
Online Library Advanced NET Debugging Microsoft Windows Development Series

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Microsoft Windows 8.1 and Windows Server 2012 R2 are designed to be the best performing operating systems to date, but even the best systems can be overwhelmed with load and/or plagued with poorly performing code. Windows Performance Analysis Field Guide gives you a practical field guide approach to performance monitoring and analysis from experts who do this work every day. Think of this book as your own guide to "What would Microsoft support do?" when you have a Windows performance issue. Author Clint Huffman, a Microsoft veteran of over fifteen years, shows you how to identify and alleviate problems with the computer resources of disk, memory, processor, and network. You will learn to use performance counters as the initial indicators, then use various tools to "dig in" to the problem, as well as how to capture and analyze boot performance problems. This field guide gives you the tools and answers

you need to improve Microsoft Windows performance, including: Save money on optimizing Windows performance with deep technical troubleshooting that tells you "What would Microsoft do to solve this?" Includes performance counter templates so you can collect the right data the first time. Learn how to solve performance problems using free tools from Microsoft such as the Windows Sysinternals tools and more. In a rush? Chapter 1 Start Here gets you on the quick path to solving the problem. Also covers earlier versions such as Windows 7 and Windows Server 2008 R2.

Now 100% updated to reflect Microsoft's latest platform advances, .NET Internals and Advanced Debugging Techniques, Second Edition offers focused, pragmatic guidance for tracking down today's most complex and challenging application bugs. Authored by Mario Hewardt, one of Microsoft's most respected developers, this is a "deep dive" into the most sophisticated debugging techniques for .NET 4/4.5+, Windows 8/8.1/RT, and the

newest versions of Visual Studio. Hewardt helps you take full advantage of powerful debugging tools such as Debug-Diag and PSSCOR; and illuminates crucial CLR concepts and behaviors every advanced Windows developer should understand. Step by step, he walks through a wide range of debugging tasks; addressing the assembly loader, managed heap, garbage collection, synchronization, interoperability, postmortem debugging, and the unique issues associated with debugging modern Windows 8 apps. This edition's extensive revisions range from the latest CLR constructs and debugging commands to major changes associated with memory, and new issues associated with WinRT process management. Reflecting his immense experience with Windows internals, Hewardt reveals how to quickly identify the real root causes of problems - so you can fix them far more rapidly and effectively.

This book enables intermediate and advanced programmers the kind of depth that's really needed, such as advanced window functionality, macros, advanced debugging, and add-ins, etc. With this book, developers will learn the VS.NET development environment from top to bottom.

The definitive guide—fully updated for Windows 10 and Windows Server 2016. Delve inside Windows architecture and internals, and see how core components work behind the scenes. Led by a team of internals experts, this classic guide has been fully updated for Windows 10 and Windows Server 2016. Whether you are a developer or an IT professional, you'll get critical, insider perspectives on how Windows operates. And through hands-on experiments, you'll experience its internal behavior firsthand—knowledge you can apply to improve application design, debugging, system perfor-

mance, and support. This book will help you:

- Understand the Windows system architecture and its most important entities, such as processes and threads
- Examine how processes manage resources and threads scheduled for execution inside processes
- Observe how Windows manages virtual and physical memory
- Dig into the Windows I/O system and see how device drivers work and integrate with the rest of the system
- Go inside the Windows security model to see how it manages access, auditing, and authorization, and learn about the new mechanisms in Windows 10 and Server 2016

Get in-depth guidance—and inside insights—for using the Windows Sysinternals tools available from Microsoft TechNet. Guided by Sysinternals creator Mark Russinovich and Windows expert Aaron Margosis, you'll drill into the features and functions of dozens of free file, disk, process, security, and Windows management tools. And you'll learn how to apply the book's best practices to help resolve your own technical issues the way the experts do. Diagnose. Troubleshoot. Optimize. Analyze CPU spikes, memory leaks, and other system problems. Get a comprehensive view of file, disk, registry, process/thread, and network activity. Diagnose and troubleshoot issues with Active Directory. Easily scan, disable, and remove autostart applications and components. Monitor application debug output. Generate trigger-based memory dumps for application troubleshooting. Audit and analyze file digital signatures, permissions, and other security information. Execute Sysinternals management tools on one or more remote computers. Master Process Explorer, Process Monitor, and Autoruns.

