

# Contents Golang

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*Mastering Go* Dec 26 2021 Publisher's Note: This edition from 2019 is outdated and is not compatible with the latest version of Go. A new third edition, updated for 2021 and featuring the latest in Go programming, has now been published. Key Features • Second edition of the bestselling guide to advanced Go programming, expanded to cover machine learning, more Go packages and a range of modern development techniques • Completes the Go developer's education with real-world guides to building high-performance production systems • Packed with practical examples and patterns to apply to your own development work • Clearly explains Go nuances and features to remove the frustration from Go development Book Description Often referred to (incorrectly) as Golang, Go is the high-performance systems language of the future. *Mastering Go, Second Edition* helps you become a productive expert Go programmer, building and improving on the groundbreaking first edition. *Mastering Go, Second Edition* shows how to put Go to work on real production systems. For programmers who already know the Go language basics, this book provides examples, patterns, and clear explanations to help you deeply understand Go's capabilities and apply them in your programming work. The book covers the nuances of Go, with in-depth guides on types and structures, packages, concurrency, network programming, compiler design, optimization, and more. Each chapter ends with exercises and resources to fully embed your new knowledge. This second edition includes a completely new chapter on machine learning in Go, guiding you from the foundation statistics techniques through simple regression and clustering to classification, neural networks, and anomaly detection. Other chapters are expanded to cover using Go with Docker and Kubernetes, Git, WebAssembly, JSON, and more. If you take the Go programming language seriously, the second edition of this book is an essential guide on expert techniques. What you will learn • Clear guidance on using Go for production systems • Detailed explanations of how Go internals work, the design choices behind the language, and how to optimize your Go code • A full guide to all Go data types, composite types, and data structures • Master packages, reflection, and interfaces for effective Go programming • Build high-performance systems networking code, including server and client-side applications • Interface with other systems using WebAssembly, JSON, and gRPC • Write reliable, high-performance concurrent code • Build machine learning systems in Go, from simple statistical regression to complex neural networks Who this book is for *Mastering Go, Second Edition* is for Go programmers who already know the language basics, and want to become expert Go practitioners. Table of Contents • Go and the Operating System • Understanding Go Internals • Working with Basic Go Data Types • The Uses of Composite Types • How to Enhance Go Code with Data Structures • What You Might Not Know About Go Packages and functions • Reflection and Interfaces for All Seasons • Telling a Unix System What to Do • Concurrency in Go: Goroutines, Channels, and Pipelines • Concurrency in Go: Advanced Topics • Code Testing, Optimization, and Profiling • The Foundations of Network Programming

in Go • Network Programming: Building Your Own Servers and Clients • Machine Learning in Go Review "Mastering Go - Second Edition is a must-read for developers wanting to expand their knowledge of the language or wanting to pick it up from scratch" -- Alex Ellis - Founder of OpenFaaS Ltd, CNCF Ambassador *GoLang* Sep 22 2021 Go, also known as GoLang, is a Google-developed open-source, compiled, and statically typed computer language. Go is a general purpose programming language with a straightforward syntax and a large standard library. The building of highly accessible and scalable web apps is one of the primary areas where GoLang is widely used. It may also be used to develop command-line programs, desktop applications, and even mobile apps. Go was designed from the ground up for networking and infrastructure-related applications. It was developed as a replacement for popular server-side languages like Java and C++. The Go programming language aims to combine the efficiency and safety of a statically typed, compiled language with the simplicity of programming of an interpreted, dynamically typed language. It also aspires to be cutting edge, with networked and multicore computer capabilities. Why Should You Learn GoLang? GoLang is becoming one of the most popular languages, which means that learning it can open up new doors of opportunity and even help you land a job at various companies that use Go extensively. Ease of writing concurrent programs, fast compilation, simple syntax, and static linking are some of the features that make Go an ideal candidate for developing various applications. This Book Includes: • A step-by-step approach to problem solving and skill development • A quick run-through of the basic concepts, in the form of a "Crash Course" • Advanced, hands-on core concepts, with a focus on real-world problems • Industry-level coding paradigms, and a practice-oriented explanatory approach • Special emphasis on writing clean and optimized code, with additional chapters focused on coding methodology *The Go Programming Language* Oct 04 2022 The Go Programming Language is the authoritative resource for any programmer who wants to learn Go. It shows how to write clear and idiomatic Go to solve real-world problems. The book does not assume prior knowledge of Go nor experience with any specific language, so you'll find it accessible whether you're most comfortable with JavaScript, Ruby, Python, Java, or C++. The first chapter is a tutorial on the basic concepts of Go, introduced through programs for file I/O and text processing, simple graphics, and web clients and servers. Early chapters cover the structural elements of Go programs: syntax, control flow, data types, and the organization of a program into packages, files, and functions. The examples illustrate many packages from the standard library and show how to create new ones of your own. Later chapters explain the package mechanism in more detail, and how to build, test, and maintain projects using the go tool. The chapters on methods and interfaces introduce Go's unconventional approach to object-oriented programming, in which methods can be declared on any type and interfaces are implicitly satisfied. They explain the key principles of encapsulation, composition, and substitutability using realistic examples. Two chapters on concurrency present in-depth approaches to this

increasingly important topic. The first, which covers the basic mechanisms of goroutines and channels, illustrates the style known as communicating sequential processes for which Go is renowned. The second covers more traditional aspects of concurrency with shared variables. These chapters provide a solid foundation for programmers encountering concurrency for the first time. The final two chapters explore lower-level features of Go. One covers the art of metaprogramming using reflection. The other shows how to use the unsafe package to step outside the type system for special situations, and how to use the cgo tool to create Go bindings for C libraries. The book features hundreds of interesting and practical examples of well-written Go code that cover the whole language, its most important packages, and a wide range of applications. Each chapter has exercises to test your understanding and explore extensions and alternatives. Source code is freely available for download from <http://gopl.io/> and may be conveniently fetched, built, and installed using the go get command.

**Security with Go** Jun 27 2019 The first stop for your security needs when using Go, covering host, network, and cloud security for ethical hackers and defense against intrusion Key Features First introduction to Security with Golang Adopting a Blue Team/Red Team approach Take advantage of speed and inherent safety of Golang Works as an introduction to security for Golang developers Works as a guide to Golang security packages for recent Golang beginners Book Description Go is becoming more and more popular as a language for security experts. Its wide use in server and cloud environments, its speed and ease of use, and its evident capabilities for data analysis, have made it a prime choice for developers who need to think about security. Security with Go is the first Golang security book, and it is useful for both blue team and red team applications. With this book, you will learn how to write secure software, monitor your systems, secure your data, attack systems, and extract information. Defensive topics include cryptography, forensics, packet capturing, and building secure web applications. Offensive topics include brute force, port scanning, packet injection, web scraping, social engineering, and post exploitation techniques. What you will learn Learn the basic concepts and principles of secure programming Write secure Golang programs and applications Understand classic patterns of attack Write Golang scripts to defend against network-level attacks Learn how to use Golang security packages Apply and explore cryptographic methods and packages Learn the art of defending against brute force attacks Secure web and cloud applications Who this book is for Security with Go is aimed at developers with basics in Go to the level that they can write their own scripts and small programs without difficulty. Readers should be familiar with security concepts, and familiarity with Python security applications and libraries is an advantage, but not a necessity.

