

Learning Concurrent Programming In Scala Pdf

This book will teach you how to develop reactive applications in Scala using the Akka framework. This book will show you how to build concurrent, scalable, and reactive applications in Akka.

Learning Concurrent Programming in Scala 2014-11-28 Aleksandar Prokopec This book is a must-have tutorial for software developers aiming to write concurrent programs in Scala, or broaden their existing knowledge of concurrency. This book is intended for Scala programmers that have no prior knowledge about concurrent programming, as well as those seeking to broaden their existing knowledge about concurrency. Basic knowledge of the Scala programming language will be helpful. Readers with a solid knowledge in another programming language, such as Java, should find this book easily accessible.

Programming in Scala 2008 Martin Odersky A comprehensive step-by-step guide

Learning Concurrent Programming in Scala 2017-02-22 Aleksandar Prokopec Learn the art of building intricate, modern, scalable, and concurrent applications using Scala About This Book Make the most of Scala by understanding its philosophy and harnessing the power of multicores Get acquainted with cutting-edge technologies in the field of concurrency, through practical, real-world applications Get this step-by-step guide packed with pragmatic examples Who This Book Is For If you are a Scala programmer with no prior knowledge about concurrent programming, or seeking to broaden your existing knowledge about concurrency, this book is for you. Basic knowledge of the Scala programming language will be helpful. Also if you have a solid knowledge in another programming

language, such as Java, you should find this book easily accessible. What You Will Learn Get to grips with the fundamentals of concurrent programming on modern multiprocessor systems Build high-performance concurrent systems from simple, low-level concurrency primitives Express asynchrony in concurrent computations with futures and promises Seamlessly accelerate sequential programs by using data-parallel collections Design safe, scalable, and easy-to-comprehend in-memory transactional data models Transparently create distributed applications that scale across multiple machines Integrate different concurrency frameworks together in large applications Develop and implement scalable and easy-to-understand concurrent applications in Scala 2.12 In Detail Scala is a modern, multiparadigm programming language designed to express common programming patterns in a concise, elegant, and type-safe way. Scala smoothly integrates the features of object-oriented and functional languages. In this second edition, you will find updated coverage of the Scala 2.12 platform. The Scala 2.12 series targets Java 8 and requires it for execution. The book starts by introducing you to the foundations of concurrent programming on the JVM, outlining the basics of the Java Memory Model, and then shows some of the classic building blocks of concurrency, such as the atomic variables, thread pools, and concurrent data structures, along with the caveats of traditional concurrency. The book then walks you through different high-level concurrency abstractions, each tailored toward a specific class of programming tasks, while touching on the latest advancements of async programming capabilities of Scala. It also covers some

useful patterns and idioms to use with the techniques described. Finally, the book presents an overview of when to use which concurrency library and demonstrates how they all work together, and then presents new exciting approaches to building concurrent and distributed systems. Style and approach The book provides a step-by-step introduction to concurrent programming. It focuses on easy-to-understand examples that are pragmatic and applicable to real-world applications. Different topics are approached in a bottom-up fashion, gradually going from the simplest foundations to the most advanced features.

Learning Concurrent Programming in Scala - Second Edition 2017-03-31 Aleksandar Prokopec Learn the art of building intricate, modern, scalable, and concurrent applications using Scala About This Book* Make the most of Scala by understanding its philosophy and harnessing the power of multicores* Get acquainted with cutting-edge technologies in the field of concurrency, through practical, real-world applications* Get this step-by-step guide packed with pragmatic examples Who This Book Is For If you are a Scala programmer with no prior knowledge about concurrent programming, or seeking to broaden your existing knowledge about concurrency, this book is for you. Basic knowledge of the Scala programming language will be helpful. Also if you have a solid knowledge in another programming language, such as Java, you should find this book easily accessible. What You Will Learn* Get to grips with the fundamentals of concurrent programming on modern multiprocessor systems, with a particular focus on the JVM concurrency model* Build high-performance concurrent systems from simple, low-level concurrency primitives* Express asynchrony in concurrent computations with futures and promises* Seamlessly accelerate sequential programs by using data-parallel collections* Design safe, scalable, and easy-to-comprehend in-memory transactional data models*

Transparently create distributed applications that scale across multiple machines* Integrate different concurrency frameworks together in large applications* Develop and implement scalable and easy-to-understand concurrent applications in Scala 2.12 In Detail Scala is a modern, multiparadigm programming language designed to express common programming patterns in a concise, elegant, and type-safe way. Scala smoothly integrates the features of object-oriented and functional languages. In this second edition, you will find an updated coverage of the Scala 2.12 platform. The Scala 2.12 series targets Java 8 and requires it for execution. It starts by introducing you to the foundations of concurrent programming on the JVM, outlining the basics of the Java Memory Model, and then shows some of the classic building blocks of concurrency, such as the atomic variables, thread pools, and concurrent data structures, along with the caveats of traditional concurrency. It then walks you through different high-level concurrency abstractions, each tailored toward a specific class of programming tasks, while touching on the latest advancements of Async programming capabilities of Scala. It also covers some useful patterns and idioms to use the techniques described. Finally, the book presents an overview of when to use which concurrency library and demonstrates how they all work together.

Scala in Action 2013-04-08 Nilanjan Raychaudhuri Summary Scala in Action is a comprehensive tutorial that introduces Scala through clear explanations and numerous hands-on examples. Because Scala is a rich and deep language, it can be daunting to absorb all the new concepts at once. This book takes a "how-to" approach, explaining language concepts as you explore familiar programming challenges that you face in your day-to-day work. About the Technology Scala runs on the JVM and combines object-orientation with functional programming. It's designed to produce succinct, type-safe code, which is

crucial for enterprise applications. Scala implements Actor-based concurrency through the amazing Akka framework, so you can avoid Java's messy threading while interacting seamlessly with Java. About this Book Scala in Action is a comprehensive tutorial that introduces the language through clear explanations and numerous hands-on examples. It takes a "how to" approach, explaining language concepts as you explore familiar programming tasks. You'll tackle concurrent programming in Akka, learn to work with Scala and Spring, and learn how to build DSLs and other productivity tools. You'll learn both the language and how to use it. Experience with Java is helpful but not required. Ruby and Python programmers will also find this book accessible. What's Inside A Scala tutorial How to use Java and Scala open source libraries How to use SBT Test-driven development Debugging Updated for Scala 2.10 Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Author Nilanjan Raychaudhuri is a skilled developer, speaker, and an avid polyglot programmer who works with Scala on production systems. Table of Contents PART 1 SCALA: THE BASICS Why Scala? Getting started OOP in Scala Having fun with functional data structures Functional programming PART 2 WORKING WITH SCALA Building web applications in functional style Connecting to a database Building scalable and extensible components Concurrency programming in Scala Building confidence with testing PART 3 ADVANCED STEPS Interoperability between Scala and Java Scalable and distributed applications using Akka