"John Robbins has done for Windows debugging what Charles Petzold did for Win-

dows programming." -Jeffrey Richter, author, Programming Applications for Microsoft Windows How can you prevent bugs from creeping into your programs-even before you begin writing code? What practices separate the debugging gods from the mere mortals? DEBUGGING APPLICATIONS describes a powerful, Windows-focused methodology for debugging on the offensive-starting at the requirements phase-so you catch and fix bugs at the source, before customers ever see your software. Expert buglayer John Robbins reveals lethally effective real-world techniques for resolving just about any debugging problem-from memory bugs and disappearing threads to the hairiest multithreaded deadlock. * Learn the coding techniques that help you introduce fewer errors into your program and spend less time debugging * Use version control systems, bug tracking software, and other infrastructure tools to maximize product quality * Exploit the advanced debugging capabilities in the Microsoft Visual C++ and Visual Basic development systems so you debug faster and more effectively * Cushion crashes with structured exception handling and C++ exception handling * Decipher the x86 assembly language you see in the Disassembly window * Master the tools and tactics for debugging multithreaded deadlocks, cross-machine processes, multilanguage problems, Windows 2000 services and dynamic-link libraries (DLLs) that load into services, and other challenging situations Along with John's expert guidance, you also get eight of his battle-tested, professional-level utilities for solving many of the nastiest bugs you'll encounter. In all, the CD-ROM packs over 2.5 megabytes of source code to study and reuse. With DEBUGGING APPLICATIONS, you'll learn the proven practices the industry's best de-

velopers use to eradicate bugs at the source-and deliver better software faster!

Microsoft Visual Studio 2015 empowers you to write next-generation applications for any modern environment: mobile, web, cloud, universal Windows 10/8.x, database, and beyond. This end-to-end deep dive will help working developers squeeze maximum productivity out of Microsoft's powerful new toolset. The authors combine authoritative and detailed information about Microsoft's latest IDE, with extensive insights and best practices drawn from decades of development experience. Developers will quickly get comfortable with Visual Studio 2015's updated interface, master its new capabilities, leverage its extensive new support for open standards, and discover multiple opportunities to leverage its .NET 4.6 platform and language improvements. By focusing entirely on Visual Studio 2015 Professional, the authors go deeper into Microsoft's core product than ever before. You'll find expert coverage of everything from debugging through deploying to Azure, IDE extension and automation through cross-platform mobile development. Throughout, this book's focus is relentlessly practical: how to apply Microsoft's tools to build better software, faster. Detailed information on how to... Master Visual Studio 2015's updated interface and key tools: Solutions, Projects, Browsers, Explorers, Editors, and Designers to improve productivity Develop robust cross-platform mobile apps for Windows, iOS, and Android using Apache Cordova templates for Visual Studio Use the new ASP.NET 5 to build modern web solutions that run on Windows, Mac, or Linux Develop Single Page Applications (SPAs) based on HTML5 and rich client-side JavaScript frameworks such as Knockout, Angular-

JS, Bootstrap, and more Accelerate cloud development with the Azure SDK, QuickStart templates, and Azure management portal Create mobile service solutions using ASP.NET Web API and WCF Streamline data development across multiple platforms with Entity Framework 7 Develop modern Microsoft Office business applications Perform robust, automated unit testing as you code, increasing your confidence in changes and refactoring Extend the VS 2015 IDE and Code Editor by creating custom, productivity-enhancing solutions Download all examples and source code presented in this book from informit.com/title/9780672337369 as they become available.

Optimize Windows system reliability and performance with Sysinternals IT pros and power users consider the free Windows Sysinternals tools indispensable for diagnosing, troubleshooting, and deeply understanding the Windows platform. In this extensively updated guide, Sysinternals creator Mark Russinovich and Windows expert Aaron Margosis help you use these powerful tools to optimize any Windows system's reliability, efficiency, performance, and security. The authors first explain Sysinternals' capabilities and help you get started fast. Next, they offer in-depth coverage of each major tool, from Process Explorer and Process Monitor to Sysinternals' security and file utilities. Then, building on this knowledge, they show the tools being used to solve real-world cases involving error messages, hangs, sluggishness, malware infections, and much more. Windows Sysinternals creator Mark Russinovich and Aaron Margosis show you how to: Use Process Explorer to display detailed process and system information Use Process Monitor to capture low-level system events, and quickly filter the output to narrow down root causes List, categorize, and manage software that starts

when you start or sign in to your computer, or when you run Microsoft Office or Internet Explorer Verify digital signatures of files, of running programs, and of the modules loaded in those programs Use Autoruns, Process Explorer, Sigcheck, and Process Monitor features that can identify and clean malware infestations Inspect permissions on files, keys, services, shares, and other objects Use Sysmon to monitor security-relevant events across your network Generate memory dumps when a process meets specified criteria Execute processes remotely, and close files that were opened remotely Manage Active Directory objects and trace LDAP API calls Capture detailed data about processors, memory, and clocks Troubleshoot unbootable devices, file-in-use errors, unexplained communication, and many other problems Understand Windows core concepts that aren't well-documented elsewhere

Teach yourself the fundamentals of Web development with ASP.NET 4-one step at a time. With STEP BY STEP, you get the guidance and learn-by-doing examples you need to start building Web applications and Web services in the Microsoft Visual Studio(R) 2010 environment. The author-a highly regarded programming expert, writer, and instructor-illuminates ASP.NET features through practical examples that help developers quickly grasp concepts and apply techniques to the real world. The book also includes a companion CD with code samples, data sets, and a fully searchable eBook. For customers who purchase an ebook version of this title, instructions for downloading the CD files can be found in the ebook.

