

BoostAsio C Network Programming Cookbook Over 25 Hands On Recipes To Create Robust And Highly Efficient Cross Platform Distributed Applications With The BoostAsio Library

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C++ Crash Course - Josh Lospinoso 2019-09-24

A fast-paced, thorough introduction to modern C++ written for experienced programmers. After reading C++ Crash Course, you'll be proficient in the core language concepts, the C++ Standard Library, and the Boost Libraries. C++ is one of the most widely used languages for real-world software. In the hands of a knowledgeable programmer, C++ can produce small, efficient, and readable code that any programmer would be proud of. Designed for intermediate to advanced programmers, C++ Crash Course cuts through the weeds to get you straight to the core of C++17, the most modern revision of the ISO standard. Part 1 covers the core of the C++ language, where you'll learn about everything from types and functions, to the object life cycle and expressions. Part 2 introduces you to the C++ Standard Library and Boost Libraries, where you'll learn about all of the high-quality, fully-featured facilities available to you. You'll cover special utility classes, data structures, and algorithms, and learn how to manipulate file systems and build high-performance programs that communicate over networks. You'll learn all the major features of modern C++, including:

- Fundamental types, reference types, and user-defined types
- The object lifecycle including storage duration, memory management, exceptions, call stacks, and the RAII paradigm
- Compile-time polymorphism with templates and run-time polymorphism with virtual classes
- Advanced expressions, statements, and functions
- Smart pointers, data structures, dates and times, numerics, and probability/statistics facilities
- Containers, iterators, strings, and algorithms
- Streams and files, concurrency, networking, and application development

With well over 500 code samples and nearly 100 exercises, C++ Crash Course is sure to help you build a strong C++ foundation.

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.

Modern C++ Programming Cookbook - Second Edition - MARIUS. BANCILA 2020-09-11

Over 100 recipes to help you overcome your difficulties with C++ programming and gain a deeper understanding of the working of modern C++ Key Features Explore the most important language and library features of C++17, including containers, algorithms, regular expressions, threads, and more, Get going with unit testing frameworks Boost.Test, Google Test and Catch, Extend your C++ knowledge and take your development skills to new heights by making your applications fast, robust, and scalable. Book Description C++ is one of the most widely used programming languages. Fast, efficient, and flexible, it is used to solve many problems. The latest versions of C++ have seen programmers change the way they code, giving up on the old-fashioned C-style programming and adopting modern C++ instead. Beginning with the modern language features, each recipe addresses a specific problem, with a discussion that explains the solution and offers insight into how it works. You will

learn major concepts about the core programming language as well as common tasks faced while building a wide variety of software. You will learn about concepts such as concurrency, performance, meta-programming, lambda expressions, regular expressions, testing, and many more in the form of recipes. These recipes will ensure you can make your applications robust and fast. By the end of the book, you will understand the newer aspects of C++11/14/17 and will be able to overcome tasks that are time-consuming or would break your stride while developing. What you will learn Get to know about the new core language features and the problems they were intended to solve Understand the standard support for threading and concurrency and know how to put them on work for daily basic tasks Leverage C++'s features to get increased robustness and performance Explore the widely-used testing frameworks for C++ and implement various useful patterns and idioms Work with various types of strings and look at the various aspects of compilation Explore functions and callable objects with a focus on modern features Leverage the standard library and work with containers, algorithms, and iterators Use regular expressions for find and replace string operations Take advantage of the new filesystem library to work with files and directories Use the new utility additions to the standard library to solve common problems developers encounter including `string_view`, `any`, `optional` and `variant` types Who this book is for If you want to overcome difficult phases of development with C++ and leverage its features using modern programming practices, then this book is for you. The book is designed for both experienced C++ programmers as well as people with strong knowledge of OOP concepts.

Programming Rust - Jim Blandy 2021-06-11

Systems programming provides the foundation for the world's computation. Writing performance-sensitive code requires a programming language that puts programmers in control of how memory, processor time, and other system resources are used. The Rust systems programming language combines that control with a modern type system that catches broad classes of common mistakes, from memory management errors to data races between threads. With this practical guide, experienced systems programmers will learn how to successfully bridge the gap between performance and safety using Rust. Jim Blandy, Jason Orendorff, and Leonora Tindall demonstrate how Rust's features put programmers in control over memory consumption and processor use by combining predictable performance with memory safety and trustworthy concurrency. You'll learn: Rust's fundamental data types and the core concepts of ownership and borrowing How to write flexible, efficient code with traits and generics How to write fast, multithreaded code without data races Rust's key power tools: closures, iterators, and asynchronous programming Collections, strings and text, input and output, macros, unsafe code, and foreign function interfaces This revised, updated edition covers the Rust 2021 Edition.

Large-Scale C++ Volume I - John Lakos 2019-12-02

Writing reliable and maintainable C++ software is hard. Designing such software at scale adds a new set of challenges. Creating large-scale systems requires a practical understanding of logical design – beyond the theoretical concepts addressed in most popular texts. To be successful on an enterprise scale, developers must also address physical design, a dimension of software engineering that may be unfamiliar even to expert developers. Drawing on over 30 years of hands-on experience building massive, mission-critical enterprise systems, John Lakos shows how to create and grow Software Capital. This groundbreaking volume lays the foundation for projects of all sizes and demonstrates the processes, methods, techniques, and tools needed for successful real-world, large-scale development. Up to date and with a solid engineering focus, Large-Scale

