

Tcp Ip Sockets In C

“For an engineer determined to refine and secure Internet operation or to explore alternative solutions to persistent problems, the insights provided by this book will be invaluable.” —Vint Cerf, Internet pioneer TCP/IP Illustrated, Volume 1, Second Edition, is a detailed and visual guide to today’s TCP/IP protocol suite. Fully updated for the newest innovations, it demonstrates each protocol in action through realistic examples from modern Linux, Windows, and Mac OS environments. There’s no better way to discover why TCP/IP works as it does, how it reacts to common conditions, and how to apply it in your own applications and networks. Building on the late W. Richard Stevens’ classic first edition, author Kevin R. Fall adds his cutting-edge experience as a leader in TCP/IP protocol research, updating the book to fully reflect the latest protocols and best practices. He first introduces TCP/IP’s core goals and architectural concepts, showing how they can robustly connect diverse networks and support multiple services running concurrently. Next, he carefully explains Internet addressing in both IPv4 and IPv6 networks. Then, he walks through TCP/IP’s structure and function from the bottom up: from link layer protocols—such as Ethernet and Wi-Fi—through network, transport, and application layers. Fall thoroughly introduces ARP, DHCP, NAT, firewalls, ICMPv4/ICMPv6, broadcasting, multicasting, UDP, DNS, and much more. He offers extensive coverage of reliable transport and TCP, including connection management, timeout, retransmission, interactive data flow, and congestion control. Finally, he introduces the basics of security and cryptography, and illuminates the crucial modern protocols for protecting security and privacy, including EAP, IPsec, TLS, DNSSEC, and DKIM. Whatever your TCP/IP experience, this book will help you gain a deeper, more intuitive understanding of the entire protocol suite so you can build better applications and run more reliable, efficient networks.

Most Internet applications use sockets to implement network communication protocols. TCP/IP Sockets in Java: Practical Guide for Programmers, with its focused, tutorial-based coverage, helps you master the tasks and techniques essential to virtually all client-server projects using sockets in Java. Later chapters teach you to implement more specialized functionality; incisive discussions of programming constructs and protocol implementations equip you with a deeper understanding that is invaluable for meeting future challenges. No other resource presents so concisely or so effectively the exact material you need to get up and running with Java sockets programming right away. For those who program using the C language, be sure to check out this book's companion, TCP/IP Sockets in C: Practical Guide for Programmers. For example code from the text, sample programming exercises, Powerpoint slides, and more, click on the grey "Companion Site" button to the right.

- *Concise, no-nonsense explanations of issues often troublesome for students, including message construction and parsing, underlying mechanisms and Java I/O
- *Comprehensive example-based coverage of the most important TCP/IP techniques-including iterative and threaded servers, timeouts and asynchronous message processing
- *Includes a detailed, easy-to-use reference to the relevant JAVA class libraries
- *A companion Web site provides online code for all the example programs given in the book
- *Provides a guide to common errors and a reference offering detailed documentation of the sockets interface
- *Perfect for a practitioner who may even want just to "look into" this technology.
- *Provides tutorial-based instruction in key sockets programming techniques, focusing exclusively on Jva and complemented by example code.
- *Covers challenging sockets programming issues: message construction and parsing, underlying TCP/IP protocol mechanisms, Java I/O, iterate and threaded servers, and timeouts.
- *Includes references to the relevant Java class libraries that often go beyond the "official" Java documentation in clarity and explanation.
- *Provides code for all example programs, along with additional exercises, via companion Web site.
- * Clear and abundant examples, using real-world code, written by three experienced developers who write networking code for a living.
- * Describes how to build clients and servers, explains how TCP, UDP, and IP work, and shows how to debug networking applications via packet sniffing and deconstruction.
- * Well suited for Windows developer looking to expand to Linux, or for the proficient Linux developer looking to incorporate client-server programming into their application.

