Writing Secure Code 2nd Edition Developer Best Practices

The CERT C Coding StandardMastering Java 9Official (ISC)2 Guide to the CSSLPHands-On Network Programming with CCodeSecure CodingThreat ModelingSecure Coding in C and C++Effective C24 Deadly Sins of Software Security: Programming Flaws and How to Fix ThemSecure By DesignWriting Solid CodeBuilding Web Apps with WordPressProgramming .NET SecurityA Handbook of Real VariablesThe Security Development LifecycleSecure Programming Cookbook for C and C++Hacking the CodeWrite Right-Right Now,Java Coding GuidelinesWeb Security, Privacy & CommerceThe CERT Oracle Secure Coding Standard for JavaSockets, Shellcode, Porting, and Coding: Reverse Engineering Exploits and Tool Coding for Security ProfessionalsPython Crash CourseCodeJava SecurityCode CompleteThe Art of Readable CodeWriting Secure Code for Windows VistaBuilding Secure SoftwareWeb Application SecurityWriting Secure CodeWriting Secure CodeCode Complete, 2nd EditionAssessing Network SecurityComputer Security HandbookBlack Hat PythonCodes, Ciphers and Secret WritingAgile Application SecuritySecure Programming with Static Analysis

The CERT C Coding Standard

Mastering Java 9

Keep black-hat hackers at bay with the tips and techniques in this entertaining, eye-opening book! Developers will learn how to padlock their applications throughout the entire development process—from designing secure applications to writing robust code that can withstand repeated attacks to testing applications for security flaws. Easily digested chapters reveal proven principles, strategies, and coding techniques. The authors—two battle-scarred veterans who have solved some of the industry's toughest security problems—provide sample code in several languages. This edition includes updated information about threat modeling, designing a security process, international issues, file-system issues, adding privacy to applications, and performing security code reviews. It also includes enhanced coverage of buffer overruns, Microsoft .NET security, and Microsoft ActiveX development, plus practical checklists for developers, testers, and program managers.

Official (ISC)2 Guide to the CSSLP

The book is logically divided into 5 main categories with each category representing a major skill set required by most security professionals: 1. Coding –

The ability to program and script is quickly becoming a mainstream requirement for just about everyone in the security industry. This section covers the basics in coding complemented with a slue of programming tips and tricks in C/C++, Java, Perl and NASL. 2. Sockets – The technology that allows programs and scripts to communicate over a network is sockets. Even though the theory remains the same – communication over TCP and UDP, sockets are implemented differently in nearly ever language. 3. Shellcode – Shellcode, commonly defined as bytecode converted from Assembly, is utilized to execute commands on remote systems via direct memory access. 4. Porting – Due to the differences between operating platforms and language implementations on those platforms, it is a common practice to modify an original body of code to work on a different platforms. This technique is known as porting and is incredible useful in the real world environments since it allows you to not “recreate the wheel. 5. Coding Tools – The culmination of the previous four sections, coding tools brings all of the techniques that you have learned to the forefront. With the background technologies and techniques you will now be able to code quick utilities that will not only make you more productive, they will arm you with an extremely valuable skill that will remain with you as long as you make the proper time and effort dedications. *Contains never before seen chapters on writing and automating exploits on windows systems with all-new exploits. *Perform zero-day exploit forensics by reverse engineering malicious code. *Provides working code and scripts in all of the most common programming languages for readers to use TODAY to defend their networks.

Hands-On Network Programming with C

A comprehensive guide to programming with network sockets, implementing Internet protocols, designing IoT devices, and much more with C Key Features Leverage your C or C++ programming skills to build powerful network applications Get to grips with a variety of network protocols that allow you to load web pages, send emails, and do much more Write portable network code for operating systems such as Windows, Linux, and macOS Book Description Network programming, a challenging topic in C, is made easy to understand with a careful exposition of socket programming APIs. This book gets you started with modern network programming in C and the right use of relevant operating system APIs. This book covers core concepts, such as hostname resolution with DNS, that are crucial to the functioning of the modern web. You'll delve into the fundamental network protocols, TCP and UDP. Essential techniques for networking paradigms such as client-server and peer-to-peer models are explained with the help of practical examples. You'll also study HTTP and HTTPS (the protocols responsible for web pages) from both the client and server perspective. To keep up with current trends, you'll apply the concepts covered in this book to gain insights into web programming for IoT. You'll even get to grips with network monitoring and implementing security best practices. By the end of this book, you'll have experience of working with client-server applications, and be able to implement new network programs in C. The code in this book is compatible with the older C99