C++, Volume I: Process and Architecture, demonstrates fundamental design concepts with concrete examples. Professional developers of all experience levels will gain insights that transform their approach to design and development by understanding how to Raise productivity by leveraging differences between infrastructure and application development Achieve exponential productivity gains through feedback and hierarchical reuse Embrace the component's role as the fundamental unit of both logical and physical design Analyze how fundamental properties of compiling and linking affect component design Discover effective partitioning of logical content in appropriately sized physical aggregates Internalize the important differences among sufficient, complete, minimal, and primitive software Deliver solutions that simultaneously optimize encapsulation, stability, and performance Exploit the nine established levelization techniques to avoid cyclic physical dependencies Use lateral designs judiciously to avoid the "heaviness" of conventional layered architectures Employ appropriate architectural insulation techniques for eliminating compile-time coupling Master the multidimensional process of designing large systems using component-based methods This is the first of John Lakos's three authoritative volumes on developing large-scale systems using C++. This book, written for fellow software practitioners, uses familiar C++ constructs to solve real-world problems while identifying (and motivating) modern C++ alternatives. Together with the forthcoming Volume II: Design and Implementation and Volume III: Verification and Testing, Large-Scale C++ offers comprehensive guidance for all aspects of large-scale C++ software development. If you are an architect or project leader, this book will empower you to solve critically important problems right now – and serve as your go-to reference for years to come. Register your book for convenient access to downloads, updates, and/or corrections as they become available. See inside book for details.

C++ Network Programming, Volume I - Douglas Schmidt 2001-12-10

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.

Functional Programming in C++ - Ivan Cukic 2018-11-09
Summary Functional Programming in C++ teaches developers the practical side of functional programming and the tools that C++ provides to develop software in the functional style. This in-depth guide is full of useful diagrams that help you understand FP concepts and begin to think functionally. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Well-written code is easier to test and reuse, simpler to parallelize, and less error prone. Mastering the functional style of programming can help you tackle the demands of modern apps and will lead to simpler expression of complex program logic, graceful error handling, and elegant concurrency. C++ supports FP with templates, lambdas, and other core language features, along with many parts of the STL. About the Book Functional Programming in C++ helps you unleash the functional side of your brain, as you gain a powerful new perspective on C++ coding. You'll discover dozens of examples, diagrams, and illustrations that break down the functional concepts you can apply in C++, including lazy evaluation, function objects and invocables, algebraic data types, and more. As you read, you'll match FP techniques with practical scenarios where they offer the most benefit. What's inside Writing safer code with no performance penalties Explicitly handling errors through the type system Extending C++ with new control structures Composing tasks with DSLs About the Reader Written for developers with two or more years of experience coding in C++. About the Author Ivan Čukić is a core developer at KDE and has been coding in C++ since 1998. He teaches modern C++ and functional programming at the Faculty of Mathematics at the University of Belgrade. Table of Contents Introduction to functional programming Getting started with functional programming Function objects Creating new functions from the old ones Purity: Avoiding mutable state Lazy evaluation Ranges Functional data structures Algebraic data types and pattern matching Monads Template metaprogramming Functional design for concurrent systems Testing and debugging

The Boost C++ Libraries - Boris Schäling 2011
The second edition of The Boost C++ Libraries introduces 72 Boost libraries that provide a wide range of useful capabilities. They help you manage memory and process strings more easily. They provide containers and other data structures that go well beyond what the standard library offers. They make it easy to build platform-independent network applications. Simply put, these 72 libraries greatly expand your C++ toolbox. The second edition contains more than 430 examples. All examples are as short as possible, but they are complete, so you can compile and run them as is. They show you what the Boost libraries offer and give you a head start on using the libraries in your own applications. The goal of this book is to increase your efficiency as a C++ developer and to simplify software development with C++. The Boost libraries introduced in this book will help you write less code with fewer bugs and finish projects faster. You code will be more concise and self-explanatory and more easily adapted when requirements change. The second edition is based on the Boost libraries 1.55.0 and 1.56.0 with the latter version having been released in August 2014. The examples are based on C++11 and have been tested with Visual Studio 2013, GCC 4.8 and Clang 3.3 on various platforms. For Boost libraries which were incorporated into the C++11 standard library, differences between Boost and the standard library are highlighted. The Boost libraries are one of the most important and influential open source C++ libraries. Their source code is available under a permissive free software license. Several Boost libraries have been incorporated into the C++11 standard library. The Boost

libraries are developed and supported by the Boost community - a worldwide developer community with a strong interest in pushing C++ boundaries further. **Learning Boost C++ Libraries** - Arindam Mukherjee 2015-07-31
Filled with dozens of working code examples that illustrate the use of over 40 popular Boost libraries, this book takes you on a tour of Boost, helping you to independently build the libraries from source and use them in your own code. The first half of the book focuses on basic programming interfaces including generic containers and algorithms, strings, resource management, exception safety, and a miscellany of programming utilities that make everyday programming chores easy. Following a short interlude that introduces template metaprogramming and functional programming, the later chapters are devoted to systems programming interfaces, focusing on directory handling, I/O, concurrency, and network programming

Python Scripting for Network Engineers - Wajid Hassan 2019-01-02
Today Network Automation can be used for provisioning, configurations, identifying rogue devices, mitigating security attacks, compliance, audits, capacity planning and scores of other network deployment activities. It has helped in enhancing network visibility and has empowered the network engineers to make faster, smarter network decisions, optimize uptime and performance, enhance security, and enable innovation instead of spending endless cycles in managing the network. This book has been written for Network Engineers and Network Managers who are starting to explore network automation. This book is a good starting point for Network Engineers who learnt Programming in their earlier academic or work career and haven't used it in a long time or those Network Engineers who are learning Programming and Automation for the first time. The book has example Python Scripts which readers can practice and improve their job potential and make the networks more resilient and scalable.

