

Secure Programming Cookbook For C And C

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Linux Security Cookbook - Daniel J. Barrett
2003-06-02

Computer security is an ongoing process, a relentless contest between system administrators and intruders. A good administrator needs to stay one step ahead of any adversaries, which often involves a continuing process of education. If you're grounded in the basics of security, however, you won't necessarily want a complete treatise on the subject each time you pick up a book. Sometimes you want to get straight to the point. That's exactly what the new Linux Security Cookbook does. Rather than provide a total security solution for Linux computers, the authors present a series of easy-to-follow recipes--short, focused pieces of code that administrators can use to improve security and perform common tasks securely. The Linux Security Cookbook includes real solutions to a wide range of targeted problems, such as sending encrypted email within Emacs, restricting access to network services at particular times of day, firewalling a webserver, preventing IP spoofing, setting up key-based SSH authentication, and much more. With over 150 ready-to-use scripts and configuration files, this unique book helps administrators secure their systems without having to look up specific syntax. The book begins with recipes devised to establish a secure system, then moves on to secure day-to-day practices, and concludes with

techniques to help your system stay secure. Some of the "recipes" you'll find in this book are: Controlling access to your system from firewalls down to individual services, using iptables, ipchains, xinetd, inetd, and more Monitoring your network with tcpdump, dsniff, netstat, and other tools Protecting network connections with Secure Shell (SSH) and stunnel Safeguarding email sessions with Secure Sockets Layer (SSL) Encrypting files and email messages with GnuPG Probing your own security with password crackers, nmap, and handy scripts This cookbook's proven techniques are derived from hard-won experience. Whether you're responsible for security on a home Linux system or for a large corporation, or somewhere in between, you'll find valuable, to-the-point, practical recipes for dealing with everyday security issues. This book is a system saver.

Practical C++ Programming - Steve Oualline
2003

Practical C++ Programming thoroughly covers:
C++ syntax · Coding standards and style ·
Creation and use of object classes · Templates ·
Debugging and optimization · Use of the C++
preprocessor · File input/output.

Network Security with OpenSSL - John Viega
2002-06-17

Most applications these days are at least somewhat network aware, but how do you protect those applications against common network security threats? Many developers are

turning to OpenSSL, an open source version of SSL/TLS, which is the most widely used protocol for secure network communications. The OpenSSL library is seeing widespread adoption for web sites that require cryptographic functions to protect a broad range of sensitive information, such as credit card numbers and other financial transactions. The library is the only free, full-featured SSL implementation for C and C++, and it can be used programmatically or from the command line to secure most TCP-based network protocols. Network Security with OpenSSL enables developers to use this protocol much more effectively. Traditionally, getting something simple done in OpenSSL could easily take weeks. This concise book gives you the guidance you need to avoid pitfalls, while allowing you to take advantage of the library's advanced features. And, instead of bogging you down in the technical details of how SSL works under the hood, this book provides only the information that is necessary to use OpenSSL safely and effectively. In step-by-step fashion, the book details the challenges in securing network communications, and shows you how to use OpenSSL tools to best meet those challenges. As a system or network administrator, you will benefit from the thorough treatment of the OpenSSL command-line interface, as well as from step-by-step directions for obtaining certificates and setting up your own certification authority. As a developer, you will further benefit from the in-depth discussions and examples of how to use OpenSSL in your own programs. Although OpenSSL is written in C, information on how to use OpenSSL with Perl, Python and PHP is also included. OpenSSL may well answer your need to protect sensitive data. If that's the case, Network Security with OpenSSL is the only guide available on the subject.

Secure Programming Cookbook for C and C++ - John Viega 2003

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.

Violent Python - TJ O'Connor 2012-12-28

Violent Python shows you how to move from a theoretical understanding of offensive computing concepts to a practical implementation. Instead of relying on another attacker's tools, this book will teach you to forge your own weapons using the Python programming language. This book demonstrates how to write Python scripts to automate large-scale network attacks, extract metadata, and

investigate forensic artifacts. It also shows how to write code to intercept and analyze network traffic using Python, craft and spoof wireless frames to attack wireless and Bluetooth devices, and how to data-mine popular social media websites and evade modern anti-virus.

Demonstrates how to write Python scripts to automate large-scale network attacks, extract metadata, and investigate forensic artifacts
Write code to intercept and analyze network traffic using Python. Craft and spoof wireless frames to attack wireless and Bluetooth devices
Data-mine popular social media websites and evade modern anti-virus

Hands-On Network Programming with C -

Lewis Van Winkle 2019-05-13

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.

Java Security - Scott Oaks 2001

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.