version as well as the latest C18 and C++17 standards. Special consideration is given to writing robust, reliable, and secure code that is portable across operating systems, including Winsock sockets for Windows and POSIX sockets for Linux and macOS. What you will learn Uncover cross-platform socket programming APIs Implement techniques for supporting IPv4 and IPv6 Understand how TCP and UDP connections work over IP Discover how hostname resolution and DNS work Interface with web APIs using HTTP and HTTPS Acquire hands-on experience with Simple Mail Transfer Protocol (SMTP) Apply network programming to the Internet of Things (IoT) Who this book is for If you're a developer or a system administrator who wants to enter the world of network programming, this book is for you. Basic knowledge of C programming is assumed.

Code

Describes how to put software security into practice, covering such topics as risk analysis, coding policies, Agile Methods, cryptographic standards, and threat tree patterns.

Secure Coding

One of Java's most striking claims is that it provides a secure programming

environment. Yet despite endless discussion, few people understand precisely what Java's claims mean and how it backs up those claims. If you're a developer, network administrator or anyone else who must understand or work with Java's security mechanisms, Java Security is the in-depth exploration you need.Java Security, 2nd Edition, focuses on the basic platform features of Java that provide security--the class loader, the bytecode verifier, and the security manager--and recent additions to Java that enhance this security model: digital signatures, security providers, and the access controller. The book covers the security model of Java 2, Version 1.3, which is significantly different from that of Java 1.1. It has extensive coverage of the two new important security APIs: JAAS (Java Authentication and Authorization Service) and JSSE (Java Secure Sockets Extension). Java Security, 2nd Edition, will give you a clear understanding of the architecture of Java's security model and how to use that model in both programming and administration.The book is intended primarily for programmers who want to write secure Java applications. However, it is also an excellent resource for system and network administrators who are interested in Java security, particularly those who are interested in assessing the risk of using Java and need to understand how the security model works in order to assess whether or not Java meets their security needs.

Threat Modeling

"The security of information systems has not improved at a rate consistent with the growth and sophistication of the attacks being made against them. To address this problem, we must improve the underlying strategies and techniques used to create our systems. Specifically, we must build security in from the start, rather than append it as an afterthought. That's the point of Secure Coding in C and C++. In careful detail, this book shows software developers how to build high-quality systems that are less vulnerable to costly and even catastrophic attack. It's a book that every developer should read before the start of any serious project." --Frank Abagnale, author, lecturer, and leading consultant on fraud prevention and secure documents Learn the Root Causes of Software Vulnerabilities and How to Avoid Them Commonly exploited software vulnerabilities are usually caused by avoidable software defects. Having analyzed nearly 18,000 vulnerability reports over the past ten years, the CERT/Coordination Center (CERT/CC) has determined that a relatively small number of root causes account for most of them. This book identifies and explains these causes and shows the steps that can be taken to prevent exploitation. Moreover, this book encourages programmers to adopt security best practices and develop a security mindset that can help protect software from tomorrow's attacks, not just today's. Drawing on the CERT/CC's reports and conclusions, Robert Seacord systematically identifies the program errors most likely to lead to security breaches, shows how they can be exploited, reviews the potential consequences, and presents secure alternatives. Coverage includes technical detail on how to Improve the overall security of any C/C++

application Thwart buffer overflows and stack-smashing attacks that exploit insecure string manipulation logic Avoid vulnerabilities and security flaws resulting from the incorrect use of dynamic memory management functions Eliminate integer-related problems: integer overflows, sign errors, and truncation errors Correctly use formatted output functions without introducing format-string vulnerabilities Avoid I/O vulnerabilities, including race conditions Secure Coding in C and C++ presents hundreds of examples of secure code, insecure code, and exploits, implemented for Windows and Linux. If you're responsible for creating secure C or C++ software--or for keeping it safe--no other book offers you this much detailed, expert assistance.