Get a head start evaluating Windows 10-with technical insights from award-winning journalist and Windows expert Ed

Bott. This guide introduces new features and capabilities, providing a practical, high-level overview for IT professionals ready to begin deployment planning now. This edition was written after the release of Windows 10 version 1511 in November 2015 and includes all of its enterprise-focused features. The goal of this book is to help you sort out what's new in Windows 10, with a special emphasis on features that are different from the Windows versions you and your organization are using today, starting with an overview of the operating system, describing the many changes to the user experience, and diving deep into deployment and management tools where it's necessary.

Training Guides are the most effective self-study guide in the marketplace, featuring exam tips, study strategies, review exercises, case studies, practice exams, ExamGear testing software, and more. This certification exam measures the ability to develop and implement Windows-based applications by using Windows Forms and the Microsoft .NET Framework.

The start-to-finish tutorial and reference for Windows 2000 kernel debugging! The expert guide to Windows 2000 kernel debugging and crash dump analysis Interpreting Windows 2000 stop screens--in depth! Making the most of WinDbg and KD Debugging hardware: ports, BIOS, PCI and SCSI buses, and chipsets Advanced coverage: remote debugging, Debugging Extensions, Driver Verifier, and more Step-by-step crash dump analysis and kernel debugging How to interpret every element of a Windows 2000 stop screen Using WinDbg: configuring options, symbol paths, DLLs, and more Debugging hardware: ports, BIOS, PCI and SCSI buses, chipsets, and more Configuring local and remote kernel debugging

environments Includes extensive code samples This comprehensive guide to Windows 2000 kernel debugging will be invaluable to anyone who must analyze and prevent Windows 2000 system crashes--especially device driver authors and debuggers. Renowned kernel debugging expert Steven McDowell covers every aspect of kernel debugging and crash dump analysis--including advanced hardware debugging and other techniques barely addressed in Microsoft's documentation. Discover what Microsoft's WinDbg debugger can (and can't) do for you, and how to configure both local and remote kernel debugging environments. Learn to use Windows 2000's crash dump feature, step by step. Learn how to start and stop errant drivers, pause target systems, retrieve system and driver state, and step through source code using breakpoints and source-level debugging. McDowell demonstrates techniques for taking control of target systems, including finding "lost" memory blocks, setting process and thread contexts, and reviewing I/O system error logs. You'll learn how to use Microsoft's powerful Debugger Extensions to run virtually any command you choose, and master the new Driver Verifier, which can detect common mistakes in driver code with unprecedented speed and accuracy.

This ebook walks you through a patterns-based approach to building real-world cloud solutions. The patterns apply to the development process as well as to architecture and coding practices. The content is based on a presentation developed by Scott Guthrie and delivered by him at the Norwegian Developers Conference (NDC) in June of 2013 (part 1, part 2), and at Microsoft Tech Ed Australia in September 2013 (part 1, part 2). Many others updated and augmented the con-

tent while transitioning it from video to written form. Who should read this book Developers who are curious about developing for the cloud, are considering a move to the cloud, or are new to cloud development will find here a concise overview of the most important concepts and practices they need to know. The concepts are illustrated with concrete examples, and each chapter includes links to other resources that provide more in-depth information. The examples and the links to additional resources are for Microsoft frameworks and services, but the principles illustrated apply to other web development frameworks and cloud environments as well. Developers who are already developing for the cloud may find ideas here that will help make them more successful. Each chapter in the series can be read independently, so you can pick and choose topics that you're interested in. Anyone who watched Scott Guthrie's "Building Real World Cloud Apps with Windows Azure" presentation and wants more details and updated information will find that here. Assumptions This ebook expects that you have experience developing web applications by using Visual Studio and ASP.NET. Familiarity with C# would be helpful in places.

