

The Little Elixir Otp Guidebook

Your domain is rich and interconnected, and your API should be too. Upgrade your web API to GraphQL, leveraging its flexible queries to empower your users, and its declarative structure to simplify your code. Absinthe is the GraphQL toolkit for Elixir, a functional programming language designed to enable massive concurrency atop robust application architectures. Written by the creators of Absinthe, this book will help you take full advantage of these two groundbreaking technologies. Build your own flexible, high-performance APIs using step-by-step guidance and expert advice you won't find anywhere else. GraphQL is a new way of structuring and building web services, and the result is transformational. Find out how to offer a more tailored, cohesive experience to your users, easily aggregate data from different data sources, and improve your back end's maintainability with Absinthe's declarative approach to defining how your API works. Build a GraphQL-based API from scratch using Absinthe, starting from core principles. Learn the type system and how to expand your schema to suit your application's needs. Discover a growing ecosystem of tools and utilities to understand, debug, and document your API. Take it to production, but do it safely with solid best practices in mind. Find out how complexity analysis and persisted queries can let you support your users flexibly, but responsibly too. Along the way, discover how Elixir makes all the difference for a high performance, fault-tolerant API. Use asynchronous and batching execution, or write your own custom add-ons to extend Absinthe. Go live with subscriptions, delivering data over websockets on top of Elixir (and Erlang/OTP's) famous solid performance and real-time capabilities. Transform your applications with the powerful combination of Elixir and GraphQL, using Absinthe. What You Need: To follow along with the book, you should have Erlang/OTP 19+ and Elixir 1.4+ installed. The book will guide you through setting up a new Phoenix application using Absinthe.

What others in the trenches say about The Pragmatic Programmer... “The cool thing about this book is that it’s great for keeping the programming process fresh. The book helps you to continue to grow and clearly comes from people who have been there.” —Kent Beck, author of Extreme Programming Explained: Embrace Change “I found this book to be a great mix of solid advice and wonderful analogies!” —Martin Fowler, author of Refactoring and UML Distilled “I would buy a copy, read it twice, then tell all my colleagues to run out and grab a copy. This is a book I would never loan because I would worry about it being lost.” —Kevin Ruland, Management Science, MSG-Logistics “The wisdom and practical experience of the authors is obvious. The topics presented are relevant and useful.... By far its greatest strength for me has been the outstanding analogies—tracer bullets, broken windows, and the fabulous helicopter-based explanation of the need for orthogonality, especially in a crisis situation. I have little doubt that this book will eventually become an excellent source of useful information for journeymen programmers and expert mentors alike.” —John Lakos, author of Large-Scale C++ Software Design “This is the sort of book I will buy a dozen copies of when it comes out so I can give it to my clients.” —Eric Vought, Software Engineer “Most modern books on software development fail to cover the basics of what makes a great software developer, instead spending their time on syntax or technology where in reality the greatest leverage possible for any software team is in having talented developers who really know their craft well. An excellent book.” —Pete McBreen, Independent Consultant “Since reading this book, I have implemented many of the practical suggestions and tips it contains. Across the board, they have saved my company time and money while helping me get my job done quicker! This should be a desktop reference for everyone who works with code for a living.” —Jared Richardson, Senior Software Developer, iRenaissance, Inc. “I would like to see this issued to every new employee at my company....” —Chris Cleeland, Senior Software Engineer, Object Computing, Inc. “If I’m putting together a project, it’s the authors of this book that I want. . . .

And failing that I'd settle for people who've read their book." —Ward Cunningham Straight from the programming trenches, *The Pragmatic Programmer* cuts through the increasing specialization and technicalities of modern software development to examine the core process--taking a requirement and producing working, maintainable code that delights its users. It covers topics ranging from personal responsibility and career development to architectural techniques for keeping your code flexible and easy to adapt and reuse. Read this book, and you'll learn how to Fight software rot; Avoid the trap of duplicating knowledge; Write flexible, dynamic, and adaptable code; Avoid programming by coincidence; Bullet-proof your code with contracts, assertions, and exceptions; Capture real requirements; Test ruthlessly and effectively; Delight your users; Build teams of pragmatic programmers; and Make your developments more precise with automation. Written as a series of self-contained sections and filled with entertaining anecdotes, thoughtful examples, and interesting analogies, *The Pragmatic Programmer* illustrates the best practices and major pitfalls of many different aspects of software development. Whether you're a new coder, an experienced programmer, or a manager responsible for software projects, use these lessons daily, and you'll quickly see improvements in personal productivity, accuracy, and job satisfaction. You'll learn skills and develop habits and attitudes that form the foundation for long-term success in your career. You'll become a Pragmatic Programmer.

Erlang is the language of choice for programmers who want to write robust, concurrent applications, but its strange syntax and functional design can intimidate the uninitiated. Luckily, there's a new weapon in the battle against Erlang-phobia: *Learn You Some Erlang for Great Good!* Erlang maestro Fred Hébert starts slow and eases you into the basics: You'll learn about Erlang's unorthodox syntax, its data structures, its type system (or lack thereof!), and basic functional programming techniques. Once you've wrapped your head around the simple stuff, you'll tackle the real meat-and-potatoes of the language: concurrency, distributed computing, hot code loading, and all the other dark magic that makes Erlang such a hot topic among today's savvy developers. As you dive into Erlang's functional fantasy world, you'll learn about: –Testing your applications with EUnit and Common Test –Building and releasing your applications with the OTP framework –Passing messages, raising errors, and starting/stopping processes over many nodes –Storing and retrieving data using Mnesia and ETS –Network programming with TCP, UDP, and the inet module –The simple joys and potential pitfalls of writing distributed, concurrent applications Packed with lighthearted illustrations and just the right mix of offbeat and practical example programs, *Learn You Some Erlang for Great Good!* is the perfect entry point into the sometimes-crazy, always-thrilling world of Erlang.

"The Little Elixir & OTP Guidebook gets you started programming applications with Elixir and OTP. You begin with a quick overview of the Elixir language syntax, along with just enough functional programming to use it effectively. Then, you'll dive straight into OTP and learn how it helps you build scalable, fault-tolerant and distributed applications through several fun examples. Elixir is an elegant programming language that combines the expressiveness of Ruby with the concurrency and fault-tolerance of Erlang. It makes full use of Erlang's BEAM VM and OTP library, so you get two decades' worth of maturity and reliability right out of the gate. Elixir's support for functional programming makes it perfect for modern event-driven applications."--Resource description page.