UNIX System V Network Programming - Stephen A. Rago 1993
"Steve Rago offers valuable insights into the kernel-level features of SVR4 not covered elsewhere; I think readers will especially appreciate the coverage of STREAMS, TLI, and SLIP." - W. Richard Stevens, author of UNIX Network Programming, Advanced Programming in the UNIX Environment, TCP/IP Illustrated Volume 1, and TCP/IP Illustrated Volume 2 Finally, with UNIX(R) System V Network Programming, an authoritative reference is available for programmers and system architects interested in building networked and distributed applications for UNIX System V. Even if you currently use a different version of the UNIX system, such as the latest release of 4.3BSD or SunOS, this book is valuable to you because it is centered around UNIX System V Release 4, the version of the UNIX system that unified many of the divergent UNIX implementations. For those professionals new to networking and UNIX system programming, two introductory chapters are provided. The author then presents the programming interfaces most important to building communication software in System V, including STREAMS, the Transport Layer Interface library, Sockets, and Remote Procedure Calls. So that your designs are not limited to user-level, the author also explains how to write kernel-level communication software, including STREAMS drivers, modules, and multiplexors. Many examples are provided, including an Ethernet driver and a transport-level multiplexing driver. In the final chapter, the author brings the material from previous chapters together, presenting the design of a SLIP communication package.

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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.

C++ High Performance - Björn Andr st 2020-12-30

A comprehensive guide to help aspiring and professional C++ developers elevate the performance of their apps by allowing them to run faster and consume fewer resources. Purchase of the print or Kindle book includes a free eBook in PDF format. Key Features Updated to C++20 with completely revised code and more content on error handling, benchmarking, memory allocators, and concurrent programming. Explore the latest C++20 features including concepts, ranges, and coroutines. Utilize C++ constructs and techniques to carry out effective data structure optimization and memory management. Book Description *C++ High Performance, Second Edition* guides you through optimizing the performance of your C++ apps. This allows them to run faster and consume fewer resources on the device they're running on without compromising the readability of your codebase. The book begins by introducing the C++ language and some of its modern concepts in brief. Once you are familiar with the fundamentals, you will be ready to measure, identify,

and eradicate bottlenecks in your C++ codebase. By following this process, you will gradually improve your style of writing code. The book then explores data structure optimization, memory management, and how it can be used efficiently concerning CPU caches. After laying the foundation, the book trains you to leverage algorithms, ranges, and containers from the standard library to achieve faster execution, write readable code, and use customized iterators. It provides hands-on examples of C++ metaprogramming, coroutines, reflection to reduce boilerplate code, proxy objects to perform optimizations under the hood, concurrent programming, and lock-free data structures. The book concludes with an overview of parallel algorithms. By the end of this book, you will have the ability to use every tool as needed to boost the efficiency of your C++ projects. What you will learn Write specialized data structures for performance-critical code Use modern metaprogramming techniques to reduce runtime calculations Achieve efficient memory management using custom memory allocators Reduce boilerplate code using reflection techniques Reap the benefits of lock-free concurrent programming Gain insights into subtle optimizations used by standard library algorithms Compose algorithms using ranges library Develop the ability to apply metaprogramming aspects such as `constexpr`, constraints, and concepts Implement lazy generators and asynchronous tasks using C++20 coroutines Who this book is for If you're a C++ developer looking to improve the efficiency of your code or just keen to upgrade your skills to the next level, this book is for you.

Kubernetes in Production Best Practices - Aly Saleh 2021-03-12

Design, build, and operate scalable and reliable Kubernetes infrastructure for production. Key Features Implement industry best practices to build and manage production-grade Kubernetes infrastructure Learn how to architect scalable Kubernetes clusters, harden container security, and fine-tune resource management Understand, manage, and operate complex business workloads confidently. Book Description Although out-of-the-box solutions can help you to get a cluster up and running quickly, running a Kubernetes cluster that is optimized for production workloads is a challenge, especially for users with basic or intermediate knowledge. With detailed coverage of cloud industry standards and best practices for achieving scalability, availability, operational excellence, and cost optimization, this Kubernetes book is a blueprint for managing applications and services in production. You'll discover the most common way to deploy and operate Kubernetes clusters, which is to use a public cloud-managed service from AWS, Azure, or Google Cloud Platform (GCP). This book explores Amazon Elastic Kubernetes Service (Amazon EKS), the AWS-managed version of Kubernetes, for working through practical exercises. As you get to grips with implementation details specific to AWS and EKS, you'll understand the design concepts, implementation best practices, and configuration applicable to other cloud-managed services. Throughout the book, you'll also discover standard and cloud-agnostic tools, such as Terraform and Ansible, for provisioning and configuring infrastructure. By the end of this book, you'll be able to leverage Kubernetes to operate and manage your production environments confidently. What you will learn Explore different infrastructure architectures for Kubernetes deployment Implement optimal open source and commercial storage management solutions Apply best practices for provisioning and configuring Kubernetes clusters, including infrastructure as code (IaC) and configuration as code (CAC) Configure the cluster networking plugin and core networking components to get the best out of them Secure your Kubernetes environment using the latest tools and best practices Deploy core observability

stacks, such as monitoring and logging, to fine-tune your infrastructure. Who this book is for: This book is for cloud infrastructure experts, DevOps engineers, site reliability engineers, and engineering managers looking to design and operate Kubernetes infrastructure for production. Basic knowledge of Kubernetes, Terraform, Ansible, Linux, and AWS is needed to get the most out of this book.