Rust Programming Cookbook - Claus Matzinger
2019-10-18

Practical solutions to overcome challenges in creating console and web applications and working with systems-level and embedded code, network programming, deep neural networks, and much more. Key Features Work through recipes featuring advanced concepts such as concurrency, unsafe code, and macros to migrate your codebase to the Rust programming language Learn how to run machine learning models with Rust Explore error handling, macros, and modularization to write maintainable code Book Description Rust 2018, Rust's first major milestone since version 1.0, brings more advancement in the Rust language. The Rust Programming Cookbook is a practical guide to help you overcome challenges when writing Rust code. This Rust book covers recipes for configuring Rust for different environments and architectural designs, and provides solutions to practical problems. It will also take you through Rust's core concepts, enabling you to create efficient, high-performance applications that use features such as zero-cost abstractions and improved memory management. As you progress, you'll delve into more advanced topics, including channels and actors, for building scalable, production-grade applications, and even get to grips with error handling, macros, and modularization to write maintainable code. You will then learn how to overcome common roadblocks when using Rust for systems programming, IoT, web development, and network programming. Finally, you'll discover what Rust 2018 has to offer for embedded programmers. By the end of the book, you'll have learned how to build fast and safe applications and services using Rust. What you will learn Understand how Rust provides unique solutions to solve system programming language problems Grasp the core concepts of Rust to develop fast and safe applications Explore the possibility of integrating Rust units into existing applications for improved efficiency Discover how to achieve better parallelism and security with Rust Write Python extensions in Rust Compile external assembly files and use the

Foreign Function Interface (FFI) Build web applications and services using Rust for high performance Who this book is for The Rust cookbook is for software developers looking to enhance their knowledge of Rust and leverage its features using modern programming practices. Familiarity with Rust language is expected to get the most out of this book.

ASP.NET Core 5 Secure Coding Cookbook - Roman Canlas
2021-07-16

Learn how to secure your ASP.NET Core web app through robust and secure code Key Features Discover the different types of security weaknesses in ASP.NET Core web applications and learn how to fix them Understand what code makes an ASP.NET Core web app unsafe Build your secure coding knowledge by following straightforward recipes Book Description ASP.NET Core developers are often presented with security test results showing the vulnerabilities found in their web apps. While the report may provide some high-level fix suggestions, it does not specify the exact steps that you need to take to resolve or fix weaknesses discovered by these tests. In ASP.NET Secure Coding Cookbook, you'll start by learning the fundamental concepts of secure coding and then gradually progress to identifying common web app vulnerabilities in code. As you progress, you'll cover recipes for fixing security misconfigurations in ASP.NET Core web apps. The book further demonstrates how you can resolve different types of Cross-Site Scripting. A dedicated section also takes you through fixing miscellaneous vulnerabilities that are no longer in the OWASP Top 10 list. This book features a recipe-style format, with each recipe containing sample insecure code that presents the problem and corresponding solutions to eliminate the security bug. You'll be able to follow along with each step of the exercise and use the accompanying sample ASP.NET Core solution to practice writing secure code. By the end of this book, you'll be able to identify insecure code causing different security flaws in ASP.NET Core web apps and you'll have gained hands-on experience in removing vulnerabilities and security defects from your code. What you will learn Understand techniques for squashing an ASP.NET Core web app security bug Discover different types of

injection attacks and understand how you can prevent this vulnerability from being exploited
Fix security issues in code relating to broken authentication and authorization
Eliminate the risks of sensitive data exposure by getting up to speed with numerous protection techniques
Prevent security misconfiguration by enabling ASP.NET Core web application security features
Explore other ASP.NET web application vulnerabilities and secure coding best practices
Who this book is for
This ASP.NET Core book is for intermediate-level ASP.NET Core web developers and software engineers who use the framework to develop web applications and are looking to focus on their security using coding best practices. The book is also for application security engineers, analysts, and specialists who want to know more about securing ASP.NET Core using code and understand how to resolve issues identified by the security tests they perform daily.

Code Quality - Diomidis Spinellis 2006-04-03

Page 26: How can I avoid off-by-one errors?

Page 143: Are Trojan Horse attacks for real?

Page 158: Where should I look when my application can't handle its workload? Page 256:

How can I detect memory leaks? Page 309: How

do I target my application to international

markets? Page 394: How should I name my

code's identifiers? Page 441: How can I find and improve the code coverage of my tests? Diomidis

Spinellis' first book, *Code Reading*, showed programmers how to understand and modify key

functional properties of software. *Code Quality*

focuses on non-functional properties,

demonstrating how to meet such critical requirements as reliability, security, portability,

and maintainability, as well as efficiency in time and space. Spinellis draws on hundreds of

examples from open source projects--such as the Apache web and application servers, the BSD

Unix systems, and the HSQLDB Java database--to illustrate concepts and techniques that every

professional software developer will be able to appreciate and apply immediately. Complete

files for the open source code illustrated in this book are available online at:

<http://www.spinellis.gr/codequality/>

C Programming Cookbook - B. M. Harwani

2019-03-29

A comprehensive guide with curated recipes to help you gain a deeper understanding of modern C. Key Features
Learn how to make your applications swift and robust by leveraging powerful features of C
Understand the workings of arrays, strings, functions, and more down to how they operate in memory
Master process synchronization during multi-tasking and server-client process communication
Book Description
C is a high-level language that's popular among developers. It enables you to write drivers for different devices, access machine-level hardware, apply dynamic memory allocation, and much more. With self-contained tutorials, known as recipes, this book will guide you in dealing with C and its idiosyncrasies and help you benefit from its latest features. Beginning with common tasks, each recipe addresses a specific problem followed by explaining the solution to get you acquainted with what goes on under the hood. You will explore core concepts of the programming language, including how to work with strings, pointers, and single and multi-dimensional arrays. You will also learn how to break a large application into small modules by creating functions, handling files, and using a database. Finally, the book will take you through advanced concepts such as concurrency and interprocess communication. By the end of this book, you'll have a clear understanding and deeper knowledge of C programming, which will help you become a better developer. What you will learn
Manipulate single and multi-dimensional arrays
Perform complex operations on strings
Understand how to use pointers and memory optimally
Discover how to use arrays, functions, and strings to make large applications
Implement multitasking using threads and process synchronization
Establish communication between two or more processes using different techniques
Store simple text in files and store data in a database
Who this book is for
If you're a programmer with basic experience in C and want to leverage its features through modern programming practices, then this book is for you.