Programming Concurrency on the JVM 2011-08-26 Venkat Subramaniam More than ever, learning to program concurrency is critical to creating faster, responsive applications. Speedy and affordable multicore hardware is driving the demand for high-performing applications, and you can leverage the Java platform to bring these applications to life. Concurrency on

the Java platform has evolved, from the synchronization model of JDK to software transactional memory (STM) and actor-based concurrency. This book is the first to show you all these concurrency styles so you can compare and choose what works best for your applications. You'll learn the benefits of each of these models, when and how to use them, and what their limitations are. Through hands-on exercises, you'll learn how to avoid shared mutable state and how to write good, elegant, explicit synchronization-free programs so you can create easy and safe concurrent applications. The techniques you learn in this book will take you from dreading concurrency to mastering and enjoying it. Best of all, you can work with Java or a JVM language of your choice - Clojure, JRuby, Groovy, or Scala - to reap the growing power of multicore hardware. If you are a Java programmer, you'd need JDK 1.5 or later and the Akka 1.0 library. In addition, if you program in Scala, Clojure, Groovy or JRuby you'd need the latest version of your preferred language. Groovy programmers will also need GPar.

Programming Scala 2014-12-04 Dean Wampler Get up to speed on Scala, the JVM language that offers all the benefits of a modern object model, functional programming, and an advanced type system. Packed with code examples, this comprehensive book shows you how to be productive with the language and ecosystem right away, and explains why Scala is ideal for today's highly scalable, data-centric applications that support concurrency and distribution. This second edition covers recent language features, with new chapters on pattern matching, comprehensions, and advanced functional programming. You'll also learn about Scala's command-line tools, third-party tools, libraries, and language-aware plugins for editors and IDEs. This book is ideal for beginning and advanced Scala developers alike. Program faster with Scala's succinct and flexible syntax Dive into basic and advanced functional programming (FP)

techniques Build killer big-data apps, using Scala's functional combinators Use traits for mixin composition and pattern matching for data extraction Learn the sophisticated type system that combines FP and object-oriented programming concepts Explore Scala-specific concurrency tools, including Akka Understand how to develop rich domain-specific languages Learn good design techniques for building scalable and robust Scala applications

Pragmatic Scala 2015-09-10 Venkat Subramaniam Our industry is moving toward functional programming, but your object-oriented experience is still valuable. Scala combines the power of OO and functional programming, and Pragmatic Scala shows you how to work effectively with both. Updated to Scala 2.11, with in-depth coverage of new features such as Akka actors, parallel collections, and tail call optimization, this book will show you how to create stellar applications. The first edition of this book was released as Programming Scala. Our industry is moving toward functional programming, but your object-oriented experience is still valuable. Scala combines the power of OO and functional programming, and Pragmatic Scala shows you how to work effectively with both. Updated to Scala 2.11, with in-depth coverage of new features such as Akka actors, parallel collections, and tail call optimization, this book will show you how to create stellar applications. This thorough introduction to Scala will get you coding in this powerful language right away. You'll start from the familiar ground of Java and, with easy-to-follow examples, you'll learn how to create highly concise and expressive applications with Scala. You'll find out when and how to mix both imperative and functional style, and how to use parallel collections and Akka actors to create high-performance concurrent applications that effectively use multicore processors. Scala has evolved since the first edition of this book, and Pragmatic Scala is a significant update. We've revised each chapter, and added three new chapters and

six new sections to explore the new features in Scala. You'll learn how to: Safely manage concurrency with parallel collections and Akka actors Create expressive readable code with value classes and improved implicit conversions Create strings from data with no sweat using string interpolation Create domain-specific languages Optimize your recursions with tail call optimization Whether you're interested in creating concise, robust single-threaded applications or highly expressive, thread-safe concurrent programs, this book has you covered. What You Need: The Scala compiler (2.x) and the JDK are required to make use of the concepts and the examples in this book.

Hands-on Scala Programming: Learn Scala in a Practical, Project-Based Way 2020-07-11 Haoyi Li Hands-on Scala teaches you how to use the Scala programming language in a practical, project-based fashion. This book is designed to quickly teach an existing programmer everything needed to go from "hello world" to building production applications like interactive websites, parallel web crawlers, and distributed systems in Scala. In the process you will learn how to use the Scala language to solve challenging problems in an elegant and intuitive manner.

Learning Scala 2014-12-11 Jason Swartz Why learn Scala? You don't need to be a data scientist or distributed computing expert to appreciate this object-oriented functional programming language. This practical book provides a comprehensive yet approachable introduction to the language, complete with syntax diagrams, examples, and exercises. You'll start with Scala's core types and syntax before diving into higher-order functions and immutable data structures. Author Jason Swartz demonstrates why Scala's concise and expressive syntax make it an ideal language for Ruby or Python developers who want to improve their craft, while its type safety and performance ensures that it's stable and fast enough for any application. Learn

about the core data types, literals, values, and variables Discover how to think and write in expressions, the foundation for Scala's syntax Write higher-order functions that accept or return other functions Become familiar with immutable data structures and easily transform them with type-safe and declarative operations Create custom infix operators to simplify existing operations or even to start your own domain-specific language Build classes that compose one or more traits for full reusability, or create new functionality by mixing them in at instantiation