Computer Systems Architecture - Aharon Yadin 2016-08-03
Computer Systems Architecture provides IT professionals and students with the necessary understanding of computer hardware. It addresses the ongoing issues related to computer hardware and discusses the solutions supplied by the industry. The book describes trends in computing solutions that led to the current available infrastructures, tracing the initial need for computers to recent concepts such as the Internet of Things. It covers computers' data representation, explains how computer architecture and its underlying meaning changed over the years, and examines the implementations and performance enhancements of the central processing unit (CPU). It then discusses the organization, hierarchy, and performance considerations of computer memory as applied by the operating system and illustrates how cache memory significantly improves performance. The author proceeds to explore the bus system, algorithms for ensuring data integrity, input and output (I/O) components, methods for performing I/O, various aspects relevant to software engineering, and nonvolatile storage devices, such as hard drives and technologies for enhancing performance and reliability. He also describes virtualization and cloud computing and the emergence of software-based systems' architectures. Accessible to software engineers and developers as well as students in IT disciplines, this book enhances readers' understanding of the hardware infrastructure used in software engineering projects. It enables readers to better optimize system usage by focusing on the principles used in hardware systems design and the methods for enhancing performance.

GPU Programming in MATLAB - Nikolaos Ploskas 2016-08-25
GPU programming in MATLAB is intended for scientists, engineers, or students who develop or maintain applications in MATLAB and would like to accelerate their codes using GPU programming without losing the many benefits of MATLAB. The book starts with coverage of the Parallel Computing Toolbox and other MATLAB toolboxes for GPU computing, which allow applications to be ported straightforwardly onto GPUs without extensive knowledge of GPU programming. The next part covers built-in, GPU-enabled features of MATLAB, including options to leverage GPUs across multicore or different computer systems. Finally, advanced material includes CUDA code in MATLAB and optimizing existing GPU applications. Throughout the book, examples and source codes illustrate every concept so that readers can immediately apply them to their own development. Provides in-depth, comprehensive coverage of GPUs with MATLAB, including the parallel computing toolbox and built-in features for other MATLAB toolboxes. Explains how to accelerate computationally heavy applications in MATLAB without the need to re-write them in another language. Presents case studies illustrating key concepts across multiple fields. Includes source code, sample datasets, and lecture slides.

Borland C++ Builder - Herbert Schildt 2001-01-01
C++ Builder 5 is an integrated development environment for building standalone, client/server, distributed and Internet-enabled Windows applications. This resource provides an introduction to the operation of the Integrated Development Environment (IDE), the various tools, the debugger, the C++ language and libraries. It also gives coverage of the standard template library (STL) and Windows programming.

Beginning C++20 - Ivor Horton 2021-02-12

Begin your programming journey with C++ including the C++20 standard. You'll start with the basics and progress through step-by-step examples to become a working C++ programmer. This book will include new features like parallelism, coroutines, modules, networking, ranges, and reflections. All you need are Beginning C++20 and any recent C++ compiler and you'll soon be writing real C++ programs. There is no assumption of prior programming knowledge. All language concepts that are explained in the book are illustrated with working program examples, and all chapters include exercises for you to test and practice your knowledge. Free source code downloads are provided for all examples from the text and solutions to the exercises. This latest edition has been fully updated to the latest version of the language, C++20, and to all conventions and best practices of modern C++. Beginning C++20 also introduces the elements of the C++ Standard Library that provide essential support for the C++20 language. What You Will Learn
Begin programming with C++20 standard
Carry out modular programming in C++
Work with arrays and loops, pointers and references, strings, and more
Write your own functions, types, and operators
Discover the essentials of object-oriented programming
Use overloading, inheritance, virtual functions, and polymorphism
Write generic function templates and class templates
Use coroutines, parallelism, ranges, auto type declarations, move semantics, lambda expressions, and much more
Who This Book Is For
Programmers new to C++ and those who may be looking for a refresh primer on C++ in general.

Boost C++ Application Development Cookbook - Antony Polukhin 2017-08-30

Learn to build applications faster and better by leveraging the real power of Boost and C++
About This Book
Learn to use the Boost libraries to simplify your application development
Learn to develop high quality, fast and portable applications
Learn the relations between Boost and C++11/C++4/C++17
Who This Book Is For
This book is for developers looking to improve their knowledge of Boost and who would like to simplify their application development processes. Prior C++ knowledge and basic knowledge of the standard library is assumed.
What You Will Learn
Get familiar with new data types for everyday use
Use smart pointers to manage resources
Get to grips with compile-time computations and assertions
Use Boost libraries for multithreading
Learn about parallel execution of different task
Perform common string-related tasks using Boost libraries
Split all the processes, computations, and interactions to tasks and process them independently
Learn the basics of working with graphs, stacktracing, testing and interprocess communications
Explore different helper macros used to detect compiler, platform and Boost features
In Detail
If you want to take advantage of the real power of Boost and C++ and avoid the confusion about which library to use in which situation, then this book is for you.
Beginning with the basics of Boost C++, you will move on to learn how the Boost libraries simplify application development. You will learn to convert data such as string to numbers, numbers to string, numbers to numbers and more. Managing resources will become a piece of cake. You'll see what kind of work can be done at compile time and what Boost containers can do. You will learn everything for the development of high quality fast and portable applications. Write a program once and then you can use it on Linux, Windows, MacOS, Android operating systems. From manipulating images to graphs, directories, timers, files, networking – everyone will find an interesting topic. Be sure that knowledge from this book won't get outdated, as more and more Boost libraries become part of the C++ Standard.
Network Programming with Go - Adam Woodbeck 2021-03-30
Network Programming with Go teaches you how to write clean, secure network software with the programming

language designed to make it seem easy. Go combines the best parts of many other programming languages. It's fast, scalable, and designed for high-performance networking and multiprocessing—in other words, it's perfect for network programming. Network Programming with Go is for developers ready to start leveraging Go's ease of use for writing secure, readable, production-ready network code. Early chapters establish a foundation of networking and traffic-routing know-how upon which the rest of the book builds. You'll put that knowledge to use as author Adam Woodbeck guides you through writing programs that communicate using TCP, UDP, Unix sockets, and other features that ensure reliable data transmission. As you progress, you'll explore higher-level network protocols like HTTP and HTTP/2, then build applications that securely interact with servers, clients, and APIs over a network using TLS. In addition, Woodbeck shows you how to create a simple messaging protocol, develop tools for monitoring network traffic, craft a custom web server, and implement best practices for interacting with cloud providers using their SDKs. Along the way, you'll learn:

