Julia.appdeveloper

Ivo Balbaert

Julia Programming Projects Adrian Salceanu,2018-12-26 A step-by-step guide that demonstrates how to build simple-to-advanced applications through examples in Julia Lang 1.x using modern tools Key FeaturesWork with powerful open-source libraries for data wrangling, analysis, and visualizationDevelop full-featured, full-stack web applications Learn to perform supervised and unsupervised machine learning and time series analysis with JuliaBook Description Julia is a new programming language that offers a unique combination of performance and productivity. Its powerful features, friendly syntax, and speed are attracting a growing number of adopters from Python, R, and Matlab, effectively raising the bar for modern general and scientific computing. After six years in the making, Julia has reached version 1.0. Now is the perfect time to learn it, due to its large-scale adoption across a wide range of domains, including fintech, biotech, education, and AI. Beginning with an introduction to the language, Julia Programming Projects goes on to illustrate how to analyze the Iris dataset using DataFrames. You will explore functions and the type system, methods, and multiple dispatch while building a web scraper and a web app. Next, you'll delve into machine learning, where you'll build a books recommender system. You will also see how to apply unsupervised machine learning to perform clustering on the San Francisco business database. After metaprogramming, the final chapters will discuss dates and time, time series analysis, visualization, and forecasting. We'll close with package development, documenting, testing and benchmarking. By the end of the book, you will have gained the practical knowledge to build real-world applications in Julia. What you will learnLeverage Julia's strengths, its top packages, and main IDE optionsAnalyze and manipulate datasets using Julia and DataFramesWrite complex code while building real-life Julia applicationsDevelop and run a web app using Julia and the HTTP packageBuild a recommender system using supervised machine learning Perform exploratory data analysis Apply unsupervised machine learning algorithmsPerform time series data analysis, visualization, and forecastingWho this book is for Data scientists, statisticians, business analysts, and developers who are interested in learning how to use Julia to crunch numbers, analyze data and build apps will find this book useful. A basic knowledge of programming is assumed.

Web Development with Julia and Genie Ivo Balbaert,Adrian Salceanu,Logan Kilpatrick,2022-11-29 Get a practical overview of web development in Julia and learn how to build MVC applications with a REST API, and an interactive data dashboard using the Genie web framework Key FeaturesA tutorial on web development from Julia expert, Ivo Balbaert and the creator of the Genie framework, Adrian SalceanuA step-by-step approach to building a complete web app with the Genie frameworkDevelop secure and fast web apps using server-side development on JuliaBook Description Julia's high-performance and scalability characteristics and its extensive number of packages for visualizing data make it an excellent fit for developing web apps, web services, and web dashboards. The two parts of this book provide complete coverage to build your skills in web development. First, you'll refresh your knowledge of the main concepts in Julia that will further be used in web development. Then, you'll use Julia's standard web packages and examine how the building blocks of the web such as TCP-IP, web sockets, HTTP protocol, and so on are implemented in Julia's standard library. Each topic is discussed and developed into code that you can apply in new projects, from static websites to dashboards. You'll also understand how to choose the right Julia framework for a project. The second part of the book talks about the Genie framework. You'll learn how to build a traditional to do app following the MVC design pattern. Next, you'll add a REST API to this project, including testing and documentation. Later, you'll explore the various ways of deploying an app in production, including authentication functionality. Finally, you'll work on an interactive data dashboard, making various chart types and filters. By the end of this book, you'll be able to build interactive web solutions on a large scale with a Julia-based web framework. What you will learnUnderstand how to make a web server with HTTP.jl and work with JSON data over the webDiscover how to build a static website with the Franklin frameworkExplore Julia web development frameworks and work with themUncover the Julia infrastructure for development, testing, package

management, and deploymentDevelop an MVC web app with the Genie frameworkUnderstand how to add a REST API to a web appCreate an interactive data dashboard with charts and filtersTest, document, and deploy maintainable web applications using JuliaWho this book is for This book is for beginner to intermediate-level Julia programmers who want to enhance their skills in designing and developing large-scale web applications. The book helps you adopt Genie without any prior experience with the framework. Julia programming experience and a beginner-level understanding of web development concepts are required.