Summary Elm is more than just a cutting-edge programming language, it's a chance to upgrade the way you think about building web applications. Once you get comfortable with Elm's refreshingly different approach to application development, you'll be working with a clean syntax, dependable libraries, and a delightful compiler that essentially eliminates runtime exceptions. Elm compiles to JavaScript, so your code runs in any browser, and Elm's best-in-class rendering speed will knock your socks off. Let's get started! Purchase of the print book

includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Simply put, the Elm programming language transforms the way you think about frontend web development. Elm's legendary compiler is an incredible assistant, giving you the precise and user-friendly support you need to work efficiently. Elm applications have small bundle sizes that run faster than JavaScript frameworks and are famously easy to maintain as they grow. The catch? Elm isn't JavaScript, so you'll have some new skills to learn. About the book Elm in Action teaches you the Elm language along with a new approach to coding frontend applications. Chapter by chapter, you'll create a full-featured photo-browsing app, learning as you go about Elm's modular architecture, Elm testing, and how to work seamlessly with your favorite JavaScript libraries. You'll especially appreciate author and Elm core team member Richard Feldman's unique insights, based on his thousands of hours writing production code in Elm. When you're done, you'll have a toolbox of new development skills and a stunning web app for your portfolio. What's inside Scalable design for production web applications Single-page applications in Elm Data modeling in Elm Accessing JavaScript from Elm About the reader For web developers with no prior experience in Elm or functional programming. About the author Richard Feldman is a software engineer at NoRedInk and a well-known member of the Elm community. Table of Contents PART 1 - GETTING STARTED 1. Welcome to Elm 2. Your first Elm application 3. Compiler as assistant PART 2 - PRODUCTION-GRADE ELM 4. Talking to servers 5. Talking to JavaScript 6. Testing PART 3 - BUILDING BIGGER 7. Data modeling 8. Single-page applications

Geralt the Witcher—revered and hated—holds the line against the monsters plaguing humanity in this collection of adventures, the first chapter in the New York Times bestselling series that inspired the hit Netflix show and the blockbuster video games. Geralt is a Witcher, a man whose magic powers, enhanced by long training and a mysterious elixir, have made him a brilliant fighter and a merciless assassin. Yet he is no ordinary killer. His sole purpose: to destroy the monsters that plague the world. But not everything monstrous-looking is evil and not everything fair is good . . . and in every fairy tale there is a grain of truth. And look out for The Tower of Fools, book one of Andrzej Sapkowski's Hussite Trilogy! Witcher collections The Last Wish Sword of Destiny Witcher novels Blood of Elves The Time of Contempt Baptism of Fire The Tower of Swallows Lady of the Lake ?Season of Storms Hussite Trilogy The Tower of Fools The Malady and Other Stories: An Andrzej Sapkowski Sampler (e-only) Translated from original Polish by Danusia Stok

You know how to code in Elixir; now learn to think in it. Learn to design libraries with intelligent layers that shape the right data structures, flow from one function into the next, and present the right APIs. Embrace the same OTP that's kept our telephone systems reliable and fast for over 30 years. Move beyond understanding the OTP functions to knowing what's happening under the hood, and why that matters. Using that knowledge, instinctively know how to design systems that deliver fast and resilient services to your users, all with an Elixir focus. Elixir is gaining mindshare as the programming language you can use to keep you software running forever, even in the face of unexpected errors and an ever growing need to use more processors. This power comes from an effective programming language, an excellent foundation for concurrency and its inheritance of a battle-tested framework called the OTP. If you're using frameworks like Phoenix or Nerves, you're already experiencing the features that make Elixir an excellent language for today's demands. This book shows you how to go beyond simple programming to designing, and that means building the right layers. Embrace those data structures that work best in functional programs and use them to build functions that perform and compose well, layer by layer, across processes. Test your code at the right place using the right techniques. Layer your code into pieces that are easy to understand and heal themselves when errors strike. Of all Elixir's boons, the most important one is that it guides us to design our programs in a way to most benefit from the architecture that they run on. The

experts do it and now you can learn to design programs that do the same. What You Need: Elixir Version 1.7 or greater.

When her recently discovered soulmate Sage is kidnapped, photojournalist Clea Raymond makes an uneasy alliance with his enemies, not knowing if he is dead or alive, in a desperate attempt to be reunited with him.

This book is an in-depth introduction to Erlang, a programming language ideal for any situation where concurrency, fault tolerance, and fast response is essential. Erlang is gaining widespread adoption with the advent of multi-core processors and their new scalable approach to concurrency. With this guide you'll learn how to write complex concurrent programs in Erlang, regardless of your programming background or experience. Written by leaders of the international Erlang community -- and based on their training material -- Erlang Programming focuses on the language's syntax and semantics, and explains pattern matching, proper lists, recursion, debugging, networking, and concurrency. This book helps you: Understand the strengths of Erlang and why its designers included specific features Learn the concepts behind concurrency and Erlang's way of handling it Write efficient Erlang programs while keeping code neat and readable Discover how Erlang fills the requirements for distributed systems Add simple graphical user interfaces with little effort Learn Erlang's tracing mechanisms for debugging concurrent and distributed systems Use the built-in Mnesia database and other table storage features Erlang Programming provides exercises at the end of each chapter and simple examples throughout the book.

Elixir and Phoenix are generating tremendous excitement as an unbeatable platform for building modern web applications. For decades OTP has helped developers create incredibly robust, scalable applications with unparalleled uptime. Make the most of them as you build a stateful web app with Elixir, OTP, and Phoenix. Model domain entities without an ORM or a database. Manage server state and keep your code clean with OTP Behaviours. Layer on a Phoenix web interface without coupling it to the business logic. Open doors to powerful new techniques that will get you thinking about web development in fundamentally new ways. Elixir and OTP provide exceptional tools to build rock-solid back-end applications that scale. In this book, you'll build a web application in a radically different way, with a back end that holds application state. You'll use persistent Phoenix Channel connections instead of HTTP's request-response, and create the full application in distinct, decoupled layers. In Part 1, start by building the business logic as a separate application, without Phoenix. Model the application domain with Elixir functions and simple data structures. By keeping state in memory instead of a database, you can reduce latency and simplify your code. In Part 2, add in the GenServer Behaviour to make managing in-memory state a breeze. Create a supervision tree to boost fault tolerance while separating error handling from business logic. Phoenix is a modern web framework you can layer on top of business logic while keeping the two completely decoupled. In Part 3, you'll do exactly that as you build a web interface with Phoenix. Bring in

the application from Part 2 as a dependency to a new Phoenix project. Then use ultra-scalable Phoenix Channels to establish persistent connections between the stateful server and a stateful front-end client. You're going to love this way of building web apps! What You Need: You'll need a computer that can run Elixir version 1.5 or higher and Phoenix 1.3 or higher. Some familiarity with Elixir and Phoenix is recommended.

