Microsoft

Microsoft
WINDOWS SCRIPTING
自学指南
Self-Paced
LEARNING GUIDE

Ed Wilson

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Microsoft® Windows® Scripting Self-Paced Learning Guide

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Microsoft Windows Scripting 自学指南

[美]艾德·威尔森 著

This book is dedicated to Bobby R. Wilson—
teacher, friend, and dad.

Acknowledgments

A book simply does not appear out of thin air, and no book is the work of a single individual. This book would not have happened without the tireless efforts of my agent Mike Meehan of the Moore Literary Agency, who ensured the proper publisher for this book. Martin DelRe at Microsoft Press immediately saw the value of a Visual Basic Script tutorial and helped everything get going. Valerie Woolley and Sally Stickney, also at Microsoft Press, guided the project to completion and provided much encouragement. Alex K. Angelopoulos, MVP, provided awesome and enthusiastic technical review. Victoria P. Thulman contributed immensely by forcing me to make my writing more specific. David Schwinn, MCSE, and Bill Mell, MCSE, reviewed much of the book and provided valuable suggestions. Lastly, my wife Teresa read the entire book and offered many insightful comments.

About This Book

Network administrators and consultants are confronted with numerous mundane and time-consuming activities on a daily basis. Whether it is going through thousands of users in Active Directory Users and Computers to grant dial-in permissions to a select group, or changing profile storage locations to point to a newly added network server, these everyday tasks must be completed. In the enterprise space, the ability to quickly write and deploy a Microsoft Visual Basic Script (VBScript) will make the difference between a task that takes a few hours and one that takes a few weeks.

As an Enterprise Consultant for Microsoft, I am in constant contact with some of the world's largest companies that run its software. The one recurring theme I hear is, "How can we effectively manage thousands of servers and tens of thousands of users?" In some instances, the solution lies in the employment of specialized software packages—but in the vast majority of the cases, the solution is a simple VBScript.

In Microsoft Windows Server 2003, enterprise manageability was one of the design goals, and VBScript is one path to unlocking the rich storehouse of newly added features. Using the techniques outlined in *Microsoft Windows Scripting Self-Paced Learning Guide*, anyone can begin crafting custom scripts within minutes of opening these pages. I'm not talking about the traditional Hello World script—I'm talking about truly useful scripts that save time and help to ensure accurate and predictable results.

Whereas in the past scripting was somewhat hard to do, required special installations of various implementations, and was rather limited in its effect, with the release of Microsoft Windows XP and Windows Server 2003, scripting is coming into its own.

This is really as it should be. However, most Administrators and IT professionals do not have an understanding of scripting, because in the past scripting was not a powerful alternative for platform management.

However, in a large enterprise, it is a vital reality that one simply cannot perform management from the GUI applications because it is too time-constraining, too error prone, and after a while too irritating. Clearly there needs to be a better way, and there is. Scripting is the answer.

A Practical Approach to Scripting

Microsoft Windows Scripting Self-Paced Learning Guide will equip you with the tools to automate setup, deployment, and management of Microsoft Windows 2003 networks via the various scripting interfaces contained with the product. In addition, it will provide you with an understanding of a select number of VBScripts adaptable to

your own unique environments. This will lead you into an awareness of the basics of programming through modeling of fundamental techniques.

The approach I take to teaching you how to use VBScript to automate your Windows 2003 servers is similar to the approach used in some of the executive foreign language schools. You'll learn by using the language. In addition, concepts are presented not in a dry academic fashion but in a dynamic real-life manner. When a concept is needed to accomplish something, it is presented. If a topic is not useful for automating network management, I don't bring it forward.

This is a practical application-oriented book, so the coverage of VBScript, Windows Scripting Host, Active Directory Service Interfaces (ADSI), and Windows Management Instrumentation (WMI) is not exceedingly deep. This is not a reference book; it is a tutorial, a guide, a springboard for ideas perhaps, but not an encyclopedia.

Is This Book for Me?

Microsoft Windows Scripting Self-Paced Learning Guide is aimed at several audiences, including:

- **Windows networking consultants**   Anyone desiring to standardize and automate the installation and configuration of .NET networking components.

- **Windows network administrators**   Anyone desiring to automate the day-to-day management of Windows .NET networks.

- **Windows Help Desk staff**   Anyone desiring to verify configuration of remotely connected desktops.

- **Microsoft Certified Systems Engineers (MCSEs) and Microsoft Certified Trainers (MCTs)**   Although not a strategic core competency within the MCP program, a few questions about scripting do crop up from time to time on various exams.

- **General technical staff**   Anyone desiring to collect information, configure settings on Windows XP machines, or implement management via WMI, WSH, or WBEM.

- **Power users**   Anyone wishing to obtain maximum power and configurability of their Windows XP machines either at home or in an unmanaged desktop workplace environment.

Outline of This Book

This book is divided into four parts, each covering a major facet of scripting. The following sections describe these parts.