Hands-On Julia Programming Sambit Kumar Dash,2021-10-21 Build production-ready machine learning and NLP systems using functional programming, development platforms, and cloud deployment. KEY FEATURES ● In-depth explanation and code samples highlighting the features of the Julia language. ● Extensive coverage of the Julia development ecosystem, package management, DevOps environment integration, and performance management tools. ● Exposure to the most important Julia packages that aid in Data and Text Analytics and Deep Learning. DESCRIPTION The Julia Programming language enables data scientists and programmers to create prototypes without sacrificing performance. Nonetheless, skeptics question its readiness for production deployments as a new platform with a 1.0 release in 2018. This book removes these doubts and offers a comprehensive glimpse at the language's use throughout developing and deploying production-ready applications. The first part of the book teaches experienced programmers and scientists about the Julia language features in great detail. The second part consists of gaining hands-on experience with the development environment, debugging, programming guidelines, package management, and cloud deployment strategies. In the final section, readers are introduced to a variety of third-party packages available in the Julia ecosystem for Data Processing, Text Analytics, and developing Deep Learning models. This book provides an extensive overview of the programming language and broadens understanding of the Julia ecosystem. As a result, it assists programmers, scientists, and information architects in selecting Julia for their next production deployments. WHAT YOU WILL LEARN ● Get to know the complete fundamentals of Julia programming. ● Explore Julia development frameworks and how to work with them. ● Dig deeper into the concepts and applications of functional programming. ● Uncover the Julia infrastructure for development, testing, and deployment. ● Learn to practice Julia libraries and the Julia package ecosystem. ● Processing Data, Deep Learning, and Natural Language Processing with Julia. WHO THIS BOOK IS FOR This book is for Data Scientists and application developers who want to learn about Julia application development. No prior Julia knowledge is required but knowing the basics of programming helps understand the objectives of this book. TABLE OF CONTENTS 1. Getting Started 2. Data Types 3. Conditions, Control Flow, and Iterations 4. Functions and Methods 5. Collections 6. Arrays 7. Strings 8. Metaprogramming 9. Standard Libraries Module 2. The Development Environment 10. Programming Guidelines in Julia 11. Performance Management 12. IDE and Debugging 13. Package Management 14. Deployment Module 3. Packages in Julia 15. Data Transformations 16. Text Analytics 17. Deep Learning

Julia 1.0 Programming Ivo Balbaert,2018-09-24 Enter the exciting world of Julia, a high-performance language for technical computing Key FeaturesLeverage Julia's high speed and efficiency for your applicationsWork with Julia in a multi-core, distributed, and networked environmentApply Julia to tackle problems concurrently and in a distributed environmentBook Description The release of Julia 1.0 is now ready to change the technical world by combining the high productivity and ease of use of Python and R with the lightning-fast speed of C++. Julia 1.0 programming gives you a head start in tackling your numerical and data problems. You will begin by learning how to set up a running Julia platform, before exploring its various built-in types. With the help of practical examples, this book walks you through two important collection types: arrays and matrices. In addition to this, you will be taken through how type conversions and promotions work. In the course of the book, you will be introduced to the homo-iconicity and metaprogramming concepts in Julia. You will understand how Julia provides different ways to interact with an operating system, as well as other languages, and then you'll discover what macros are. Once you have grasped the basics, you'll study what makes Julia suitable for numerical and

scientific computing, and learn about the features provided by Julia. By the end of this book, you will also have learned how to run external programs. This book covers all you need to know about Julia in order to leverage its high speed and efficiency for your applications. What you will learnSet up your Julia environment to achieve high productivityCreate your own types to extend the built-in type systemVisualize your data in Julia with plotting packagesExplore the use of built-in macros for testing and debugging, among other usesApply Julia to tackle problems concurrentlyIntegrate Julia with other languages such as C, Python, and MATLABWho this book is for Julia 1.0 Programming is for you if you are a statistician or data scientist who wants a crash course in the Julia programming language while building big data applications. A basic knowledge of mathematics is needed to understand the various methods that are used or created during the course of the book to exploit the capabilities that Julia is designed with.