**For the Love of Go** Aug 10 2020 'For the Love of Go' is a book introducing the Go programming language, suitable for complete beginners, as well as those with experience programming in other languages. This completely revised and updated edition includes the four mini-books previously released as 'Fundamentals', 'Data', 'Behaviour', and 'Control', plus for the first time complete solutions (with tests) to all the coding challenges in the book. Throughout the book we'll be working together to develop a fun and useful project in Go: an online bookstore called Happy Fun Books! Each chapter introduces a new feature or concept, and sets you some goals to achieve, with complete, step-by-step explanations of how to solve them, and full code listings with accompanying tests. There are 24 chapters, and 215 pages (depending on the screen size of your ebook reader).

**Hands-on Go Programming** Jul 01 2022 An easy-to-understand guide that helps you get familiar with the basics and advanced concepts in Golang KEY FEATURES ● Everything you need to know on how to use Go programming. ● Illustrated Examples on Go Functions, Control Flows, and Arrays. ● Deep Dive into Slices, Maps, Structs, Error Handling and Concurrency in Golang. DESCRIPTION Hands-on Go Programming is designed to get you up and running as fast as possible with Go. You will not just learn the basics but get introduced to how to use advanced features of Golang. The book begins with the basic concepts of Data types, Constants, Variables, Operators, Reassignment, and Redeclaration. Moving ahead, we explore and learn the use of Functions, Control flows, Arrays, Slices, Maps, and Structs using some great examples and illustrations. We then get to know about Methods in Golang. Furthermore, we learn about complex aspects of Golang such as Interfaces, Pointers, Concurrency and Error Handling. By the end, you will be familiar with both the basics and advanced concepts of Go and start developing critical programs working using this language. WHAT YOU WILL LEARN ● Learn Golang syntaxes, control structures and Error Handling in-

depth. ● Learn to declare, create and modify Slices, Maps and Struct in Go. ● Build your own concurrent programs with Goroutines and Channels. ● Deep Dive into Error handling in Golang. WHO THIS BOOK IS FOR Anyone who knows basic programming can use this book to upskill themselves in Golang. This book is also for Engineering students, IT/Software professionals, and existing Go programmers. Architects and Developers working in Cloud, Networking, and DevOps can use this book to learn Go programming and apply the knowledge gained to design and build solutions in their respective domains. TABLE OF CONTENTS 1. Chapter 1 Introduction 2. Chapter 2 Functions 3. Chapter 3 Control Flows 4. Chapter 4 Arrays 5. Chapter 5 Slices 6. Chapter 6 Maps 7. Chapter 7 Structs 8. Chapter 8 Methods 9. Chapter 9 Interfaces 10. Chapter 10 Pointers 11. Chapter 11 Concurrency 12. Chapter 12 Error Handling **Mastering GoLang** Jul 21 2021 Mastering GoLang helps readers quickly understand the core concepts and then move on to practical projects using the Go programming language. GoLang is often dubbed a game-changer in the world of programming languages. Instead of starting from scratch, Go was created using the C programming language. GoLang inherits C's disciplined grammar but with specific tweaks and enhancements to properly manage memory. This lessens the memory leakage problems that developers tend to face with C. Go borrows and adapts notions from various programming languages while skipping characteristics that result in complicated, insecure, and unpredictable code. Go's concurrency features are well-suited to build the infrastructure for gigantic projects such as networking systems and distributed hardware. Go is also often employed in domains such as visuals, mobile applications, and Machine Learning. Even though GoLang is a relatively new language, it has been adopted by several major organizations owing to its benefits, which include code clarity, custom libraries, adaptability, multithreading, and a simple build process. Because Go is gaining traction in the development community, learning GoLang can open up new avenues across various fields and career trajectories. Since it is still a relatively newer language, quality literature pertaining to Go is often hard to find. This particular book covers all the bases that you might need, and is an ideal companion for beginner-level developers looking to master Go programming. With Mastering GoLang, learning GoLang becomes an easy task, and learners can use their skills to create innovative projects. The Mastering Computer Science series is edited by Sufyan bin Uzayr, a writer and educator with over a decade of experience in the computing field.

**Programming in Go** Mar 05 2020 A valuable programming reference provides a complete introduction to the Go programming language, covering all of Go's clean and easy to understand syntax and its built-in arrays, maps, slices and Unicode strings. Original.

**From Ruby to Golang** May 19 2021 Imagine that you like to learn a new programming language, and you start by leveraging what you already know and bridge the gap in learning specific parts of the new language. This book was created on that idea, it starts with using my existing language knowledge and experience to breakdown Go into familiar Ruby concepts and implementations. The first thing I did to learn Go professionally is to relate to what I know in Ruby. I've been a professional Ruby programmer since 2009 and in over a decade of professional experience working as a software engineer, I have worked on multiple programming languages. And proven personally that it's easier to learn a programming concept from something familiar to me. This helps me to learn the new language faster, which also means being productive much faster as well. This book was created on my first-hand experience of learning Go from my existing knowledge and experience in Ruby. The book was carefully thought from ground-up, collecting familiar patterns, abstracts, and analogs in Ruby, and relate it with a proper implementation in Go. By teaching familiar implementations found in Ruby, you will see the correlation between the two languages, establishing familiar concepts to give you enough knowledge to be comfortable with Go and to start programming with it. Go is an easy language to work with, it's modern, flexible, powerful and fast. It compiles to binary which gives it an ability for a binary distribution that runs on different platforms, and Go has almost in par performance with C, with package support, memory safety, automatic garbage collection and concurrency built-in. And you get all the nice features from a statically typed language, which IDEs can make use of, and so also improving your development workflow. Notable open-source projects are built using Go (i.e. Docker, Kubernetes, Ethereum and Terraform to name a few), this gives you an advantage because those platforms have APIs and SDKs readily available in Go natively for you to use. And many global companies have been using Go in production (i.e. Google, Netflix, Dropbox, Heroku and Uber to

name a few), proving that it has been battle-tested and powerful mature language to based your work into. Go is created by an interesting mixed of people. Google is the company that funded Go's development, and the authors of Go who designed the language are mainly Robert Griesemer (worked on V8 Javascript Engine, Java HotSpot VM, and the Strongtalk system), Rob Pike (known for Plan 9 and UTF-8), and Ken Thompson (known for Unix, C programming language, Plan 9, UTF-8 and Inferno to name a few). This book will definitely help you get started with Go from your existing Ruby knowledge, and start to hit the ground fast, running!