Get the essential, straightforward information you need—and master the core topics for debugging applications with Microsoft Visual Studio 2005. Debugging expert John Robbins offers practical answers to real-world development questions, including code samples in Microsoft Visual C# and Visual Basic. You'll learn the debugging techniques and tools to debug more efficiently and help ensure top-quality code. Discover how to: Arm yourself with tools and techniques that contribute to long-term success in the debugging battlefield Imple-

ment John's practical debugging process to sniff out bugs—including "freak" bugs Catch bugs during development with assertions, tracers, and comments Set advanced breakpoints in your debugger to specify exact trigger conditions Use the Watch window, Data Tips, and Visualizers to see key data quickly Employ other debugging tools, such as WinDBG, SOS, and ADPlus Write macros and add-ins to extend the Visual Studio integrated development environment Debug with Code Analysis—and learn to write your own rules PLUS—Get code samples on the Web

You get huge development advantages with Microsoft Visual Studio® .NET 2003—but you need a new bag of debugging tricks to take full advantage of them in today's .NET and Win32® development worlds. Learn lethally effective, real-world application debugging techniques for .NET Framework 1.1 and Windows with this fully updated programming guide. Debugging expert John Robbins expands the first edition of his classic debugging book with all-new scenarios and bug-killing tools, tips, and techniques. You'll see every .NET and Windows debugging scenario here—from XML Web services and Microsoft ASP.NET to Windows services and exceptions. Along with John's expert guidance, you get more than 6 MB of his battle-tested source code—for the tools and tactics you need to ship better software faster! Topics covered include: Where bugs come from and how to think about solving them Debugging during coding Operating system debugging support and how Win32 debuggers work Advanced debugger usage and .NET debugging with Visual Studio .NET Advanced native code techniques with Visual Studio .NET and WinDBG Extending the Visual Studio .NET integrated development environ-

ment Managed exception monitoring Flow tracing and performance Finding source and line information with just a crash address Crash handlers Debugging Windows services and DLLs that load into services Multithreaded deadlocks Automated testing The Debug C run-time library A high-performance tracing tool for server applications Smoothing the working set Appendixes: Reading Dr. Watson log files, plus resources for .NET and Windows developers CD-ROM features: 6+ MB of professional-level source code samples written in Microsoft Visual C++®, Visual C#®, and Visual Basic® .NET Debugging Tools for Windows Microsoft .NET Framework 1.1 SDK Windows Application Compatibility Toolkit (ACT) A Note Regarding the CD or DVD The print version of this book ships with a CD or DVD. For those customers purchasing one of the digital formats in which this book is available, we are pleased to offer the CD/DVD content as a free download via O'Reilly Media's Digital Distribution services. To download this content, please visit O'Reilly's web site, search for the title of this book to find its catalog page, and click on the link below the cover image (Examples, Companion Content, or Practice Files). Note that while we provide as much of the media content as we are able via free download, we are sometimes limited by licensing restrictions. Please direct any questions or concerns to booktech@oreilly.com.

"Mario Hewardt's Advanced .NET Debugging is an excellent resource for both beginner and experienced developers working with .NET. The book is also packed with many debugging tips and discussions of CLR internals, which will benefit developers architecting software." –Jeffrey Richter, consultant, trainer, and author at Wintellect "Mario has done it again. His Advanced Windows Debug-

ging (coauthored with Daniel Pravat) is an invaluable resource for native code debugging, and Advanced .NET Debugging achieves the same quality, clarity, and breadth to make it just as invaluable for .NET debugging." –Mark Russinovich, Technical Fellow, Microsoft Corporation The Only Complete, Practical Guide to Fixing the Toughest .NET Bugs Advanced .NET Debugging is the first focused, pragmatic guide to tracking down today's most complex and challenging .NET application bugs. It is the only book to focus entirely on using powerful native debugging tools, including WinDBG, NTSD, and CDB, to debug .NET applications. Using these tools, author Mario Hewardt explains how to identify the real root causes of problems—far more quickly than you ever could with other debuggers. Hewardt first introduces the key concepts needed to successfully use .NET's native debuggers. Next, he turns to sophisticated debugging techniques, using real-world examples that demonstrate many common C# programming errors. This book enables you to Make practical use of postmortem debugging, including PowerDBG and other "power tools" Understand the debugging details and implications of the new .NET CLR 4.0 Master and successfully use Debugging Tools for Windows, as well as SOS, SOSEX, CLR Profiler, and other powerful tools Gain a deeper, more practical understanding of CLR internals, such as examining thread-specific data, managed heap and garbage collector, interoperability layer, and .NET exceptions Solve difficult synchronization problems, managed heap problems, interoperability problems, and much more Generate and successfully analyze crash dumps A companion web site (advanceddotnetdebugging.com) contains all sample code, examples, and bonus content.