Adoption is more than programming. Elixir is an exciting new language, but to successfully get your application from start to finish, you're going to need to know more than just the language. The case studies and strategies in this book will get you there. Learn the best practices for the whole life of your application, from design and team-building, to managing stakeholders, to deployment and monitoring. Go beyond the syntax and the tools to learn the techniques you need to develop your Elixir application from concept to production. Learn real-life strategies from the people who built Elixir and use it successfully at scale. See how Ben Marx and Bleacher Report maintain one of the highest-traffic Elixir applications by selling the concept to management and delivering on that promise. Find out how Bruce Tate and *icanmakeitbetter* hire and train Elixir engineers, and the techniques they've employed to design and ensure code consistency since Elixir's early days. Explore customer challenges in deploying and monitoring distributed applications with Elixir creator Jose Valim and Plataformatec. Make a business case and build a team before you finish your first prototype. Once you're in development, form strategies for organizing your code and learning the constraints of the runtime and ecosystem. Convince stakeholders, both business and technical, about the value they can expect. Prepare to make the critical early decisions that will shape your application for years to come. Manage your deployment with all of the knobs and gauges that good DevOps teams demand. Decide between the many options available for deployment, and how to best prepare yourself for the challenges of running a production application. This book picks up where most Elixir books leave off. It won't teach you to program Elixir, or any of its tools. Instead, it guides you through the broader landscape and shows you a holistic approach to adopting the language. What You Need: This book works with any version of Elixir.

Free and open source is the foundation of software development, and it's built by people just like you. Discover the fundamental tenets that drive the movement. Take control of your career by selecting the right project to meet your professional goals. Master the language and avoid the pitfalls that typically ensnare new contributors. Join a community of like-minded people and change the world. Programmers, writers, designers, and everyone interested in software will make their mark through free and open source software contributions. Free and open source software is the default choice for the programming languages and technologies which run our world today, and it's all built and maintained by people just like you. No matter your skill level or area of expertise, with this book you will contribute to free and open source software projects. Using this practical

approach you'll understand not only the mechanics of contributing, but also how doing so helps your career as well as the community. This book doesn't assume that you're a programmer, or even that you have prior experience with free and open source software. Learn what open source is, where it came from, and why it's important. Start on the right foot by mastering the structure and tools you need before you contribute. Choose the right project for you, amplifying the impact of your contribution. Submit your first contribution, whether it's code, writing, design, or community organising. Find out what to do when things don't go the way you expect. Discover how to start your own project and make it friendly and welcoming to contributors. Anyone can contribute! Make your mark today and help others while also helping yourself.

The Zombie Apocalypse Guide to 3D printing is written for the person who wants to use their printer to make practical, durable items for everyday use. Whether rebuilding civilization from your jungle hideaway, fighting off zombie hordes, or just printing a new plastic bit for your latest project, The Zombie Apocalypse Guide to 3D printing has what you need to get the job done. If you are going to buy just one book for your 3D printing toolbox, this should be it. With 180+ pages and more than 65 illustrations and photos, this easy to read volume contains sections on: - designing for 3d printing - optimizing your designs for strength and printability - printing at 2x+ speed for prototyping - leveraging "vitamins" to multiply the usefulness of your printed designs - how to template and prototype replacement parts - calculating safe working loads for printed objects - basic paradigms for 3D design - calibrating and adjusting your printer - troubleshooting common printing problems - operating your printer from improvised power supplies - and much, much more. With a tongue in cheek nod to the zombie mythos, this volume will enable you to manufacture things on your desktop that you might otherwise have to purchase, painstakingly craft, or do without. Emphasizing independence and solving practical problems, this book will help the reader to design and manufacture new items as well as making perfect fitting repair and replacement parts. No matter what type of 3D printer you use, reading The Zombie Apocalypse Guide to 3D printing will help you to improve your design skills and understand critical technical details, help you to identify and correct common printing problems, and expand your horizons in the 3d printing with the use of the most effective design methods. Paperback, 187 Pages, 68 Illustrations.

Summary Get Programming with Haskell leads you through short lessons, examples, and exercises designed to make Haskell your own. It has crystal-clear illustrations and guided practice. You will write and test dozens of interesting programs and dive into custom Haskell modules. You will gain a new perspective on programming plus the practical ability to use Haskell in the everyday world. (The 80 IQ points: not guaranteed.) Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Programming languages often differ only around the edges—a few

keywords, libraries, or platform choices. Haskell gives you an entirely new point of view. To the software pioneer Alan Kay, a change in perspective can be worth 80 IQ points and Haskellers agree on the dramatic benefits of thinking the Haskell way—thinking functionally, with type safety, mathematical certainty, and more. In this hands-on book, that's exactly what you'll learn to do. What's Inside

Thinking in Haskell Functional programming basics Programming in types Real-world applications for Haskell About the Reader Written for readers who know one or more programming languages. Table of Contents Lesson 1 Getting started with Haskell Unit 1 - FOUNDATIONS OF FUNCTIONAL PROGRAMMING Lesson 2 Functions and functional programming Lesson 3 Lambda functions and lexical scope Lesson 4 First-class functions Lesson 5 Closures and partial application Lesson 6 Lists Lesson 7 Rules for recursion and pattern matching Lesson 8 Writing recursive functions Lesson 9 Higher-order functions Lesson 10 Capstone: Functional object-oriented programming with robots! Unit 2 - INTRODUCING TYPES Lesson 11 Type basics Lesson 12 Creating your own types Lesson 13 Type classes Lesson 14 Using type classes Lesson 15 Capstone: Secret messages! Unit 3 - PROGRAMMING IN TYPES Lesson 16 Creating types with "and" and "or" Lesson 17 Design by composition—Semigroups and Monoids Lesson 18 Parameterized types Lesson 19 The Maybe type: dealing with missing values Lesson 20 Capstone: Time series Unit 4 - IO IN HASKELL Lesson 21 Hello World!—introducing IO types Lesson 22 Interacting with the command line and lazy I/O Lesson 23 Working with text and Unicode Lesson 24 Working with files Lesson 25 Working with binary data Lesson 26 Capstone: Processing binary files and book data Unit 5 - WORKING WITH TYPE IN A CONTEXT Lesson 27 The Functor type class Lesson 28 A peek at the Applicative type class: using functions in a context Lesson 29 Lists as context: a deeper look at the Applicative type class Lesson 30 Introducing the Monad type class Lesson 31 Making Monads easier with donotation Lesson 32 The list monad and list comprehensions Lesson 33 Capstone: SQL-like queries in Haskell Unit 6 - ORGANIZING CODE AND BUILDING PROJECTS Lesson 34 Organizing Haskell code with modules Lesson 35 Building projects with stack Lesson 36 Property testing with QuickCheck Lesson 37 Capstone: Building a prime-number library Unit 7 - PRACTICAL HASKELL Lesson 38 Errors in Haskell and the Either type Lesson 39 Making HTTP requests in Haskell Lesson 40 Working with JSON data by using Aeson Lesson 41 Using databases in Haskell Lesson 42 Efficient, stateful arrays in Haskell Afterword - What's next? Appendix - Sample answers to exercise