*Cloud Native Programming with Golang* Mar 29 2022 Discover practical techniques to build cloud-native apps that are scalable, reliable, and always available. Key Features Build well-designed and secure microservices. Enrich your microservices with continuous integration and monitoring. Containerize your application with Docker Deploy your application to AWS. Learn how to utilize the powerful AWS services from within your application Book Description Awarded as one of the best books of all time by BookAuthority, Cloud Native Programming with Golang will take you on a journey into the world of microservices and cloud computing with the help of Go. Cloud computing and microservices are two very important concepts in modern software architecture. They represent key skills that ambitious software engineers need to acquire in order to design and build software applications capable of performing and scaling. Go is a modern cross-platform programming language that is very powerful yet simple; it is an excellent choice for microservices and cloud applications. Go is gaining more and more popularity, and becoming a very attractive skill. This book starts by covering the software architectural patterns of cloud applications, as well as practical concepts regarding how to scale, distribute, and deploy those applications. You will also learn how to build a JavaScript-based front-end for your application, using TypeScript and React. From there, we dive into commercial cloud offerings by covering AWS. Finally, we conclude our book by providing some overviews of other concepts and technologies that you can explore, to move from where the book leaves off. What you will learn Understand modern software applications architectures Build secure microservices that can effectively communicate with other services Get to know about event-driven architectures by diving into message queues such as Kafka, Rabbitmq, and AWS SQS. Understand key modern database technologies such as MongoDB, and Amazon's DynamoDB Leverage the power of containers Explore Amazon cloud services fundamentals Know how to utilize the power of the Go language to access key services in the Amazon cloud such as S3, SQS, DynamoDB and more. Build front-end applications using ReactJS with Go Implement CD for modern applications Who this book is for This book is for developers who want to begin building secure, resilient, robust, and scalable Go applications that are cloud native. Some knowledge of the Go programming language should be sufficient. To build the front-end application, you will also need some knowledge of JavaScript programming.

[Learn Data Structures and Algorithms with Golang](#) Aug 22 2021 Explore Golang's data structures and algorithms to design, implement, and analyze code in the professional setting Key Features Learn the basics of data structures and algorithms and implement them efficiently Use data structures such as arrays, stacks, trees, lists and graphs in real-world scenarios Compare the complexity of different algorithms and data structures for improved code performance Book Description Golang is one of the fastest growing programming languages in the software industry. Its speed, simplicity, and reliability make it the perfect choice for building robust applications. This brings the need to have a solid foundation in data structures and algorithms with Go so as to build scalable applications. Complete with hands-on tutorials, this book will guide you in using the best data structures and algorithms for problem solving. The book begins with an introduction to Go data structures and algorithms. You'll learn how to store data using linked lists, arrays, stacks, and queues. Moving ahead, you'll discover how to implement sorting and searching algorithms, followed by binary search trees. This book will also help you improve the performance of your applications by stringing data types and implementing hash structures in algorithm design. Finally, you'll be able to apply traditional data structures to solve real-world problems. By the end of the book, you'll have become adept at implementing classic data structures and algorithms in Go, propelling you to become a confident Go programmer. What you will learn Improve application performance using the most suitable data structure and algorithm Explore the wide range of classic algorithms such as recursion and hashing algorithms Work with algorithms such as garbage collection for efficient memory management Analyze the

cost and benefit trade-off to identify algorithms and data structures for problem solving Explore techniques for writing pseudocode algorithm and ace whiteboard coding in interviews Discover the pitfalls in selecting data structures and algorithms by predicting their speed and efficiency Who this book is for This book is for developers who want to understand how to select the best data structures and algorithms that will help solve coding problems. Basic Go programming experience will be an added advantage.

**Go (Golang) Multi-Module Workspaces: The Easy Way to Build and Run Code in Multiple Modules** Apr 17 2021 Multi-module workspaces are a great way to manage code for multiple modules at the same time. With Go's build system, it's easy to download and install dependencies for all of your modules in one go. This makes it easy to keep your code organized and maintainable. If you're looking for an easy way to manage code in multiple modules, this is the book for you. Learn how to set up and use Go's multi-module workspace feature to build and run code in multiple modules simultaneously.

*An Introduction to Programming in Go* Nov 05 2022 This book is a short, concise introduction to computer programming using the language Go. Designed by Google, Go is a general purpose programming language with modern features, clean syntax and a robust well-documented common library, making it an ideal language to learn as your first programming language.

*Hands-On High Performance with Go* Apr 05 2020 Proven methodologies and concurrency techniques that will help you write faster and better code with Go programming Key Features Explore Go's profiling tools to write faster programs by identifying and fixing bottlenecks Address Go-specific performance issues such as memory allocation and garbage collection Delve into the subtleties of concurrency and discover how to successfully implement it in everyday applications Book Description Go is an easy-to-write language that is popular among developers thanks to its features such as concurrency, portability, and ability to reduce complexity. This Golang book will teach you how to construct idiomatic Go code that is reusable and highly performant. Starting with an introduction to performance concepts, you'll understand the ideology behind Go's performance. You'll then learn how to effectively implement Go data structures and algorithms along with exploring data manipulation and organization to write programs for scalable software. This book covers channels and goroutines for parallelism and concurrency to write high-performance code for distributed systems. As you advance, you'll learn how to manage memory effectively. You'll explore the compute unified device architecture (CUDA) application programming interface (API), use containers to build Go code, and work with the Go build cache for quicker compilation. You'll also get to grips with profiling and tracing Go code for detecting bottlenecks in your system. Finally, you'll evaluate clusters and job queues for performance optimization and monitor the application for performance regression. By the end of this Go programming book, you'll be able to improve existing code and fulfill customer requirements by writing efficient programs. What you will learn Organize and manipulate data effectively with clusters and job queues Explore commonly applied Go data structures and algorithms Write anonymous functions in Go to build reusable apps Profile and trace Go apps to reduce bottlenecks and improve efficiency Deploy, monitor, and iterate Go programs with a focus on performance Dive into memory management and CPU and GPU parallelism in Go Who this book is for This Golang book is a must for developers and professionals who have an intermediate-to-advanced understanding of Go programming, and are interested in improving their speed of code execution.