Secure Coding in C and C++

This concise, well-written handbook provides a distillation of real variable theory with a particular focus on the subject's significant applications to differential equations and Fourier analysis. Ample examples and brief explanations---with very few proofs and little axiomatic machinery---are used to highlight all the major results of real analysis, from the basics of sequences and series to the more advanced concepts of Taylor and Fourier series, Baire Category, and the Weierstrass Approximation Theorem. Replete with realistic, meaningful applications to differential equations, boundary value problems, and Fourier analysis, this unique work is a practical, hands-on manual of real analysis that is

ideal for physicists, engineers, economists, and others who wish to use the fruits of real analysis but who do not necessarily have the time to appreciate all of the theory. Valuable as a comprehensive reference, a study guide for students, or a quick review, "A Handbook of Real Variables" will benefit a wide audience.

Effective C

Widely considered one of the best practical guides to programming, Steve McConnell s original CODE COMPLETE has been helping developers write better software for more than a decade. Now this classic book has been fully updated and revised with leading-edge practices-and hundreds of new code samples-illustrating the art and science of software construction. Capturing the body of knowledge available from research, academia, and everyday commercial practice, McConnell synthesizes the most effective techniques and must-know principles into clear, pragmatic guidance. No matter what your experience level, development environment, or project size, this book will inform and stimulate your thinking-and help you build the highest quality code.

24 Deadly Sins of Software Security: Programming Flaws and How to Fix Them

Python Crash Course is a fast-paced, thorough introduction to Python that will have you writing programs, solving problems, and making things that work in no time. In the first half of the book, you'll learn about basic programming concepts, such as lists, dictionaries, classes, and loops, and practice writing clean and readable code with exercises for each topic. You'll also learn how to make your programs interactive and how to test your code safely before adding it to a project. In the second half of the book, you'll put your new knowledge into practice with three substantial projects: a Space Invaders–inspired arcade game, data visualizations with Python's super-handy libraries, and a simple web app you can deploy online. As you work through Python Crash Course you'll learn how to: –Use powerful Python libraries and tools, including matplotlib, NumPy, and Pygal –Make 2D games that respond to keypresses and mouse clicks, and that grow more difficult as the game progresses –Work with data to generate interactive visualizations –Create and customize Web apps and deploy them safely online –Deal with mistakes and errors so you can solve your own programming problems If you've been thinking seriously about digging into programming, Python Crash Course will get you up to speed and have you writing real programs fast. Why wait any longer? Start your engines and code! Uses Python 2 and 3

Secure By Design

Cipher and decipher codes: transposition and polyalphabetical ciphers, famous

codes, typewriter and telephone codes, codes that use playing cards, knots, and swizzle sticks . . . even invisible writing and sending messages through space. 45 diagrams.

Writing Solid Code

Your road to becoming a Java Ninja begins here! About This Book This book will teach you to build highly scalable, fast, and secure applications It covers major concepts introduced with the new version of Java 9, which includes modular programming, HTTP 2.0, API changes, and more It will guide you with tools, techniques and best practices to enhance application development Who This Book Is For This book is for enterprise developers and existing Java developers. Basic knowledge of Java would help. What You Will Learn Write modular Java applications in terms of the newly introduced module system Migrate existing Java applications to modular ones Understand how to use the G1 garbage collector in order to leverage the performance of your applications Leverage the possibilities provided the newly introduced Java shell Test your application's effectiveness with the JVM harness See how Java 9 provides support for the http 2.0 standard Use the new process API Discover additional enhancements and features provided by Java 9 In Detail Java 9 and its new features add to the richness of the language, one of the languages most used by developers to build robust software applications. Java 9 comes with a special emphasis on modularity with its integration with Jigsaw. This

would be your one-stop guide to mastering the language. You'll be provided with an overview and explanation of the new features introduced in Java 9 and the importance of the new APIs and enhancements. Some of the new features of Java 9 are ground-breaking and if you are an experienced programmer, you will be able to make your enterprise application leaner by learning these new features. You'll be provided with practical guidance in applying the newly acquired knowledge in regards to Java 9 and further information on future developments of the Java platform. This book will improve your productivity, making your application faster. By learning the best practices in Java, you'll become the “go-to” person in your organization. By the end of the book, you'll not only know the important concepts of Java 9, but you'll also have a nuanced understanding of the important aspects of programming with this great language. Style and approach Concepts and new terminology are explained in simple step-by-step manner. We cover a lot of real-world examples and case studies that will improve your Java productivity. This book covers new features on Java 9 and the much talked about Jigsaw integration.

