xsl

Chapter 2 explains how to get the most from this reference.

What's on the CD

The CD that accompanies this book contains *VB.NET Core Classes in a Nutshell for Microsoft Visual Studio .NET*. This software plugs directly into Microsoft Visual Studio .NET and makes the contents of Part II of the book, *.NET Core Classes Quick Reference*, available to you as a fully integrated member of Visual Studio .NET Dynamic Help.

By making *VB.NET Core Classes in a Nutshell* a part of your Visual Studio .NET development environment, you gain the following benefits:

- Continuous access to the contents of the .NET Core Classes Quick Reference as you work in the online Visual Studio .NET development environment
- Ability to browse the contents of the book in the Visual Studio .NET Help Contents window
- Constantly updated Dynamic Help links to relevant Quick Reference entries as you write Microsoft Visual Basic .NET code (these links appear in a separate Dynamic Help window link group named O'Reilly Help)
- Links to Quick Reference topics when you use either the Help Search facility or interactive Index
- Access to the O'Reilly web site, <http://www.oreilly.com>, for additional books and articles on Visual Basic .NET and the .NET Framework
- Cross-links between Quick Reference topics and related information in MSDN documentation.

For last-minute changes and more information on this software, please read the Release Notes on the CD.

To use *VB.NET Core Classes in a Nutshell for Microsoft Visual Studio .NET* you must be running an officially released version of Visual Basic .NET or Visual Studio .NET on your computer or laptop. To install *VB.NET Core Classes in a Nutshell for Microsoft Visual Studio .NET*:

1. Place the CD in the CD player.
2. Double-click on the file named *VBNETCoreClassesinaNutshell.msi*
3. Follow the instructions contained in the install program windows. Be sure to read and to accept the terms of the software license before proceeding.

To uninstall *VB.NET Core Classes in a Nutshell for Microsoft Visual Studio .NET*, repeat the above procedure, but click on the Remove button when the program prompts you to select an install option.

Making *VB.NET Core Classes in a Nutshell Quick Reference* available as a Visual Studio .NET plug-in is an experiment for both O'Reilly & Associates and Microsoft. We want very much to hear your comments and ideas.

Please send your comments to:

bookquestions@oreilly.com

If you discover errors in content or encounter any problems in using this product, please report them to:

bookquestions@oreilly.com

For updates and more information, visit:

<http://examples.oreilly.com/vbnetcore>

Conventions Used in This Book

The following typographical conventions are used in this book.

Italic is used for:

- Directory pathnames and filenames
- Domain names and URLs
- New terms where they are first defined

Constant width is used for:

- Code examples and output
- Names and keywords in C# programs, including method or field names, variable names, and class names
- XML and HTML element tags
- Registry keys

Constant width *italic* is used for:

- Replaceable parameter names or user-provided elements in syntax



This icon designates a note, which is an important aside to the nearby text.

How to Contact Us

We have tested and verified the information in this book to the best of our ability, but you may find that features have changed (or even that we have made mistakes!). Please let us know about any errors you find, as well as your suggestions for future editions, by writing to:

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We have a web site for the book, where we'll list examples, errata, and any plans for future editions. You can access this page at:

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How the Reference Was Generated

Part II was generated using .NET's reflection API. Using reflection, we drilled down into selected classes, structures, enumerations, delegates, and interfaces from the Framework Class Library, and extracted detailed information on each type and its members. Next, we structured this information as DocBook XML, which we used to generate the printed pages. We also used in-house tools to generate the online Microsoft Help 2.0 version that accompanies this book.

Acknowledgments

This book would not be possible without the contribution and support of many individuals, including family, friends, and the hardworking folks at O'Reilly & Associates, Inc.

Brian Jepson and Lenny Muellner of O'Reilly developed the programs responsible for generating Part II and Appendix E. Brian also developed the namespace maps that are found in the overviews that begin each chapter of the Reference with input from Ted Neward and Peter Drayton. Ted Neward, Matthew MacDonald, Martin Smith, Steve Spainhour, and Brian Jepson wrote the more than 700 namespace and type descriptions that make the API reference so valuable.

Brad Merrill of Microsoft wrote the sections on regular expressions and provided content for Appendix A.

Brad Abrams and members of his .NET Framework team contributed to the design of the API reference and provided technical review that immeasurably improved its quality. Daniel Creeron provided an outstanding technical review of the book.

VB.NET Core Classes in a Nutshell for Visual Studio .NET was made possible by the work of many individuals. Mike Sierra of O'Reilly converted the API Reference to Microsoft Help 2.0 format and did the work necessary to integrate its content with the Visual Studio .NET dynamic help system. He was assisted by Lenny Muellner and Erik Ray. Greg Dickerson and Chris Valdez of the O'Reilly Tech Support group tested each version of the software. Kipper York and Shane McRoberts of the Microsoft Help team provided invaluable technical assistance at crucial moments, and Eric Promislow and Vladimir Baikalov of ActiveState built the install package that plugs our Help collection into Visual Studio .NET. Frank Gocinski of the Visual Studio .NET Integration Program was instrumental in helping us become full partners in the program. A special tip of the hat to Rob Howard of Microsoft who supported our original vision and helped us make the right connections to get this project off the ground.