- IP basics for writing effective network programs, such as IPv4 and IPv6 multicasting, ports, and network address translation
- How to use handlers, middleware, and multiplexers to build capable HTTP-based applications with minimal code
- The OSI and TCP/IP models for layered data architectures
- Methods for reading data from/writing data to a network connection, like the type-length-value encoding scheme
- Tools for incorporating authentication and encryption into your applications using TLS, like mutual authentication
- How to serialize data for storage or transmission in Go-friendly formats like JSON, Gob, XML, and protocol buffers
- How to Leverage Go's code generation support to efficiently communicate with gRPC-based network services

So get ready to take advantage of Go's built-in concurrency, rapid compiling, and rich standard library. Because when it comes to writing robust network programs, it's Go time.

Learn Quantum Computing with Python and IBM Quantum Experience - Robert Loredó 2020-09-28

A step-by-step guide to learning the implementation and associated methodologies in quantum computing with the help of the IBM Quantum Experience, Qiskit, and Python that will have you up and running and productive in no time

Key FeaturesDetermine the difference between classical computers and quantum computersUnderstand the quantum computational principles such as superposition and entanglement and how they are leveraged on IBM Quantum Experience systemsRun your own quantum experiments and applications by integrating with Qiskit

Book Description IBM Quantum Experience is a platform that enables developers to learn the basics of quantum computing by allowing them to run experiments on a quantum computing simulator and a real quantum computer. This book will explain the basic principles of quantum mechanics, the principles involved in quantum computing, and the implementation of quantum algorithms and experiments on IBM's quantum processors. You will start working with simple programs that illustrate quantum computing principles and slowly work your way up to more complex programs and algorithms that leverage quantum computing. As you build on your knowledge, you'll understand the functionality of IBM Quantum Experience and the various resources it offers. Furthermore, you'll not only learn the differences between the various quantum computers but also the various simulators available. Later, you'll explore the basics of quantum computing, quantum volume, and a few basic algorithms, all while optimally using the resources available on IBM Quantum Experience. By the end of this book, you'll learn how to build quantum programs on your own and have gained practical quantum computing skills that you can apply to your business.

What you will learnExplore quantum computational principles such as superposition and quantum entanglementBecome familiar with the contents and layout of the IBM Quantum ExperienceUnderstand quantum gates and how they operate on qubitsDiscover the quantum information science kit and its elements such as Terra and AerGet to grips with quantum algorithms such as Bell State, Deutsch-Jozsa, Grover's algorithm, and Shor's algorithmHow to create and visualize a quantum circuit

Who this book is for This book is for Python developers who are looking to learn quantum computing and put their knowledge to use in practical situations with the help of IBM Quantum Experience. Some background in computer science and high-school-level physics and math is required.

Learning Python Networking - José Manuel Ortega 2019-03-29

Achieve improved network programmability and automation by leveraging powerful network programming concepts, algorithms, and tools

Key FeaturesDeal with remote network servers using SSH, FTP, SNMP and LDAP protocols.Design multi threaded and event-driven architectures for asynchronous servers programming.Leverage your Python programming skills to build powerful network applications

Book Description Network programming has always been a demanding task. With full-featured and well-documented libraries all the way up the stack, Python makes network programming the enjoyable experience it should be. Starting with a walk through of today's major networking protocols, through this book, you'll learn how to employ Python for network programming, how to request and retrieve web resources, and how to extract data in major formats over the web. You will utilize Python for emailing using different protocols, and you'll interact with remote systems and IP and DNS networking. You will cover the connection of networking devices and configuration using Python 3.7, along with cloud-based network management tasks using Python. As the book progresses, socket programming will be covered, followed by how to design servers, and the pros and cons of multithreaded and event-driven architectures. You'll develop practical clientside applications, including web API clients, email clients, SSH, and FTP. These applications will also be implemented through existing web application frameworks.

What you will learnExecute Python modules on networking toolsAutomate tasks regarding the analysis and extraction of information from a networkGet to grips with asynchronous programming modules available in PythonGet to grips with IP address manipulation modules using Python programmingUnderstand the main frameworks available in Python that are focused on web applicationManipulate IP addresses and perform CIDR calculations

Who this book is for If you're a Python developer or a system administrator with Python experience and you're looking to take your first steps in network programming, then this book is for you. If you're a network engineer or a network professional aiming to be more productive and efficient in networking programmability and automation then this book would serve as a useful resource. Basic knowledge of Python is assumed.

