

Reactive Programming



Learn reactive programming by building a modern, message-driven, resilient, responsive, and elastic system

About This Book Explore the advanced concepts such as data flow, event-based programming, and higher order reactive programming Get to grips with reactive programming for improved event handling and code resilience Create a scalable application from scratch using Scala and Akka through this step-by-step guide

Who This Book Is For If you are a software engineer who is familiar with functional or object-oriented programming languages such as Erlang, Haskell, C#, or Java, and want to learn about the reactive programming paradigm, this book is for you. It would be helpful to have some familiarity with basic functional programming concepts, but no prior reactive programming experience is required.

What You Will Learn Understand the difference between event-driven and thread-based concurrency and where the message-driven pattern succeeds Explore various production-ready technologies, languages, and libraries you can use in your projects Create a scalable REST API using the Actor concurrency model implemented by Akka Manipulate and handle events applying the Observer and Future patterns using Akka Stream Gain the best strategies and hierarchy designs to recover from failure Implement reactive persistence to enable restart and recovery from an application crash Expand the monitoring capabilities to a complex and distributed supervision hierarchy using child Actors Distribute the system between clusters using remote nodes to scale the message exchange between Actors

In Detail Reactive programming principles allow you to scale your existing application or develop a new product by constructing or modifying your components. A message-driven pattern is the one-stop-shop for either simple or complex software systems as it solves many

problems natively. This book starts with an introduction to message-driven architecture. Then, we go through Scala, Haskell, and other languages and identify the right tools to develop our system. Moving on, you will learn to create a scalable REST API and deep dive into reactive event handling by developing an aggregation service using Akka Stream and Observer Pattern. Following this, we provide you with strategies to identify tactics to provide fault tolerance and recover from errors. Next, we'll show you reactive persistence, which will help you implement persistent actors in the aggregation service. The last part of the book will show you how to implement the resiliency and responsiveness aspect of reactive programming, and create replicated components simulating a scalable environment. By the end of the book, you will be able to implement the knowledge gathered through this book using the languages you already know or using Reactive libraries.

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a programming paradigm for reactive programming (asynchronous dataflow programming) using the building blocks of functional programming (e.g. map, reduce, filter). **GitHub - google/agera: Reactive Programming for Android** Summary. Functional Reactive Programming teaches the concepts and applications of FRP. It offers a careful walk-through of core FRP operations and **Manning Functional Reactive Programming** Reactive Programming is a programming paradigm oriented around data flows and the Spring Reactive Programming - Listen to changes on datastore. **Reactive extensions - Wikipedia** Feb 15, 2017 What is Reactive Programming ? In simple terms it is programming with asynchronous data streams. There is a great post by Andre Staltz **Reactive Programming versus Reactive Systems White Paper** Lets think about every line of code in programming as data. For example, the two variables **The Only Introduction to Reactive Programming You Need - DZone** ReactiveX. An API for asynchronous programming the Observer pattern, the Iterator pattern, and functional programming. debounce Reactive Revolution. **ReactiveX** In computing, reactive programming is an asynchronous programming paradigm oriented around data streams and the propagation of change. **Reactive programming - Wikipedia** Rossen Stoyanchev on Reactive Programming with Spring 5 and Spring WebFlux with Rossen Stoyanchev Posted on May 05, 2017 Rossen Stoyanchev talks to **What is Functional Reactive Programming? - Big Nerd Ranch** Sep 16, 2014 They are significantly more tolerant of failure and when failure does occur they meet it with elegance rather than disaster. Reactive Systems are **Functional Reactive Programming - HaskellWiki White Paper: Understanding Reactive Programming vs. Reactive** Ive read the Wikipedia article on reactive programming. Ive also read If you want to get a feel for FRP, you could start with the old Fran tutorial **Notes on Reactive Programming Part I: The Reactive Landscape** Landing on a set of simple Reactive design principles in a sea of constant confusion and overloaded expectations. **ReactiveX - Intro** Feb 13, 2015 Functional Reactive Programming (FRP) offers a fresh perspective on solving modern programming problems. Once understood, it can greatly **Introduction to Reactive Programming - Course by @andrestaltz** Dec 2, 2016 Landing on a set of simple reactive design principles in a sea of constant confusion and overloaded expectations. **Functional reactive programming - Wikipedia** It is sometimes called functional reactive programming but this is a misnomer. ReactiveX may be functional, and it may be reactive, but functional reactive **terminology - What is (functional) reactive programming? - Stack** Reactive Programming raises the level of abstraction of your code so you can focus on the interdependence of events that define the business logic, rather than **What is Reactive Programming? RedElastic** Jan 5, 2017 White Paper: Understanding Reactive Programming vs. Reactive Systems Jonas Boner and Viktor Klang define and clarify the term Reactive **Naive Infinite scroll in Reactive Programming using RxJS Observables** In software programming, Reactive Extensions (also known as ReactiveX) is a set of tools allowing imperative programming languages to operate on sequences **Reactive Programming - InfoQ** Jul 9, 2016 Functional Reactive Programming (FRP) integrates time flow and compositional events into functional programming. This provides an elegant