The New York Times bestselling "epic feminist fantasy perfect for fans of Game of Thrones" (Bustle). NAMED A BEST BOOK OF THE YEAR BY: AMAZON (Top 100 Editors Picks and Science Fiction and Fantasy) * CHICAGO PUBLIC LIBRARY * BOOKPAGE * AUTOSTRADDLE A world divided. A queendom without an heir. An ancient enemy awakens. The House of Berethnet has ruled Inys for a thousand years. Still unwed, Queen Sabran the Ninth must conceive a

daughter to protect her realm from destruction--but assassins are getting closer to her door. Ead Duryan is an outsider at court. Though she has risen to the position of lady-in-waiting, she is loyal to a hidden society of mages. Ead keeps a watchful eye on Sabran, secretly protecting her with forbidden magic. Across the dark sea, Tané has trained all her life to be a dragonrider, but is forced to make a choice that could see her life unravel. Meanwhile, the divided East and West refuse to parley, and forces of chaos are rising from their sleep.

Learn different ways of writing concurrent code in Elixir and increase your application's performance, without sacrificing scalability or fault-tolerance. Most projects benefit from running background tasks and processing data concurrently, but the world of OTP and various libraries can be challenging. Which Supervisor and what strategy to use? What about GenServer? Maybe you need back-pressure, but is GenStage, Flow, or Broadway a better choice? You will learn everything you need to know to answer these questions, start building highly concurrent applications in no time, and write code that's not only fast, but also resilient to errors and easy to scale. Whether you are building a high-frequency stock trading application or a consumer web app, you need to know how to leverage concurrency to build applications that are fast and efficient. Elixir and the OTP offer a range of powerful tools, and this guide will show you how to choose the best tool for each job, and use it effectively to quickly start building highly concurrent applications. Learn about Tasks, supervision trees, and the different types of Supervisors available to you. Understand why processes and process linking are the building blocks of concurrency in Elixir. Get comfortable with the OTP and use the GenServer behaviour to maintain process state for long-running jobs. Easily scale the number of running processes using the Registry. Handle large volumes of data and traffic spikes with GenStage, using back-pressure to your advantage. Create your first multi-stage data processing pipeline using producer, consumer, and producer-consumer stages. Process large collections with Flow, using MapReduce and more in parallel. Thanks to Broadway, you will see how easy it is to integrate with popular message broker systems, or even existing GenStage producers. Start building the high-performance and fault-tolerant applications Elixir is famous for today. What You Need: You'll need Elixir 1.9+ and Erlang/OTP 22+ installed on a Mac OS X, Linux, or Windows machine.

This book is intended for users with some knowledge of the Elixir language syntax and basic data types/structures. Although this is a cookbook and no sequential reading is required, the book's structure will allow less advanced users who follow it to be gradually exposed to some of Elixir's features and concepts specific to functional programming. To get the most out of this book, you need to be well versed with Erlang. Concurrent programming has become a required discipline for all programmers. Multi-core processors and the increasing demand for maximum performance and scalability in mission-critical applications have renewed interest in functional languages like Erlang that are designed to handle concurrent programming. Erlang, and the OTP platform,

make it possible to deliver more robust applications that satisfy rigorous uptime and performance requirements. Erlang and OTP in Action teaches you to apply Erlang's message passing model for concurrent programming--a completely different way of tackling the problem of parallel programming from the more common multi-threaded approach. This book walks you through the practical considerations and steps of building systems in Erlang and integrating them with real-world C/C++, Java, and .NET applications. Unlike other books on the market, Erlang and OTP in Action offers a comprehensive view of how concurrency relates to SOA and web technologies. This hands-on guide is perfect for readers just learning Erlang or for those who want to apply their theoretical knowledge of this powerful language. You'll delve into the Erlang language and OTP runtime by building several progressively more interesting real-world distributed applications. Once you are competent in the fundamentals of Erlang, the book takes you on a deep dive into the process of designing complex software systems in Erlang. Purchase of the print book comes with an offer of a free PDF, ePub, and Kindle eBook from Manning. Also available is all code from the book.

Elixir's straightforward syntax and this guided tour give you a clean, simple path to learn modern functional programming techniques. No previous functional programming experience required! This book walks you through the right concepts at the right pace, as you explore immutable values and explicit data transformation, functions, modules, recursive functions, pattern matching, high-order functions, polymorphism, and failure handling, all while avoiding side effects. Don't board the Elixir train with an imperative mindset! To get the most out of functional languages, you need to think functionally. This book will get you there. Functional programming offers useful techniques for building maintainable and scalable software that solves today's difficult problems. The demand for software written in this way is increasing - you don't want to miss out. In this book, you'll not only learn Elixir and its features, you'll also learn the mindset required to program functionally. Elixir's clean syntax is excellent for exploring the critical skills of using functions and concurrency. Start with the basic techniques of the functional way: working with immutable data, transforming data in discrete steps, and avoiding side effects. Next, take a deep look at values, expressions, functions, and modules. Then extend your programming with pattern matching and flow control with case, if, cond, and functions. Use recursive functions to create iterations. Work with data types such as lists, tuples, and maps. Improve code reusability and readability with Elixir's most common high-order functions. Explore how to use lazy computation with streams, design your data, and take advantage of polymorphism with protocols. Combine functions and handle failures in a maintainable way using Elixir features and libraries. Learn techniques that matter to make code that lives harmoniously with the language. What You Need: You'll need a computer and Elixir 1.4 or newer version installed. No previous functional programming or Elixir experience is required. Some experience with any programming language is recommended.