[How To Code in Go](#) Nov 12 2020

**Security with Go** Feb 13 2021 The first stop for your security needs when using Go, covering host, network, and cloud security for ethical hackers and defense against intrusion Key Features First introduction to Security with Golang Adopting a Blue Team/Red Team approach Take advantage of speed and inherent safety of Golang Works as an introduction to security for Golang developers Works as a guide to Golang security packages for recent Golang beginners Book Description Go is becoming more and more popular as a language for security experts. Its wide use in server and cloud environments, its speed and ease of use, and its evident capabilities for data analysis, have made it a prime choice for developers who need to think about security. Security with Go is the first Golang security book, and it is useful for both blue team and red team applications. With this book, you will learn how to write secure software, monitor your systems, secure your data, attack systems, and extract information. Defensive topics include cryptography, forensics, packet capturing, and building secure web applications. Offensive topics include brute force, port

scanning, packet injection, web scraping, social engineering, and post exploitation techniques. What you will learn Learn the basic concepts and principles of secure programming Write secure Golang programs and applications Understand classic patterns of attack Write Golang scripts to defend against network-level attacks Learn how to use Golang security packages Apply and explore cryptographic methods and packages Learn the art of defending against brute force attacks Secure web and cloud applications Who this book is for Security with Go is aimed at developers with basics in Go to the level that they can write their own scripts and small programs without difficulty. Readers should be familiar with security concepts, and familiarity with Python security applications and libraries is an advantage, but not a necessity.

**Head First Go** Dec 02 2019 What will you learn from this book? Go makes it easy to build software that's simple, reliable, and efficient. And this book makes it easy for programmers like you to get started. Googledesigned Go for high-performance networking and multiprocessing, but—like Python and JavaScript—the language is easy to read and use. With this practical hands-on guide, you'll learn how to write Go code using clear examples that demonstrate the language in action. Best of all, you'll understand the conventions and techniques that employers want entry-level Go developers to know. Why does this book look so different? Based on the latest research in cognitive science and learning theory, Head First Go uses a visually rich format to engage your mind rather than a text-heavy approach that puts you to sleep. Why waste your time struggling with new concepts? This multisensory learning experience is designed for the way your brain really works.

Go Programming Language For Dummies Jul 29 2019 Ready, set, program with Go! Now is the perfect time to learn the Go Programming Language. It's one of the most in-demand languages among tech recruiters and developers love its simplicity and power. Go Programming Language For Dummies is an easy way to add this top job skill to your toolkit. Written for novice and experienced coders alike, this book traverses basic syntax, writing functions, organizing data, building packages, and interfacing with APIs. Go—or GoLang, as it's also known—has proven to be a strong choice for developers creating applications for the cloud-based world we live in. This book will put you on the path to using the language that's created some of today's leading web applications, so you can steer your career where you want to Go! Learn how Go works and start writing programs and modules Install and implement the most powerful third-party Go packages Use Go in conjunction with web services and MySQL databases Keep your codebase organized and use Go to structure data With this book, you can join the growing numbers of developers using Go to create 21st century solutions. Step inside to take start writing code that puts data in users' hands.

**Infrastructure as Code (IAC) Cookbook** Sep 30 2019 Over 90 practical, actionable recipes to automate, test, and manage your infrastructure quickly and effectively About This Book Bring down your delivery timeline from days to hours by treating your server configurations and VMs as code, just like you would with software code. Take your existing knowledge and skill set with your existing tools (Puppet, Chef, or Docker) to the next level and solve IT infrastructure challenges. Use practical recipes to use code to provision and deploy servers and applications and have greater control of your infrastructure. Who This Book Is For This book is for DevOps engineers and developers working in cross-functional teams or operations and would now switch to IAC to manage complex infrastructures. What You Will Learn Provision local and remote development environments with Vagrant Automate production infrastructures with Terraform, Ansible and Cloud-init on AWS, OpenStack, Google Cloud, Digital Ocean, and more Manage and test automated systems using Chef and Puppet Build, ship, and debug optimized Docker containers Explore the best practices to automate and test everything from cloud infrastructures to operating system configuration In Detail Infrastructure as Code (IAC) is a key aspect of the DevOps movement, and this book will show you how to transform the way you work with your infrastructure—by treating it as software. This book is dedicated to helping you discover the essentials of infrastructure automation and its related practices; the over 90 organized practical solutions will demonstrate how to work with some of the very best tools and cloud solutions. You will learn how to deploy repeatable infrastructures and services on AWS, OpenStack, Google Cloud, and Digital Ocean. You will see both Ansible and Terraform in action, manipulate the best bits from cloud-init to easily bootstrap instances, and simulate consistent environments locally or remotely using Vagrant. You will discover how to automate and test a range of system tasks using Chef or Puppet. You will also build, test, and debug various Docker containers having developers' interests in mind.

This book will help you to use the right tools, techniques, and approaches to deliver working solutions for today's modern infrastructure challenges. Style and approach This is a recipe-based book that allows you to venture into some of the most cutting-edge practices and techniques about IAC and solve immediate problems when trying to implement them.

**Go Design Patterns** Jan 03 2020 Learn idiomatic, efficient, clean, and extensible Go design and concurrency patterns by using TDD About This Book A highly practical guide filled with numerous examples unleashing the power of design patterns with Go. Discover an introduction of the CSP concurrency model by explaining GoRoutines and channels. Get a full explanation, including comprehensive text and examples, of all known GoF design patterns in Go. Who This Book Is For The target audience is both beginner- and advanced-level developers in the Go programming language. No knowledge of design patterns is expected. What You Will Learn All basic syntax and tools needed to start coding in Go Encapsulate the creation of complex objects in an idiomatic way in Go Create unique instances that cannot be duplicated within a program Understand the importance of object encapsulation to provide clarity and maintainability Prepare cost-effective actions so that different parts of the program aren't affected by expensive tasks Deal with channels and GoRoutines within the Go context to build concurrent application in Go in an idiomatic way In Detail Go is a multi-paradigm programming language that has built-in facilities to create concurrent applications. Design patterns allow developers to efficiently address common problems faced during developing applications. Go Design Patterns will provide readers with a reference point to software design patterns and CSP concurrency design patterns to help them build applications in a more idiomatic, robust, and convenient way in Go. The book starts with a brief introduction to Go programming essentials and quickly moves on to explain the idea behind the creation of design patterns and how they appeared in the 90's as a common "language" between developers to solve common tasks in object-oriented programming languages. You will then learn how to apply the 23 Gang of Four (GoF) design patterns in Go and also learn about CSP concurrency patterns, the "killer feature" in Go that has helped Google develop software to maintain thousands of servers. With all of this the book will enable you to understand and apply design patterns in an idiomatic way that will produce concise, readable, and maintainable software. Style and approach This book will teach widely used design patterns and best practices with Go in a step-by-step manner. The code will have detailed examples, to allow programmers to apply design patterns in their day-to-day coding.