Julia 1.0 Programming Complete Reference Guide Ivo Balbaert,Adrian Salceanu,2019-05-20 Learn dynamic programming with Julia to build apps for data analysis, visualization, machine learning, and the web Key FeaturesLeverage Julia's high speed and efficiency to build fast, efficient applicationsPerform supervised and unsupervised machine learning and time series analysisTackle problems concurrently and in a distributed environmentBook Description Julia offers the high productivity and ease of use of Python and R with the lightning-fast speed of C++. There's never been a better time to learn this language, thanks to its large-scale adoption across a wide range of domains, including fintech, biotech and artificial intelligence (AI). You will begin by learning how to set up a running Julia platform, before exploring its various built-in types. This Learning Path walks you through two important collection types: arrays and matrices. You'll be taken through how type conversions and promotions work, and in further chapters you'll study how Julia interacts with operating systems and other languages. You'll also learn about the use of macros, what makes Julia suitable for numerical and scientific computing, and how to run external programs. Once you have grasped the basics, this Learning Path goes on to how to analyze the Iris dataset using DataFrames. While building a web scraper and a web app, you'll explore the use of functions, methods, and multiple dispatches. In the final chapters, you'll delve into machine learning, where you'll build a book recommender system. By the end of this Learning Path, you'll be well versed with Julia and have the skills you need to leverage its high speed and efficiency for your applications. This Learning Path includes content from the following Packt products: Julia 1.0 Programming - Second Edition by Ivo BalbaertJulia Programming Projects by Adrian SalceanuWhat you will learnCreate your own types to extend the built-in type systemVisualize your data in Julia with plotting packagesExplore the use of built-in macros for testing and debuggingIntegrate Julia with other languages such as C, Python, and MATLABAnalyze and manipulate datasets using Julia and DataFramesDevelop and run a web app using Julia and the HTTP packageBuild a recommendation system using supervised machine learningWho this book is for If you are a statistician or data scientist who wants a quick course in the Julia programming language while building big data applications, this Learning Path is for you. Basic knowledge of mathematics and programming is a must.

Julia High Performance Avik Sengupta,2016-04-26 Design and develop high performing programs with Julia About This Book Learn to code high reliability and high performance programs Stand out from the crowd by developing code that runs faster than your peers' codes This book is intended for developers who are interested in high performance technical programming. Who This Book Is For This book is for beginner and intermediate Julia programmers who are interested in high performance technical computing. You will have a basic familiarity with Julia syntax, and have written some small programs in the language. What You Will Learn Discover the secrets behind Julia's speed Get a sense of the possibilities and limitations of Julia's performance Analyze the performance of Julia programs Measure the time and memory taken by Julia programs Create fast machine code using Julia's type information Define and call functions without compromising Julia's performance Understand number types in Julia Use Julia arrays to write high performance code Get an overview of Julia's distributed computing capabilities In Detail Julia is a high performance, high-level dynamic language designed to address the requirements of high-level numerical and scientific computing. Julia brings solutions to the complexities faced by developers

while developing elegant and high performing code. Julia High Performance will take you on a journey to understand the performance characteristics of your Julia programs, and enables you to utilize the promise of near C levels of performance in Julia. You will learn to analyze and measure the performance of Julia code, understand how to avoid bottlenecks, and design your program for the highest possible performance. In this book, you will also see how Julia uses type information to achieve its performance goals, and how to use multiple dispatch to help the compiler to emit high performance machine code. Numbers and their arrays are obviously the key structures in scientific computing – you will see how Julia's design makes them fast. The last chapter will give you a taste of Julia's distributed computing capabilities. Style and approach This is a hands-on manual that will give you good explanations about the important concepts related to Julia programming.