Functional Programming in Scala
2014-09-01 Paul Chiusano Summary
Functional Programming in Scala is a serious tutorial for programmers looking to learn FP and apply it to the everyday business of coding. The book guides readers from basic techniques to advanced topics in a logical, concise, and clear progression. In it, you'll find concrete examples and exercises that open up the world of functional programming. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Functional programming (FP) is a style of software development emphasizing functions that don't depend on program state. Functional code is easier to test and reuse, simpler to parallelize, and less prone to bugs than other code. Scala is an emerging JVM language that offers strong support for FP. Its familiar syntax and transparent interoperability with Java make Scala a great place to start learning FP. About the Book Functional Programming in Scala is a serious tutorial for programmers looking to learn FP and apply it to their everyday work. The book guides readers from basic techniques to advanced topics in a logical, concise, and clear progression. In it, you'll find concrete examples and exercises that open up the world of functional programming. This book assumes no prior experience with functional programming. Some prior exposure to Scala or Java is helpful. What's

Inside Functional programming concepts
The whys and hows of FP How to write
multicore programs Exercises and checks
for understanding About the Authors Paul
Chiusano and Rúnar Bjarnason are
recognized experts in functional
programming with Scala and are core
contributors to the Scalaz library. Table of
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Functional and Concurrent Programming
2022-11-16 Michel Charpentier Leverage
Modern Language Constructs to Write
High-Quality Code Faster The functional
and concurrent programming language
features supported by modern languages
can be challenging, even for experienced
developers. These features may appear
intimidating to OOP programmers because
of a misunderstanding of how they work.
Programmers first need to become familiar
with the abstract concepts that underlie
these powerful features. In Functional and
Concurrent Programming, Michel
Charpentier introduces a core set of
programming language constructs that will
help you be productive in a variety of
programming languages—now and in the
future. Charpentier illustrates key concepts
with numerous small, focused code
examples, written in Scala, and with case
studies that provide a thorough grounding
in functional and concurrent programming
skills. These skills will carry from language
to language—including the most recent
incarnations of Java. Using these features

will enable developers and programmers to write high-quality code that is easier to understand, debug, optimize, and evolve. Key topics covered include: Recursion and tail recursion Pattern matching and algebraic datatypes Persistent structures and immutability Higher-order functions and lambda expressions Lazy evaluation and streams Threads and thread pools Atomicity and locking Synchronization and thread-safe objects Lock-free, non-blocking patterns Futures, promises, and functional-concurrent programming As a bonus, the book includes a discussion of common typing strategies used in modern programming languages, including type inference, subtyping, polymorphism, type classes, type bounds, and type variance. Most of the code examples are in Scala, which includes many of the standard features of functional and concurrent programming; however, no prior knowledge of Scala is assumed. You should be familiar with concepts such as classes, methods, objects, types, variables, loops, and conditionals and have enough programming experience to not be distracted by simple matters of syntax.

Learning Scala Programming 2018-01-29
Vikash Sharma Learn how to write scalable and concurrent programs in Scala, a language that grows with you. Key Features Get a grip on the functional features of the Scala programming language Understand and develop optimal applications using object-oriented and functional Scala constructs Learn reactive principles with Scala and work with the Akka framework Book Description Scala is a general-purpose programming language that supports both functional and object-oriented programming paradigms. Due to its concise design and versatility, Scala's applications have been extended to a wide variety of fields such as data science and cluster computing. You will learn to write highly scalable, concurrent, and testable programs to meet everyday software requirements. We will begin by understanding the language basics, syntax, core data types,

literals, variables, and more. From here you will be introduced to data structures with Scala and you will learn to work with higher-order functions. Scala's powerful collections framework will help you get the best out of immutable data structures and utilize them effectively. You will then be introduced to concepts such as pattern matching, case classes, and functional programming features. From here, you will learn to work with Scala's object-oriented features. Going forward, you will learn about asynchronous and reactive programming with Scala, where you will be introduced to the Akka framework. Finally, you will learn the interoperability of Scala and Java. After reading this book, you'll be well versed with this language and its features, and you will be able to write scalable, concurrent, and reactive programs in Scala. What you will learn Get to know the reasons for choosing Scala: its use and the advantages it provides over other languages Bring together functional and object-oriented programming constructs to make a manageable application Master basic to advanced Scala constructs Test your applications using advanced testing methodologies such as TDD Select preferred language constructs from the wide variety of constructs provided by Scala Make the transition from the object-oriented paradigm to the functional programming paradigm Write clean, concise, and powerful code with a functional mindset Create concurrent, scalable, and reactive applications utilizing the advantages of Scala Who this book is for This book is for programmers who choose to get a grip over Scala to write concurrent, scalable, and reactive programs. No prior experience with any programming language is required to learn the concepts explained in this book. Knowledge of any programming language would help the reader understanding concepts faster though.

Scala Cookbook 2013-08 Alvin Alexander Save time and trouble when using Scala to build object-oriented, functional, and

concurrent applications. With more than 250 ready-to-use recipes and 700 code examples, this comprehensive cookbook covers the most common problems you'll encounter when using the Scala language, libraries, and tools. It's ideal not only for experienced Scala developers, but also for programmers learning to use this JVM language. Author Alvin Alexander (creator of DevDaily.com) provides solutions based on his experience using Scala for highly scalable, component-based applications that support concurrency and distribution. Packed with real-world scenarios, this book provides recipes for: Strings, numeric types, and control structures Classes, methods, objects, traits, and packaging Functional programming in a variety of situations Collections covering Scala's wealth of classes and methods Concurrency, using the Akka Actors library Using the Scala REPL and the Simple Build Tool (SBT) Web services on both the client and server sides Interacting with SQL and NoSQL databases Best practices in Scala development

Scala Reactive Programming 2018-02-28
Rambabu Posa Build fault-tolerant, robust, and distributed applications in Scala Key Features - Understand and use the concepts of reactive programming to build distributed systems running on multiple nodes. - Learn how reactive architecture reduces complexity throughout the development process. - Get to grips with functional reactive programming and Reactive Microservices. Book Description Reactive programming is a scalable, fast way to build applications, and one that helps us write code that is concise, clear, and readable. It can be used for many purposes such as GUIs, robotics, music, and others, and is central to many concurrent systems. This book will be your guide to getting started with Reactive programming in Scala. You will begin with the fundamental concepts of Reactive programming and gradually move on to working with asynchronous data streams. You will then start building an application

using Akka Actors and extend it using the Play framework. You will also learn about reactive stream specifications, event sourcing techniques, and different methods to integrate Akka Streams into the Play Framework. This book will also take you one step forward by showing you the advantages of the Lagom framework while working with reactive microservices. You will also learn to scale applications using multi-node clusters and test, secure, and deploy your microservices to the cloud. By the end of the book, you will have gained the knowledge to build robust and distributed systems with Scala and Akka. What you will learn Understand the fundamental principles of Reactive and Functional programming Develop applications utilizing features of the Akka framework Explore techniques to integrate Scala, Akka, and Play together Learn about Reactive Streams with real-time use cases Develop Reactive Web Applications with Play, Scala, Akka, and Akka Streams Develop and deploy Reactive microservices using the Lagom framework and ConductR Who this book is for This book is for Scala developers who would like to build fault-tolerant, scalable distributed systems. No knowledge of Reactive programming is required.