The networking capabilities of the Java platform have been extended considerably since the first edition of the book. This new edition covers version 1.5-1.7, the most current iterations, as well as making the following improvements: The API (application programming interface) reference sections in each chapter, which describe the relevant parts of each class, have been replaced with (i) a summary section that lists the classes and methods used in the code, and (ii) a "gotchas" section that mentions nonobvious or poorly-documented aspects of the objects. In addition, the book covers several new classes and capabilities introduced in the last few revisions of the Java platform. New abstractions to be covered include NetworkInterface, InetAddress, Inet4/6Address, SocketAddress/InetSocketAddress, Executor, and others; extended access to low-level network information; support for IPv6; more complete access to socket options; and scalable I/O. The example code is also modified to take advantage of new language features such as annotations, enumerations, as well as generics and implicit iterators where appropriate. Most Internet applications use sockets to implement network communication protocols. This book's focused, tutorial-based approach helps the reader master the tasks and techniques essential to virtually all client-server projects using sockets in Java. Chapter 1 provides a general overview of networking concepts to allow readers to synchronize the concepts with terminology. Chapter 2 introduces the mechanics of simple clients and servers. Chapter 3 covers basic message construction and parsing. Chapter 4 then deals with techniques used to build more robust clients and servers. Chapter 5 (NEW) introduces the scalable interface facilities which were introduced in Java 1.5, including the buffer and channel abstractions. Chapter 6 discusses the relationship between the programming constructs and the underlying protocol implementations in more detail. Programming concepts are introduced through simple program examples accompanied by line-by-line code commentary that describes the purpose of every part of the program. No other resource presents so concisely or so effectively the material necessary to

get up and running with Java sockets programming. Focused, tutorial-based instruction in key sockets programming techniques allows reader to quickly come up to speed on Java applications. Concise and up-to-date coverage of the most recent platform (1.7) for Java applications in networking technology.

The TCP/IP protocol suite has become the de facto standard for computer communications in today's networked world. The ubiquitous implementation of a specific networking standard has led to an incredible dependence on the applications enabled by it. Today, we use the TCP/IP protocols and the Internet not only for entertainment and information, but to conduct our business by performing transactions, buying and selling products, and delivering services to customers. We are continually extending the set of applications that leverage TCP/IP, thereby driving the need for further infrastructure support. It is our hope that both the novice and the expert will find useful information in this publication.

Demonstrates socket programming fundamentals, including writing servers, creating secure applications, address conversion functions, socket types, and TCP/IP protocols and options

Covers topics including HTTP methods and status codes, optimizing proxies, designing web crawlers, content negotiation, and load-balancing strategies.

TCP/IP Sockets in C Practical Guide for Programmers Morgan Kaufmann

TCP/IP is the most widely used network protocol. Now, this 14-day tutorial instructs the reader in the fundamentals of TCP/IP through a variety of teaching methods. The 14 day structure provides a logical and easy-to-follow sequence. Handy references with short examples are provided in shaded syntax boxes. Daily lessons, review sections, and clear examples are also included. TCP/IP Sockets in C: Practical Guide for Programmers, Second Edition is a quick and affordable way to gain the knowledge and skills needed to develop sophisticated and powerful web-based applications. The book's focused, tutorial-based approach enables the reader to master the tasks and techniques essential to virtually all client-server projects using sockets in C. This edition has been expanded to include new advancements such as support for IPv6 as well as detailed defensive programming strategies. If you program using Java, be sure to check out this book's companion, TCP/IP Sockets in Java: Practical Guide for Programmers, 2nd Edition . Includes completely new and expanded sections that address the IPv6 network environment, defensive programming, and the select() system call, thereby allowing the reader to program in accordance with the most current standards for internetworking. Streamlined and concise tutelage in conjunction with line-by-line code commentary allows readers to quickly program web-based applications without having to wade through unrelated and discursive networking tenets.

"Linux Socket Programming" provides thorough, authoritative coverage of the sockets API, the defacto standard for all network programming. It gives real-world examples that demonstrate effective techniques to make code more robust and versatile. This book contains the only complete reference for all calls and functions needed to program sockets.

1 -- Introduction to JDBC -- 2 -- Presenting Information to Users -- 3 -- Querying the Database -- 4 -- Updating the Database -- 5 -- Advanced JDBC Topics -- 6 -- An eCommerce Example -- 7 -- How to Stay Current with JDBC -- 8 -- Appendix.