Embedded Programming with Modern C++ Cookbook - Igor Viarheichyk 2020-04-17

Explore various constraints and challenges that embedded developers encounter in their daily tasks and learn how to build effective programs

using the latest standards of C++ Key Features Get hands-on experience in developing a sample application for an embedded Linux-based system Explore advanced topics such as concurrency, real-time operating system (RTOS), and C++ utilities Learn how to test and debug your embedded applications using logs and profiling tools

Book Description Developing applications for embedded systems may seem like a daunting task as developers face challenges related to limited memory, high power consumption, and maintaining real-time responses. This book is a collection of practical examples to explain how to develop applications for embedded boards and overcome the challenges that you may encounter while developing. The book will start with an introduction to embedded systems and how to set up the development environment. By teaching you to build your first embedded application, the book will help you progress from the basics to more complex concepts, such as debugging, logging, and profiling. Moving ahead, you will learn how to use specialized memory and custom allocators. From here, you will delve into recipes that will teach you how to work with the C++ memory model, atomic variables, and synchronization. The book will then take you through recipes on inter-process communication, data serialization, and timers. Finally, you will cover topics such as error handling and guidelines for real-time systems and safety-critical systems. By the end of this book, you will have become proficient in building robust and secure embedded applications with C++. What you will learn

Get a grip with the fundamentals of an embedded system Understand how to optimize code for the targeted hardware platforms Explore cross-compilation, build types, and remote debugging Discover the importance of logging for debugging and root cause analysis of failures Uncover concepts such as interrupt service routine, memory model, and ring buffer Recognize the need for custom memory management in embedded systems Delve into static code analyzers and tools to improve code quality

Who this book is for This book is for developers, electronic hardware professionals, and software and system-on-chip engineers who want to build effective embedded programs in

C++. Familiarity with the C++ programming language is expected, but no previous knowledge of embedded systems is required.

C# Programming :: - Harry. H. Chaudhary. 2014-06-02

This book gives a good start and complete introduction for C# Programming for Beginner's. While reading this book it is fun and easy to read it. This book is best suitable for first time C# readers, Covers all fast track topics of C# for all Computer Science students and Professionals. This book is targeted toward those who have little or no programming experience or who might be picking up C# as a second language. The book has been structured and written with a purpose: to get you productive as quickly as possible. I've used my experiences in writing applications with C# and teaching C# to create a book that I hope cuts through the fluff and teaches you what you need to know. All too often, authors fall into the trap of focusing on the technology rather than on the practical application of the technology. I've worked hard to keep this book focused on teaching you practical skills that you can apply immediately toward a development project. This book is divided into ten Chapters, each of which focuses on a different aspect of developing applications with C#. These parts generally follow the flow of tasks you'll perform as you begin creating your own programs with C#. I recommend that you read them in the order in which they appear. Using C#, this book develops the concepts and theory of Building the Program Logic and Interfaces analysis, Exceptions, Delegates and Events and other important things in a gradual, step-by-step manner, proceeding from concrete examples to abstract principles. Standish covers a wide range of both traditional and contemporary software engineering topics. This is a handy guide of sorts for any computer science engineering Students, Thinking In C# Programming is a solution bank for various complex problems related to C# and .NET. It can be used as a reference manual by Computer Science Engineering students. This Book also covers all aspects of B.TECH CS, IT, and BCA and MCA, BSC IT. Preview introduced programmers to a new era called functional programming. C# focused on bridging the gap between programming languages and databases.

This book covers all the language features from the first version through C# . It also provides you with the essentials of using Visual Studio 2005 to let you enjoy its capabilities and save you time by using features such as IntelliSense. Learning a new programming language can be intimidating. If you've never programmed before, the act of typing seemingly cryptic text to produce sleek and powerful applications probably seems like a black art, and you might wonder how you'll ever learn everything you need to know. The answer is, of course, one step at a time. The first step to learning a language is the same as that of any other activity: building confidence. Programming is part art and part science. Although it might seem like magic, it's more akin to illusion: After you know how things work a lot of the mysticism goes away, freeing you to focus on the mechanics necessary to produce any given desired result. Chapter 1 (Introduction To C# AND .NET) Chapter 2 (Your First Go at C# Programming) Chapter 3 (C# Data Types) Chapter 4 (Building the Program Logic) Chapter 5 (Using Classes) Chapter 6 (Function Members) Chapter 7 (Structs, Enums, and Attributes) Chapter 8 (Interfaces) Chapter 9 (Exceptions) Chapter 10 (Delegates and Events) C# Game Programming Cookbook for Unity 3D - Jeff W. Murray 2021-03-25