**Hands-On Software Architecture with Golang** May 31 2022 Understand the principles of software architecture with coverage on SOA, distributed and messaging systems, and database modeling Key Features Gain knowledge of architectural approaches on SOA and microservices for architectural decisions Explore different architectural patterns for building distributed applications Migrate applications written in Java or Python to the Go language Book Description Building software requires careful planning and architectural considerations; Golang was developed with a fresh perspective on building next-generation applications on the cloud with distributed and concurrent computing concerns. Hands-On Software Architecture with Golang starts with a brief introduction to architectural elements, Go, and a case study to demonstrate architectural principles. You'll then move on to look at code-level aspects such as modularity, class design, and constructs specific to Golang and implementation of design patterns. As you make your way through the chapters, you'll explore the core objectives of architecture such as effectively managing complexity, scalability, and reliability of software systems. You'll also work through creating distributed systems and their communication before moving on to modeling and scaling of data. In the concluding chapters, you'll learn to deploy architectures and plan the migration of applications from other languages. By the end of this book, you will have gained insight into various design and architectural patterns, which will enable you to create robust, scalable architecture using Golang. What you will learn Understand architectural paradigms and deep dive into Microservices Design parallelism/concurrency patterns and learn object-oriented design patterns in Go Explore API-driven systems architecture with introduction to REST and GraphQL standards Build event-driven architectures and make your architectures anti-fragile Engineer scalability and learn how to migrate to Go from other languages Get to grips with deployment considerations with CICD pipeline, cloud deployments, and so on Build an end-to-end e-commerce (travel) application backend in Go Who this book is for Hands-On Software Architecture with

Golang is for software developers, architects, and CTOs looking to use Go in their software architecture to build enterprise-grade applications. Programming knowledge of Golang is assumed.

Concurrency in Go Apr 29 2022 Concurrency can be notoriously difficult to get right, but fortunately, the Go open source programming language makes working with concurrency tractable and even easy. If you're a developer familiar with Go, this practical book demonstrates best practices and patterns to help you incorporate concurrency into your systems. Author Katherine Cox-Buday takes you step-by-step through the process. You'll understand how Go chooses to model concurrency, what issues arise from this model, and how you can compose primitives within this model to solve problems. Learn the skills and tooling you need to confidently write and implement concurrent systems of any size. Understand how Go addresses fundamental problems that make concurrency difficult to do correctly Learn the key differences between concurrency and parallelism Dig into the syntax of Go's memory synchronization primitives Form patterns with these primitives to write maintainable concurrent code Compose patterns into a series of practices that enable you to write large, distributed systems that scale Learn the sophistication behind goroutines and how Go's runtime stitches everything together

**Hands-On Software Engineering with Golang** Aug 02 2022 Explore software engineering methodologies, techniques, and best practices in Go programming to build easy-to-maintain software that can effortlessly scale on demand Key FeaturesApply best practices to produce lean, testable, and maintainable Go code to avoid accumulating technical debtExplore Go's built-in support for concurrency and message passing to build high-performance applicationsScale your Go programs across machines and manage their life cycle using KubernetesBook Description Over the last few years, Go has become one of the favorite languages for building scalable and distributed systems. Its opinionated design and built-in concurrency features make it easy for engineers to author code that efficiently utilizes all available CPU cores. This Golang book distills industry best practices for writing lean Go code that is easy to test and maintain, and helps you to explore its practical implementation by creating a multi-tier application called Links 'R' Us from scratch. You'll be guided through all the steps involved in designing, implementing, testing, deploying, and scaling an application. Starting with a monolithic architecture, you'll iteratively transform the project into a service-oriented architecture (SOA) that supports the efficient out-of-core processing of large link graphs. You'll learn about various cutting-edge and advanced software engineering techniques such as building extensible data processing pipelines, designing APIs using gRPC, and running distributed graph processing algorithms at scale. Finally, you'll learn how to compile and package your Go services using Docker and automate their deployment to a Kubernetes cluster. By the end of this book, you'll know how to think like a professional software developer or engineer and write lean and efficient Go code. What you will learnUnderstand different stages of the software development life cycle and the role of a software engineerCreate APIs using gRPC and leverage the middleware offered by the gRPC ecosystemDiscover various approaches to managing package dependencies for your projectsBuild an end-to-end project from scratch and explore different strategies for scaling itDevelop a graph processing system and extend it to run in a distributed mannerDeploy Go services on Kubernetes and monitor their health using PrometheusWho this book is for This Golang programming book is for developers and software engineers looking to use Go to design and build scalable distributed systems effectively. Knowledge of Go programming and basic networking principles is required.

Learning Go Programming May 07 2020 Deep dive into the essential topics in Go programming KEY FEATURES • Understand the fundamentals of Go language, its history, purpose and success stories. • Learn how to work with Variables, Constants, Data types, Operators, Control structures and Functions. • Get familiar and work with the standard Golang libraries. • Learn how to create custom packages and third-party package installation. • Understand how concurrency is achieved in Go with the use of Goroutines, Mutex and Channels. • Understand how an error is handled in Golang and supported libraries.

DESCRIPTION This book is a unique read for both beginners and developers as it extensively covers topics ranging from fundamentals to advanced topics in Go programming. Basics such as Data types, Control structures and Loops in have been explained in-depth. A detailed description of Structs, Interfaces, Polymorphism and Concurrency will enable you to write professional codes using Golang. You will get an idea of error data type and how to recover it in Golang. You will be capable of using standard libraries,

create custom packages and install third party packages in Go. Creation of functions and invoking them in Go have been vividly explained. By the end, you will be able to write advanced Golang code and at the same time, develop an application with Golang server. WHAT YOU WILL LEARN • Learn how to write codes using Control structures and Loops in Go • Get familiar with the type of Operators in Go • Learn how to work with Arrays and Slices in Go • Get familiar and work with the functions in Go • Learn how to implement Concurrent programming in Go WHO THIS BOOK IS FOR This book is for anyone who wants to learn the Golang programming language. Programmers and developers who are currently using Golang can use this book as a reference guide. TABLE OF CONTENTS 1. Introduction to Go 2. Environment Setup 3. Beginning With Go 4. Variables, Data Types and Constants 5. Operators 6. Control Structures 7. Functions 8. Packages in Go 9. Arrays and Slices 10. Strings 11. Pointers 12. Structures 13. Composition 14. Interfaces and polymorphism 15. Maps 16. Concurrency with Go 17. Mutex & Channels 18. Error Handling 19. Reflection 20. Build Web Application

**Hands-On System Programming with Go** Jul 09 2020 Explore the fundamentals of systems programming starting from kernel API and filesystem to network programming and process communications Key FeaturesLearn how to write Unix and Linux system code in Golang v1.12Perform inter-process communication using pipes, message queues, shared memory, and semaphoresExplore modern Go features such as goroutines and channels that facilitate systems programmingBook Description System software and applications were largely created using low-level languages such as C or C++. Go is a modern language that combines simplicity, concurrency, and performance, making it a good alternative for building system applications for Linux and macOS. This Go book introduces Unix and systems programming to help you understand the components the OS has to offer, ranging from the kernel API to the filesystem, and familiarize yourself with Go and its specifications. You'll also learn how to optimize input and output operations with files and streams of data, which are useful tools in building pseudo terminal applications. You'll gain insights into how processes communicate with each other, and learn about processes and daemon control using signals, pipes, and exit codes. This book will also enable you to understand how to use network communication using various protocols, including TCP and HTTP. As you advance, you'll focus on Go's best feature-concurrency helping you handle communication with channels and goroutines, other concurrency tools to synchronize shared resources, and the context package to write elegant applications. By the end of this book, you will have learned how to build concurrent system applications using Go What you will learnExplore concepts of system programming using Go and concurrencyGain insights into Golang's internals, memory models and allocationFamiliarize yourself with the filesystem and IO streams in generalHandle and control processes and daemons' lifetime via signals and pipesCommunicate with other applications effectively using a networkUse various encoding formats to serialize complex data structuresBecome well-versed in concurrency with channels, goroutines, and syncUse concurrency patterns to build robust and performant system applicationsWho this book is for If you are a developer who wants to learn system programming with Go, this book is for you. Although no knowledge of Unix and Linux system programming is necessary, intermediate knowledge of Go will help you understand the concepts covered in the book