Scala for the Impatient 2012-03-08 Cay S. Horstmann Scala is a modern programming language for the Java Virtual Machine (JVM) that combines the best features of object-oriented and functional programming languages. Using Scala, you can write programs more concisely than in Java, as well as leverage the full power of concurrency. Since Scala runs on the JVM, it can access any Java library and is interoperable with Java frameworks. Scala for the Impatient concisely shows developers what Scala can do and how to do it. In this book, Cay Horstmann, the principal author of the international best-selling Core Java™, offers a rapid, code-based introduction that's completely practical. Horstmann introduces Scala concepts and techniques in "blog-sized"

chunks that you can quickly master and apply. Hands-on activities guide you through well-defined stages of competency, from basic to expert. Coverage includes Getting started quickly with Scala's interpreter, syntax, tools, and unique idioms Mastering core language features: functions, arrays, maps, tuples, packages, imports, exception handling, and more Becoming familiar with object-oriented programming in Scala: classes, inheritance, and traits Using Scala for real-world programming tasks: working with files, regular expressions, and XML Working with higher-order functions and the powerful Scala collections library Leveraging Scala's powerful pattern matching and case classes Creating concurrent programs with Scala actors Implementing domain-specific languages Understanding the Scala type system Applying advanced "power tools" such as annotations, implicits, and delimited continuations Scala is rapidly reaching a tipping point that will reshape the experience of programming. This book will help object-oriented programmers build on their existing skills, allowing them to immediately construct useful applications as they gradually master advanced programming techniques.

Learn Scala Programming 2018-10-31 Slava Schmidt A step-by-step guide in building high-performance scalable applications with the latest features of Scala. Key Features Develop a strong foundation in functional programming and Scala's Standard Library (STL) Get a detailed coverage of Lightbend Lagom—the latest microservices framework from Lightbend Understand the Akka framework and learn event-based Programming with Scala Book Description The second version of Scala has undergone multiple changes to support features and library implementations. Scala 2.13, with its main focus on modularizing the standard library and simplifying collections, brings with it a host of updates. Learn Scala Programming addresses both technical and architectural changes to the redesigned standard library

and collections, along with covering in-depth type systems and first-level support for functions. You will discover how to leverage implicits as a primary mechanism for building type classes and look at different ways to test Scala code. You will also learn about abstract building blocks used in functional programming, giving you sufficient understanding to pick and use any existing functional programming library out there. In the concluding chapters, you will explore reactive programming by covering the Akka framework and reactive streams. By the end of this book, you will have built microservices and learned to implement them with the Scala and Lagom framework. What you will learn Acquaint yourself with the new standard library of Scala 2.13 Get to grips with the Grok functional paradigms Get familiar with type system to express domain constraints Understand the actor model and different Akka libraries Grasp the concept of building microservices using Lagom framework Deep dive into property-based testing and its practical applications Who this book is for This book is for beginner to intermediate level Scala developers who would like to advance and gain knowledge of the intricacies of the Scala language, expand their functional programming tools, and explore actor-based concurrency models.

Professional Scala 2016-06-06 Janek Bogucki Professional Scala provides experienced programmers with fast track coverage aimed at supporting the use of Scala in professional production applications. Skipping over the basics and fundamentals of programming, the discussion launches directly into practical Scala topics with the most up-to-date coverage of the rapidly-expanding language and related tools. Scala bridges the gap between functional and object-oriented programming, and this book details that link with clear a discussion on both Java compatibility and the read-eval-print loop used in functional programming. You'll learn the details of tooling for build and

static analysis. You'll cover unit testing with ScalaTest, documentation with Scaladoc, how to handle concurrency, and much more as you build the in-demand skill set required to use Scala in a real-world production environment. Java-compliant with functional programming properties, Scala's popularity is growing quickly—especially in the rapidly expanding areas of big data and cluster computing. This book explains everything professional programmers need to start using Scala and its main tools quickly and effectively. Master Scala syntax, the SBT interactive build tool, and the REPL workflow Explore functional design patterns, concurrency, and testing Work effectively with Maven, Scaladoc, Scala.js, and more Dive into the advanced type system Find out about Scala.js A working knowledge of Scala puts you in demand. As both the language and applications expand, so do the opportunities for experienced Scala programmers—and many positions are going unfilled. Twitter, Comcast, Netflix, and other major enterprises across industries are using Scala every day, in a number of different applications and capacities. Professional Scala helps you update your skills quickly to start advancing your career.

Get Programming with Scala 2021-09-07 Daniela Sfregola "For developers who know an OOP language like Java, Python, or C#. No experience with Scala or functional programming required"--Back cover.

Scala in Depth 2012-05-27 Josh Suereth Summary Scala in Depth is a unique new book designed to help you integrate Scala effectively into your development process. By presenting the emerging best practices and designs from the Scala community, it guides you through dozens of powerful techniques example by example. About the Book Scala is a powerful JVM language that blends the functional and OO programming models. You'll have no trouble getting introductions to Scala in books or online, but it's hard to find great examples and insights from experienced practitioners.

You'll find them in Scala in Depth. There's little heavy-handed theory here—just dozens of crisp, practical techniques for coding in Scala. Written for readers who know Java, Scala, or another OO language. 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. What's Inside Concise, expressive, and readable code style How to integrate Scala into your existing Java projects Scala's 2.8.0 collections API How to use actors for concurrent programming Mastering the Scala type system Scala's OO features—type member inheritance, multiple inheritance, and composition Functional concepts and patterns—immutability, applicative functors, and monads

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Table of Contents Scala—a blended language The core rules Modicum of style—coding conventions Utilizing object orientation Using implicits to write expressive code The type system Using implicits and types together Using the right collection Actors Integrating Scala with Java Patterns in functional programming

Programming Scala 2008 Venkat Subramaniam Describes how to use Scala to create applications for the Java VM.