This book provides thorough knowledge of Linux TCP/IP stack and kernel framework for its network stack, including complete knowledge of design and implementation. Starting with simple client-server socket programs and progressing to complex design and implementation of TCP/IP protocol in linux, this book provides different aspects of socket programming and major TCP/IP related algorithms. In addition, the text features netfilter hook framework, a complete explanation of routing sub-system, IP QOS implementation, and Network Soft IRQ. This book further contains elements on TCP state machine implementation, TCP timer implementation on Linux, TCP memory management on Linux, and debugging TCP/IP stack using lcrash

TCP/IP Illustrated, Volume 1, Second Edition, is a detailed and visual guide to today's TCP/IP protocol suite. Fully updated for the newest innovations, it demonstrates each protocol in action through realistic examples from modern Linux, Windows, and Mac OS environments. There's no better way to discover why TCP/IP works as it does, how it reacts to common conditions, and how to apply it in your own applications and networks. Building on the late W. Richard Stevens' classic first edition, author Kevin R. Fall adds his cutting-edge experience as a leader in TCP/IP protocol research, updating the book to fully reflect the latest protocols and best practices.

bull; Learn UNIX essentials with a concentration on communication, concurrency, and multithreading techniques bull; Full of ideas on how to design and implement good software along with unique projects throughout bull; Excellent companion to Stevens' Advanced UNIX System Programming

If you want to master the art and science of reverse engineering code with IDA Pro for security R&D or software debugging, this is the book for you. Highly organized and sophisticated criminal entities are constantly developing more complex, obfuscated, and armored viruses, worms, Trojans, and botnets. IDA Pro's interactive interface and programmable development language provide you with complete control over code disassembly and debugging. This is the only book which focuses exclusively on the world's most powerful and popular tool for reverse engineering code.

*Reverse Engineer REAL Hostile Code To follow along with this chapter, you must download a file called !DANGER!INFECTEDMALWARE!DANGER!... 'nuff said. *Portable Executable (PE) and Executable and Linking Formats (ELF) Understand the physical layout of PE and ELF files, and analyze the components that are essential to reverse engineering. *Break Hostile Code Armor and Write your own Exploits Understand execution flow, trace functions, recover hard coded passwords, find vulnerable functions, backtrace execution, and craft a buffer overflow. *Master Debugging Debug in IDA Pro, use a debugger while reverse engineering, perform heap and stack access modification, and use other debuggers. *Stop Anti-Reversing Anti-reversing, like reverse engineering or coding in assembly, is an art form. The trick of course is to try to stop the person reversing the application. Find out how! *Track a Protocol through a Binary and Recover its Message Structure Trace execution flow from a read event, determine the structure of a protocol, determine if the protocol has any undocumented messages, and use IDA Pro to determine the functions that process a particular message. *Develop IDA Scripts and Plug-ins Learn the basics of IDA scripting and syntax, and write IDC scripts and plug-ins to automate even the most complex tasks.

The Pocket Guide to TCP/IP Sockets is a quick and affordable way to gain the knowledge and skills you need to develop sophisticated and powerful networked-based programs using sockets. Written by two experienced networking instructors,

this book provides a series of examples that demonstrate basic sockets techniques for clients and servers. Using plenty of real-world examples, this book is a complete beginner's guide to socket programming and a springboard to more advanced networking topics, including multimedia protocols.

Software -- Operating Systems.

TCP/IP Sockets in C: Practical Guide for Programmers, Second Edition is a quick and affordable way to gain the knowledge and skills needed to develop sophisticated and powerful web-based applications. The book's focused, tutorial-based approach enables the reader to master the tasks and techniques essential to virtually all client-server projects using sockets in C. This edition has been expanded to include new advancements such as support for IPv6 as well as detailed defensive programming strategies. If you program using Java, be sure to check out this book's companion, TCP/IP Sockets in Java: Practical Guide for Programmers, 2nd Edition. Includes completely new and expanded sections that address the IPv6 network environment, defensive programming, and the `select()` system call, thereby allowing the reader to program in accordance with the most current standards for internetworking. Streamlined and concise tutelage in conjunction with line-by-line code commentary allows readers to quickly program web-based applications without having to wade through unrelated and discursive networking tenets.