This second edition of *C# Game Programming Cookbook for Unity 3D* expounds upon the first with more details and techniques. With a fresh array of chapters, updated C# code and examples, Jeff W. Murray's book will help the reader understand structured game development in Unity unlike ever before. New to this edition is a step-by-step tutorial for building a 2D infinite runner game from the framework and scripts included in the book. The book contains a flexible and reusable framework in C# suitable for all game types. From game state handling to audio mixers to asynchronous scene loading, the focus of this book is building a reusable structure to take care of many of the most used systems. Improve your game's sound in a dedicated audio chapter covering topics such as audio mixers, fading, and audio ducking effects, or dissect a fully featured racing game with car physics, lap counting, artificial intelligence steering behaviors, and game management. Use this book to guide your way

through all the required code and framework to build a multi-level arena blaster game. Features Focuses on programming, structure, and an industry-level, C#-based framework Extensive breakdowns of all the important classes Example projects illustrate and break down common and important Unity C# programming concepts, such as coroutines, singletons, static variables, inheritance, and scriptable objects. Three fully playable example games with source code: a 2D infinite runner, an arena blaster, and an isometric racing game The script library includes a base Game Manager, timed and proximity spawning, save profile manager, weapons control, artificial intelligence controllers (path following, target chasing and line-of-sight patrolling behaviors), user interface Canvas management and fading, car physics controllers, and more. Code and screenshots have been updated with the latest versions of Unity. These updates will help illustrate how to create 2D games and 3D games based on the most up-to-date methods and techniques. Experienced C# programmers will discover ways to structure Unity projects for reusability and scalability. The concepts offered within the book are instrumental to mastering C# and Unity. In his game career spanning more than 20 years, Jeff W. Murray has worked with some of the world's largest brands as a Game Designer, Programmer, and Director. A Unity user for over 14 years, he now works as a consultant and freelancer between developing his own VR games and experiments with Unity. *Expert C++* - Vardan Grigoryan 2020-04-10 Design and architect real-world scalable C++ applications by exploring advanced techniques in low-level programming, object-oriented programming (OOP), the Standard Template Library (STL), metaprogramming, and concurrency Key FeaturesDesign professional-grade, maintainable apps by learning advanced concepts such as functional programming, templates, and networkingApply design patterns and best practices to solve real-world problemsImprove the performance of your projects by designing concurrent data structures and algorithmsBook Description C++ has evolved over the years and the latest release - C++20 - is now available. Since C++11, C++ has been constantly enhancing the language

feature set. With the new version, you'll explore an array of features such as concepts, modules, ranges, and coroutines. This book will be your guide to learning the intricacies of the language, techniques, C++ tools, and the new features introduced in C++20, while also helping you apply these when building modern and resilient software. You'll start by exploring the latest features of C++, and then move on to advanced techniques such as multithreading, concurrency, debugging, monitoring, and high-performance programming. The book will delve into object-oriented programming principles and the C++ Standard Template Library, and even show you how to create custom templates. After this, you'll learn about different approaches such as test-driven development (TDD), behavior-driven development (BDD), and domain-driven design (DDD), before taking a look at the coding best practices and design patterns essential for building professional-grade applications. Toward the end of the book, you will gain useful insights into the recent C++ advancements in AI and machine learning. By the end of this C++ programming book, you'll have gained expertise in real-world application development, including the process of designing complex software. What you will learn

Understand memory management and low-level programming in C++ to write secure and stable applications

Discover the latest C++20 features such as modules, concepts, ranges, and coroutines

Understand debugging and testing techniques and reduce issues in your programs

Design and implement GUI applications using Qt5

Use multithreading and concurrency to make your programs run faster

Develop high-end games by using the object-oriented capabilities of C++

Explore AI and machine learning concepts with C++

Who this book is for

This C++ book is for experienced C++ developers who are looking to take their knowledge to the next level and perfect their skills in building professional-grade applications.

[Secure Programming Cookbook for C and C++](#) - John Viega 2003-01-01

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:

The CERT C Secure Coding Standard - Robert C. Seacord 2008-10-14

"I'm an enthusiastic supporter of the CERT Secure Coding Initiative. Programmers have lots of sources of advice on correctness, clarity, maintainability, performance, and even safety. Advice on how specific language features affect security has been missing. The CERT® C Secure Coding Standard fills this need." -Randy Meyers, Chairman of ANSI C "For years we have relied upon the CERT/CC to publish advisories documenting an endless stream of security problems. Now CERT has embodied the advice of leading technical experts to give programmers and managers the practical guidance needed to avoid those problems in new applications and to help secure legacy systems. Well done!" -Dr. Thomas Plum, founder of Plum Hall, Inc. "Connectivity has sharply increased the need for secure, hacker-safe applications. By combining this CERT standard with other safety guidelines, customers gain all-round protection and approach the goal of zero-defect software."

-Chris Tapp, Field Applications Engineer, LDRA Ltd. "I've found this standard to be an indispensable collection of expert information on exactly how modern software systems fail in practice. It is the perfect place to start for establishing internal secure coding guidelines. You won't find this information elsewhere, and, when it comes to software security, what you don't know is often exactly what hurts you."