Julia as a Second Language Erik Engheim,2023-05-02 Learn the awesome Julia programming language by building fun projects like a rocket launcher, a password keeper, and a battle simulator. Julia as a Second Language covers: Data types like numbers, strings, arrays, and dictionaries Immediate feedback with Julia's read-evaluate-print-loop (REPL) Simplify code interactions with multiple dispatch Sharing code using modules and packages Object-oriented and functional programming styles Julia as a Second Language introduces Julia to readers with a beginning-level knowledge of another language like Python or JavaScript. You'll learn by coding engaging hands-on projects that encourage you to apply what you're learning immediately. Don't be put off by Julia's reputation as a scientific programming language—there's no data science or numerical computing knowledge required. You can get started with what you learned in high school math classes. About the Technology Originally designed for high-performance data science, Julia has become an awesome general purpose programming language. It offers developer-friendly features like garbage collection, dynamic typing, and a flexible approach to concurrency and distributed computing. It is the perfect mix of simplicity, flexibility and performance. About the Book Julia as a Second Language introduces Julia by building on your existing programming knowledge. You'll see Julia in action as you create a series of interesting projects that guide you from Julia's basic syntax through its advanced features. Master types and data structures as you model a rocket launch. Use dictionaries to interpret Roman numerals. Use Julia's unique multiple dispatch feature to send knights and archers into a simulated battle. Along the way, you'll even compare the object-oriented and functional programming styles–Julia supports both! What's Inside Data types like numbers, strings, arrays, and dictionaries Immediate feedback with Julia's read-evaluate-print-loop (REPL) Simplify code interactions with multiple dispatch Share code using modules and packages About the Reader For readers comfortable with another programming language like Python, JavaScript, or C#. About the Author Erik Engheim is a writer, conference speaker, video course author, and software developer. Table of Contents PART 1 - BASICS 1 Why Julia? 2 Julia as a calculator 3 Control flow 4 Julia as a spreadsheet 5 Working with text 6 Storing data in dictionaries PART 2 - TYPES 7 Understanding types 8 Building a rocket 9 Conversion and promotion 10 Representing unknown values PART 3 - COLLECTIONS 11 Working with strings 12 Understanding Julia collections 13 Working with sets 14 Working with vectors and matrices PART 4 - SOFTWARE ENGINEERING 15 Functional programming in Julia 16 Organizing and modularizing your code PART 5 - GOING IN DEPTH 17 Input and output 18 Defining parametric types

Mastering Julia Malcolm Sherrington,2015-07-22 Julia is a well-constructed programming language with fast execution speed, eliminating the classic problem of performing analysis in one language and translating it for performance into a second. This book will help you develop and enhance your programming skills in Julia to solve real-world automation challenges. This book starts off with a refresher on installing and running Julia on different platforms. Next, you will compare the different ways of working with Julia and explore Julia's key features in-depth by looking at design and build. You will see how data works using simple statistics and analytics, and discover Julia's speed, its real strength, which makes it particularly useful in highly intensive computing tasks and observe how Julia can cooperate with external processes in order to enhance graphics and data visualization. Finally, you will look into meta-programming and learn how it adds great power to the language and establish networking and distributed computing with Julia.

Julia 1.0 Programming Cookbook Bogumił Kamiński,Przemysław Szufel,2018-11-29 Discover the new features and widely used packages in Julia to solve complex computational problems in your statistical applications. Key FeaturesAddress the core problems of programming in Julia with the most popular packages for common tasksTackle issues while working with Databases and Parallel data processing with JuliaExplore advanced features such as metaprogramming, functional programming, and user defined typesBook Description Julia, with its dynamic nature and high-performance, provides comparatively minimal time for the development of computational models with easy-to-maintain computational code. This book will be your solution-based guide as it will take you through different programming aspects with Julia. Starting with the new features of Julia 1.0, each recipe addresses a specific problem, providing a solution and explaining how it works. You will work with the powerful Julia tools and data structures along with the most popular Julia packages. You will learn to create vectors, handle variables, and work with functions. You will be introduced to various recipes for numerical computing, distributed computing, and achieving high performance. You will see how to optimize data science programs with parallel computing and memory allocation. We will look into more advanced concepts such as metaprogramming and functional programming. Finally, you will learn how to tackle issues while working with databases and data processing, and will learn about on data science problems, data modeling, data analysis, data manipulation, parallel processing, and cloud computing with Julia. By the end of the book, you will have acquired the skills to work more effectively with your data What you will learnBoost your code's performance using Julia's unique featuresOrganize data in to fundamental types of collections: arrays and dictionariesOrganize data science processes within Julia and solve related problemsScale Julia computations with cloud computingWrite data to IO streams with Julia and handle web transferDefine your own immutable and mutable typesSpeed up the development process using metaprogrammingWho this book is for This book is for developers who would like to enhance their Julia programming skills and would like to get some quick solutions to their common programming problems. Basic Julia programming knowledge is assumed.