Building Web Apps with WordPress

Most organizations have a firewall, antivirus software, and intrusion detection systems, all of which are intended to keep attackers out. So why is computer security a bigger problem today than ever before? The answer is simple--bad software lies at the heart of all computer security problems. Traditional solutions

simply treat the symptoms, not the problem, and usually do so in a reactive way. This book teaches you how to take a proactive approach to computer security. Building Secure Software cuts to the heart of computer security to help you get security right the first time. If you are serious about computer security, you need to read this book, which includes essential lessons for both security professionals who have come to realize that software is the problem, and software developers who intend to make their code behave. Written for anyone involved in software development and use—from managers to coders—this book is your first step toward building more secure software. Building Secure Software provides expert perspectives and techniques to help you ensure the security of essential software. If you consider threats and vulnerabilities early in the devel-opment cycle you can build security into your system. With this book you will learn how to determine an acceptable level of risk, develop security tests, and plug security holes before software is even shipped. Inside you'll find the ten guiding principles for software security, as well as detailed coverage of: Software risk management for security Selecting technologies to make your code more secure Security implications of open source and proprietary software How to audit software The dreaded buffer overflow Access control and password authentication Random number generation Applying cryptography Trust management and input Client-side security Dealing with firewalls Only by building secure software can you defend yourself against security breaches and gain the confidence that comes with knowing you won't have to play the "penetrate and patch" game anymore. Get it right the first time.

Let these expert authors show you how to properly design your system; save time, money, and credibility; and preserve your customers' trust.

Programming .NET Security

"What makes this book so important is that it reflects the experiences of two of the industry's most experienced hands at getting real-world engineers to understand just what they're being asked for when they're asked to write secure code. The book reflects Michael Howard's and David LeBlanc's experience in the trenches working with developers years after code was long since shipped, informing them of problems." --From the Foreword by Dan Kaminsky, Director of Penetration Testing, IOActive Eradicate the Most Notorious Insecure Designs and Coding Vulnerabilities Fully updated to cover the latest security issues, 24 Deadly Sins of Software Security reveals the most common design and coding errors and explains how to fix each one-or better yet, avoid them from the start. Michael Howard and David LeBlanc, who teach Microsoft employees and the world how to secure code, have partnered again with John Viega, who uncovered the original 19 deadly programming sins. They have completely revised the book to address the most recent vulnerabilities and have added five brand-new sins. This practical guide covers all platforms, languages, and types of applications. Eliminate these security flaws from your code: SQL injection Web server- and client-related vulnerabilities Use of magic URLs, predictable cookies, and hidden form fields Buffer overruns

Format string problems Integer overflows C++ catastrophes Insecure exception handling Command injection Failure to handle errors Information leakage Race conditions Poor usability Not updating easily Executing code with too much privilege Failure to protect stored data Insecure mobile code Use of weak password-based systems Weak random numbers Using cryptography incorrectly Failing to protect network traffic Improper use of PKI Trusting network name resolution

A Handbook of Real Variables

Provides information on advanced network testing strategies, covering such topics as detecting vulnerabilities; finding hidden hosts using DNS, WINS, and Net BIOS; war dialing and war driving; and spam and e-mail abuses.

The Security Development Lifecycle

As programmers, we've all seen source code that's so ugly and buggy it makes our brain ache. Over the past five years, authors Dustin Boswell and Trevor Foucher have analyzed hundreds of examples of "bad code" (much of it their own) to determine why they're bad and how they could be improved. Their conclusion? You need to write code that minimizes the time it would take someone else to understand it—even if that someone else is you. This book focuses on basic

principles and practical techniques you can apply every time you write code. Using easy-to-digest code examples from different languages, each chapter dives into a different aspect of coding, and demonstrates how you can make your code easy to understand. Simplify naming, commenting, and formatting with tips that apply to every line of code Refine your program's loops, logic, and variables to reduce complexity and confusion Attack problems at the function level, such as reorganizing blocks of code to do one task at a time Write effective test code that is thorough and concise—as well as readable "Being aware of how the code you create affects those who look at it later is an important part of developing software. The authors did a great job in taking you through the different aspects of this challenge, explaining the details with instructive examples." —Michael Hunger, passionate Software Developer

Secure Programming Cookbook for C and C++

This is the most comprehensive book on computer security on themarket, with 23 chapters and 29 Appendices covering virtually allaspects of computer security. Chapters are contributed by recognized experts in theindustry. This title has come to be known as "Big Blue" in industrycircles and has a reputation for being the reference for computersecurity issues.