* Established and high-selling .NET expert/author, with large fan following. * Broad and deep coverage, with full "look forward" to advanced programming methods available in .NET 2005. * Completely up-to-date with the latest iteration of the framework.

Practical Software Architecture Solutions from the Legendary Robert C. Martin ("Uncle Bob") By applying universal rules of software architecture, you can dramatically improve developer productivity throughout the life of any software system. Now, building upon the success of his best-selling books Clean Code and The Clean Coder, legendary software craftsman Robert C. Martin ("Uncle Bob") reveals those rules and helps you apply them. Martin's Clean Architecture doesn't merely present options. Drawing on over a half-century of experience in software environments of every imaginable type, Martin tells you what choices to make and why they are critical to your success. As you've come to expect from Uncle Bob, this book is packed with direct, no-nonsense solutions for the real challenges you'll face—the ones that will make or break your projects. Learn what software architects need to achieve—and core disciplines and practices for achieving it Master essential software design principles for addressing function, component separation, and data management See how programming paradigms impose discipline by restricting what developers can do Understand what's critically important and what's merely a "detail" Implement optimal, high-level structures for web, database, thick-client, console, and embedded applications Define appropriate boundaries and layers, and organize components and services See why designs and architectures go wrong, and how to prevent (or fix) these failures Clean Architecture is essential reading

for every current or aspiring software architect, systems analyst, system designer, and software manager—and for every programmer who must execute someone else's designs. Register your product for convenient access to downloads, updates, and/or corrections as they become available.

Your hands-on, step-by-step guide to learning Visual Basic 2010. Teach yourself the essential tools and techniques for Visual Basic 2010—one step at a time. No matter what your skill level, you'll find the practical guidance and examples you need to start building professional applications for Windows and the Web. Discover how to: Work in the Microsoft Visual Studio 2010 Integrated Development Environment (IDE) Master essential techniques—from managing data and variables to using inheritance and dialog boxes Create professional-looking Uis; add visual effects and print support Build compelling Web features with the Visual Web Developer tool Use Microsoft ADO.NET and advanced data presentation controls Debug your programs and handle runtime errors Use new features, such as Query Builder, and Microsoft .NET Framework For customers who purchase an ebook version of this title, instructions for downloading the CD files can be found in the ebook.

Take performance to the next level!

This book does not just teach you how the CLR works---it teaches you exactly what you need to do now to obtain the best performance today. It will expertly guide you through the nuts and bolts of extreme performance optimization in .NET, complete with in-depth examinations of CLR functionality, free tool recommendations and tutorials, useful anecdotes, and step-by-step guides to measure and improve performance.

This second edition incorporates the advances and improvements in .NET over the last few years, as well as greatly expanded coverage of tools, more topics, more tutorials, more tips, and improvements throughout the entire book.

New in the 2nd Edition:

- 50% increase in content!
- New examples, code samples, and diagrams throughout entire book
- More ways to analyze the heap and find memory problems
- More tool coverage, including expanded usage of Visual Studio
- More benchmarking
- New GC configuration options
- Code warmup techniques
- New .NET features such as ref-returns, value tuples, SIMD, and more
- More detailed analysis of LINQ
- Tips for high-level feature areas such as ASP.NET, ADO.NET, and WPF

Also find expanded coverage and discover new tips and tricks for:

- Profiling with multiple tools to quickly find problem areas
- Detailed description of the garbage collector, how to optimize your code for it, and how to diagnose difficult memory-related issues
- How to analyze JIT and diagnose warmup problems
- Effective use of the Task Parallel Library to maximize throughput
- Which .NET features and APIs to use and which to avoid
- Instrument your program with performance counters and ETW events
- Use the latest and greatest .NET

features

- Build a performance-minded team
- ...and so much more

Integrate proven performance and scalability techniques throughout the .NET application life cycle--and gain an edge in building better-performing products. This guide presents a robust framework organized by task and role, helping developers, architects, testers, and administrators prioritize and implement the best options at the appropriate time. It offers focused, end-to-end guidance--including processes for modeling performance and techniques for measuring, testing, and fine-tuning your applications. You'll also get tips direct from Microsoft development teams for improving the performance and scalability of managed code; Microsoft ASP.NET, ADO.NET, and SQL Server; Web services; .NET Remoting; XML; and more. The book features a "How To" section that details the steps for a number of specific performance-related tasks, such as adding performance counters and using the common language runtime (CLR) profiler. PATTERNS & PRACTICES guides are reviewed and approved by Microsoft engineering teams, consultants, partners, and customers--delivering accurate, real-world information that's been technically validated and tested.