Hands-On Design Patterns and Best Practices with Julia Tom Kwong,2020-01-17 Design and develop high-performance, reusable, and maintainable applications using traditional and modern Julia patterns with this comprehensive guide Key FeaturesExplore useful design patterns along with object-oriented programming in Julia 1.0Implement macros and metaprogramming techniques to make your code faster, concise, and efficientDevelop the skills necessary to implement design patterns for creating robust and maintainable applicationsBook Description Design patterns are fundamental techniques for developing reusable and maintainable code. They provide a set of proven solutions that allow developers to solve problems in software development quickly. This book will demonstrate how to leverage design patterns with real-world applications. Starting with an overview of design patterns and best practices in application design, you'll learn about some of the most fundamental Julia features such as modules, data types, functions/interfaces, and metaprogramming. You'll then get to grips with the modern Julia design patterns for building large-scale applications with a focus on performance, reusability, robustness, and maintainability. The book also covers anti-patterns and how to avoid common mistakes and pitfalls in development. You'll see how traditional object-oriented patterns can be implemented differently and more effectively in Julia. Finally, you'll explore various use cases and examples, such as how expert Julia developers use design patterns in their open source packages. By the end of this Julia programming book, you'll have learned methods to improve software design, extensibility, and reusability, and be able to use design patterns efficiently to overcome common challenges in software development. What you will learnMaster the Julia language features that are key to developing large-scale software applicationsDiscover design patterns to improve overall application architecture and designDevelop reusable programs that are modular, extendable, performant, and easy to maintainWeigh up the pros and cons of using different design patterns for use casesExplore methods for transitioning from object-oriented programming to using equivalent or more advanced Julia techniquesWho this book is for This book is for beginner to intermediate-level Julia programmers who want to enhance their skills in designing and developing large-scale applications.

Julia Programming for Operations Research Changhyun Kwon,2019-03-03 Last Updated: December 2020 Based on Julia v1.3+ and JuMP v0.21+ The main motivation of writing this book was to help the author himself. He is a professor in the field of operations research, and his daily activities involve building models of mathematical optimization, developing algorithms for solving the problems, implementing those algorithms using computer programming languages, experimenting with data, etc. Three languages are involved: human language, mathematical language, and computer language. His team of students need to go over three different languages, which requires translation among the three languages. As this book was written to teach his research group how to translate, this book will also be useful for anyone who needs to learn how to translate in a similar situation. The Julia Language is as fast as C, as convenient as MATLAB, and as general as Python with a flexible algebraic modeling language for mathematical optimization problems. With the great support from Julia developers, especially the developers of the JuMP—Julia for Mathematical Programming—package, Julia makes a perfect tool for students and professionals in operations research and related areas such as industrial engineering, management science, transportation engineering, economics, and regional science. For more information, visit: http://www.chkwon.net/julia

Julia as a Second Language Erik Engheim,2023-05-02 Learn Julia programming by building fun projects, like launching rockets, building password keepers, and even coding battle simulations. Don't be put off by Julia's reputation as a scientific programming language. There's no data science or numerical computing knowledge required. You can get started with what you learned in high school math classes. Julia as a Second Language makes it easy to add Julia to your programming toolbox. You'll learn about Julia's type system and data structures by modeling the launch of a space rocket, use dictionaries to parse Roman numerals, discover tuples and arrays through tracking pizza sales, and use Julia's unique multiple dispatch feature to send knights and archers into a simulated battle. By the time you're finished, you'll be confident in the foundations of Julia and ready to dive into a specialized field like machine learning or data science. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