Hacking the Code

"Web Security, Privacy & Commerce" cuts through the hype and the front page stories. It tells readers what the real risks are and explains how to minimize them. Whether a casual (but concerned) Web surfer or a system administrator responsible for the security of a critical Web server, this book will tells users what they need to know.

Write Right-Right Now,

Widely considered one of the best practical guides to programming, Steve McConnell's original CODE COMPLETE has been helping developers write better software for more than a decade. Now this classic book has been fully updated and revised with leading-edge practices—and hundreds of new code samples—illustrating the art and science of software construction. Capturing the body of knowledge available from research, academia, and everyday commercial practice, McConnell synthesizes the most effective techniques and must-know principles into clear, pragmatic guidance. No matter what your experience level, development environment, or project size, this book will inform and stimulate your thinking—and help you build the highest quality code. Discover the timeless techniques and strategies that help you: Design for minimum complexity and

maximum creativity Reap the benefits of collaborative development Apply defensive programming techniques to reduce and flush out errors Exploit opportunities to refactor—or evolve—code, and do it safely Use construction practices that are right-weight for your project Debug problems quickly and effectively Resolve critical construction issues early and correctly Build quality into the beginning, middle, and end of your project

Java Coding Guidelines

Password sniffing, spoofing, buffer overflows, and denial of service: these are only a few of the attacks on today's computer systems and networks. At the root of this epidemic is poorly written, poorly tested, and insecure code that puts everyone at risk. Clearly, today's developers need help figuring out how to write code that attackers won't be able to exploit. But writing such code is surprisingly difficult. Secure Programming Cookbook for C and C++ is an important new resource for developers serious about writing secure code. It contains a wealth of solutions to problems faced by those who care about the security of their applications. It covers a wide range of topics, including safe initialization, access control, input validation, symmetric and public key cryptography, cryptographic hashes and MACs, authentication and key exchange, PKI, random numbers, and anti-tampering. The rich set of code samples provided in the book's more than 200 recipes will help programmers secure the C and C++ programs they write for both Unix® (including

Linux®) and Windows® environments. Readers will learn: How to avoid common programming errors, such as buffer overflows, race conditions, and format string problems How to properly SSL-enable applications How to create secure channels for client-server communication without SSL How to integrate Public Key Infrastructure (PKI) into applications Best practices for using cryptography properly Techniques and strategies for properly validating input to programs How to launch programs securely How to use file access mechanisms properly Techniques for protecting applications from reverse engineering The book's web site supplements the book by providing a place to post new recipes, including those written in additional languages like Perl, Java, and Python. Monthly prizes will reward the best recipes submitted by readers. Secure Programming Cookbook for C and C++ is destined to become an essential part of any developer's library, a code companion developers will turn to again and again as they seek to protect their systems from attackers and reduce the risks they face in today's dangerous world.

Web Security, Privacy & Commerce

The CERT C Coding Standard, Second Edition enumerates the coding errors that are the root causes of current software vulnerabilities in C, prioritizing them by severity, likelihood of exploitation, and remediation costs. "Secure programming in C can be more difficult than even many experienced programmers realize," said Robert C. Seacord, technical manager of the CERT Secure Coding Initiative and

author of the CERT C Coding Standard. "Software systems are becoming increasing complex as our dependency on these systems increases. In our new CERT standard, as with all of our standards, we identify insecure coding practices and present secure alternatives that software developers can implement to reduce or eliminate vulnerabilities before deployment."

The CERT Oracle Secure Coding Standard for Java

As a developer, you need to build software in a secure way. But you can't spend all your time focusing on security. The answer is to use good design principles, tools, and mindsets that make security an implicit result - it's secure by design. Secure by Design teaches developers how to use design to drive security in software development. This book is full of patterns, best practices, and mindsets that you can directly apply to your real world development. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

Sockets, Shellcode, Porting, and Coding: Reverse Engineering Exploits and Tool Coding for Security Professionals

"Organizations worldwide rely on Java code to perform mission-critical tasks, and therefore that code must be reliable, robust, fast, maintainable, and secure.

JavaTM Coding Guidelines brings together expert guidelines, recommendations, and code examples to help you meet these demands."--Publisher description.

