

Hands On Concurrency With Rust Confidently Build Memory Safe Parallel And Efficient Software In Rust

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To help you tackle this, Hands-On Concurrency with Rust will guide you on how to manage program performance on modern machines and build fast, memory-safe, and concurrent software in Rust. The book starts with the fundamentals of Rust and focuses on machine architecture concepts.

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Hands-On Concurrency with Rust [Book] Get to grips with modern software demands by learning the effective uses of Rust's powerful memory safety. About This BookLearn and improve the sequential performance characteristics of your software

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Hands-On Concurrency with Rust: Confidently build memory-safe, parallel, and efficient software in Rust. Brian L. Troutwine. Year:

~~Hands-On Concurrency with Rust: Confidently build memory~~---

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Hands-On Concurrency with Rust PDF Free Download, Reviews, Read Online, ISBN: 1788399978, By Brian L. Troutwine

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Hands-On Concurrency with Rust Get to grips with modern software demands by learning the effective uses of Rust ' s powerful memory safety. Most programming languages ...

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Hands-On Systems Programming with Rust About the Book. Most programming languages can really complicate things, especially with regard to unsafe memory access. Instructions and Navigation. All of the code is organized into folders. Each folder starts with a number followed by the... Author's Instruction. ...

~~GitHub - PaektPublishing/Hands-On-Concurrency-with-Rust~~---

First, what's Hands-On Concurrency with Rust about? Hopefully you can guess some of the subject from the title. It's a Rust-focused book that's meant to teach you, as of 2018, what you can do in Rust to fiddle with modern, commodity parallel machines.

~~Writing - Hands-On Concurrency with Rust~~"

Hands-On Concurrency with Rust 作者：Brian L. Troutwine 出版社：Packt 副标题：Confidently build memory-safe, parallel, and efficient software in Rust 出版年：2018-5-31 页数：462 定价：USD 44.99 装帧：Paperback ISBN：9781788399975

~~Hands-On Concurrency with Rust (豆瓣)~~

Hands-on Rust » Rust is an exciting new programming language combining the power of C with memory safety, fearless concurrency, and productivity boosters—and what better way to learn than by making games. Each chapter in this book presents hands-on, practical projects ranging from "Hello, World" to building a full dungeon crawler game.

~~Hands-on Rust~~

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~~Hands-on Rust Book Portal | Devtalk~~

Hands-On Concurrency with Rust: Confidently build memory-safe, parallel, and efficient software in Rust by Brian L. Troutwine English | May 31, 2018 | ISBN: 1788399978 | PDF | 462 pages | 2.1 MB

~~Hands-On Concurrency with Rust: Confidently build memory~~---

Hands-On Concurrency with Rust By Brian L. Troutwine May 2018 Get to grips with modern software demands by learning the effective uses of Rust's powerful memory safety.

~~Hands-On Geneurreney with Rust~~

Hands-On Systems Programming with Rust Take advantage of Rust to ensure safety and concurrency Rating: 4.3 out of 5 4.3 (29 ratings) 318 students ... If you need safety, concurrency, and speed, then Rust is the only viable option. In this course, you will learn how Rust guarantees memory and thread safety at compile-time, yet uses zero-cost ...

~~Hands-On Systems Programming with Rust | Udemy~~

To help you tackle this, Hands-On Concurrency with Rust will guide you on how to manage program performance on modern machines and build fast, memory-safe, and concurrent software in Rust. The book starts with the fundamentals of Rust and focuses on machine architecture concepts.

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Hands-On Concurrency with Rust by Brian L. Troutwine Get Hands-On Concurrency with Rust now with O ' Reilly online learning. O ' Reilly members experience live online training, plus books, videos, and digital content from 200+ publishers.