Distributed Systems with Node.js - Thomas Hunter II 2020-11-04

Many companies, from startups to Fortune 500 companies alike, use Node.js to build performant backend services. And engineers love Node.js for its approachable API and familiar syntax. Backed by the world's largest package repository, Node's enterprise foothold is only expected to grow. In this hands-on guide, author Thomas Hunter II proves that Node.js is just as capable as traditional enterprise platforms for building services that are observable, scalable, and resilient. Intermediate to advanced Node.js developers will find themselves integrating application code with a breadth of tooling

from each layer of a modern service stack. Learn why running redundant copies of the same Node.js service is necessary Know which protocol to choose, depending on the situation Fine-tune your application containers for use in production Track down errors in a distributed setting to determine which service is at fault Simplify app code and increase performance by offloading work to a reverse proxy Build dashboards to monitor service health and throughput Find out why so many different tools are required when operating in an enterprise environment

Linux Observability with BPF - David Calavera 2019-11-14 Build your expertise in the BPF virtual machine in the Linux kernel with this practical guide for systems engineers. You'll not only dive into the BPF program lifecycle but also learn to write applications that observe and modify the kernel's behavior; inject code to monitor, trace, and securely observe events in the kernel; and more. Authors David Calavera and Lorenzo Fontana help you harness the power of BPF to make any computing system more observable. Familiarize yourself with the essential concepts you'll use on a day-to-day basis and augment your knowledge about performance optimization, networking, and security. Then see how it all comes together with code examples in C, Go, and Python. Write applications that use BPF to observe and modify the Linux kernel's behavior on demand Inject code to monitor, trace, and observe events in the kernel in a secure way—no need to recompile the kernel or reboot the system Explore code examples in C, Go, and Python Gain a more thorough understanding of the BPF program lifecycle
C++ Design Patterns and Derivatives Pricing - Mark S. Joshi 2004-08-05

Design patterns are the cutting-edge paradigm for programming in object-oriented languages. Here they are discussed, for the first time in a book, in the context of implementing financial models in C++. Assuming only a basic knowledge of C++ and mathematical finance, the reader is taught how to produce well-designed, structured, re-usable code via concrete examples. Each example is treated in depth, with the whys and wherefores of the chosen method of solution critically examined. Part of the book is devoted to designing re-usable components that are then put together to build a Monte Carlo pricer for path-dependent exotic options. Advanced topics treated include the factory pattern, the singleton pattern and the decorator pattern. Complete ANSI/ISO-compatible C++ source code is included on a CD for the reader to study and re-use and so develop the skills needed to implement financial models with object-oriented programs and become a working financial engineer. Please note the CD supplied with this book is platform-dependent and PC users will not be able to use the files without manual intervention in order to remove extraneous characters. Cambridge University Press apologises for this error. Machine readable files for all users can be obtained from www.markjoshi.com/design.
C++ Cookbook - D. Ryan Stephens 2006

"Solutions and examples for C++ programmers"--Cover.
Boost.Asio C++ Network Programming Cookbook - Dmytro Radchuk 2016-01-25

Over 25 hands-on recipes to create robust and highly-efficient cross-platform distributed applications with the Boost.Asio library About This Book Build highly efficient distributed applications with ease Enhance your cross-platform network programming skills with one of the most reputable C++ libraries Find solutions to real-world problems related to network programming with ready-to-use recipes using this detailed and practical handbook Who This Book Is For If you want to enhance your C++ network programming skills using the Boost.Asio library and understand the theory behind development of distributed applications, this book is just what you need. The prerequisite for this book is experience with general C++11. To get the most from the book and

comprehend advanced topics, you will need some background experience in multithreading. What You Will Learn Boost your working knowledge of one of the most reputable C++ networking libraries—Boost.Asio Familiarize yourself with the basics of TCP and UDP protocols Create scalable and highly-efficient client and server applications Understand the theory behind development of distributed applications Increase the security of your distributed applications by adding SSL support Implement a HTTP client easily Use iostreams, scatter-gather buffers, and timers In Detail Starting with recipes demonstrating the execution of basic Boost.Asio operations, the book goes on to provide ready-to-use implementations of client and server applications from simple synchronous ones to powerful multithreaded scalable solutions. Finally, you are presented with advanced topics such as implementing a chat application, implementing an HTTP client, and adding SSL support. All the samples presented in the book are ready to be used in real projects just out of the box. As well as excellent practical examples, the book also includes extended supportive theoretical material on distributed application design and construction. Style and approach This book is a set of recipes, each containing the statement and description of a particular practical problem followed by code sample providing the solution to the problem and detailed step-by-step explanation. Recipes are grouped by topic into chapters and ordered by the level of complexity from basic to advanced.

Software Architecture with C++ - Adrian Ostrowski 2021-04-23

Apply business requirements to IT infrastructure and deliver a high-quality product by understanding architectures such as microservices, DevOps, and cloud-native using modern C++ standards and features Key Features Design scalable large-scale applications with the C++ programming language Architect software solutions in a cloud-based environment with continuous integration and continuous delivery (CI/CD) Achieve architectural goals by leveraging design patterns, language features, and useful tools Book Description Software architecture refers to the high-level design of complex applications. It is evolving just like the languages we use, but there are architectural concepts and patterns that you can learn to write high-performance apps in a high-level language without sacrificing readability and maintainability. If you're working with modern C++, this practical guide will help you put your knowledge to work and design distributed, large-scale apps. You'll start by getting up to speed with architectural concepts, including established patterns and rising trends, then move on to understanding what software architecture actually is and start exploring its components. Next, you'll discover the design concepts involved in application architecture and the patterns in software development, before going on to learn how to build, package, integrate, and deploy your components. In the concluding chapters, you'll explore different architectural qualities, such as maintainability, reusability, testability, performance, scalability, and security. Finally, you will get an overview of distributed systems, such as service-oriented architecture, microservices, and cloud-native, and understand how to apply them in application development. By the end of this book, you'll be able to build distributed services using modern C++ and associated tools to deliver solutions as per your clients' requirements. What you will learn Understand how to apply the principles of software architecture Apply design patterns and best practices to meet your architectural goals Write elegant, safe, and performant code using the latest C++ features Build applications that are easy to maintain and deploy Explore the different architectural approaches and learn to apply them as per your

requirementSimplify development and operations using application containersDiscover various techniques to solve common problems in software design and developmentWho this book is for This software architecture C++ programming book is for experienced C++ developers looking to become software architects or develop enterprise-grade applications.