-John McDonald, coauthor of *The Art of Software Security Assessment* Software security has major implications for the operations and assets of organizations, as well as for the welfare of individuals. To create secure software, developers must know where the dangers lie. Secure programming in C can be more difficult than even many experienced programmers believe. This book is an essential desktop

reference documenting the first official release of The CERT® C Secure Coding Standard . The standard itemizes those coding errors that are the root causes of software vulnerabilities in C and prioritizes them by severity, likelihood of exploitation, and remediation costs. Each guideline provides examples of insecure code as well as secure, alternative implementations. If uniformly applied, these guidelines will eliminate the critical coding errors that lead to buffer overflows, format string vulnerabilities, integer overflow, and other common software vulnerabilities.

Python Cookbook - David Beazley 2013-05-10

If you need help writing programs in Python 3, or want to update older Python 2 code, this book is just the ticket. Packed with practical recipes written and tested with Python 3.3, this unique cookbook is for experienced Python programmers who want to focus on modern tools and idioms. Inside, you'll find complete recipes for more than a dozen topics, covering the core Python language as well as tasks common to a wide variety of application domains. Each recipe contains code samples you can use in your projects right away, along with a discussion about how and why the solution works. Topics include: Data Structures and Algorithms Strings and Text Numbers, Dates, and Times Iterators and Generators Files and I/O Data Encoding and Processing Functions Classes and Objects Metaprogramming Modules and Packages Network and Web Programming Concurrency Utility Scripting and System Administration Testing, Debugging, and Exceptions C Extensions

Extreme C - Kamran Amini 2019-10-31

Push the limits of what C - and you - can do, with this high-intensity guide to the most advanced capabilities of C Key Features Make the most of C's low-level control, flexibility, and high performance A comprehensive guide to C's most powerful and challenging features A thought-provoking guide packed with hands-on exercises and examples Book Description There's a lot more to C than knowing the language syntax. The industry looks for developers with a rigorous, scientific understanding of the principles and practices. Extreme C will teach you to use C's advanced low-level power to write effective, efficient systems. This intensive,

practical guide will help you become an expert C programmer. Building on your existing C knowledge, you will master preprocessor directives, macros, conditional compilation, pointers, and much more. You will gain new insight into algorithm design, functions, and structures. You will discover how C helps you squeeze maximum performance out of critical, resource-constrained applications. C still plays a critical role in 21st-century programming, remaining the core language for precision engineering, aviations, space research, and more. This book shows how C works with Unix, how to implement OO principles in C, and fully covers multi-processing. In Extreme C, Amini encourages you to think, question, apply, and experiment for yourself. The book is essential for anybody who wants to take their C to the next level. What you will learn Build advanced C knowledge on strong foundations, rooted in first principles Understand memory structures and compilation pipeline and how they work, and how to make most out of them Apply object-oriented design principles to your procedural C code Write low-level code that's close to the hardware and squeezes maximum performance out of a computer system Master concurrency, multithreading, multi-processing, and integration with other languages Unit Testing and debugging, build systems, and inter-process communication for C programming Who this book is for Extreme C is for C programmers who want to dig deep into the language and its capabilities. It will help you make the most of the low-level control C gives you.

Introduction to Modern Cryptography - Jonathan Katz 2020-12-21

Now the most used textbook for introductory cryptography courses in both mathematics and computer science, the Third Edition builds upon previous editions by offering several new sections, topics, and exercises. The authors present the core principles of modern cryptography, with emphasis on formal definitions, rigorous proofs of security.

The CERT C Coding Standard - Robert C. Seacord 2014

This book is an essential desktop reference for the CERT C coding standard. The CERT C Coding Standard is an indispensable collection of expert information. The standard itemizes

those coding errors that are the root causes of software vulnerabilities in C and prioritizes them by severity, likelihood of exploitation, and remediation costs. Each guideline provides examples of insecure code as well as secure, alternative implementations. If uniformly applied, these guidelines will eliminate the critical coding errors that lead to buffer overflows, format string vulnerabilities, integer overflow, and other common software vulnerabilities.

Error Coding Cookbook - C. Britton Rorabaugh 1996

C++ System Programming Cookbook - Onorato Vaticone 2020-02-21

A problem-solution-based guide to help you overcome hurdles effectively while working with kernel APIs, filesystems, networks, threads, and process communications

Key Features Learn to apply the latest C++ features (from C++11, 14, 17, and 20) to facilitate systems programming

Create robust and concurrent systems that make the most of the available hardware resources

Delve into C++ inbuilt libraries and frameworks to design robust systems as per your business needs

Book Description C++ is the preferred language for system programming due to its efficient low-level computation, data abstraction, and object-oriented features. System programming is about designing and writing computer programs that interact closely with the underlying operating system and allow computer hardware to interface with the programmer and the user. The *C++ System Programming Cookbook* will serve as a reference for developers who want to have ready-to-use solutions for the essential aspects of system programming using the latest C++ standards wherever possible. This C++ book starts out by giving you an overview of system programming and refreshing your C++ knowledge. Moving ahead, you will learn how to deal with threads and processes, before going on to discover recipes for how to manage memory. The concluding chapters will then help you understand how processes communicate and how to interact with the console (console I/O). Finally, you will learn how to deal with time interfaces, signals, and CPU scheduling. By the end of the book, you will become adept at

developing robust systems applications using C++.