Drowning in unnecessary complexity, unmanaged state, and tangles of spaghetti code? In the best tradition of Lisp, Clojure gets out of your way so you can focus on expressing simple solutions to hard problems. Clojure cuts through complexity by providing a set of composable tools--immutable data, functions, macros, and the interactive REPL. Written by members of the Clojure core team, this book is the essential, definitive guide to Clojure. This new edition includes information on all the

newest features of Clojure, such as transducers and specs. Clojure joins the flexibility and agility of Lisp with the reach, stability, and performance of Java. Combine Clojure's tools for maximum effectiveness as you work with immutable data, functional programming, and safe concurrency to write programs that solve real-world problems. Start by reading and understanding Clojure syntax and see how Clojure is evaluated. From there, find out about the sequence abstraction, which combines immutable collections with functional programming to create truly reusable data transformation code. Clojure is a functional language; learn how to write programs in a functional style, and when and how to use recursion to your advantage. Discover Clojure's unique approach to state and identity, techniques for polymorphism and open systems using multimethods and protocols, and how to leverage Clojure's metaprogramming capabilities via macros. Finally, put all the pieces together in a real program. New to this edition is coverage of Clojure's spec library, one of the most interesting new features of Clojure for describing both data and functions. You can use Clojure spec to validate data, destructure data, explain invalid data, and generate large numbers of tests to verify the correctness of your code. With this book, you'll learn how to think in Clojure, and how to take advantage of its combined strengths to build powerful programs quickly. What You Need: Java 6 or higher Clojure 1.9

Write code that writes code with Elixir macros. Macros make metaprogramming possible and define the language itself. In this book, you'll learn how to use macros to extend the language with fast, maintainable code and share functionality in ways you never thought possible. You'll discover how to extend Elixir with your own first-class features, optimize performance, and create domain-specific languages.

Metaprogramming is one of Elixir's greatest features. Maybe you've played with the basics or written a few macros. Now you want to take it to the next level. This book is a guided series of metaprogramming tutorials that take you step by step to metaprogramming mastery. You'll extend Elixir with powerful features and write faster, more maintainable programs in ways unmatched by other languages. You'll start with the basics of Elixir's metaprogramming system and find out how macros interact with Elixir's abstract format. Then you'll extend Elixir with your own first-class features, write a testing framework, and discover how Elixir treats source code as building blocks, rather than rote lines of instructions. You'll continue your journey by using advanced code generation to create essential libraries in strikingly few lines of code. Finally, you'll create domain-specific languages and learn when and where to apply your skills effectively. When you're done, you will have mastered metaprogramming, gained insights into Elixir's internals, and have the confidence to leverage macros to their full potential in your own projects.

Unveil many hidden gems of programming functionally by taking the foundational steps with Elixir About This Book Explore the functional paradigms of programming with Elixir through use of helpful examples Concise step-by-step instructions to teach you difficult technical concepts Bridge the gap between functional programming and Elixir Who This Book Is For This book targets developers new to Elixir, as well as Erlang, in order to make them feel comfortable in functional programming with Elixir, thus enabling them to develop more scalable and fault-tolerant applications. Although no knowledge of Elixir is assumed, some programming experience with mainstream Object-Oriented programming languages such as Ruby, Python, Java, C# would be beneficial. What You

Will Learn Explore Elixir to create resilient, scalable applications Create fault-tolerant applications Become better acquainted with Elixir code and see how it is structured to build and develop functional programs Learn the basics of functional programming Gain an understanding of effective OTP principles Design program-distributed applications and systems Write and create branching statements in Elixir Learn to do more with less using Elixir's metaprogramming Be familiar with the facilities Elixir provides for metaprogramming, macros, and extending the Elixir language In Detail Elixir, based on Erlang's virtual machine and ecosystem, makes it easier to achieve scalability, concurrency, fault tolerance, and high availability goals that are pursued by developers using any programming language or programming paradigm. Elixir is a modern programming language that utilizes the benefits offered by Erlang VM without really incorporating the complex syntaxes of Erlang. Learning to program using Elixir will teach many things that are very beneficial to programming as a craft, even if at the end of the day, the programmer isn't using Elixir. This book will teach you concepts and principles important to any complex, scalable, and resilient application. Mostly, applications are historically difficult to reason about, but using the concepts in this book, they will become easy and enjoyable. It will teach you the functional programming ropes, to enable them to create better and more scalable applications, and you will explore how Elixir can help you achieve new programming heights. You will also glean a firm understanding of basics of OTP and the available generic, provided functionality for creating resilient complex systems. Furthermore, you will learn the basics of metaprogramming: modifying and extending Elixir to suite your needs. Style and approach An exploration of functional programming and Elixir with easy to follow examples using Elixir and the functional style. All the topics, concepts, and principles covered are clearly and concisely explained with either code examples or in depth discussions, or both!

Give users the real-time experience they expect, by using Elixir and Phoenix Channels to build applications that instantly react to changes and reflect the application's true state. Learn how Elixir and Phoenix make it easy and enjoyable to create real-time applications that scale to a large number of users. Apply system design and development best practices to create applications that are easy to maintain. Gain confidence by learning how to break your applications before your users do. Deploy applications with minimized resource use and maximized performance. Real-time applications come with real challenges - persistent connections, multi-server deployment, and strict performance requirements are just a few. Don't try to solve these challenges by yourself - use a framework that handles them for you. Elixir and Phoenix Channels provide a solid foundation on which to build stable and scalable real-time applications. Build applications that thrive for years to come with the best-practices found in this book. Understand the magic of real-time communication by inspecting the WebSocket protocol in action. Avoid performance pitfalls early in the development lifecycle with a catalog of common problems and their solutions. Leverage GenStage to build a data pipeline that improves scalability. Break your application before your users do and confidently deploy them. Build a real-world project using solid application design and testing practices that help make future changes a breeze. Create distributed apps that can scale to many users with tools like Phoenix Tracker. Deploy and monitor your application with confidence and reduce outages. Deliver an exceptional real-time

experience to your users, with easy maintenance, reduced operational costs, and maximized performance, using Elixir and Phoenix Channels. What You Need: You'll need Elixir 1.9+ and Erlang/OTP 22+ installed on a Mac OS X, Linux, or Windows machine.