Programming in TCP/IP can seem deceptively simple. Nonetheless, many network programmers recognize that their applications could be much more robust. Effective TCP/IP Programming is designed to boost programmers to a higher level of competence by focusing on the protocol suite's more subtle features and techniques. It gives you the know-how you need to produce highly effective TCP/IP programs. In forty-four concise, self-contained lessons, this book offers experience-based tips, practices, and rules of thumb for learning high-performance TCP/IP programming techniques. Moreover, it shows you how to avoid many of TCP/IP's most common trouble spots. Effective TCP/IP Programming offers valuable advice on such topics as: Exploring IP addressing, subnets, and CIDR Preferring the sockets interface over XTI/TLI Using two TCP connections Making your applications event-driven Using one large write instead of multiple small writes Avoiding data copying Understanding what TCP reliability really means Recognizing the effects of buffer sizes Using `tcpdump`, `traceroute`, `netstat`, and `ping` effectively Numerous examples demonstrate essential ideas and concepts. Skeleton code and a library of common functions allow you to write applications without having to worry about routine chores. Through individual tips and explanations, you will acquire an overall understanding of TCP/IP's inner workings and the practical knowledge needed to put it to work. Using Effective TCP/IP Programming, you'll speed through the learning process and quickly achieve the programming capabilities of a seasoned pro.

The purpose of this book is to provide tools to design and implement network-orientated applications in .NET. It is also a guide for software designers to choose the best and most efficient way to implement mission critical solutions. The book addresses real-world issues facing professional developers, such as using third-party components as opposed in-house development. It differentiates itself from existing .NET publications because it is aimed at experienced professionals and concentrates on practical, ready-to-use information. The book is written in two languages C# and VB.NET, and covers never-before published information on Telephony in .NET and packet-level networking. This is the second book in the Digital Press Software Development Series. Coverage of lower level protocols allows implementation of performance-centric applications Demonstrates the feasibility of developing telephony solutions in-house rather than outsourcing Written in VB.NET and C# to assist readers working in either language Coverage of Email, FTP and the WWW allows implementation of applications in all three areas

This complete guide to setting up and running a TCP/IP network is essential for network administrators, and invaluable for users of home systems that access the Internet. The book starts with the fundamentals -- what protocols do and how they work, how addresses and routing are used to move data through the network, how to set up your network connection -- and then covers, in detail, everything you need to know to exchange information via the Internet. Included are discussions on advanced routing protocols (RIPv2, OSPF, and BGP) and the gated software package that implements them, a tutorial on configuring important network services -- including DNS, Apache, sendmail, Samba, PPP, and DHCP -- as well as expanded chapters on troubleshooting and security. TCP/IP Network Administration is also a command and syntax reference for important packages such as `gated`, `pppd`, `named`, `dhcpcd`, and `sendmail`. With coverage that includes Linux, Solaris, BSD, and System V TCP/IP implementations, the third edition contains: Overview of TCP/IP Delivering the data Network services Getting started M Basic configuration Configuring the interface Configuring routing Configuring DNS Configuring network servers Configuring sendmail Configuring Apache Network security Troubleshooting Appendices include `dip`, `ppd`, and `chat` reference, a `gated` reference, a `dhcpcd` reference, and a `sendmail` reference This new edition includes ways of configuring Samba to provide file and print sharing on networks that integrate Unix and Windows, and a new chapter is dedicated to the important task of configuring the Apache web server. Coverage of network security now includes details on OpenSSH, `stunnel`, `gpg`, `iptables`, and the access control mechanism in `xinetd`. Plus, the book offers updated information about DNS, including details on BIND 8 and BIND 9, the role of classless IP addressing and network prefixes, and the changing role of registrars. Without a doubt, TCP/IP Network Administration, 3rd Edition is a must-have for all network administrators and anyone who deals with a network that transmits data over the Internet.