GoLang Feb 25 2022 The book is a detailed guide that will help developers and coders do more with GoLang. It talks about the basics in brief, and then moves on to more advanced and detailed exercises to help readers quickly gain the required knowledge. The focus in this book remains on writing optimized and well-structured code in GoLang.

Pro Go Feb 02 2020 Best-selling author Adam Freeman explains how to get the most from Go, starting from the basics and building up to the most advanced and sophisticated features. You will learn how Go builds on a simple and consistent type system to create a comprehensive and productive development experience that produces fast and robust applications that run across platforms. Go, also known as Golang, is the concise and efficient programming language designed by Google for creating high-performance, cross-platform applications. Go combines strong static types with simple syntax and a comprehensive standard library to increase programmer productivity, while still supporting features such as concurrent/parallel programming. Each topic is covered in a clear, concise, no-nonsense approach that is packed with the details you need to learn to be truly effective. Chapters include common problems and how to avoid them.

What You Will Learn Gain a solid understanding of the Go language and tools Gain in-depth knowledge of the Go standard library Use Go for concurrent/parallel tasks Use Go for client- and server-side development Who This Book Is For Experienced developers who want to use Go to create applications

**Ultimate Go Notebook** Sep 10 2020

**Go Programming Blueprints** Oct 24 2021 Build real-world, production-ready solutions in Go using cutting-edge technology and techniques About This Book Get up to date with Go and write code capable of delivering massive world-class scale performance and availability Learn to apply the nuances of the Go language, and get to know the open source community that surrounds it to implement a wide range of start-up quality projects Write interesting and clever but simple code, and learn skills and techniques that are directly transferrable to your own projects Who This Book Is For If you are familiar with Go and are want to put your knowledge to work, then this is the book for you. Go programming knowledge is a must. What You Will Learn Build quirky and fun projects from scratch while exploring patterns, practices, and techniques, as well as a range of different technologies Create websites and data services capable of massive scale using Go's net/http package, exploring RESTful patterns as well as low-latency WebSocket APIs Interact with a variety of remote web services to consume capabilities ranging from authentication and authorization to a fully functioning thesaurus Develop high-quality command-line tools that utilize the powerful shell capabilities and perform well using Go's in-built concurrency mechanisms Build microservices for larger organizations using the Go Kit library Implement a modern document database as well as high-throughput messaging queue technology to put together an architecture that is truly ready to scale Write concurrent programs and gracefully manage the execution of them and communication by smartly using channels Get a feel for app deployment using Docker and Google App Engine In Detail Go is the language of the Internet age, and the latest version of Go comes with major architectural changes. Implementation of the language, runtime, and libraries has changed significantly. The compiler and runtime are now written entirely in Go. The garbage collector is now concurrent and provides dramatically lower pause times by running in parallel with other Go routines when possible. This book will show you how to leverage all the latest features and much more. This book shows you how to build powerful systems and drops you into real-world situations. You will learn to develop high-quality command-line tools that utilize the powerful shell capabilities and perform well using Go's in-built concurrency mechanisms. Scale, performance, and high availability lie at the heart of our projects, and the lessons learned throughout this book will arm you with everything you need to build world-class solutions. You will get a feel for app deployment using Docker and Google App Engine. Each project could form the basis of a start-up, which means they are directly applicable to modern software markets. Style and approach This book provides fun projects that involve building applications from scratch. These projects will teach you to build chat applications, a distributed system, and a recommendation system.

**Learning Go** Jan 27 2022 Go is rapidly becoming the preferred language for building web services. While there are plenty of tutorials available that teach Go's syntax to developers with experience in other programming languages, tutorials aren't enough. They don't teach Go's idioms, so developers end up recreating patterns that don't make sense in a Go context. This practical guide provides the essential background you need to write clear and idiomatic Go. No matter your level of experience, you'll learn how to think like a Go developer. Author Jon Bodner introduces the design patterns experienced Go developers have adopted and explores the rationale for using them. You'll also get a preview of Go's upcoming generics support and how it fits into the language. Learn how to write idiomatic code in Go and design a Go project Understand the reasons for the design decisions in Go Set up a Go development environment for a solo developer or team Learn how and when to use reflection, unsafe, and cgo Discover how Go's features allow the language to run efficiently Know which Go features you should use sparingly or not at all

**Network Programming with Go** Jun 07 2020 Dive into key topics in network architecture and Go, such as data serialization, application level protocols, character sets and encodings. This book covers network architecture and gives an overview of the Go language as a primer, covering the latest Go release. Beyond the fundamentals, Network Programming with Go covers key networking and security issues such as HTTP and HTTPS, templates, remote procedure call (RPC), web sockets including HTML5 web sockets, and more. Additionally, author Jan Newmarch guides you in building and connecting to a complete web server based

on Go. This book can serve as both as an essential learning guide and reference on Go networking. What You Will Learn Master network programming with Go Carry out data serialization Use application-level protocols Manage character sets and encodings Deal with HTTP(S) Build a complete Go-based web server Work with RPC, web sockets, and more Who This Book Is For Experienced Go programmers and other programmers with some experience with the Go language.