Lua 5.2 Reference Manual - Roberto Ierusalimsky 2015-11-04

Lua is a powerful, fast, lightweight, embeddable scripting language. Lua combines simple procedural syntax with powerful data description constructs based on associative arrays and extensible semantics. Lua is dynamically typed, runs by interpreting bytecode for a register-based virtual machine, and has automatic memory management with incremental garbage collection, making it ideal for configuration, scripting, and rapid prototyping. This reference manual is 51 pages long.

Boost.Asio C++ Network Programming - Wisnu Anggoro 2015-09-16

Learn effective C++ network programming with Boost.Asio and become a proficient C++ network programmer About This Book Learn efficient C++ network programming with minimum coding using Boost.Asio Your one-stop destination to everything related to the Boost.Asio library Explore the fundamentals of networking to choose designs with more examples, and learn the basics of Boost.Asio Who This Book Is For This book is for C++ Network programmers with basic knowledge of network programming, but no knowledge of how to use Boost.Asio for network programming. What You Will Learn Prepare the tools to simplify network programming in C++ using Boost.Asio Explore the networking concepts of IP addressing, TCP/IP ports and protocols, and LAN topologies Get acquainted with the usage of the Boost libraries Get to know more about the content of Boost.Asio network programming and Asynchronous programming Establish communication between client and server by creating client-server application Understand the various functions inside Boost.Asio C++ libraries to delve into network programming Discover how to debug and run the code successfully In Detail Boost.Asio is a C++ library used for network programming operations. Organizations use Boost because of its productivity. Use of these high-quality libraries speed up initial development, result in fewer bugs, reduce reinvention-of-the-wheel, and cut long-term maintenance costs. Using Boost libraries gives an organization a head start in adopting new technologies. This book will teach you C++ Network programming using synchronous and asynchronous operations in Boost.Asio with minimum code, along with the fundamentals of Boost, server-client applications, debugging, and more. You will begin by preparing and setting up the required tools to simplify your network programming in C++ with Boost.Asio. Then you will learn about the basic concepts in networking such as IP addressing, TCP/IP protocols, and LAN with its topologies. This will be followed by an overview of the Boost libraries and their usage. Next you will get to know more about Boost.Asio and its concepts related to network programming. We will then go on to create a client-server application, helping you to understand the networking concepts. Moving on, you will discover how to use all the functions inside the Boost.Asio C++ libraries. Lastly, you will understand how to debug the code if there are errors found and will run the code successfully. Style and approach An example-oriented book to show you the basics of networking and help you create a network application simply using Boost.Asio, with more examples for you to get up and running with Boost.Asio quickly.

Mastering OpenCV with Practical Computer Vision Projects - Daniel Lélis Baggio 2012-12-03

Each chapter in the book is an individual project and each project is constructed with step-by-step

instructions, clearly explained code, and includes the necessary screenshots. You should have basic OpenCV and C/C++ programming experience before reading this book, as it is aimed at Computer Science graduates, researchers, and computer vision experts widening their expertise.

Game Programming Patterns - Robert Nystrom 2014-11-03

The biggest challenge facing many game programmers is completing their game. Most game projects fizzle out, overwhelmed by the complexity of their own code. Game Programming Patterns tackles that exact problem. Based on years of experience in shipped AAA titles, this book collects proven patterns to untangle and optimize your game, organized as independent recipes so you can pick just the patterns you need. You will learn how to write a robust game loop, how to organize your entities using components, and take advantage of the CPUs cache to improve your performance. You'll dive deep into how scripting engines encode behavior, how quadrees and other spatial partitions optimize your engine, and how other classic design patterns can be used in games.

Oracle 11g Streams Implementer's Guide - Ann L. R. McKinnell 2010-01-19

Annotation From smaller businesses through to huge enterprises _ users all over the world often require access to data 24 hours a day. Distributed database systems proliferate the world of data sharing providing an ability to access real-time data anywhere, anytime. Oracle Streams, a built-in feature of the Oracle database, is a data replication and integration feature critical to the success and wellbeing of enterprises in today's fast moving economy. This book provides the reader with solid techniques to master Oracle Streams technology and successfully deploy distributed database systems. This book quickly goes over the basics and gets you up and running with a simple Oracle 11g Streams environment. It will serve as an excellent companion to the Oracle Streams Administration Guide. It is intended for Oracle database architects and administrators, and provides in-depth discussion on must-know information for the design, implementation, and maintenance of an Oracle Streams environment. The book does not attempt to regurgitate all the information in the Oracle Streams Administration Guides, but rather provides additional clarification and explanation of design, implementation, and troubleshooting concepts that are often elusive in Streams documentation. It also identifies helpful tools and Oracle resources to add to your knowledge base, as well as tried and tested tricks and tips to help you tame Oracle Streams. The book starts by introducing and explaining the components of Oracle Streams and how they work together. It then moves on logically, helping you to determine your distributed environment requirements and design your Streams implementation to meet those requirements. Once these concepts are discussed, the book moves to configuration and basic implementation examples to help solidify those concepts. It then addresses advanced features such as tags, down-stream capture, and conflict resolution. You then move on to maintenance techniques such as documenting the environment, effectively planning and implementing changes to the environment, and monitoring and troubleshooting the environment. When you have studied the techniques and completed the hands-on examples, you will have an understanding of Oracle Streams' core concepts and functionally that will allow you to successfully design, implement, and maintain an Oracle Streamed environment.

Modern C++ Design - Debbie Debbie Lafferty 2001

This title documents a convergence of programming techniques - generic programming, template metaprogramming, object-oriented programming and design patterns. It describes the C++ techniques used in generic programming and implements a number of industrial strength components.