Programming Erlang 2013-09-23 Joe Armstrong A multi-user game, web site, cloud application, or networked database can have thousands of users all interacting at the same time. You need a powerful, industrial-strength tool to handle the really hard problems inherent in parallel, concurrent environments. You need Erlang. In this second edition of the bestselling Programming Erlang, you'll learn how to write parallel programs that scale effortlessly on multicore systems. Using Erlang, you'll be surprised at how easy it becomes to deal with parallel problems, and how much faster and more efficiently your programs run. That's because Erlang uses sets of parallel processes-not a single

sequential process, as found in most programming languages. Joe Armstrong, creator of Erlang, introduces this powerful language in small steps, giving you a complete overview of Erlang and how to use it in common scenarios. You'll start with sequential programming, move to parallel programming and handling errors in parallel programs, and learn to work confidently with distributed programming and the standard Erlang/Open Telecom Platform (OTP) frameworks. You need no previous knowledge of functional or parallel programming. The chapters are packed with hands-on, real-world tutorial examples and insider tips and advice, and finish with exercises for both beginning and advanced users. The second edition has been extensively rewritten. New to this edition are seven chapters covering the latest Erlang features: maps, the type system and the Dialyzer, WebSockets, programming idioms, and a new stand-alone execution environment. You'll write programs that dynamically detect and correct errors, and that can be upgraded without stopping the system. There's also coverage of rebar (the de facto Erlang build system), and information on how to share and use Erlang projects on github, illustrated with examples from cowboy and bitcask. Erlang will change your view of the world, and of how you program. What You Need The Erlang/OTP system. Download it from erlang.org.

Mastering Functional Programming
2018-08-31 Anatolii Kmetiuk Learn how functional programming can help you in deploying web servers and working with databases in a declarative and pure way
Key Features Learn functional programming from scratch Program applications with side effects in a pure way Gain expertise in working with array tools for functional programming Book Description In large projects, it can get difficult keeping track of all the interdependencies of the code base and how its state changes at runtime. Functional Programming helps us solve

these problems. It is a paradigm specifically designed to deal with the complexity of software development. This book will show you how the right abstractions can reduce complexity and make your code easy to read and understand. Mastering Functional Programming begins by touching upon the basics such as what lambdas are and how to write declarative code with the help of functions. It then moves on to more advanced concepts such as pure functions and type classes, the problems they aim to solve, and how to use them in real-world scenarios. You will also explore some of the more advanced patterns in the world of functional programming, such as monad transformers and Tagless Final. In the concluding chapters, you will be introduced to the actor model, implement it in modern functional languages, and explore the subject of parallel programming. By the end of the book, you will have mastered the concepts entailing functional programming along with object-oriented programming (OOP) to build robust applications. What you will learn Write reliable and scalable software based on solid foundations Explore the cutting edge of computer science research Effectively solve complex architectural problems in a robust way Avoid unwanted outcomes such as errors or delays and focus on business logic Write parallel programs in a functional style using the actor model Use functional data structures and collections in your day-to-day work Who this book is for If you are from an imperative and OOP background, this book will guide you through the world of functional programming, irrespective of which programming language you use.

Concurrent Patterns and Best Practices
2018-09-27 Atul S. Khot A definitive guide to mastering and implementing concurrency patterns in your applications
Key Features Build scalable apps with patterns in multithreading, synchronization, and functional programming Explore the parallel programming and multithreading techniques to make the code run faster Efficiently use the techniques outlined

to build reliable applications

Book Description Selecting the correct concurrency architecture has a significant impact on the design and performance of your applications. This book explains how to leverage the different characteristics of parallel architecture to make your code faster and more efficient. To start with, you'll understand the basic concurrency concepts and explore patterns around explicit locking, lock free programming, futures & actors. Then, you'll get insights into different concurrency models and parallel algorithms and put them to practice in different scenarios to realize your application's true potential. We'll take you through multithreading design patterns, such as master, slave, leader, follower, map-reduce, and monitor, also helping you to learn hands-on coding using these patterns. Once you've grasped all of this, you'll move on to solving problems using synchronizer patterns. You'll discover the rationale for these patterns in distributed & parallel applications, followed by studying how future composition, immutability and the monadic flow help create more robust code. Toward the end of the book, you'll learn about the actor paradigm and actor patterns - the message passing concurrency paradigm. What you will learn

Explore parallel architecture
Get acquainted with concurrency models
Internalize design themes by implementing multithreading patterns
Get insights into concurrent design patterns
Discover design principles behind many java threading abstractions
Work with functional concurrency patterns

Who this book is for This is a must-have guide for developers who want to learn patterns to build scalable and high-performing apps. It's assumed that you already have a decent level of programming knowledge.

Seven Concurrency Models in Seven Weeks
2014 Paul Butcher Offers information on how to exploit the parallel architectures in a computer's GPU to improve code performance, scalability, and resilience.

Grokking Functional Programming
2023-02-07 Michal Plachta There's no need to fear going functional! This friendly, lively, and engaging guide is perfect for any perplexed programmer. It lays out the principles of functional programming in a simple and concise way that will help you grok what FP is really all about. In Grokking Functional Programming you will learn: Designing with functions and types instead of objects Programming with pure functions and immutable values Writing concurrent programs using the functional style Testing functional programs Multiple learning approaches to help you grok each new concept If you've ever found yourself rolling your eyes at functional programming, this is the book for you. Open up Grokking Functional Programming and you'll find functional ideas mapped onto what you already know as an object-oriented programmer. The book focuses on practical aspects from page one. Hands-on examples apply functional principles to everyday programming tasks like concurrency, error handling, and improving readability. Plus, puzzles and exercises let you think and practice what you're learning. You'll soon reach an amazing "aha" moment and start seeing code in a completely new way. About the technology Finally, there's an easy way to learn functional programming! This unique book starts with the familiar ideas of OOP and introduces FP step-by-step using relevant examples, engaging exercises, and lots of illustrations. You'll be amazed at how quickly you'll start seeing software tasks from this valuable new perspective. About the book Grokking Functional Programming introduces functional programming to imperative developers. You'll start with small, comfortable coding tasks that expose basic concepts like writing pure functions and working with immutable data. Along the way, you'll learn how to write code that eliminates common bugs caused by complex distributed state. You'll also explore the FP approach to IO, concurrency, and data streaming. By the time you finish, you'll be writing clean