What you will learn Get up to speed with the fundamentals including makefile, man pages, compilation, and linking and debugging

Understand how to deal with time interfaces, signals, and CPU scheduling

Develop your knowledge of memory management

Use processes and threads for advanced synchronizations (mutexes and condition variables)

Understand interprocess communications (IPC): pipes, FIFOs, message queues, shared memory, and TCP and UDP

Discover how to interact with the console (console I/O)

Who this book is for This book is for C++ developers who want to gain practical knowledge of systems programming. Though no experience of Linux system programming is assumed, intermediate knowledge of C++ is necessary.

Effective C - Robert C. Seacord 2020-08-11

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.

Secure Programming Cookbook for C and C++ - John Viega 2003-07-14

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.

C# 7 and .NET Core Cookbook - Dirk Strauss 2017-04-25

Quick solutions to common programming problems with the latest features of C# 7.0, .NET Core 1.1, and Visual Studio 2017 About This Book Easy-to-follow recipes to get you up-and-running with the new features of C# 7 and .NET Core 1.1 Practical solutions to assist you with microservices and serverless computing in C# Explore the new Visual Studio environment and write more secure code in it Who This Book Is For The book will appeal to C# and .NET developers who have a basic familiarity with C# and the Visual Studio 2015 environment What You Will Learn Writing better and less code to achieve the same result as in previous versions of C# Working with analyzers in Visual Studio Working with files, streams, and serialization Writing high-performant code in C# and understanding multi-threading Demystifying the Rx library using Reactive extensions Exploring .Net Core 1.1 and ASP.NET MVC Securing your applications and learning new debugging techniques Designing and building a microservice architecture Using Azure and AWS for serverless computing with C# In Detail C# has recently been open-sourced and C# 7 comes with a host of new features for building powerful, cross-platform applications. This book will be your solution to some common programming problems that you come across with C# and will also help you get started with .NET Core 1.1. Through a recipe-based approach, this book will help you overcome common programming challenges and get your applications ready to face the modern world. We start by running you through new features in C# 7, such as tuples, pattern matching, and so on, giving you hands-on experience with them. Moving forward, you will work with generics and the OOP features in C#. You will then move on to more advanced topics, such as reactive extensions, Regex, code analyzers, and asynchronous programming. This book will also cover new, cross-platform .NET Core 1.1 features and teach you how to utilize .NET Core on macOS. Then, we will explore microservices

as well as serverless computing and how these benefit modern developers. Finally, you will learn what you can do with Visual Studio 2017 to put mobile application development across multiple platforms within the reach of any developer. Style and approach A unique recipe-based guide that will help you gain a solid understanding of the new concepts in C# 7.0 and Visual Studio 2017

Secure Coding in C and C++ - Robert C. Seacord 2005-09-09

"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. *C++17 STL Cookbook* - Jacek Galowicz 2017-06-28

Over 90 recipes that leverage the powerful features of the Standard Library in C++17 About This Book Learn the latest features of C++ and how to write better code by using the Standard Library (STL). Reduce the development time for your applications. Understand the scope and power of STL features to deal with real-world problems. Compose your own algorithms without forfeiting the simplicity and elegance of the STL way. Who This Book Is For This book is for intermediate-to-advanced C++ programmers who want to get the most out of the Standard Template Library of the newest version of C++: C++ 17. What You Will Learn Learn about the new core language features and the problems they were intended to solve Understand the inner workings and requirements of iterators by implementing them Explore algorithms, functional programming style, and lambda expressions Leverage the rich, portable, fast, and well-tested set of well-designed algorithms provided in the STL Work with strings the STL way instead of handcrafting C-style code Understand standard support classes for concurrency and synchronization, and how to put them to work Use the filesystem library addition available with the C++17 STL In Detail C++ has come a long way and is in use in every area of the industry. Fast, efficient, and flexible, it is used to solve many problems. The upcoming version of C++ will see programmers change the way they code. If you want to grasp the practical usefulness of the C++17 STL in order to write smarter, fully portable code, then

this book is for you. Beginning with new language features, this book will help you understand the language's mechanics and library features, and offers insight into how they work. Unlike other books, ours takes an implementation-specific, problem-solution approach that will help you quickly overcome hurdles. You will learn the core STL concepts, such as containers, algorithms, utility classes, lambda expressions, iterators, and more, while working on practical real-world recipes. These recipes will help you get the most from the STL and show you how to program in a better way. By the end of the book, you will be up to date with the latest C++17 features and save time and effort while solving tasks elegantly using the STL. Style and approach This recipe-based guide will show you how to make the best use of C++ together with the STL to squeeze more out of the standard language

Secure Coding - Mark Graff 2003

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.