Python Crash Course

Provides information on writing more secure code for Microsoft Windows Vista, covering such topics as application compatibility, buffer overrun defenses, network security, Windows CardSpace, parental controls, and Windows Defender APIs.

Code

WordPress is much more than a blogging platform. As this practical guide clearly demonstrates, you can use WordPress to build web apps of any type—not mere content sites, but full-blown apps for specific tasks. If you have PHP experience with a smattering of HTML, CSS, and JavaScript, you'll learn how to use WordPress plugins and themes to develop fast, scalable, and secure web apps, native mobile apps, web services, and even a network of multiple WordPress sites. The authors use examples from their recently released SchoolPress app to explain concepts and techniques throughout the book. All code examples are available on GitHub. Compare WordPress with traditional app development frameworks Use themes for views, and plugins for backend functionality Get suggestions for choosing

WordPress plugins—or build your own Manage user accounts and roles, and access user data Build asynchronous behaviors in your app with jQuery Develop native apps for iOS and Android, using wrappers Incorporate PHP libraries, external APIs, and web service plugins Collect payments through ecommerce and membership plugins Use techniques to speed up and scale your WordPress app

Java Security

The authors look at the problem of bad code in a new way. Packed with advice based on the authors' decades of experience in the computer security field, this concise and highly readable book explains why so much code today is filled with vulnerabilities, and tells readers what they must do to avoid writing code that can be exploited by attackers. Writing secure code isn't easy, and there are no quick fixes to bad code. To build code that repels attack, readers need to be vigilant through each stage of the entire code lifecycle: Architecture, Design, Implementation, Testing and Operations. Beyond the technical, Secure Coding sheds new light on the economic, psychological, and sheer practical reasons why security vulnerabilities are so ubiquitous today. It presents a new way of thinking about these vulnerabilities and ways that developers can compensate for the factors that have produced such unsecured software in the past.

Code Complete

What do flashlights, the British invasion, black cats, and seesaws have to do with computers? In CODE, they show us the ingenious ways we manipulate language and invent new means of communicating with each other. And through CODE, we see how this ingenuity and our very human compulsion to communicate have driven the technological innovations of the past two centuries. Using everyday objects and familiar language systems such as Braille and Morse code, author Charles Petzold weaves an illuminating narrative for anyone who's ever wondered about the secret inner life of computers and other smart machines. It's a cleverly illustrated and eminently comprehensible story—and along the way, you'll discover you've gained a real context for understanding today's world of PCs, digital media, and the Internet. No matter what your level of technical savvy, CODE will charm you—and perhaps even awaken the technophile within.

The Art of Readable Code

The First Expert Guide to Static Analysis for Software Security! Creating secure code requires more than just good intentions. Programmers need to know that their code will be safe in an almost infinite number of scenarios and configurations. Static source code analysis gives users the ability to review their work with a fine-

toothed comb and uncover the kinds of errors that lead directly to security vulnerabilities. Now, there's a complete guide to static analysis: how it works, how to integrate it into the software development processes, and how to make the most of it during security code review. Static analysis experts Brian Chess and Jacob West look at the most common types of security defects that occur today. They illustrate main points using Java and C code examples taken from real-world security incidents, showing how coding errors are exploited, how they could have been prevented, and how static analysis can rapidly uncover similar mistakes. This book is for everyone concerned with building more secure software: developers, security engineers, analysts, and testers.

Writing Secure Code for Windows Vista

"Write right - right now - the book by Walter M. Perkins is entertaining and informative for anyone who has ever wanted to write AND publish a book but did not know the steps. The book is broken into easy-to-understand components. Perkins emphasizes the business aspects of writing a book and sheds light on issues such as doing business with graphic designers, agents, publishers, and printers"-- Taken from Amazon.com November 7, 2014.

Building Secure Software

In Black Hat Python, the latest from Justin Seitz (author of the best-selling Gray Hat Python), you'll explore the darker side of Python's capabilities—writing network sniffers, manipulating packets, infecting virtual machines, creating stealthy trojans, and more. You'll learn how to: Create a trojan command-and-control using GitHubDetect sandboxing and automate common malware tasks, like keylogging and screenshottingEscalate Windows privileges with creative process controlUse offensive memory forensics tricks to retrieve password hashes and inject shellcode into a virtual machineExtend the popular Burp Suite web-hacking toolAbuse Windows COM automation to perform a man-in-the-browser attackExfiltrate data from a network most sneakily Insider techniques and creative challenges throughout show you how to extend the hacks and how to write your own exploits. When it comes to offensive security, your ability to create powerful tools on the fly is indispensable. Learn how in Black Hat Python.