Summary Phoenix is a modern web framework built for the Elixir programming language. Elegant, fault-tolerant, and performant, Phoenix is as easy to use as Rails and as rock-solid as Elixir's Erlang-based foundation. Phoenix in Action builds on your existing web dev skills, teaching you the unique benefits of Phoenix along with just enough Elixir to get the job done. Foreword by Sasa Juric, author of Elixir in Action, Second Edition. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Modern web applications need to be efficient to develop, lightning fast, and unfailingly reliable. Phoenix, a web framework for the Elixir programming language, delivers on all counts. Elegant and intuitive, Phoenix radically simplifies the dev process. Built for concurrency, Phoenix channels make short work of developing real-time applications. And as for reliability, Phoenix apps run on the battle-tested Erlang VM, so they're rock solid! About the Book Phoenix in Action is an example-based book that teaches you to build production-quality web apps. You'll handle business logic, database interactions, and app designs as you progressively create an online auction site. As you go, you'll build everything from the core components to the real-time user interactions where Phoenix really shines. What's inside Functional programming in a web environment An introduction to Elixir Database interactions with Ecto Real-time communication with channels About the Reader For web developers familiar with a framework like Rails or ASP.NET. No experience with Elixir or Phoenix required. About the Author Geoffrey Lessel is a seasoned web developer who speaks and blogs about Elixir and Phoenix. Table of Contents PART 1 - GETTING STARTED Ride the Phoenix Intro to Elixir A little Phoenix overview PART 2 - DIVING IN DEEP Phoenix is not your application Elixir application structure Bring in Phoenix Making changes with Ecto.Changeset Transforming data in your browser Plugs, assigns, and dealing with session data Associating records and accepting bids PART 3 - THOSE IMPORTANT EXTRAS Using Phoenix channels for real-time communication Building an API Testing in Elixir and Phoenix

Languages may come and go, but the relational database endures. Learn how to use Ecto, the premier database library for Elixir, to connect your Elixir and Phoenix apps to databases. Get a firm handle on Ecto fundamentals with a module-by-module tour of the critical parts of Ecto. Then move on to more advanced topics and advice on best practices with a series of recipes that provide clear, step-by-step instructions on scenarios commonly encountered by app developers. Co-authored by the creator of Ecto, this title provides all the essentials you need to use Ecto effectively. Elixir and Phoenix are taking the application development world by storm, and Ecto, the database library that ships with Phoenix, is going right along with them. There are plenty of examples that show you the basics, but to use Ecto to its full potential, you need to learn the library from the ground up. This definitive guide starts with a tour of the core features of Ecto - repos, queries, schemas, changesets, transactions - gradually

building your knowledge with tasks of ever-increasing complexity. Along the way, you'll be learning by doing - a sample application handles all the boilerplate so you can focus on getting Ecto into your fingers. Build on that core knowledge with a series of recipes featuring more advanced topics. Change your pooling strategy to maximize your database's efficiency. Use nested associations to handle complex table relationships. Add streams to handle large result sets with ease. Based on questions from Ecto users, these recipes cover the most common situations developers run into. Whether you're new to Ecto, or already have an app in production, this title will give you a deeper understanding of how Ecto works, and help make your database code cleaner and more efficient. What You Need: To follow along with the book, you should have Erlang/OTP 19+ and Elixir 1.4+ installed. The book will guide you through setting up a sample application that integrates Ecto.

Leverage the power of Elixir programming language to solve practical problems associated with scalability, concurrency, fault tolerance, and high availability. Key Features Enhance your Elixir programming skills using its powerful tools and abstractions Discover how to develop a full-fledged file server Understand how to use Phoenix to create a web interface for your application. Book Description Running concurrent, fault-tolerant applications that scale is a very demanding responsibility. After learning the abstractions that Elixir gives us, developers are able to build such applications with inconceivable low effort. There is a big gap between playing around with Elixir and running it in production, serving live requests. This book will help you fill this gap by going into detail on several aspects of how Elixir works and showing concrete examples of how to apply the concepts learned to a fully fledged application. In this book, you will learn how to build a rock-solid application, beginning by using Mix to create a new project. Then you will learn how the use of Erlang's OTP, along with the Elixir abstractions that run on top of it (such as GenServer and GenStage), that allow you to build applications that are easy to parallelize and distribute. You will also master supervisors (and supervision trees), and comprehend how they are the basis for building fault-tolerant applications. Then you will use Phoenix to create a web interface for your application. Upon finishing implementation, you will learn how to take your application to the cloud, using Kubernetes to automatically deploy, scale, and manage it. Last, but not least, you will keep your peace of mind by learning how to thoroughly test and then monitor your application. What you will learn Use Elixir tools, including IEx and Mix Find out how an Elixir project is structured and how to create umbrella applications Discover the power of supervision trees, the basis for fault-tolerance Create a Domain-Specific Language (DSL) that abstracts complexity Create a blazing-fast web interface for your application with Phoenix Set up an automatic deployment process for the cloud Monitor your application and be warned if anything unexpected happens Who this book is for Mastering Elixir is for you if you have experience in Elixir programming and want to take it to the next level. This Elixir book shows you how

to build, deploy, and maintain robust applications, allowing you to go from tinkering with Elixir on side projects to using it in a live environment. However, no prior knowledge of Elixir is required to enjoy the complex topics covered in the book.

If you're new to Erlang, its functional style can seem difficult, but with help from this hands-on introduction, you'll scale the learning curve and discover how enjoyable, powerful, and fun this language can be. In this updated second edition, author Simon St.Laurent shows you how to write simple Erlang programs by teaching you one skill at a time. You'll learn about pattern matching, recursion, message passing, process-oriented programming, and establishing pathways for data rather than telling it where to go. By the end of your journey, you'll understand why Erlang is ideal for concurrency and resilience. Get cozy with Erlang's shell, its command line interface Define functions, using the fun tool, to represent repeated calculations Discover atoms, pattern matching, and guards: the foundations of your program structure Delve into the heart of Erlang processing with recursion, strings, lists, and higher-order functions Create processes, send messages among them, and apply pattern matching to incoming messages Store and manipulate structured data with Erlang Term Storage and the Mnesia database Learn about Open Telecom Platform, Erlang's open source libraries and tools