**Get Programming with Go** Sep 03 2022 Summary Get Programming with Go introduces you to the powerful Go language without confusing jargon or high-level theory. By working through 32 quick-fire lessons, you'll quickly pick up the basics of the innovative Go programming language! Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Go is a small programming language designed by Google to tackle big problems. Large projects mean large teams with people of varying levels of experience. Go offers a small, yet capable, language that can be understood and used by anyone, no matter their experience. About the Book Hobbyists, newcomers, and professionals alike can benefit from a fast, modern language; all you need is the right resource! Get Programming with Go provides a hands-on introduction to Go language fundamentals, serving as a solid foundation for your future programming projects. You'll master Go syntax, work with types and functions, and explore bigger ideas like state and concurrency, with plenty of exercises to lock in what you learn. What's inside Language concepts like slices, interfaces, pointers, and concurrency Seven capstone projects featuring spacefaring gophers, Mars rovers, ciphers, and simulations All examples run in the Go Playground - no installation required! About the Reader This book is for anyone familiar with computer programming, as well as anyone with the desire to learn. About the Author Nathan Youngman organizes the Edmonton Go meetup and is a mentor with Canada Learning Code. Roger Peppé contributes to Go and runs the Newcastle upon Tyne Go meetup. Table of Contents Unit 0 - GETTING STARTED Get ready, get set, Go Unit 1 - IMPERATIVE PROGRAMMING A glorified calculator Loops and branches Variable scope Capstone: Ticket to Mars Unit 2 - TYPES Real numbers Whole numbers Big numbers Multilingual text Converting between types Capstone: The Vigenère cipher Unit 3 - BUILDING BLOCKS Functions Methods First-class functions Capstone: Temperature tables Unit 4 - COLLECTIONS Arrayed in splendor Slices: Windows into arrays A bigger slice The ever-versatile map Capstone: A slice of life Unit 5 - STATE AND BEHAVIOR A little structure Go's got no class Composition and forwarding Interfaces Capstone: Martian animal sanctuary Unit 6 - DOWN THE GOPHER HOLE A few pointers Much ado about nil To err is human Capstone: Sudoku rules Unit 7 - CONCURRENT PROGRAMMING Goroutines and concurrency Concurrent state Capstone: Life on Mars

**Event-Driven Architecture in Golang** Mar 17 2021 Begin building event-driven microservices, including patterns to handle data consistency and resiliency Key Features Explore the benefits and tradeoffs of event-driven architectures with practical examples and use cases Understand synergy with event sourcing, CQRS, and domain-driven development in software architecture Build an end-to-end robust application architecture by the end of the book Book Description Event-driven architecture in Golang is an approach used to develop applications that shares state changes asynchronously, internally, and externally using messages. EDA applications are better suited at handling situations that need to scale up quickly and the chances of individual component failures are less likely to bring your system crashing down. This is why EDA is a great thing to learn and this book is designed to get you started with the help of step-by-step explanations of essential concepts, practical examples, and more. You'll begin building event-driven microservices, including patterns to handle data consistency and resiliency. Not only will you learn the patterns behind event-driven microservices but also how to communicate using asynchronous messaging with event streams. You'll then build an application made of several microservices that communicates using both choreographed and orchestrated messaging. By the end of this book, you'll be able to build and deploy your own event-driven microservices using asynchronous communication. What you will learn Understand different event-driven patterns and best practices Plan and design your software architecture with ease Track changes and updates effectively using event sourcing Test and deploy your sample software application with ease Monitor and improve the performance of your software architecture Who this book is for This hands-on book is for intermediate-level software architects, or senior software engineers working with Golang and interested in building asynchronous microservices using event sourcing, CQRS, and DDD. Intermediate-level knowledge of the Go syntax and concurrency features is necessary.

*Go Web Programming* Jan 15 2021 Summary Go Web Programming teaches you how to build scalable, high-performance web applications in Go using modern design principles. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology The Go language handles the demands of scalable, high-performance web applications by providing clean and fast compiled code, garbage collection, a simple concurrency model, and a fantastic standard library. It's perfect for writing microservices or building scalable, maintainable systems. About the Book Go Web Programming teaches you how to build web applications in Go using modern design principles. You'll learn how to implement the dependency injection design pattern for writing test doubles, use concurrency in web applications, and create and consume JSON and XML in web services. Along the way, you'll discover how to minimize your dependence on external frameworks, and you'll pick up valuable productivity techniques for testing and deploying your applications. What's Inside Basics Testing and benchmarking Using concurrency Deploying to standalone servers, PaaS, and Docker Dozens of tips, tricks, and techniques About the Reader This book assumes you're familiar with Go language basics and the general concepts of web development. About the Author Sau Sheong Chang is Managing Director of Digital Technology at Singapore Power and an active contributor to the Ruby and Go communities. Table of Contents PART 1 GO AND WEB APPLICATIONS Go and web applications Go ChitChat PART 2 BASIC WEB APPLICATIONS Handling requests Processing requests Displaying content Storing data PART 3 BEING REAL Go web services Testing your application Leveraging Go concurrency Deploying Go

*Go in 24 Hours, Sams Teach Yourself* Aug 29 2019 In just 24 sessions of one hour or less, Sams Teach Yourself Go in 24 Hours will help new and experienced programmers build software that's simpler, more reliable, and far more scalable. This book's straightforward, step-by-step approach guides you from setting up your environment through testing and deploying powerful solutions. Using practical examples, expert Go developer George Ornbo walks you through Go's fundamental constructs, demonstrates its breakthrough features for concurrent and network programming, and illuminates Go's powerful new idioms. Every lesson builds on what you've already learned, giving you a rock-solid foundation for real-world success. Step-by-step instructions carefully walk you through the most common Go programming tasks and techniques Quizzes and exercises help you test your knowledge and stretch your skills Practical, hands-on examples show you how to apply what you learn Notes and Tips point out shortcuts, solutions, and problems to avoid Two bonus chapters available online: Hour 25, "Creating a RESTful JSON API," and Hour 26 "Creating a TCP Chat Server" Learn how to... · Get productive quickly with Go development tools and web servers · Master core features, including strings, functions, structs, and methods · Work with types, variables, functions, and control structures · Make the most of Go's arrays, slices, and maps · Write powerful concurrent software with Goroutines and channels · Handle program errors smoothly · Promote code reuse with packages · Master Go's unique idioms for highly effective coding · Use regular expressions and time/date functions · Test and benchmark Go code · Write basic command-line programs, HTTP servers, and HTTP clients · Efficiently move Go code into production · Build basic TCP chat servers and JSON APIs Register your book at [informit.com/register](http://informit.com/register) for convenient access to the two bonus chapters online, downloads, updates, and/or corrections as they become available.

*Hands-On Software Engineering with Golang* Nov 24 2021 Explore software engineering methodologies, techniques, and best practices in Go programming to build easy-to-maintain software that can effortlessly scale on demand Key Features Apply best practices to produce lean, testable, and maintainable Go code to avoid accumulating technical debt Explore Go's built-in support for concurrency and message passing to build high-performance applications Scale your Go programs across machines and manage their life cycle using Kubernetes Book Description Over the last few years, Go has become one of the favorite languages for building scalable and distributed systems. Its opinionated design and built-in concurrency features make it easy for engineers to author code that efficiently utilizes all available CPU cores. This Golang book distills industry best practices for writing lean Go code that is easy to test and maintain, and helps you to explore its practical implementation by creating a multi-tier application called Links 'R' Us from scratch. You'll be guided through all the steps involved in designing, implementing, testing, deploying, and scaling an application. Starting with a monolithic architecture, you'll iteratively transform the project into a service-oriented architecture (SOA) that supports the efficient out-of-core processing of large link graphs.