Do you need to develop flexible software that can be customized quickly? Do you need to add the power and efficiency of frameworks to your software? The ADAPTIVE Communication Environment (ACE) is an open-source toolkit for building high-performance networked applications and next-generation middleware. ACE's power and flexibility arise from object-oriented frameworks, used to achieve the systematic reuse of networked application software. ACE frameworks handle common network programming tasks and can be customized using C++ language features to produce complete distributed applications. C++ Network Programming, Volume 2, focuses on ACE frameworks, providing thorough coverage of the concepts, patterns, and usage rules that form their structure. This book is a practical guide to designing object-oriented frameworks and shows developers how to apply frameworks to concurrent networked applications. C++ Networking, Volume 1, introduced ACE and the wrapper facades, which are basic network computing ingredients. Volume 2 explains how frameworks build on wrapper facades to provide higher-level communication services. Written by two experts in the ACE community, this book contains: An overview of ACE frameworks

Design dimensions for networked services Descriptions of the key capabilities of the most important ACE frameworks Numerous C++ code examples that demonstrate how to use ACE frameworks C++ Network Programming, Volume 2, teaches how to use frameworks to write networked applications quickly, reducing development effort and overhead. It will be an invaluable asset to any C++ developer working on networked applications.

This book teaches systems programming with the latest versions of C through a set of practical examples and problems. It covers the development of a handful of programs, implementing efficient coding examples. Practical Systems Programming with C contains three main parts: getting your hands dirty with C programming; practical systems programming using concepts such as processes, signals, and inter-process communication; and advanced socket-based programming which consists of developing a network application for reliable communication. You will be introduced to a marvelous ecosystem of systems programming with C, from handling basic system utility commands to communicating through socket programming. With the help of socket programming you will be able to build client-server applications in no time. The "secret sauce" of this book is its curated list of topics and solutions, which fit together through a set of different pragmatic examples; each topic is covered from scratch in an easy-to-learn way. On that journey, you'll focus on practical implementations and an outline of best practices and potential pitfalls. The book also includes a bonus chapter with a list of advanced topics and directions to grow your skills. What You Will Learn Program with operating systems using the latest version of C Work with Linux Carry out multithreading with C Examine the POSIX standard Work with files, directories, processes, and signals Explore IPC and how to work with it Who This Book Is For Programmers who have an exposure to C programming and want to learn systems programming. This book will help them to learn about core concepts of operating systems with the help of C programming. .

Practical explanations are given of Microsoft's networking APIs. This definitive reference covers the network programming interfaces available on the Windows 98, Windows NT/200, and Windows CE platforms. The CD-ROM features reusable code examples in Visual C++.

Back in the mid 90s, Beej got tired of all his friends asking him how to do this stuff with networking programming in C, so he put pen to paper on the early World Wide Web and wrote down everything he knew just to get them off his back. Since then, the Guide has expanded significantly, with plenty of examples, and covers IPv6. Inside you'll find such diverse topics as: Sockets programming in the C programming language, client/server, IPv4 and IPv6, data encoding, lots of manual pages rewritten in a friendlier format with examples, and goats! Actually no goats, but goats will be with you in spirit! Beej's Guide to Network Programming is also freely available for PDF download online in US Letter and A4 sizes, in its entirety, and always will be--Google for it. The bound version here is provided as a service to those who still prefer the analog printed word. (And to those who want to kick back a few bucks to the author.)

A guide to developing network programs covers networking fundamentals as well as TCP and UDP sockets, multicasting protocol, content handlers, servlets, I/O, parsing, Java Mail API, and Java Secure Sockets Extension.

This easy-to-use, fast-moving tutorial introduces you to functional programming with Haskell. You'll learn how to use Haskell in a variety of practical ways, from short scripts to large and demanding applications. Real World Haskell takes you through the basics of functional programming at a brisk pace, and then helps you increase your understanding of Haskell in real-world issues like I/O, performance, dealing with data, concurrency, and more as you move through each chapter.

SQL is a solid guide and reference to the key elements of SQL and how to use it effectively. Developed by authors who needed a good resource for students in their database class, this is an ideal supplement for database courses — no matter what main text you use or what flavor of SQL is required. It features a short and inexpensive introduction to SQL for students who have some programming experience and need to learn the main features of SQL; and suggested shortcuts for learning and practice, depending on the experience of the user. This book is recommended for novice developers, programmers, and database administrators as well as students in database courses, business courses, and IT-related courses. Provides tutorial-based instruction for the main features of SQL for programmers and other technical professionals in need of a brief but really good introduction to SQL. The approach is vendor-neutral—so very adaptable and flexible The focus is on teaching concepts by walking through concrete examples and explanations, and self-review exercises are included at the end of each chapter. Coverage is on the key features of the language that are required to understand SQL and begin using it effectively. SQL 2003-compliant.