Property-based testing helps you create better, more solid tests with little code. By using the PropEr framework in both Erlang and Elixir, this book teaches you how to automatically generate test cases, test stateful programs, and change how you design your software for more principled and reliable approaches. You will be able to better explore the problem space, validate the assumptions you make when coming up with program behavior, and expose unexpected weaknesses in your design. PropEr will even show you how to reproduce the bugs it found. With this book, you will be writing efficient property-based tests in no time. Most tests only demonstrate that the code behaves how the developer expected it to behave, and therefore carry the same blind spots as their authors when special conditions or edge cases show up. Learn how to see things differently with property tests written in PropEr. Start with the basics of property tests, such as writing stateless properties, and using the default generators to generate test cases automatically. More importantly, learn how to think in properties. Improve your properties, write custom data generators, and discover what your code can or cannot do. Learn when to use property tests and when to stick with example tests with real-world sample projects. Explore various testing approaches to find the one that's best for your code. Shrink failing test cases to their simpler expression to highlight exactly what breaks in your code, and generate highly relevant data through targeted properties. Uncover the trickiest bugs you can think of with nearly no code at all with two special types of properties based on state transitions and finite state machines. Write Erlang and Elixir properties that generate the most effective tests you'll see, whether they are

unit tests or complex integration and system tests. What You Need Basic knowledge of Erlang, optionally Elixir For Erlang tests: Erlang/OTP >= 20.0, with Rebar >= 3.4.0 For Elixir tests: Erlang/OTP >= 20.0, Elixir >= 1.5.0 Elixir is a functional programming language built on the Erlang virtual machine. It combines the productivity and expressivity of Ruby with the concurrency and fault-tolerance of Erlang. Elixir makes full use of Erlang's powerful OTP library, which many developers consider the source of Erlang's greatness, so programmers can have mature, professional-quality functionality right out of the gate. Elixir's support for functional programming makes it a great choice for highly distributed event-driven applications like IoT systems. The Little Elixir & OTP Guidebook gets readers programming applications with Elixir and OTP. First, it offers a quick overview of the Elixir language syntax, along with just enough functional programming to use it effectively. Then, it dives straight into OTP and shows how it helps build scalable, fault-tolerant, and distributed applications through several fun examples. Readers will rediscover the joy of programming with Elixir and remember what it feels like to be a beginner again. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

The Phoenix web development framework is an object-oriented application development tool written in Elixir. With Elixir and Phoenix, you build your application the right way, ready to scale and ready for the increasing demands of real-time web applications. If you have some knowledge of Elixir, have experience with web frameworks in other ...

Even small applications have dozens of components. Large applications may have thousands, which makes them challenging to install, maintain, and remove. Docker bundles all application components into a package called a container that keeps things tidy and helps manage any dependencies on other applications or infrastructure. Docker in Action, Second Edition teaches you the skills and knowledge you need to create, deploy, and manage applications hosted in Docker containers. This bestseller has been fully updated with new examples, best practices, and entirely new chapters. You'll start with a clear explanation of the Docker model and learn how to package applications in containers, including techniques for testing and distributing applications. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

Summary Functional Programming in JavaScript teaches JavaScript developers functional techniques that will improve extensibility, modularity, reusability, testability, and performance. Through concrete examples and jargon-free explanations, this book teaches you how to apply functional programming to real-life development tasks Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology In complex web applications, the low-level details of your JavaScript code can obscure the workings of the system as a whole. As a coding style, functional

programming (FP) promotes loosely coupled relationships among the components of your application, making the big picture easier to design, communicate, and maintain. About the Book Functional Programming in JavaScript teaches you techniques to improve your web applications - their extensibility, modularity, reusability, and testability, as well as their performance. This easy-to-read book uses concrete examples and clear explanations to show you how to use functional programming in real life. If you're new to functional programming, you'll appreciate this guide's many insightful comparisons to imperative or object-oriented programming that help you understand functional design. By the end, you'll think about application design in a fresh new way, and you may even grow to appreciate monads! What's Inside High-value FP techniques for real-world uses Using FP where it makes the most sense Separating the logic of your system from implementation details FP-style error handling, testing, and debugging All code samples use JavaScript ES6 (ES 2015) About the Reader Written for developers with a solid grasp of JavaScript fundamentals and web application design. About the Author Luis Atencio is a software engineer and architect building enterprise applications in Java, PHP, and JavaScript. Table of Contents PART 1 THINK FUNCTIONALLY Becoming functional Higher-order JavaScript PART 2 GET FUNCTIONAL Few data structures, many operations Toward modular, reusable code Design patterns against complexity PART 3 ENHANCING YOUR FUNCTIONAL SKILLS Bulletproofing your code Functional optimizations Managing asynchronous events and data

If you need to build a scalable, fault tolerant system with requirements for high availability, discover why the Erlang/OTP platform stands out for the breadth, depth, and consistency of its features. This hands-on guide demonstrates how to use the Erlang programming language and its OTP framework of reusable libraries, tools, and design principles to develop complex commercial-grade systems that simply cannot fail. In the first part of the book, you'll learn how to design and implement process behaviors and supervision trees with Erlang/OTP, and bundle them into standalone nodes. The second part addresses reliability, scalability, and high availability in your overall system design. If you're familiar with Erlang, this book will help you understand the design choices and trade-offs necessary to keep your system running. Explore OTP's building blocks: the Erlang language, tools and libraries collection, and its abstract principles and design rules Dive into the fundamentals of OTP reusable frameworks: the Erlang process structures OTP uses for behaviors Understand how OTP behaviors support client-server structures, finite state machine patterns, event handling, and runtime/code integration Write your own behaviors and special processes Use OTP's tools, techniques, and architectures to handle deployment, monitoring, and operations

Summary Nim is a multi-paradigm language that offers powerful customization options with the ability to compile to everything from C to JavaScript. In Nim in Action you'll learn how Nim compares to other languages in style and performance, master its structure and syntax, and discover unique features. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Nim is a multi-paradigm programming language that offers powerful customization options with the ability to compile to everything from C to JavaScript. It can be used in any project and illustrates that you don't have to sacrifice performance for expressiveness! About the Book Nim in Action is your guide

to application development in Nim. You'll learn how Nim compares to other languages in style and performance, master its structure and syntax, and discover unique features. By carefully walking through a Twitter clone and other real-world examples, you'll see just how Nim can be used every day while also learning how to tackle concurrency, package finished applications, and interface with other languages. With the best practices and rich examples in this book, you'll be able to start using Nim today. What's Inside Language features and implementation Nimble package manager Asynchronous I/O Interfacing with C and JavaScript Metaprogramming About the Reader For developers comfortable with mainstream languages like Java, Python, C++ or C#. About the Author Dominik Picheta is one of the principal developers of Nim and author of the Nimble package manager. Summary PART 1 -THE BASICS OF NIM Why Nim? Getting started PART 2 - NIM IN PRACTICE 3 Writing a chat application 4 A tour through the standard library 5 Package management 6 Parallelism 7 Building a Twitter clone PART 3 - ADVANCED CONCEPTS 8 Interfacing with other languages 9 Metaprogramming