~~Hands-On Concurrency with Rust - Hands-On Concurrency with~~---

Starting off with the Rust 2018 edition changes, we will cover how borrowing and ownership, mutability, and concurrency influence how and where data can be held, and what algorithms can be executed. In this chapter, you can look forward to learning about the following: A quick refresh on Rust and what awaits in the 2018 edition (Rust 1.31)

~~Hands-On Data Structures and Algorithms with Rust | Paekt~~

by Herbert Wolverson. Rust is an exciting new programming language combining the power of C with memory safety, fearless concurrency, and productivity boosters—and what better way to learn than by making games. Each chapter in this book presents hands-on, practical projects ranging from " Hello, World " to building a full dungeon crawler game.

Get to grips with modern software demands by learning the effective uses of Rust's powerful memory safety. Key Features Learn and improve the sequential performance characteristics of your software Understand the use of operating system processes in a high-scale concurrent system Learn of the various coordination methods available in the Standard library Book Description Most programming languages can really complicate things, especially with regard to unsafe memory access. The burden on you, the programmer, lies across two domains: understanding the modern machine and your language's pain-points. This book will teach you to how to manage program performance on modern machines and build fast, memory-safe, and concurrent software in Rust. It starts with the fundamentals of Rust and discusses machine architecture concepts. You will be taken through ways to measure and improve the performance of Rust code systematically and how to write collections with confidence. You will learn about the Sync and Send traits applied to threads, and coordinate thread execution with locks, atomic primitives, data-parallelism, and more. The book will show you how to efficiently embed Rust in C++ code and explore the functionalities of various crates for multithreaded applications. It explores implementations in depth. You will know how a mutex works and build several yourself. You will master radically different approaches that exist in the ecosystem for structuring and managing high-scale systems. By the end of the book, you will feel comfortable with designing safe, consistent, parallel, and high-performance applications in Rust. What you will learn Probe your programs for performance and accuracy issues Create your own threading and multi-processing environment in Rust Use coarse locks from Rust ' s Standard library Solve common synchronization problems or avoid synchronization using atomic programming Build lock-free/wait-free structures in Rust and understand their implementations in the crates ecosystem Leverage Rust ' s memory model and type system to build safety properties into your parallel programs Understand the new features of the Rust programming language to ease the writing of parallel programs Who this book is for This book is aimed at software engineers with a basic understanding of Rust who want to exploit the parallel and concurrent nature of modern computing environments, safely.

Explore the support Rust offers for creating functional applications in Rust. Learn about various design patterns, implementing concurrency, metaprogramming, and so on in the process Key Features Learn generics, organization, and design patterns in functional programming Modularize your applications and make them highly reusable and testable using functional design patterns Get familiar with complex concepts such as metaprogramming, concurrency, and immutability Book Description Functional programming allows developers to divide programs into smaller, reusable components that ease the creation, testing, and maintenance of software as a whole. Combined with the power of Rust, you can develop robust and scalable applications that fulfill modern day software requirements. This book will help you discover all the Rust features that can be used to build software in a functional way. We begin with a brief comparison of the functional and object-oriented approach to different problems and patterns. We then quickly look at the patterns of control flow, data the abstractions of these unique to functional programming. The next part covers how to create functional apps in Rust; mutability and ownership, which are exclusive to Rust, are also discussed. Pure functions are examined next and you'll master closures, their various types, and currying. We also look at implementing concurrency through functional design principles and metaprogramming using macros. Finally, we look at best practices for debugging and optimization. By the end of the book, you will be familiar with the functional approach of programming and will be able to use these techniques on a daily basis. What you will learn How Rust supports the use of basic functional programming principles Use functional programming to handle concurrency with elegance Read and interpret complex type signatures for types and functions Implement powerful abstractions using meta programming in Rust Create quality code formulaically using Rust's functional design patterns Master Rust's complex ownership mechanisms particularly for mutability Who this book is for This book is for Rust developers who are comfortable with the language and now want to improve their coding abilities by learning advanced functional techniques to enhance their skillset and create robust and testable apps.

Hands-On Data Structures and Algorithms with Rust will help you in upgrading your earlier knowledge of Rust so that you shift to a confident developer by implementing the algorithms in a practical environment. This would be an essential reference guide for end-user/reader to understand the fundamental techniques of Rust. This guide will cover ...