Part 1: Covering the Basics

OK, so you've decided you need to learn scripting. Where do you begin? Start here in Part 1! In Chapter 1, "Starting From Scratch," you learn the basics: what a script is, how to read it, and how to write it. Once you move beyond using a script to figure out what your IP address is and print it to a file, you need to introduce some logic into the script, which you do in Chapters 2–5. You'll learn how to introduce conditions and add some intelligence to allow the script to check some stuff, and then based upon what it finds, do some other stuff. This section concludes by looking at troubleshooting scripts. I've made some mistakes that you don't need to repeat! Here are the chapters in Part 1:

- Chapter 1, "Starting from Scratch"
- Chapter 2, "Getting in the Loop"
- Chapter 3, "Adding Intelligence"
- Chapter 4, "The Power of Many"
- Chapter 5, "The Power of Many More"

Part 2: Basic Windows Administration

In Part 2, you dig deep under the covers of VBScript and WMI and really begin to see the power you can bring to your automation tasks. In working with the file system, you see how to use the file system object to create files, delete files, and verify the existence of files. All these basic tasks provide loads of flexibility for your scripts. Next, you move on to working with folders, learning how to use VBScript to completely automate the creation of folders and files on your servers and users' workstations. In the last half of Part 2, you get an in-depth look at the power of WMI when it is combined with the simplicity and flexibility of VBScript. Here are the chapters in Part 2:

- Chapter 6, "Working with the File System"
- Chapter 7, "Fun with Folders"
- Chapter 8, "Why Windows Management Instrumentation?"
- Chapter 9, "WMI Continued"
- Chapter 10, "Using WMI Queries"

Part 3: Advanced Windows Administration

This section will shave at least four points off your handicap (because you will get to play an extra 18 holes a week due to the time you save)! At least three things are really lame when it comes to administering Windows servers: all those click, click, and save motions; all the time spent waiting for the screen to refresh; and loosing your place in a long list of users. Guess what? In this section, some of that pain is relieved. When

Human Resources hires 100 people, you tell them to send you a spreadsheet with the new users, and you use your script to create those users. It takes 2 minutes instead of 2 hours. (Dude—that's the front nine!) In addition to saving time, scripting your administrative tasks is more accurate. If you have to set a particular set of access control lists on dozens of folders, a script is the only way to ensure all the flags are set correctly. Here are the chapters in Part 3:

- Chapter 11, "Introduction to Active Directory Service Interfaces"
- Chapter 12, "Reading and Writing for ADSI"
- Chapter 13, "Searching Active Directory"
- Chapter 14, "Configuring Networking Components"
- Chapter 15, "Subs and Other Round Things"
- Chapter 16, "Logon Scripts"
- Chapter 17, "Working with the Registry"
- Chapter 18, "Working with Printers"

Part 4: Scripting Other Applications

Once you learn how to use WMI and VBScript to automate Windows Server 2003, the logical question is, "What else can I do?" Well, with the latest version of Microsoft Exchange and Internet Information Services (IIS), the answer is quite a lot. So in this part of the book, you look at using WMI and VBScript to automate other applications.

In IIS 6.0, nearly everything that can be configured via GUI tools can also be scripted. This enables the Web administrator to simplify management and to also ensure repeatable configuration of the websites from a security perspective.

In Exchange administration, many routine tasks can be simplified by using VBScript. In Part 4, you look at how to leverage the power of VBScript to simplify user management, to configure and administer Exchange, and to troubleshoot some of the common issues confronting the enterprise Exchange administrator. The chapters in Part 4 are as follows:

- Chapter 19, "Managing IIS 6.0"
- Chapter 20, "Working with Exchange 2003"

Part 5: Appendices

The Appendices in this book are not the normal "never read" stuff—indeed you will find yourself referring again and again to these four crucial documents. In Appendix A you will find lots of ideas for further work in developing your mastery of VBScript. Appendix B will save you many hours of searching for the "special names" that unlock

the power of ADSI scripting. Appendix C helps you find the special WMI namespaces that enable you to perform many cool "tricks" in your scripting—and last but certainly not least is Appendix D, which contains my documentation "cheat sheet"—actually you will want to read it rather early in your scripting career.

- Appendix A, "VBScript Documentation"

- Appendix B, "ADSI Documentation"

- Appendix C, "WMI Documentation"

- Appendix D, "Documentation Standards"

About the Companion CD

The CD accompanying this book contains additional information and software components, including the following files:

- **Lab files**   The lab files contain starter scripts, same-text files, and completed lab solutions for each of the 40 labs contained in this book. In addition, each of the scripts that is discussed in the book is contained in the folder corresponding to the chapter number. So for instance, in Chapter 1 we talk about enumerating disk drives on a computer system. The script that makes up the bulk of our discussion around that topic is contained in the \Labs\Ch01 folder.

- **eBook**   You can view an electronic version of this book on screen using Adobe Acrobat Reader. For more information, see the Readme.txt file included in the root folder of the Companion CD.

- **Scripts**   Sample scripts and starter scripts for all labs.

- **Tools**   Scriptomatic 1.0, Tweakomatic, EZADScriptomatic, WMI Admin Tools, selected Windows Resouce Kit tools, and an evaluation of PrimalScript 3.1.

System Requirements

- Minimum 233 MHz in the Intel Pentium/Celeron family or the AMD k6/Atholon/Duron family

- 64 MB memory

- 1.5 GB available hard disk space

- Display monitor capable of 800 x 600 resolution or higher

- CD-ROM drive or DVD drive

- Microsoft Mouse or compatible pointing device

- Windows Server 2003 or Windows XP

Technical Support

Every effort has been made to ensure the accuracy of this book and the contents of the companion CD-ROM. Microsoft Press provides corrections for books through the World Wide Web at *http://www.microsoft.com/learning/support*.

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If you have comments, questions, or ideas regarding this book or the companion CD-ROM, please send them to Microsoft Press using either of the following methods:

E-Mail	mspinput@microsoft.com
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