Summary Revised and updated for Elixir 1.7, *Elixir in Action, Second Edition* teaches you how to apply Elixir to practical problems associated with scalability, fault tolerance, and high availability. Along the way, you'll develop an appreciation for, and considerable skill in, a functional and concurrent style of programming. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology When you're building mission-critical software, fault tolerance matters. The Elixir programming language delivers fast, reliable applications, whether you're building a large-scale distributed system, a set of backend services, or a simple web app. And Elixir's elegant syntax and functional programming mindset make your software easy to write, read, and maintain. About the Book *Elixir in Action, Second Edition* teaches you how to build production-quality distributed applications using the Elixir programming language. Author Saša Juri? introduces this powerful language using examples that highlight the benefits of Elixir's functional and concurrent programming. You'll discover how the OTP framework can radically reduce tedious low-level coding tasks. You'll also explore practical approaches to concurrency as you learn to distribute a production system over multiple machines. What's inside Updated for Elixir 1.7 Functional and concurrent programming Introduction to distributed system design Creating deployable releases About the Reader You'll need intermediate skills with client/server applications and a language like Java, C#, or Ruby. No previous experience with Elixir required. About the Author Saša Juri? is a developer with extensive experience using Elixir and Erlang in complex server-side systems. Table of Contents First steps Building blocks Control flow Data abstractions Concurrency primitives Generic server processes Building a concurrent system Fault-tolerance basics Isolating error effects Beyond GenServer Working with components Building a distributed system Running the system

Summary The Little Elixir & OTP Guidebook gets you started programming applications with Elixir and OTP. You begin with a quick overview of the Elixir language syntax, along with just enough functional programming to use it effectively. Then, you'll dive straight into OTP and learn how it helps you build scalable, fault-tolerant and distributed applications through several fun examples. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Elixir is an elegant programming language that combines the expressiveness of Ruby with the concurrency and fault-tolerance of Erlang. It makes full use of Erlang's BEAM VM and OTP library, so you get two decades' worth of maturity and reliability right out of the gate. Elixir's support for functional programming makes it perfect for modern event-driven applications. About the Book The Little Elixir & OTP Guidebook gets you started writing applications with Elixir and OTP. You'll begin with the immediately comfortable Elixir language syntax, along with just enough functional programming to use it effectively. Then, you'll dive straight into several lighthearted examples

that teach you to take advantage of the incredible functionality built into the OTP library. What's Inside Covers Elixir 1.2 and 1.3 Introduction to functional concurrency with actors Experience the awesome power of Erlang and OTP About the Reader Written for readers comfortable with a standard programming language like Ruby, Java, or Python. FP experience is helpful but not required. About the Author Benjamin Tan Wei Hao is a software engineer at Pivotal Labs, Singapore. He is also an author, a speaker, and an early adopter of Elixir. Table of Contents GETTING STARTED WITH ELIXIR AND OTP Introduction A whirlwind tour Processes 101 Writing server applications with GenServer FAULT TOLERANCE, SUPERVISION, AND DISTRIBUTION Concurrent error-handling and fault tolerance with links, monitors, and processes Fault tolerance with Supervisors Completing the worker-pool application Distribution and load balancing Distribution and fault tolerance Dialyzer and type specifications Property-based and concurrency testing

Erlang's process-oriented approach has given it a very different runtime environment. As Erlang and tools built on Erlang, like CouchDB, Riak, and EjabberD spread, understanding those underpinnings becomes much more important for people building and maintaining applications. This book will explore Erlang's unique approach to building a virtual machine, demonstrating how to take advantage of its power and tune it to fit your needs.

This book is the introduction to Elixir for experienced programmers, completely updated for Elixir 1.6 and beyond. Explore functional programming without the academic overtones (tell me about monads just one more time). Create concurrent applications, but get them right without all the locking and consistency headaches. Meet Elixir, a modern, functional, concurrent language built on the rock-solid Erlang VM. Elixir's pragmatic syntax and built-in support for metaprogramming will make you productive and keep you interested for the long haul. Maybe the time is right for the Next Big Thing. Maybe it's Elixir. Functional programming techniques help you manage the complexities of today's real-world, concurrent systems; maximize uptime; and manage security. Enter Elixir, with its modern, Ruby-like, extendable syntax, compile and runtime evaluation, hygienic macro system, and more. But, just as importantly, Elixir brings a sense of enjoyment to parallel, functional programming. Your applications become fun to work with, and the language encourages you to experiment. Part 1 covers the basics of writing sequential Elixir programs. We'll look at the language, the tools, and the conventions. Part 2 uses these skills to start writing concurrent code-applications that use all the cores on your machine, or all the machines on your network! And we do it both with and without OTP. Part 3 looks at the more advanced features of the language, from DSLs and code generation to extending the syntax. This edition is fully updated with all the new features of Elixir 1.6, with a new chapter on structuring OTP applications, and new sections on the debugger, code formatter, Distillery, and protocols. What You Need: You'll need a computer, a little experience with another high-level language, and a sense of adventure. No functional programming experience is needed.

This definitive guide examines how to take advantage of the new Agile methodologies offered when using Ruby on Rails (RoR). You'll quickly grasp the RoR methodology by focusing on the RoR development from the point of view of the beginner- to intermediate-level Microsoft developer. Plus, you'll get a reliable roadmap for migrating your applications, skill set, and development processes to the newer, more agile programming platform that RoR offers.

"Phoenix is the long-awaited web framework based on Elixir, the highly concurrent language that combines a beautiful syntax with rich metaprogramming. The authors, who developed the earliest production Phoenix applications, will show you how to create code that's easier to write, test, understand, and maintain. The best way to learn Phoenix is to code, and you'll get to attack some interesting problems. Start working with controllers, views, and templates within the first few pages. Build an in-memory repository, and then back it with an Ecto database layer. Learn to use change sets and constraints that keep readers informed and your database

integrity intact. Craft your own interactive application based on the channels API for the real-time, high-performance applications that this ecosystem made famous. Write your own authentication components called plugs, and even learn to use the OTP layer for monitored, reliable services. Organize your code with umbrella projects so you can keep your applications modular and easy to maintain"--Amazon.com.

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