Use Windows debuggers throughout the development cycle—and build better software Rethink your use of Windows debugging and tracing tools—and learn how to make them a key part of test-driven software development. Led by a member of the Windows Fundamentals Team at Microsoft, you'll apply expert debugging and tracing techniques—and sharpen your C++ and C# code analysis skills—through practical examples and common scenarios. Learn why experienced

developers use debuggers in every step of the development process, and not just when bugs appear. Discover how to: Go behind the scenes to examine how powerful Windows debuggers work Catch bugs early in the development cycle with static and runtime analysis tools Gain practical strategies to tackle the most common code defects Apply expert tricks to handle user-mode and kernel-mode debugging tasks Implement post-mortem techniques such as JIT and dump debugging Debug the concurrency and security aspects of your software Use debuggers to analyze interactions between your code and the operating system Analyze software behavior with Xperf and the Event Tracing for Windows (ETW) framework

Debugging is one of the most vexing, yet most important, tasks facing any developer, including programmers working in Windows. Yet information about how to debug is difficult to come by, scattered among many different areas online.

Maximizing the performance of your algorithms and applications is extremely important and can give you a competitive advantage, a lower cost of ownership, and happier users. *Pro .NET Performance* explains the internals of Windows, the CLR, and the physical hardware that affect the performance of your applications, and gives you the knowledge and tools to measure how your code performs in isolation from external factors. The book is full of C# code samples and tips to help you squeeze every bit of juice from your application—lower memory utilization, consistent CPU usage, and fewer I/O operations across the network and disk. *Pro .NET Performance* will change the way you think about .NET application development. Guides you through performance measurement with a variety of profilers and other tools Ex-

plains how OS and CLR internals affect your application's performance in unexpected ways Provides you with tips and real-life case studies for improving application performance

C# Deconstructed answers a seemingly simple question: Just what is going on, exactly, when you run C# code on the .NET Framework? To answer this question we will dig ever deeper into the structure of the C# language and the onion-skin abstraction layers of the .NET Framework that underpins it. We'll follow the execution thread downwards, first to MSIL (Microsoft Intermediate Language) then down through just-in-time compilation into Machine Code before finally seeing the results executed at the hardware level. The aim of this deep-dive is to provide you with a much more rounded knowledge of the environment within which you code exists. As a managed language, it's best-practice to let the Framework deal with device interaction but you'll find the experience of taking the cover off once in a while a very rewarding one that will greatly enrich your appreciation of the C# language and the way in which it functions.

The First In-Depth, Real-World, Insider's Guide to Powerful Windows Debugging For Windows developers, few tasks are more challenging than debugging--or more crucial. Reliable and realistic information about Windows debugging has always been scarce. Now, with over 15 years of experience two of Microsoft's system-level developers present a thorough and practical guide to Windows debugging ever written. Mario Hewardt and Daniel Pravat cover debugging throughout the entire application lifecycle and show how to make the most of the tools currently available--including Microsoft's powerful native debuggers and third-par-

ty solutions. To help you find real solutions fast, this book is organized around real-world debugging scenarios. Hewardt and Pravat use detailed code examples to illuminate the complex debugging challenges professional developers actually face. From core Windows operating system concepts to security, Windows® Vista™ and 64-bit debugging, they address emerging topics head-on—and nothing is ever oversimplified or glossed over!

The ability to solve difficult problems is what makes a good engineer great. This book teaches techniques and tools for developers to tackle even the most persistent bugs. You'll find that tough issues can be made simple with the right knowledge, tools, and practices. Practical Debugging for .NET Developers will transform you into the guy or gal who everyone turns to for help. Issues covered include .NET Core, C#, Memory Leaks, Performance Problems, ASP.NET, Performance Counters, ETW Events, Production Debugging, Memory Pressure, Visual Studio, Hangs, Profiling, Deadlocks, Crashes, Memory Dumps, and Azure. *

- * Discover the best tools in the industry to diagnose and fix problems
- * Learn advanced debugging techniques with Visual Studio
- * Fix memory leaks and memory pressure issues
- * Detect, profile, and fix performance problems
- * Find the root cause of crashes and hangs
- * Debug production code and third-party code
- * Analyze ASP.NET applications for slow performance, failed requests, and hangs
- * Use dump files, Performance Counters, and ETW events to investigate what happens under the hood
- * Troubleshoot cloud environments, including Azure VMs and App Services
- * Code samples in C#
- * Covering .NET Core, .NET Framework, Windows, and Linux

Get the in-depth guidance you need to

take your Windowsscripting skills to the next level. Enterprise-level Windows administrators who have experience with Windowsscripting will learn advanced VB-Script techniques. You will continue to build your skills by creating scripts to work with Microsoft Exchange Server, Microsoft SQL Server,