CMake Cookbook - Radovan Bast 2018-09-26

Learn CMake through a series of task-based recipes that provide you with practical, simple, and ready-to-use CMake solutions for your code. Key Features: Learn to configure, build, test, and package software written in C, C++, and Fortran. Progress from simple to advanced tasks with examples tested on Linux, macOS, and Windows. Manage code complexity and library dependencies with reusable CMake building blocks. Book Description: CMake is cross-platform, open-source software for managing the build process in a portable fashion. This book features a collection of recipes and building blocks with tips and techniques for working with CMake, CTest, CPack, and CDash. CMake Cookbook includes real-world examples in the form of recipes that cover different ways to structure, configure, build, and test small- to large-scale code projects. You will learn to use CMake's command-line tools and master modern CMake practices for configuring, building, and testing binaries and libraries. With this book, you will be able to work with external libraries and structure your own projects in a modular and reusable way. You will be well-equipped to generate native build scripts for Linux, MacOS, and Windows, simplify and refactor projects using CMake, and port projects to CMake. What you will learn: Configure, build, test, and install code projects using CMake. Detect operating systems, processors, libraries, files, and programs for conditional compilation. Increase the portability of your code. Refactor a large codebase into modules with the help of CMake. Build multi-language projects. Know where and how to tweak CMake configuration files written by somebody else. Package projects for distribution. Port projects to CMake. Who this book is for: If you are a software developer keen to manage build systems using CMake or would like to understand and modify CMake code written by others, this book is for you. A basic knowledge of C++, C, or Fortran is required to understand the topics covered in this book.

Swift 5 Cheat Sheet - Amit Chaudhary 2021-07-24

- This book has covered the latest Swift 5.3.
- Use this book as a quick reference guide (like a cheat sheet) for Swift programming language. Access any topic inside a chapter in just one tap.
- For beginners and for dummies, this book is a step-by-step guide to understanding object-oriented programming with Swift.
- If you are an experienced developer who knows at least one modern programming language well, then this book is designed to teach you how to think and program in Swift Programming language.
- Each topic is covered with clear and concise examples for Swift programming language using Playground. I hope you find this book to be a useful and worthy addition to your library. I've had a great time writing it. Hopefully you'll have a great time reading and learning the latest version of Swift 5.3. I will keep updating this book to make it much simpler and more productive. Thank you for purchasing a copy! -Amit Chaudhary, 10th January 2021
- Chapters Covered in this book: 1. Basics 2. Constants 3. Variables 4. Data Types 5. Operators 6. String and Characters 7. Control Flow 8. Collection Types (Arrays, Sets, and Dictionaries) 9. Functions 10. Closures 11. Enumerators 12. Structures 13. Classes 14. Properties 15. Subscripts 16. Methods 17. Inheritance 18. Initializers 19. De-Initializers/ Deallocation 20. Protocols 21. Extensions/ Categories 22. Automatic Reference Count 23. Type Casting/ Type Checking 24. Generics 25. Optional Chaining 26. Nested Types 27. Error Handling

Beginning C++17 - Ivor Horton 2018-03-24

Learn how to program using the updated C++17 language. You'll start with the basics and progress through step-by-step examples to become a working C++ programmer. All you need are Beginning C++17 and any recent C++ compiler and you'll soon be writing real C++ programs. There is

no assumption of prior programming knowledge. All language concepts that are explained in the book are illustrated with working program examples, and all chapters include exercises for you to test and practice your knowledge. Code downloads are provided for all examples from the text and solutions to the exercises. This latest edition has been fully updated to the latest version of the language, C++17, and to all conventions and best practices of so-called modern C++. Beginning C++17 also introduces the elements of the C++ Standard Library that provide essential support for the C++17 language. What You'll Learn: Define variables and make decisions. Work with arrays and loops, pointers and references, strings, and more. Write your own functions, types, and operators. Discover the essentials of object-oriented programming. Use overloading, inheritance, virtual functions and polymorphism. Write generic function templates and class templates. Get up to date with modern C++ features: auto type declarations, move semantics, lambda expressions, and more. Examine the new additions to C++17. Who This Book Is For: Programmers new to C++ and those who may be looking for a refresh primer on the C++17 programming language in general.

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 Features: Design professional-grade, maintainable apps by learning advanced concepts such as functional programming, templates, and networking. Apply design patterns and best practices to solve real-world problems. Improve the performance of your projects by designing concurrent data structures and algorithms. Book 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.

Kvant Selecta: Algebra and Analysis, I - Serge

Tabachnikov 1999-08-03

This volume and *Kvant Selecta: Algebra and Analysis, II* (MAWRLD/15) are the first volumes of articles published from 1970 to 1990 in the Russian journal, *Kvant*. The influence of this magazine on mathematics and physics education in Russia is unmatched. This collection represents the Russian tradition of expository mathematical writing at its best. Articles selected for these two volumes are written by leading Russian mathematicians and expositors. Some articles contain classical mathematical gems still used in university curriculae today. Others feature cutting-edge research from the 20th Century. The articles in these books are written so as to present genuine mathematics in a conceptual, entertaining, and accessible way. The volumes are designed to be used by students and teachers

who love mathematics and want to study its various aspects, thus deepening and expanding the school curriculum. The articles in the first volume are mainly devoted to various topics in number theory, whereas the second volume treats diverse aspects of analysis and algebra.

Go Programming for Network Operations: A Golang Network Automation Handbook - Tom McAllen 2019-02-08

This book illustrates how to apply Go programming to network operations. The topics cover common use cases through examples that are designed to act as a guide and serve as a reference. The reader is assumed to have already gained a fundamental understanding of Go programming; however, the examples are explained for additional clarification. The focus is on using Go for network operations, not on the language itself.