You'll learn about various cutting-edge and advanced software engineering techniques such as building extensible data processing pipelines, designing APIs using gRPC, and running distributed graph processing algorithms at scale. Finally, you'll learn how to compile and package your Go services using Docker and automate their deployment to a Kubernetes cluster. By the end of this book, you'll know how to think like a professional software developer or engineer and write lean and efficient Go code. What you will learn Understand different stages of the software development life cycle and the role of a software engineer Create APIs using gRPC and leverage the middleware offered by the gRPC ecosystem Discover various approaches to managing package dependencies for your projects Build an end-to-end project from scratch and explore different strategies for scaling it Develop a graph processing system and extend it to run in a distributed manner Deploy Go services on Kubernetes and monitor their health using Prometheus Who this book is for This Golang programming book is for developers and software engineers looking to use Go to design and build scalable distributed systems effectively. Knowledge of Go programming and basic networking principles is required.

*Learning Go Programming* Oct 31 2019 An insightful guide to learning the Go programming language About This Book Insightful coverage of Go programming syntax, constructs, and idioms to help you understand Go code effectively Push your Go skills, with topics such as, data types, channels, concurrency, object-oriented Go, testing, and network programming Each chapter provides working code samples that are designed to help reader quickly understand respective topic Who This Book Is For If you have prior exposure to programming and are interested in learning the Go programming language, this book is designed for you. It will quickly run you through the basics of programming to let you exploit a number of features offered by Go programming language. What You Will Learn Install and configure the Go development environment to quickly get started with your first program. Use the basic elements of the language including source code structure, variables, constants, and control flow primitives to quickly get started with Go Gain practical insight into the use of Go's type system including basic and composite types such as maps, slices, and structs. Use interface types and techniques such as embedding to create idiomatic object-oriented programs in Go. Develop effective functions that are encapsulated in well-organized package structures with support for error handling and panic recovery. Implement goroutine, channels, and other concurrency primitives to write highly-concurrent and safe Go code Write tested and benchmarked code using Go's built test tools Access OS resources by calling C libraries and interact with program environment at runtime In Detail The Go programming language has firmly established itself as a favorite for building complex and scalable system applications. Go offers a direct and practical approach to programming that let programmers write correct and predictable code using concurrency idioms and a full-featured standard library. This is a step-by-step, practical guide full of real world examples to help you get started with Go in no time at all. We start off by understanding the fundamentals of Go, followed by a detailed description of the Go data types, program structures and Maps. After this, you learn how to use Go concurrency idioms to avoid pitfalls and create programs that are exact in expected behavior. Next, you will be familiarized with the tools and libraries that are available in Go for writing and exercising tests, benchmarking, and code coverage. Finally, you will be able to utilize some of the most important features of GO such as, Network Programming and OS integration to build efficient applications. All the concepts are explained in a crisp and concise manner and by the end of this book; you would be able to create highly efficient programs that you can deploy over cloud. Style and approach The book is written to serve as a reader-friendly step-by-step guide to learning the Go programming language. Each topic is sequentially introduced to build on previous materials covered. Every concept is introduced with easy-to-follow code examples that focus on maximizing the understanding of the topic at hand.

*Mastering Golang* Oct 12 2020 Mastering GoLang helps readers quickly understand the core concepts and then move on to practical projects using the Go programming language. GoLang is often dubbed a game-changer in the world of programming languages. Instead of starting from scratch, Go was created using the C programming language. GoLang inherits C's disciplined grammar but with specific tweaks and enhancements to properly manage memory. This lessens the memory leakage problems that developers tend to face with C. Go borrows and adapts notions from various programming languages while skipping characteristics that result in complicated, insecure, and unpredictable code. Go's concurrency features are

well-suited to build the infrastructure for gigantic projects such as networking systems and distributed hardware. Go is also often employed in domains such as visuals, mobile applications, and Machine Learning. Even though GoLang is a relatively new language, it has been adopted by several major organizations owing to its benefits, which include code clarity, custom libraries, adaptability, multithreading, and a simple build process. Because Go is gaining traction in the development community, learning GoLang can open up new avenues across various fields and career trajectories. Since it is still a relatively newer language, quality literature pertaining to Go is often hard to find. However, this particular book covers all the bases that you might need, and is an ideal companion for beginner-level developers looking to master Go programming. With Mastering GoLang, learning GoLang becomes an easy task, and learners can use their skills to create innovative projects. The Mastering Computer Science series is edited by Sufyan bin Uzayr, a writer and educator with over a decade of experience in the computing field.

**Go in Action** Dec 14 2020 Summary Go in Action introduces the Go language, guiding you from inquisitive developer to Go guru. The book begins by introducing the unique features and concepts of Go. Then, you'll get hands-on experience writing real-world applications including websites and network servers, as well as techniques to manipulate and convert data at speeds that will make your friends jealous. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Application development can be tricky enough even when you aren't dealing with complex systems programming problems like web-scale concurrency and real-time performance. While it's possible to solve these common issues with additional tools and frameworks, Go handles them right out of the box, making for a more natural and productive coding experience. Developed at Google, Go powers nimble startups as well as big enterprises—companies that rely on high-performing services in their infrastructure. About the Book Go in Action is for any intermediate-level developer who has experience with other

programming languages and wants a jump-start in learning Go or a more thorough understanding of the language and its internals. This book provides an intensive, comprehensive, and idiomatic view of Go. It focuses on the specification and implementation of the language, including topics like language syntax, Go's type system, concurrency, channels, and testing. What's Inside Language specification and implementation Go's type system Internals of Go's data structures Testing and benchmarking About the Reader This book assumes you're a working developer proficient with another language like Java, Ruby, Python, C#, or C++. About the Authors William Kennedy is a seasoned software developer and author of the blog GoingGo.Net. Brian Ketelsen and Erik St. Martin are the organizers of GopherCon and coauthors of the Go-based Skynet framework. Table of Contents Introducing Go Go quick-start Packaging and tooling Arrays, slices, and maps Go's type system Concurrency Concurrency patterns Standard library Testing and benchmarking *Introducing Go* Jun 19 2021 Perfect for beginners familiar with programming basics, this hands-on guide provides an easy introduction to Go, the general-purpose programming language from Google. Author Caleb Doxsey covers the language's core features with step-by-step instructions and exercises in each chapter to help you practice what you learn. Go is a general-purpose programming language with a clean syntax and advanced features, including concurrency. This book provides the one-on-one support you need to get started with the language, with short, easily digestible chapters that build on one another. By the time you finish this book, not only will you be able to write real Go programs, you'll be ready to tackle advanced techniques. Jump into Go basics, including data types, variables, and control structures Learn complex types, such as slices, functions, structs, and interfaces Explore Go's core library and learn how to create your own package Write tests for your code by using the language's go test program Learn how to run programs concurrently with goroutines and channels Get suggestions to help you master the craft of programming