Visual Basic has long been the language of choice when designing Windows-based applications and the Web. Touted as both the most popular and productive computing language, Visual Basic has amassed quite a following of devoted programmers, and is a sought after programming skill. With the introduction of .NET Enterprise, Microsoft launch VB.NET, offering a streamlined, simplified version of Visual Basic language. With increased power, scalability, functionality and reliability, VB.NET is positioned to be the most productive tool in a programmer's toolbox. VB.NET Developer's Guide is written for previous Visual Basic Programmers looking to harness the power of the new features and functionality incorporated in Visual Basic.NET. Timely coverage of newly released product which Visual Basic users will be eager to learn VB.NET Developer's Guide is one of the first comprehensive reference for programmers and developers anxious to learn about the new technology

Windows Registry Forensics provides the background of the Windows Registry to help develop an understanding of the binary structure of Registry hive files. Approaches to live response and analysis are included, and tools and techniques for postmortem analysis are discussed at length. Tools and techniques are presented that take the student and analyst beyond the current use of viewers and into real analysis of data contained in the

Registry, demonstrating the forensic value of the Registry. Named a 2011 Best Digital Forensics Book by InfoSec Reviews, this book is packed with real-world examples using freely available open source tools. It also includes case studies and a CD containing code and author-created tools discussed in the book. This book will appeal to computer forensic and incident response professionals, including federal government and commercial/private sector contractors, consultants, etc. Named a 2011 Best Digital Forensics Book by InfoSec Reviews Packed with real-world examples using freely available open source tools Deep explanation and understanding of the Windows Registry - the most difficult part of Windows to analyze forensically Includes a CD containing code and author-created tools discussed in the book Covers topics such as integrating multiple .NET technologies, cross-language integration, versioning, database and monitoring tools for application development, accessing data, and COM+.

Harness the full power of the Visual Studio IDE to take your coding skills to the next level by learning about IDE productivity practices and exclusive techniques Key Features Increase your productivity by leveraging Visual Studio 2019's improvements and features Explore powerful editing, code intelligence, and source code control features to increase productivity Delve into VS's powerful, untapped features such as custom project templates and extensions Book Description Visual Studio 2019 (VS 2019) and Visual Studio Code (VS Code) are powerful professional development tools that help you to develop applications for any platform with ease. Whether you want to create web, mobile, or desktop applications, Microsoft Visual Studio is your one-stop solution. This book demonstrates some

of the most sophisticated capabilities of the tooling and shows you how to use the integrated development environment (IDE) more efficiently to be more productive. You'll begin by gradually building on concepts, starting with the basics. The introductory chapters cover shortcuts, snippets, and numerous optimization tricks, along with debugging techniques, source control integration, and other important IDE features that will help you make your time more productive. With that groundwork in place, more advanced concepts such as the inner workings of project and item templates are covered. You will also learn how to write quality, secure code more efficiently as well as discover how certain Visual Studio features work 'under the hood'. By the end of this Visual Studio book, you'll have learned how to write more secure code faster than ever using your knowledge of the extensions and processes that make developing successful solutions more enjoyable and repeatable. What you will learn Understand the similarities and differences between VS 2019 and VS Code Get to grips with numerous keyboard shortcuts to improve efficiency Discover IDE tips and tricks that make it easier to write code Experiment with code snippets that make it easier to write repeating code patterns Find out how to customize project and item templates with the help of hands-on exercises Use Visual Studio extensions for ease and improved productivity Delve into Visual Studio's behind the scene operations Who this book is for This book is for C# and .NET developers who want to become more efficient and take advantage of features they may not be aware of in the IDE. Those looking to increase their productivity and write quality code more quickly by fully utilizing the power of the Visual Studio IDE will al-

so find this book useful.

Fiddler is a Web Debugging Proxy platform that monitors and modifies web traffic. This freeware tool enables developers, testers, and enthusiasts to inspect traffic, set breakpoints, and "fiddle" with incoming or outgoing data. Fiddler includes powerful event-based scripting, and can be extended using any .NET language. FiddlerCore, the core proxy engine underlying Fiddler, is available to integrate into any .NET application. In this book, you'll learn to fully exploit the power of Fiddler to debug traffic from virtually any web-related application, including Internet Explorer, Google Chrome, Apple Safari, Mozilla Firefox, Opera, and thousands more. You'll see how to debug HTTPS traffic, and use Fiddler with popular devices like iPhone/iPod/iPad, Windows Phone, and others. After exploring the hundreds of built-in features, you'll learn to extend Fiddler using the FiddlerScript engine or build your own applications atop the FiddlerCore class library.