functional code that's easy to understand, test, and maintain. What's inside Designing with functions and types instead of objects Programming with pure functions and immutable values Writing concurrent programs using the functional style Testing functional programs About the reader For developers who know an object-oriented language. Examples in Java and Scala. About the author Michal Plachta is an experienced software developer who regularly speaks and writes about creating maintainable applications. Table of Contents Part 1 The functional toolkit 1 Learning functional programming 2 Pure functions 3 Immutable values 4 Functions as values Part 2 Functional programs 5 Sequential programs 6 Error handling 7 Requirements as types 8 IO as values 9 Streams as values 10 Concurrent programs Part 3 Applied functional programming 11 Designing functional programs 12 Testing functional programs

Practical FP in Scala: a Hands-On Approach (2nd Edition) 2021-09-13 Gabriel Volpe A book for intermediate to advanced Scala developers. Aimed at those who understand functional effects, referential transparency and the benefits of functional programming to some extent but who are missing some pieces to put all these concepts together to build a large application in a time-constrained manner. Throughout the chapters we will design, architect and develop a complete stateful application serving an API via HTTP, accessing a database and dealing with cached data, using the best practices and best functional libraries available in the Cats ecosystem such as Cats Effect, Fs2, Http4s, Skunk, Refined and others. You will also learn about common design patterns such as managing state, error handling and anti-patterns, all accompanied by clear examples. Furthermore, in the Bonus Chapter, we will dive into some advanced concepts such as MTL and Optics, and will explore Fs2 streams with a few interesting examples. A digital version is also available on LeanPub.

Clojure Concurrency 2016-11-30 Milan Mulji Build high-performance multithreaded applications using Clojure's powerful tools About This Book* Get to know the low and high level concepts of parallel programming and concurrency in detail* Get the only book on the market focused on Clojure concurrency* A comprehensive guide with step-by-step approach that will help you learn the mechanisms to build concurrent applications Who This Book Is For This book is for users who have a basic understanding of Clojure and wants to dive deep in the technology. Prior knowledge of concurrent programming is not required. If you have a solid understanding of the Java language, you will also find this book helpful. What You Will Learn* Understand the JVM primitives upon which other abstractions are built* Avoid the typical problems developers come across while writing concurrent applications* Grasp the different approaches to write concurrent and parallel applications* Build concurrent applications at scale using the Cloud and OSS* Differentiate between application requirements and select appropriate implementation patterns* Set up a basic project using Leiningen* Write code that can protect against application errors using transactions* Build a small fault-tolerant application using the Actors concurrency mechanism* Develop applications that utilise GPU computation In Detail Concurrency programming helps developers capture the logical structure of certain applications and cope with independent physical devices thus ensuring multiple users work on a database without interference. Clojure is a great language to build concurrent applications with. Many applications require simultaneous task processing, but Clojure uses a multi-threaded approach to implement concurrent programming. Through this book, you will be able to understand the philosophy of Clojure and leverage the power of the multicore processor. We will help you write your code more efficiently and make inherently more scalable. You will learn to build and test robust programs that

make full use of your hardware. We will also take a look at writing concurrent applications at scale that run on the cloud with multiple servers.

Learning Functional Programming in Go 2017-11-24 Lex Sheehan Function literals, Monads, Lazy evaluation, Currying, and more About This Book Write concise and maintainable code with streams and high-order functions Understand the benefits of currying your Golang functions Learn the most effective design patterns for functional programming and learn when to apply each of them Build distributed MapReduce solutions using Go Who This Book Is For This book is for Golang developers comfortable with OOP and interested in learning how to apply the functional paradigm to create robust and testable apps. Prior programming experience with Go would be helpful, but not mandatory. What You Will Learn Learn how to compose reliable applications using high-order functions Explore techniques to eliminate side-effects using FP techniques such as currying Use first-class functions to implement pure functions Understand how to implement a lambda expression in Go Compose a working application using the decorator pattern Create faster programs using lazy evaluation Use Go concurrency constructs to compose a functionality pipeline Understand category theory and what it has to do with FP In Detail Functional programming is a popular programming paradigm that is used to simplify many tasks and will help you write flexible and succinct code. It allows you to decompose your programs into smaller, highly reusable components, without applying conceptual restraints on how the software should be modularized. This book bridges the language gap for Golang developers by showing you how to create and consume functional constructs in Golang. The book is divided into four modules. The first module explains the functional style of programming; pure functional programming (FP), manipulating collections, and using high-order functions.

In the second module, you will learn design patterns that you can use to build FP-style applications. In the next module, you will learn FP techniques that you can use to improve your API signatures, to increase performance, and to build better Cloud-native applications. The last module delves into the underpinnings of FP with an introduction to category theory for software developers to give you a real understanding of what pure functional programming is all about, along with applicable code examples. By the end of the book, you will be adept at building applications the functional way. Style and approach This book takes a pragmatic approach and shows you techniques to write better functional constructs in Golang. We'll also show you how use these concepts to build robust and testable apps.

Erlang Programming 2009-06-11 Francesco Cesarini 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.

Learn to Program 2021-06-17 Chris Pine
It's easier to learn how to program a computer than it has ever been before. Now everyone can learn to write programs for themselves - no previous experience is necessary. Chris Pine takes a thorough, but lighthearted approach that teaches you the fundamentals of computer programming, with a minimum of fuss or bother. Whether you are interested in a new hobby or a new career, this book is your doorway into the world of programming. Computers are everywhere, and being able to program them is more important than it has ever been. But since most books on programming are written for other programmers, it can be hard to break in. At least it used to be. Chris Pine will teach you how to program. You'll learn to use your computer better, to get it to do what you want it to do. Starting with small, simple one-line programs to calculate your age in seconds, you'll see how to write interactive programs, to use APIs to fetch live data from the internet, to rename your photos from your digital camera, and more. You'll learn the same technology used to drive modern dynamic websites and large, professional applications. Whether you are looking for a fun new hobby or are interested in entering the tech world as a professional, this book gives you a solid foundation in programming. Chris teaches the basics, but also shows you how to think like a programmer. You'll learn through tons of examples, and through programming challenges throughout the book. When you finish, you'll know how and where to learn more - you'll be on your way.