Web Application Security

While many resources for network and IT security are available, detailed knowledge regarding modern web application security has been lacking—until now. This practical guide provides both offensive and defensive security concepts that software engineers can easily learn and apply. Andrew Hoffman, a senior security engineer at Salesforce, introduces three pillars of web application security: recon, offense, and defense. You'll learn methods for effectively researching and

analyzing modern web applications—including those you don’t have direct access to. You’ll also learn how to break into web applications using the latest hacking techniques. Finally, you’ll learn how to develop mitigations for use in your own web applications to protect against hackers. Explore common vulnerabilities plaguing today's web applications Learn essential hacking techniques attackers use to exploit applications Map and document web applications for which you don’t have direct access Develop and deploy customized exploits that can bypass common defenses Develop and deploy mitigations to protect your applications against hackers Integrate secure coding best practices into your development lifecycle Get practical tips to help you improve the overall security of your web applications

Writing Secure Code

Since its original publication in 1999, this foundational book has become a classic in its field. This second edition, Code Version 2.0, updates the work and was prepared in part through a wiki, a web site allowing readers to edit the text, making this the first reader-edited revision of a popular book. Code counters the common belief that cyberspace cannot be controlled or censored. To the contrary, under the influence of commerce, cyberspace is becoming a highly regulable world where behavior will be much more tightly controlled than in real space. We can - we must - choose what kind of cyberspace we want and what freedoms it will guarantee. These choices are all about architecture: what kind of code will govern

cyberspace, and who will control it. In this realm, code is the most significant form of law and it is up to lawyers, policymakers, and especially average citizens to decide what values that code embodies.

Writing Secure Code

With the spread of web-enabled desktop clients and web-server based applications, developers can no longer afford to treat security as an afterthought. It's one topic, in fact, that .NET forces you to address, since Microsoft has placed security-related features at the core of the .NET Framework. Yet, because a developer's carelessness or lack of experience can still allow a program to be used in an unintended way, Programming .NET Security shows you how the various tools will help you write secure applications.The book works as both a comprehensive tutorial and reference to security issues for .NET application development, and contains numerous practical examples in both the C# and VB.NET languages. With Programming .NET Security, you will learn to apply sound security principles to your application designs, and to understand the concepts of identity, authentication and authorization and how they apply to .NET security. This guide also teaches you to: use the .NET run-time security features and .NET security namespaces and types to implement best-practices in your applications, including evidence, permissions, code identity and security policy, and role based and Code Access Security (CAS) use the .NET cryptographic APIs , from hashing and common

encryption algorithms to digital signatures and cryptographic keys, to protect your data. use COM+ component services in a secure manner If you program with ASP.NET will also learn how to apply security to your applications. And the book also shows you how to use the Windows Event Log Service to audit Windows security violations that may be a threat to your solution.Authors Adam Freeman and Allen Jones, early .NET adopters and long-time proponents of an "end-to-end" security model, based this book on their years of experience in applying security policies and developing products for NASDAQ, Sun Microsystems, Netscape, Microsoft, and others. With the .NET platform placing security at center stage, the better informed you are, the more secure your project will be.

Code Complete, 2nd Edition

Agile continues to be the most adopted software development methodology among organizations worldwide, but it generally hasn't integrated well with traditional security management techniques. And most security professionals aren’t up to speed in their understanding and experience of agile development. To help bridge the divide between these two worlds, this practical guide introduces several security tools and techniques adapted specifically to integrate with agile development. Written by security experts and agile veterans, this book begins by introducing security principles to agile practitioners, and agile principles to security practitioners. The authors also reveal problems they encountered in their own

experiences with agile security, and how they worked to solve them. You'll learn how to: Add security practices to each stage of your existing development lifecycle Integrate security with planning, requirements, design, and at the code level Include security testing as part of your team's effort to deliver working software in each release Implement regulatory compliance in an agile or DevOps environment Build an effective security program through a culture of empathy, openness, transparency, and collaboration