On its own, C# simplifies network programming. Combine it with the precise instruction found in C# Network Programming, and you'll find that building network applications is easier and quicker than ever. This book helps newcomers get started with a look at the basics of network programming as they relate to C#, including the language's network classes, the Winsock interface, and DNS resolution. Spend as much time here as you need, then dig into the core topics of the network layer. You'll learn to make sockets connections via TCP and "connectionless" connections via UDP. You'll also discover just how much help C# gives you with some of your toughest chores, such as asynchronous socket programming, multithreading, and multicasting. Network-layer techniques are just a means to an end, of course, and so this book keeps going, providing a series of detailed application-layer programming examples that show you how to work with real protocols and real network environments to build and implement a variety of applications. Use SNMP to manage network devices, SMTP to communicate with remote mail servers, and HTTP to Web-enable your applications. And use classes native to C# to query and modify Active Directory entries. Rounding it all out is plenty of advanced coverage to push your C# network programming skills to the limit. For example, you'll learn two ways to share application methods across the network: using Web services and remoting. You'll also master the security features intrinsic to C# and .NET--features that stand to benefit all of your programming projects.

This book contains everything you need to make your application program support IPv6. IPv6 socket APIs (RFC2553) are fully described with real-world examples. It covers security, a great concern these days. To secure the Internet infrastructure, every developer has to take a security stance - to audit every line of code, to use proper API and write correct and secure code as much as possible. To achieve this goal, the examples presented in this book are implemented with a security stance. Also, the book leads you to write secure programs. For instance, the book recommends against the use of some of the IPv6 standard APIs - unfortunately, there are some IPv6 APIs that are inherently insecure, so the book tries to avoid (and discourage) the use of such APIs. Another key issue is portability. The examples in the book should be applicable to any of UNIX based operating systems, MacOS X, and Windows XP. * Covers the new protocol just adopted by the Dept of Defense for future systems * Deals with security concerns, including spam and email, by presenting the best programming standards * Fully describes IPv6 socket APIs (RFC2553) using real-world examples * Allows for portability to UNIX-based operating systems, MacOS X, and Windows XP

As networks, devices, and systems continue to evolve, software engineers face the unique challenge of creating reliable distributed applications within frequently changing environments. C++ Network Programming, Volume 1, provides practical solutions for developing and optimizing complex distributed systems using the ADAPTIVE Communication Environment (ACE), a revolutionary open-source framework

that runs on dozens of hardware platforms and operating systems. This book guides software professionals through the traps and pitfalls of developing efficient, portable, and flexible networked applications. It explores the inherent design complexities of concurrent networked applications and the tradeoffs that must be considered when working to master them. C++ Network Programming begins with an overview of the issues and tools involved in writing distributed concurrent applications. The book then provides the essential design dimensions, patterns, and principles needed to develop flexible and efficient concurrent networked applications. The book's expert author team shows you how to enhance design skills while applying C++ and patterns effectively to develop object-oriented networked applications. Readers will find coverage of: C++ network programming, including an overview and strategies for addressing common development challenges The ACE Toolkit Connection protocols, message exchange, and message-passing versus shared memory Implementation methods for reusable networked application services Concurrency in object-oriented network programming Design principles and patterns for ACE wrapper facades With this book, C++ developers have at their disposal the most complete toolkit available for developing successful, multiplatform, concurrent networked applications with ease and efficiency.

This volume focuses on the underlying sockets class, one of the basis for learning about networks in any programming language. By learning to write simple client and server programs that use TCP/IP, readers can then realize network routing, framing, error detection and correction, and performance.

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.

Benvenuti describes the relationship between the Internet's TCP/IP implementation and the Linux Kernel so that programmers and advanced administrators can modify and fine-tune their network environment.

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