A comprehensive guide in developing and deploying high performance microservices with Rust Key Features Start your microservices journey and get a broader perspective on microservices development using RUST 2018, Build, deploy, and test microservices using AWS Explore advanced techniques for developing microservices such as actor model, Requests Routing, and threads Book Description Microservice architecture is sweeping the world as the de facto pattern for building web-based applications. Rust is a language particularly well-suited for building microservices. It is a new system programming language that offers a practical and safe alternative to C. This book describes web development using the Rust programming language and will get you up and running with modern web frameworks and crates with examples of RESTful microservices creation. You will deep dive into Reactive programming, and asynchronous programming, and split your web application into a set of concurrent actors. The book provides several HTTP-handling examples with manageable memory allocations. You will walk through stateless high-performance microservices, which are ideally suitable for computation or caching tasks, and look at stateful microservices, which are filled with persistent data and database interactions. As we move along, you will learn how to use Rust macros to describe business or protocol entities of our application and compile them into native structs, which will be performed at full speed with the help of the server's CPU. Finally, you will be taken through examples of how to test and debug microservices and pack them into a tiny monolithic binary or put them into a container and deploy them to modern cloud platforms such as AWS. What you will learn Get acquainted with leveraging Rust web programming Get to grips with various Rust crates, such as hyper, Tokio, and Actix Explore RESTful microservices with Rust Understand how to pack Rust code to a container using Docker Familiarize yourself with Reactive microservices Deploy your microservices to modern cloud platforms such as AWS Who this book is for This book is for developers who have basic knowledge of RUST, and want to learn how to build, test, scale, and manage RUST microservices. No prior experience of writing microservices in RUST is assumed.

Mastering Rust, Second Edition covers a comprehensive list of topics that will help you gain deeper insights into the language. It will allow you how to create high performing applications effortlessly.

Rust is a new systems programming language that combines the performance and low-level control of C and C++ with memory safety and thread safety. Rust ' s modern, flexible types ensure your program is free of null pointer dereferences, double frees, dangling pointers, and similar bugs, all at compile time, without runtime overhead. In multi-threaded code, Rust catches data races at compile time, making concurrency much easier to use. Written by two experienced systems programmers, this book explains how Rust manages to bridge the gap between performance and safety, and how you can take advantage of it. Topics include: How Rust represents values in memory (with diagrams) Complete explanations of ownership, moves, borrows, and lifetimes Cargo, rustdoc, unit tests, and how to publish your code on crates.io, Rust ' s public package repository High-level features like generic code, closures, collections, and iterators that make Rust productive and flexible Concurrency in Rust: threads, mutexes, channels, and atomics, all much safer to use than in C or C++ Unsafe code, and how to preserve the integrity of ordinary code that uses it Extended examples illustrating how pieces of the language fit together

Rust in Action introduces the Rust programming language by exploring numerous systems programming concepts and techniques.You'll be learning Rust by delving into how computers work under the hood. You'll find yourself playing with persistent storage, memory, networking and even tinkering with CPU instructions. The book takes you through using Rust to extend other applications and teaches you tricks to write blindingly fast code. You'll also discover parallel and concurrent programming. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

The official book on the Rust programming language, written by the Rust development team at the Mozilla Foundation, fully updated for Rust 2018. The Rust Programming Language is the official book on Rust: an open source systems programming language that helps you write faster, more reliable software. Rust offers control over low-level details (such as memory usage) in combination with high-level ergonomics, eliminating the hassle traditionally associated with low-level languages. The authors of The Rust Programming Language, members of the Rust Core Team, share their knowledge and experience to show you how to take full advantage of Rust's features--from installation to creating robust and scalable programs. You'll begin with basics like creating functions, choosing data types, and binding variables and then move on to more advanced concepts, such as: • Ownership and borrowing, lifetimes, and traits • Using Rust's memory safety guarantees to build fast, safe programs • Testing, error handling, and effective refactoring • Generics, smart pointers, multithreading, trait objects, and advanced pattern matching • Using Cargo, Rust's built-in package manager, to build, test, and document your code and manage dependencies • How best to use Rust's advanced compiler with compiler-led programming techniques You'll find plenty of code examples throughout the book, as well as three chapters dedicated to building complete projects to test your learning: a number guessing game, a Rust implementation of a command line tool, and a multithreaded server. New to this edition: An extended section on Rust macros, an expanded chapter on modules, and appendices on Rust development tools and editions.