Assessing Network Security

The only comprehensive set of guidelines for secure Java programming - from the field's leading organizations, CERT and Oracle • •Authoritative, end-to-end code-level requirements for building secure systems with any recent version of Java, including the new Java 7 •Presents techniques that also improve safety, reliability, dependability, robustness, availability, maintainability, and other attributes of quality. •Includes extensive risk assessment guidance, plus references for further information. This is the first authoritative, comprehensive compilation of code-level requirements for building secure systems in Java. Organized by CERT's pioneering software security experts, with support from Oracle's own Java platform developers, it covers every facet of secure software coding with Java 7 SE and Java 6 SE, and offers value even to developers working with other Java versions. The authors itemize the most common coding errors leading to vulnerabilities in Java

programs, and provide specific guidelines for avoiding each of them. They show how to produce programs that are not only secure, but also safer, more reliable, more robust, and easier to maintain. After a high-level introduction to Java application security, eighteen consistently-organized chapters detail specific guidelines for each facet of Java development. Each set of guidelines defines conformance, presents both noncompliant examples and corresponding compliant solutions, shows how to assess risk, and offers references for further information. To limit this book's size, the authors focus on 'normative requirements': strict rules for what programmers must do for their work to be secure, as defined by conformance to specific standards that can be tested through automated analysis software. (Note: A follow-up book will present 'non-normative requirements': recommendations for what Java developers typically 'should' do to further strengthen program security beyond testable 'requirements.')

Computer Security Handbook

Covers topics such as the importance of secure systems, threat modeling, canonical representation issues, solving database input, denial-of-service attacks, and security code reviews and checklists.

Black Hat Python

Delve into the threat modeling methodology used by Microsoft's] security experts to identify security risks, verify an application's security architecture, and develop countermeasures in the design, coding, and testing phases. (Computer Books)

Codes, Ciphers and Secret Writing

Hacking the Code has over 400 pages of dedicated exploit, vulnerability, and tool code with corresponding instruction. Unlike other security and programming books that dedicate hundreds of pages to architecture and theory based flaws and exploits, Hacking the Code dives right into deep code analysis. Previously undisclosed security research in combination with superior programming techniques from Foundstone and other respected organizations is included in both the Local and Remote Code sections of the book. The book is accompanied with a FREE COMPANION CD containing both commented and uncommented versions of the source code examples presented throughout the book. In addition to the book source code, the CD also contains a copy of the author-developed Hacker Code Library v1.0. The Hacker Code Library includes multiple attack classes and functions that can be utilized to quickly create security programs and scripts. These classes and functions simplify exploit and vulnerability tool development to an extent never before possible with publicly available software. Learn to quickly create security tools that ease the burden of software testing and network administration Find out about key security issues regarding vulnerabilities,

exploits, programming flaws, and secure code development Discover the differences in numerous types of web-based attacks so that developers can create proper quality assurance testing procedures and tools Learn to automate quality assurance, management, and development tasks and procedures for testing systems and applications Learn to write complex Snort rules based solely upon traffic generated by network tools and exploits

Agile Application Security

As the global leader in information security education and certification, (ISC)2 has a proven track record of educating and certifying information security professionals. Its newest certification, the Certified Secure Software Lifecycle Professional (CSSLP) is a testament to the organization's ongoing commitment to information and software security

Secure Programming with Static Analysis

A detailed introduction to the C programming language for experienced programmers. The world runs on code written in the C programming language, yet most schools begin the curriculum with Python or Java. Effective C bridges this gap and brings C into the modern era--covering the modern C17 Standard as well as

potential C2x features. With the aid of this instant classic, you'll soon be writing professional, portable, and secure C programs to power robust systems and solve real-world problems. Robert C. Seacord introduces C and the C Standard Library while addressing best practices, common errors, and open debates in the C community. Developed together with other C Standards committee experts, Effective C will teach you how to debug, test, and analyze C programs. You'll benefit from Seacord's concise explanations of C language constructs and behaviors, and from his 40 years of coding experience. You'll learn: • How to identify and handle undefined behavior in a C program • The range and representations of integers and floating-point values • How dynamic memory allocation works and how to use nonstandard functions • How to use character encodings and types • How to perform I/O with terminals and filesystems using C Standard streams and POSIX file descriptors • How to understand the C compiler's translation phases and the role of the preprocessor • How to test, debug, and analyze C programs Effective C will teach you how to write professional, secure, and portable C code that will stand the test of time and help strengthen the foundation of the computing world.

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