C# 6.0 Cookbook - Jay Hilyard 2015-09-29

Completely updated for C# 6.0, the new edition of this bestseller offers more than 150 code recipes to common and not-so-common problems that C# programmers face every day. More than a third of the recipes have been rewritten to take advantage of new C# 6.0 features. If you prefer solutions to general C# language instruction and quick answers to theory, this is your book. *C# 6.0 Cookbook* offers new recipes

for asynchronous methods, dynamic objects, enhanced error handling, the Roslyn compiler, and more. Here are some of topics covered: Classes and generics Collections, enumerators, and iterators Data types LINQ and Lambda expressions Exception handling Reflection and dynamic programming Regular expressions Filesystem interactions Networking and the Web XML usage Threading, Synchronization, and Concurrency Each recipe in the book includes tested code that you can download from oreilly.com and reuse in your own applications, and each one includes a detailed discussion of how and why the underlying technology works. You don't have to be an experienced C# or .NET developer to use *C# 6.0 Cookbook*. You just have to be someone who wants to solve a problem now, without having to learn all the related theory first.

C++ Cookbook - D. Ryan Stephens 2006

"Solutions and examples for C++ programmers"-Cover.

Modern C++ Programming Cookbook -

Marius Bancila 2020-09-11

A pragmatic recipe book for acquiring a comprehensive understanding of the complexities and core fundamentals of C++ programming Key Features Explore the latest language and library features of C++20 such as modules, coroutines, concepts, and ranges Shed new light on the core concepts in C++ programming, including functions, algorithms, threading, and concurrency, through practical self-contained recipes Leverage C++ features like smart pointers, move semantics, constexpr, and more for increased robustness and performance Book Description C++ has come a long way to be one of the most widely used general-purpose languages that is fast, efficient, and high-performance at its core. The updated second edition of *Modern C++ Programming Cookbook* addresses the latest features of C++20, such as modules, concepts, coroutines, and the many additions to the standard library, including ranges and text formatting. The book is organized in the form of practical recipes covering a wide range of problems faced by modern developers. The book also delves into the details of all the core concepts in modern C++ programming, such as functions and classes, iterators and algorithms, streams and

the file system, threading and concurrency, smart pointers and move semantics, and many others. It goes into the performance aspects of programming in depth, teaching developers how to write fast and lean code with the help of best practices. Furthermore, the book explores useful patterns and delves into the implementation of many idioms, including `pimpl`, named parameter, and attorney-client, teaching techniques such as avoiding repetition with the factory pattern. There is also a chapter dedicated to unit testing, where you are introduced to three of the most widely used libraries for C++: Boost.Test, Google Test, and Catch2. By the end of the book, you will be able to effectively leverage the features and techniques of C++11/14/17/20 programming to enhance the performance, scalability, and efficiency of your applications. What you will learn

- Understand the new C++20 language and library features and the problems they solve
- Become skilled at using the standard support for threading and concurrency for daily tasks
- Leverage the standard library and work with containers, algorithms, and iterators
- Solve text searching and replacement problems using regular expressions
- Work with different types of strings and learn the various aspects of compilation
- Take advantage of the file system library to work with files and directories
- Implement various useful patterns and idioms
- Explore the widely used testing frameworks for C++

Who this book is for The book is designed for entry- or medium-level C++ programmers who have a basic knowledge of C++ and want to master the language and become prolific modern C++ developers. Experienced C++ programmers can leverage this book to strengthen their command of C++ and find a good reference to many language and library features of C++11/14/17/20.

The Book of R - Tilman M. Davies 2016-07-16
The Book of R is a comprehensive, beginner-friendly guide to R, the world's most popular programming language for statistical analysis. Even if you have no programming experience and little more than a grounding in the basics of mathematics, you'll find everything you need to begin using R effectively for statistical analysis. You'll start with the basics, like how to handle data and write simple programs, before moving on to more advanced topics, like producing

statistical summaries of your data and performing statistical tests and modeling. You'll even learn how to create impressive data visualizations with R's basic graphics tools and contributed packages, like `ggplot2` and `ggvis`, as well as interactive 3D visualizations using the `rgl` package. Dozens of hands-on exercises (with downloadable solutions) take you from theory to practice, as you learn:

- The fundamentals of programming in R, including how to write data frames, create functions, and use variables, statements, and loops
- Statistical concepts like exploratory data analysis, probabilities, hypothesis tests, and regression modeling, and how to execute them in R
- How to access R's thousands of functions, libraries, and data sets
- How to draw valid and useful conclusions from your data
- How to create publication-quality graphics of your results

Combining detailed explanations with real-world examples and exercises, this book will provide you with a solid understanding of both statistics and the depth of R's functionality. Make The Book of R your doorway into the growing world of data analysis.

Planning for PKI - Russ Housley 2001-03-27
An in-depth technical guide on the security technology driving Internet e-commerce expansion. "Planning for PKI" examines the number-one Internet security technology that will be widely adopted in the next two years. Written by two of the architects of the Internet PKI standards, this book provides authoritative technical guidance for network engineers, architects, and managers who need to implement the right PKI architecture for their organization. The authors discuss results and lessons learned from early PKI pilots, helping readers evaluate PKI deployment impact on current network architecture while avoiding the pitfalls of early technical mistakes. Four technical case studies detail the do's and don'ts of PKI implementation, illustrating both successes and failures of different deployments. Readers will also learn how to leverage future PKI-related technologies for additional benefits.