Microsoft Azure Essentials from Microsoft Press is a series of free ebooks designed to help you advance your technical skills with Microsoft Azure. The first ebook in the series, Microsoft Azure Essentials: Fundamentals of Azure, introduces developers and IT professionals to the wide range of capabilities in Azure. The authors - both Microsoft MVPs in Azure - present both conceptual and how-to content for key areas, including: Azure Websites and Azure Cloud Services Azure Virtual Machines Azure Storage Azure Virtual Networks Databases Azure Active Directory Management tools Business scenarios Watch Microsoft Press's blog and Twitter (@MicrosoftPress) to learn about other free ebooks in the "Microsoft Azure Essentials" series.

Skip the basics and delve right into Visu-

al Studio 2017 advanced features and tools Professional Visual Studio 2017 is the industry-favorite guide to getting the most out of Microsoft's primary programming technology. From touring the new UI to exploiting advanced functionality, this book is designed to help professional developers become more productive. A unique IDE-centric approach provides a clear path through the typical workflow while exploring the nooks and crannies that can make your job easier. Visual Studio 2017 includes a host of features aimed at improving developer productivity and UI, and this book covers them all with clear explanation, new figures, and expert insight. Whether you're new to VS or just upgrading, this all-inclusive guide is an essential resource to keep within arm's reach. Visual Studio 2017 fixes the crucial issues that kept professionals from adopting VS 2015, and includes new features and tools that streamline the developer's job. This book provides the straightforward answers you need so you can get up to speed quickly and get back to work. Master the core functionality of Visual Studio 2017 Dig into the tools that make writing code easier Tailor the environment to your workflow, not the other way around Work your way through configuration, debugging, building, deployment, customizing, and more Microsoft is changing their release cadence—it's only been about two years since the last release—so developers need to quickly get a handle on new tools and features if they hope to remain productive. The 2017 release is designed specifically to help you get more done, in less time, with greater accuracy and attention to detail. If you're ready to get acquainted, Professional Visual Studio 2017 is your ideal guide.

Don't spend your time wading through manuals to learn ASP.NET. Spend it do-

ing what you do best--creating Web pages! Begin with an introduction to the .NET initiative, and then work your way through the concepts of ASP.NET, Visual Basic.NET, and ADO.NET. Combining easy-to-understand instructions with visual examples, this book offers a unique, hands-on approach to ASP.NET..

From the acclaimed authors of "Programming ASP.NET" comes this comprehensive tutorial on writing Windows applications for Microsoft's .NET platform.

Master Windows 8.1/Windows Runtime Programming Through 80 Expert Projects
This is the most complete, hands-on, solutions-focused guide to programming modern Windows applications with the Windows Runtime. Leading Windows development consultants Jeremy Likness and John Garland present easy-to-adapt C# and XAML example code for more than 80 projects. Their real-world application examples help you apply Windows 8.1's best improvements, including large tiles, the new search control, flyouts, command bars, native WinRT networking, and new deployment and sideloading options. Drawing on their pioneering experience, they illuminate key areas of the Windows Runtime API, offering uniquely detailed coverage of encryption, cloud connectivity, devices, printers, and media integration. You'll find cutting-edge tips and tricks available in no other book. This is an indispensable resource for all intermediate-to-advanced Windows developers, and for any architect building desktop, tablet, or mobile solutions with Microsoft technologies. Its focus on both C# and XAML will

make it valuable to millions of Windows developers already familiar with Silverlight, WPF, and/or .NET. Coverage includes

- Creating robust app interfaces with the newest XAML controls, including flyouts and command bars
- Saving data in a persistent "roaming zone" for syncing across Windows 8.1 devices
- Using Visual State Manager (VSM) to build apps that adapt to various device resolutions and orientations
- Integrating virtually any form of data into your apps
- Connecting with web services, RSS, Atom feeds, and social networks
- Securing apps via authentication, encrypting, signing, and single sign-on with Microsoft Account, Facebook, Google, and more
- Leveraging Windows 8.1 media enhancements that improve battery life and app performance
- Networking more effectively with Windows 8.1's revamped HTTP implementation and new location APIs
- Using Tiles and Toasts to keep apps alive and connected, even when they aren't running
- Enabling users to send content between devices via NFC tap and send
- Ensuring accessibility and globalizing your apps
- Efficiently debugging, optimizing, packaging, and deploying your apps
- Building sideloadable apps that don't have to be published in Windows Store

"This book doesn't just focus on singular concepts, it also provides end-to-end perspective on building an app in WinRT. It is one of those essential tools for Windows developers that will help you complete your software goals sooner than without it!"
—Tim Heuer, Principal Program Manager Lead, XAML Platform, Microsoft Corporation