Julia High Performance Avik Sengupta,2019-06-10 Design and develop high-performance programs in Julia 1.0 Key FeaturesLearn the characteristics of high-performance Julia codeUse the power of the GPU to write efficient numerical codeSpeed up your computation with the help of newly introduced shared memory multi-threading in Julia 1.0Book Description Julia is a high-level, high-performance dynamic programming language for numerical computing. If you want to understand how to avoid bottlenecks and design your programs for the highest possible performance, then this book is for you. The book starts with how Julia uses type information to achieve its performance goals, and how to use multiple dispatches to help the compiler emit high-performance machine code. After that, you will learn how to analyze Julia programs and identify issues with time and memory consumption. We teach you how to use Julia's typing facilities accurately to write high-performance code and describe how the Julia compiler uses type information to create fast machine code. Moving ahead, you'll master design constraints and learn how to use the power of the GPU in your Julia code and compile Julia code directly to the GPU. Then, you'll learn how tasks and asynchronous IO help you create responsive programs and how to use shared memory multithreading in Julia. Toward the end, you will get a flavor of Julia's distributed computing capabilities and how to run Julia programs on a large distributed cluster. By the end of this book, you will have the ability to build large-scale, high-performance Julia applications, design systems with a focus on speed, and improve the performance of existing programs. What you will learnUnderstand how Julia code is transformed into machine codeMeasure the time and memory taken by Julia programs Create fast machine code using Julia's type information Define and call functions without compromising Julia's performance Accelerate your code via the GPUUse tasks and asynchronous IO for responsive programsRun Julia programs on large distributed clustersWho this book is for This book is for beginners and intermediate Julia programmers who are interested in high-performance

technical programming. A basic knowledge of Julia programming is assumed.

Julia Quick Syntax Reference Antonello Lobianco,2019-11-11 This quick Julia programming language guide is a condensed code and syntax reference to the Julia 1.x programming language, updated with the latest features of the Julia APIs, libraries, and packages. It presents the essential Julia syntax in a well-organized format that can be used as a handy reference. This book provides an introduction that reveals basic Julia structures and syntax; discusses data types, control flow, functions, input/output, exceptions, metaprogramming, performance, and more. Additionally, you'll learn to interface Julia with other programming languages such as R for statistics or Python. You will learn how to use Julia packages for data analysis, numerical optimization and symbolic computation, and how to disseminate your results in dynamic documents or interactive web pages. In this book, the focus is on providing important information as quickly as possible. It is packed with useful information and is a must-have for any Julia programmer. What You Will Learn Set up the software needed to run Julia and your first Hello World exampleWork with types and the different containers that Julia makes available for rapid application developmentUse vectorized, classical loop-based code, logical operators, and blocksExplore Julia functions by looking at arguments, return values, polymorphism, parameters, anonymous functions, and broadcastsBuild custom structures in JuliaInterface Julia with other languages such as C/C++, Python, and RProgram a richer API, modifying the code before it is executed using expressions, symbols, macros, quote blocks, and moreMaximize your code's performance Who This Book Is For Experienced programmers new to Julia, as well as existing Julia coders new to the now stable Julia version 1.0 release.

Think Julia Ben Lauwens,Allen B. Downey,2019-04-05 If you're just learning how to program, Julia is an excellent JIT-compiled, dynamically typed language with a clean syntax. This hands-on guide uses Julia 1.0 to walk you through programming one step at a time, beginning with basic programming concepts before moving on to more advanced capabilities, such as creating new types and multiple dispatch. Designed from the beginning for high performance, Julia is a general-purpose language ideal for not only numerical analysis and computational science but also web programming and scripting. Through exercises in each chapter, you'll try out programming concepts as you learn them. Think Julia is perfect for students at the high school or college level as well as self-learners and professionals who need to learn programming basics. Start with the basics, including language syntax and semantics Get a clear definition of each programming concept Learn about values, variables, statements, functions, and data structures in a logical progression Discover how to work with files and databases Understand types, methods, and multiple dispatch Use debugging techniques to fix syntax, runtime, and semantic errors Explore interface design and data structures through case studies

Getting Started with Julia Ivo Balbaert,2015-02-26 This book is for you if you are a data scientist or working on any technical or scientific computation projects. The book assumes you have a basic working knowledge of high-level dynamic languages such as MATLAB, R, Python, or Ruby.