Secure Software Development - Jason Grembi 2008
Leads readers through the tasks and activities that successful computer programmers navigate on a daily basis.

Secure Coding in C and C++ - Robert C.

Seacord 2013-03-23

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 tens of thousands of vulnerability reports since 1988, CERT has determined that a relatively small number of root causes account for most of the vulnerabilities. Secure Coding in C and C++, Second Edition, identifies and explains these root causes and shows the steps that can be taken to prevent exploitation. Moreover, this book encourages programmers to adopt security best practices and to develop a security mindset that can help protect software from tomorrow's attacks, not just today's. Drawing on the CERT's reports and conclusions, Robert C. 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 or C++ application Thwart buffer overflows, stack-smashing, and return-oriented programming 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 resulting from signed integer overflows, unsigned integer wrapping, and truncation errors Perform secure I/O, avoiding file system vulnerabilities Correctly use formatted output functions without introducing format-string vulnerabilities Avoid race conditions and other exploitable vulnerabilities while developing concurrent code The second edition features Updates for C11 and C++11 Significant revisions to chapters on strings, dynamic memory management, and integer security A new chapter on concurrency Access to the online secure coding course offered through Carnegie Mellon's Open Learning Initiative (OLI) Secure Coding in C and C++, Second Edition, 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.

Android Security Cookbook - Keith Makan

2013-12-23

Android Security Cookbook' breaks down and enumerates the processes used to exploit and remediate Android app security vulnerabilities in the form of detailed recipes and walkthroughs. Android Security Cookbook is aimed at anyone who is curious about Android app security and wants to be able to take the necessary practical measures to protect themselves; this means that Android application developers, security researchers and analysts, penetration testers, and generally any CIO, CTO, or IT managers facing the impending onslaught of mobile devices in the business environment will benefit from reading this book.

Perl Cookbook - Tom Christiansen 2003-08-21

Find a Perl programmer, and you'll find a copy of Perl Cookbook nearby. Perl Cookbook is a comprehensive collection of problems, solutions, and practical examples for anyone programming in Perl. The book contains hundreds of rigorously reviewed Perl "recipes" and thousands of examples ranging from brief one-liners to complete applications. The second edition of Perl Cookbook has been fully updated for Perl 5.8, with extensive changes for Unicode support, I/O layers, mod_perl, and new technologies that have emerged since the previous edition of the book. Recipes have been updated to include the latest modules. New recipes have been added to every chapter of the book, and some chapters have almost doubled in size. Covered topic areas include: Manipulating strings, numbers, dates, arrays, and hashes Pattern matching and text substitutions References, data structures, objects, and classes Signals and exceptions Screen addressing, menus, and graphical applications Managing other processes Writing secure scripts Client-server programming Internet applications programming with mail, news, ftp, and telnet CGI and mod_perl programming Web programming Since its first release in 1998, Perl Cookbook has earned its place in the libraries of serious Perl users of all levels of expertise by providing practical answers, code examples, and mini-tutorials addressing the challenges that programmers face. Now the second edition of this bestselling book is ready to earn its place among the ranks of favorite Perl books as

well. Whether you're a novice or veteran Perl programmer, you'll find Perl Cookbook, 2nd Edition to be one of the most useful books on Perl available. Its comfortable discussion style and accurate attention to detail cover just about any topic you'd want to know about. You can get by without having this book in your library, but once you've tried a few of the recipes, you won't want to.

Herb Schildt's C++ Programming Cookbook - Herbert Schildt 2008-05-22

Your Ultimate "How-To" Guide to C++ Programming! Legendary programming author Herb Schildt shares some of his favorite programming techniques in this high-powered C++ "cookbook." Organized for quick reference, each "recipe" shows how to accomplish a practical programming task. A recipe begins with a list of key ingredients (classes, functions, and headers) followed by step-by-step instructions that show how to assemble them into a complete solution. Detailed discussions explain the how and why behind each step, and a full code example puts the recipe into action. Each recipe ends with a list of options and alternatives that suggest ways to adapt the technique to fit a variety of situations. Whether you're a beginner or an experienced pro, you'll find recipes that are sure to satisfy your C++

programming appetite! Topics include: String Handling · Standard Template Library (STL) Containers · Algorithms · Function Objects · Binders · Negators · Adaptors · Iterators · I/O · Formatting Data Learn how to: Tokenize a null-terminated string Create a search and replace function for strings Implement subtraction for string objects Use the vector, deque, and list sequence containers Use the container adaptors stack, queue, and priority_queue Use the map, multimap, set, and multiset associative containers Reverse, rotate, and shuffle a sequence Create a function object Use binders, negators, and iterator adapters Read and write files Use stream iterators to handle file I/O Use exceptions to handle I/O errors Create custom inserters and extractors Format date, time, and numeric data Use facets and the localization library Overload the [], (), and -> operators Create an explicit constructor And much, much more

Secure Coding in C and C++ - Robert C. Seacord 2013-04-02

Discusses the causes of software vulnerabilities, including which program errors are most likely to lead to breaches, as well as what programmers can do to prevent exploitation and improve the security of C or C++ applications.