What You Need: All you need to learn how to program is a computer (Windows, macOS, or Linux) and an internet connection. Chris Pine will lead you through setting set up with the software you will need to start writing programs of

your own.

Learn You Some Erlang for Great Good!
2013-01-13 Fred Hebert 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.

Spark: The Definitive Guide 2018-02-08 Bill Chambers Learn how to use, deploy, and maintain Apache Spark with this comprehensive guide, written by the creators of the open-source cluster-computing framework. With an emphasis on improvements and new features in Spark 2.0, authors Bill Chambers and Matei Zaharia break down Spark topics into

distinct sections, each with unique goals. You'll explore the basic operations and common functions of Spark's structured APIs, as well as Structured Streaming, a new high-level API for building end-to-end streaming applications. Developers and system administrators will learn the fundamentals of monitoring, tuning, and debugging Spark, and explore machine learning techniques and scenarios for employing MLlib, Spark's scalable machine-learning library. Get a gentle overview of big data and Spark Learn about DataFrames, SQL, and Datasets Spark's core APIs through worked examples Dive into Spark's low-level APIs, RDDs, and execution of SQL and DataFrames Understand how Spark runs on a cluster Debug, monitor, and tune Spark clusters and applications Learn the power of Structured Streaming, Spark's stream-processing engine Learn how you can apply MLlib to a variety of problems, including classification or recommendation

Structure and Interpretation of Computer Programs, second edition 1996-07-25
Harold Abelson Structure and Interpretation of Computer Programs has had a dramatic impact on computer science curricula over the past decade. This long-awaited revision contains changes throughout the text. There are new implementations of most of the major programming systems in the book, including the interpreters and compilers, and the authors have incorporated many small changes that reflect their experience teaching the course at MIT since the first edition was published. A new theme has been introduced that emphasizes the central role played by different approaches to dealing with time in computational models: objects with state, concurrent programming, functional programming and lazy evaluation, and nondeterministic programming. There are new example sections on higher-order procedures in graphics and on applications of stream processing in numerical programming, and many new exercises. In addition, all the

programs have been reworked to run in any Scheme implementation that adheres to the IEEE standard.

Scala Cookbook 2021-08-10 Alvin Alexander Save time and trouble building object-oriented, functional, and concurrent applications with Scala. The latest edition of this comprehensive cookbook is packed with more than 250 ready-to-use recipes and 1,000 code examples to help you solve the most common problems when working with Scala 3 and its popular libraries. Scala changes the way you think about programming--and that's a good thing. Whether you're working on web, big data, or distributed applications, this cookbook provides recipes based on real-world scenarios for both experienced Scala developers and programmers just learning to use this JVM language. Author Alvin Alexander includes practical solutions from his experience using Scala for component-based, highly scalable applications that support concurrency and distribution. Recipes cover: Strings, numbers, and control structures Classes, methods, objects, traits, packaging, and imports Functional programming techniques Scala's wealth of collections classes and methods Building and publishing Scala applications with sbt Actors and concurrency with Scala Future and Akka Typed Popular libraries, including Spark, Scala.js, Play Framework, and GraalVM Types, such as variance, givens, intersections, and unions Best practices, including pattern matching, modules, and functional error handling

Learning Akka 2015 Jason Goodwin Build fault tolerant concurrent and distributed applications with Akka About This Book- Build networked applications that self-heal- Scale out your applications to handle more traffic faster- An easy-to-follow guide with a number of examples to ensure you get the best start with Akka Who This Book Is For This book is intended for beginner to intermediate Java or Scala developers who want to build applications to serve the high-scale user demands in computing today. If

you need your applications to handle the ever-growing user bases and datasets with high performance demands, then this book is for you. Learning Akka will let you do more for your users with less code and less complexity, by building and scaling your networked applications with ease.

What You Will Learn- Use Akka to overcome the challenges of concurrent programming- Resolve the issues faced in distributed computing with the help of Akka- Scale applications to serve a high number of concurrent users- Make your system fault-tolerant with self-healing applications- Provide a timely response to users with easy concurrency- Reduce hardware costs by building more efficient multi-user applications- Maximise network efficiency by scaling it

In Detail Software today has to work with more data, more users, more cores, and more servers than ever. Akka is a distributed computing toolkit that enables developers to build correct concurrent and distributed applications using Java and Scala with ease, applications that scale across servers and respond to failure by self-healing. As well as simplifying development, Akka enables multiple concurrency development patterns with particular support and architecture derived from Erlang's concept of actors (lightweight concurrent entities). Akka is written in Scala, which has become the programming language of choice for development on the Akka platform.

Learning Akka aims to be a comprehensive walkthrough of Akka. This book will take you on a journey through all the concepts of Akka that you need in order to get started with concurrent and distributed applications and even build your own. Beginning with the concept of Actors, the book will take you through concurrency in Akka. Moving on to networked applications, this book will explain the common pitfalls in these difficult problem areas while teaching you how to use Akka to overcome these problems with ease. The book is an easy to follow example-based guide that will strengthen your basic knowledge of Akka and aid you in applying the same to real-world scenarios.

Style and

approach An easy-to-follow, example-based guide that will take you through building several networked-applications that work together while you are learning concurrent and distributed computing concepts. Each topic is explained while showing you how to design with Akka and how it is used to overcome common problems in applications. By showing Akka in context to the problems, it will help you understand what the common problems are in distributed applications and how to overcome them.