The Little Book of Julia Algorithms Ahan Sengupta,William Lau,2022-12 Targeted at middle and high school programmers, this book aims to explain basic computer science concepts while teaching the Julia programming language. As a fast and productive high level language, Julia is ideal for beginner programmers. The learning curve for programming can be quite steep and this book aims to ease this transition by encouraging practise and gradually introducing more complex concepts. The book contains 50 programming challenges that encourages the reader to write their own programs. The solutions to all challenges are given at the end of the book. This book will make readers comfortable with using computers to solve any problems, and leave them well prepared for more significant programming in their maths, science or computer science courses at college. After finishing the exercises in this book, the reader should feel more familiar with: Loops and conditionals, Structuring code with functions, Reading and writing files, Installing and using packages, Sorting and searching, and Simple Statistics and Plotting. With a foreword by Jeff Bezanson, co-creator of the Julia programming language.

Domain Modeling Made Functional Scott Wlaschin,2018-01-25 You want increased customer satisfaction, faster development cycles, and less wasted work. Domain-driven design (DDD) combined with functional programming is the innovative combo that will get you there. In this pragmatic, down-to-earth guide, you'll see how applying the core principles of functional programming can result in software designs that model real-world requirements both elegantly and concisely - often more so than an object-oriented approach. Practical examples in the open-source F# functional language, and examples from familiar business domains, show you how to apply these techniques to build software that is business-focused, flexible, and high quality. Domain-driven design is a well-established approach to designing software that ensures that domain experts and developers work together effectively to create high-quality software. This book is the first to combine DDD with techniques from statically typed functional programming. This book is perfect for newcomers to DDD or functional programming - all the techniques you need will be introduced and explained. Model a complex domain accurately using the F# type system, creating compilable code that is also readable documentation---ensuring that the code and design never get out of sync. Encode business rules in the design so that you have compile-time unit tests, and eliminate many potential bugs by making illegal states unrepresentable. Assemble a series of small, testable functions into a complete use case, and compose these individual scenarios into a large-scale design. Discover why the combination of functional programming and DDD leads naturally to service-oriented and hexagonal architectures. Finally, create a functional domain model that works with traditional databases, NoSQL, and event stores, and safely expose your domain via a website or API. Solve real problems by focusing on real-world requirements for your software. What You Need: The code in this book is designed to be run interactively on Windows, Mac and Linux.You will need a recent version of F# (4.0 or greater), and the appropriate .NET runtime for your platform.Full installation instructions for all platforms at fsharp.org.

Programming Entity Framework Julia Lerman,2009-01-29 If you use Entity Framework in Visual Studio 2008 and .NET 3.5, this is the book you want. Programming Entity Framework, 1st Edition offers experienced developers a thorough introduction to Microsoft's core framework for modeling and interacting with data in .NET applications. This hands-on tour provides a deep understanding of Entity Framework's architecture and APIs, and explains how to use the framework in a variety of applications built with Visual Studio 2008 and .NET 3.5. From the Entity Data Model (EDM) and Object Services to EntityClient and the Metadata Workspace, this highly acclaimed first edition covers it all. Understand the core concepts you need to make the best use of the Entity Framework (EF) in your applications Learn to query your data, using either LINQ to Entities or Entity SQL Create Windows Forms, WPF, and ASP.NET applications Build ASMX web services and WCF services Use Object Services to work directly with your entity objects Delve into model customization, relationship management, change tracking, data concurrency, and more One important note: while many of the lessons from this book will continue to be valuable as you move to .NET 4, the thoroughly revised second edition of Programming Entity Framework (August 2010) specifically targets Visual Studio 2010 and .NET 4 -- where there have been many advancements and additions to the framework.

Implementing Domain-driven Design Vaughn Vernon,2013 Vaughn Vernon presents concrete and realistic domain-driven design (DDD) techniques through examples from familiar domains, such as a Scrum-based project management application that integrates with a collaboration suite and security provider. Each principle is backed up by realistic Java examples, and all content is tied together by a single case study of a company charged with delivering a set of advanced software systems with DDD.

Julia.appdeveloper Book Review: Unveiling the Power of Words

In some sort of driven by information and connectivity, the ability of words has be more evident than ever. They have the ability to inspire, provoke, and ignite change. Such is the essence of the book **Julia.appdeveloper**, a literary masterpiece that delves deep in to the significance of words and their effect on our lives. Compiled by a renowned author, this captivating work takes readers on a transformative journey, unraveling the secrets and potential behind every word. In this review, we shall explore the book is key themes, examine its writing style, and analyze its overall impact on readers.

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Julia.appdeveloper Introduction

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