Design and implement professional-level programs by leveraging modern data structures and algorithms in Rust Key Features Improve your productivity by writing more simple and easy code in Rust Discover the functional and reactive implementations of traditional data structures Delve into new domains of Rust, including WebAssembly, networking, and command-line tools Book Description Rust is a powerful language with a rare combination of safety, speed, and zero-cost abstractions. This Learning Path is filled with clear and simple explanations of its features along with real-world examples, demonstrating how you can build robust, scalable, and reliable programs. You ' ll get started with an introduction to Rust data structures, algorithms, and essential language constructs. Next, you will understand how to store data using linked lists, arrays, stacks, and queues. You ' ll also learn to implement sorting and searching algorithms, such as Brute Force algorithms, Greedy algorithms, Dynamic Programming, and Backtracking. As you progress, you ' ll pick up on using Rust for systems programming, network programming, and the web. You ' ll then move on to discover a variety of techniques, right from writing memory-safe code, to building idiomatic Rust libraries, and even advanced macros. By the end of this Learning Path, you ' ll be able to implement Rust for enterprise projects, writing better tests and documentation, designing for performance, and creating idiomatic Rust code. This Learning Path includes content from the following Packt products: Mastering Rust - Second Edition by Rahul Sharma and Vesa Kahlavirta Hands-On Data Structures and Algorithms with Rust by Claus Matzinger What you will learn Design and implement complex data structures in Rust Create and use well-tested and reusable components with Rust Understand the basics of multithreaded programming and advanced algorithm design Explore application profiling based on benchmarking and testing Study and apply best practices and strategies in error handling Create efficient web applications with the Actix-web framework Use Diesel for type-safe database interactions in your web application Who this book is for If you are already familiar with an imperative language and now want to progress from being a beginner to an intermediate-level Rust programmer, this Learning Path is for you. Developers who are already familiar with Rust and want to delve deeper into the essential data structures and algorithms in Rust will also find this Learning Path useful.

Learn to write servers and network clients using Rust ' s low-level socket classes with this guide Key Features Build a solid foundation in Rust while also mastering important network programming details Leverage the power of a number of available libraries to perform network operations in Rust Develop a fully functional web server to gain the skills you need, fast Book Description Rust is low-level enough to provide fine-grained control over memory while providing safety through compile-time validation. This makes it uniquely suitable for writing low-level networking applications. This book is divided into three main parts that will take you on an exciting journey of building a fully functional web server. The book starts with a solid introduction to Rust and essential networking concepts. This will lay a foundation for, and set the tone of, the entire book. In the second part, we will take an in-depth look at using Rust for networking software. From client-server networking using sockets to IPv4/v6, DNS, TCP, UDP, you will also learn about serializing and deserializing data using serde. The book shows how to communicate with REST servers over HTTP. The final part of the book discusses asynchronous network programming using the Tokio stack. Given the importance of security for modern systems, you will see how Rust supports common primitives such as TLS and public-key cryptography. After reading this book, you will be more than confident enough to use Rust to build effective networking software What you will learn Appreciate why networking is important in implementing distributed systems Write a non-asynchronous echo server over TCP that talks to a client over a network Parse JSON and binary data using parser combinators such as nom Write an HTTP client that talks to the server using reqwest Modify an existing Rust HTTP server and add SSL to it Master asynchronous programming support in Rust Use external packages in a Rust project Who this book is for This book is for software developers who want to write networking software with Rust. A basic familiarity with networking concepts is assumed. Beginner-level knowledge of Rust will help but is not necessary.