Mastering Concurrency Programming with Java 9 2017-07-17 Javier Fernandez Gonzalez Master the principles to make applications robust, scalable and responsive

About This Book Implement concurrent applications using the Java 9 Concurrency API and its new components Improve the performance of your applications and process more data at the same time, taking advantage of all of your resources

Construct real-world examples related to machine learning, data mining, natural language processing, and more

Who This Book Is For This book is for competent Java developers who have basic understanding of concurrency, but knowledge of effective implementation of concurrent programs or usage of streams for making processes more efficient is not required

What You Will Learn Master the principles that every concurrent application must follow See how to parallelize a sequential algorithm to obtain better performance without data inconsistencies and deadlocks Get the most from the Java Concurrency API components Separate the thread management from the rest of the application with the Executor component Execute phased-based tasks in an efficient way with the Phaser components Solve problems using a parallelized version of the divide and conquer paradigm with the Fork / Join framework Find out how to use parallel Streams and Reactive Streams Implement the "map and reduce" and "map and collect" programming models Control the concurrent data structures and

synchronization mechanisms provided by the Java Concurrency API Implement efficient solutions for some actual problems such as data mining, machine learning, and more In Detail Concurrency programming allows several large tasks to be divided into smaller sub-tasks, which are further processed as individual tasks that run in parallel. Java 9 includes a comprehensive API with lots of ready-to-use components for easily implementing powerful concurrency applications, but with high flexibility so you can adapt these components to your needs. The book starts with a full description of the design principles of concurrent applications and explains how to parallelize a sequential algorithm. You will then be introduced to Threads and Runnable, which are an integral part of Java 9's concurrency API. You will see how to use all the components of the Java concurrency API, from the basics to the most advanced techniques, and will implement them in powerful real-world concurrency applications. The book ends with a detailed description of the tools and techniques you can use to test a concurrent Java application, along with a brief insight into other concurrency mechanisms in JVM. Style and approach This is a complete guide that implements real-world examples of algorithms related to machine learning, data mining, and natural language processing in client/server environments. All the examples are explained using a step-by-step approach.

Scala for Machine Learning 2017-09-26
Patrick R. Nicolas Leverage Scala and Machine Learning to study and construct systems that can learn from data About This Book Explore a broad variety of data processing, machine learning, and genetic algorithms through diagrams, mathematical formulation, and updated source code in Scala Take your expertise in Scala programming to the next level by creating and customizing AI applications Experiment with different techniques and evaluate their benefits and limitations using real-world applications in a tutorial style Who This

Book Is For If you're a data scientist or a data analyst with a fundamental knowledge of Scala who wants to learn and implement various Machine learning techniques, this book is for you. All you need is a good understanding of the Scala programming language, a basic knowledge of statistics, a keen interest in Big Data processing, and this book! What You Will Learn Build dynamic workflows for scientific computing Leverage open source libraries to extract patterns from time series Write your own classification, clustering, or evolutionary algorithm Perform relative performance tuning and evaluation of Spark Master probabilistic models for sequential data Experiment with advanced techniques such as regularization and kernelization Dive into neural networks and some deep learning architecture Apply some basic multiarm-bandit algorithms Solve big data problems with Scala parallel collections, Akka actors, and Apache Spark clusters Apply key learning strategies to a technical analysis of financial markets In Detail The discovery of information through data clustering and classification is becoming a key differentiator for competitive organizations. Machine learning applications are everywhere, from self-driving cars, engineering design, logistics, manufacturing, and trading strategies, to detection of genetic anomalies. The book is your one stop guide that introduces you to the functional capabilities of the Scala programming language that are critical to the creation of machine learning algorithms such as dependency injection and implicits. You start by learning data preprocessing and filtering techniques. Following this, you'll move on to unsupervised learning techniques such as clustering and dimension reduction, followed by probabilistic graphical models such as Naive Bayes, hidden Markov models and Monte Carlo inference. Further, it covers the discriminative algorithms such as linear, logistic regression with regularization, kernelization, support vector machines, neural networks, and deep learning. You'll move on to evolutionary

computing, multibandit algorithms, and reinforcement learning. Finally, the book includes a comprehensive overview of parallel computing in Scala and Akka followed by a description of Apache Spark and its ML library. With updated codes based on the latest version of Scala and comprehensive examples, this book will ensure that you have more than just a solid fundamental knowledge in machine learning with Scala. Style and approach This book is designed as a tutorial with hands-on exercises using technical analysis of financial markets and corporate data. The approach of each chapter is such that it allows you to understand key concepts easily.

Mastering Concurrency in Python
2018-11-27 Quan Nguyen Immerse yourself in the world of Python concurrency and tackle the most complex concurrent programming problems
Key Features Explore the core syntaxes, language features and modern patterns of concurrency in Python Understand how to use concurrency to keep data consistent and applications responsive Utilize application scaffolding to design highly-scalable programs
Book Description Python is one of the most popular programming languages, with numerous libraries and frameworks that facilitate high-performance computing. Concurrency and parallelism in Python are essential when it comes to multiprocessing and multithreading; they behave differently, but their common aim is to reduce the execution time. This book serves as a comprehensive introduction to various advanced concepts in concurrent engineering and programming. **Mastering Concurrency in Python** starts by introducing the concepts and principles in concurrency, right from Amdahl's Law to multithreading programming, followed by elucidating multiprocessing programming, web scraping, and asynchronous I/O, together with common problems that engineers and programmers face in concurrent programming. Next, the book

covers a number of advanced concepts in Python concurrency and how they interact with the Python ecosystem, including the Global Interpreter Lock (GIL). Finally, you'll learn how to solve real-world concurrency problems through examples. By the end of the book, you will have gained extensive theoretical knowledge of concurrency and the ways in which concurrency is supported by the Python language
What you will learn Explore the concepts of concurrency in programming Explore the core syntax and features that enable concurrency in Python Understand the correct way to implement concurrency Abstract methods to keep the data consistent in your program Analyze problems commonly faced in concurrent programming Use application scaffolding to design highly-scalable programs
Who this book is for This book is for developers who wish to build high-performance applications and learn about single-core, multicore programming or distributed concurrency. Some experience with Python programming language is assumed.

Akka Cookbook 2017-05-26 Hector Veiga Ortiz Learn how to use the Akka framework to build effective applications in Scala
About This Book Covers a discussion on Lagom—the newest launched Akka framework that is built to create complex microservices easily The recipe approach of the book allows the reader to know important and independent concepts of Scala and Akka in a seamless manner Provides a comprehensive understanding of the Akka actor model and implementing it to create reactive web applications
Who This Book Is For If you are a Scala developer who wants to build scalable and concurrent applications, then this book is for you. Basic knowledge of Akka will help you take advantage of this book.
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Lagom and create a Lagom project In Detail
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This book will teach you how to develop
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how to build concurrent, scalable, and
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