



Community Experience Distilled

# Groovy for Domain-specific Languages

*Second Edition*

Extend and enhance your Java applications with  
domain-specific scripting in Groovy

Fergal Dearle

[PACKT]  
PUBLISHING

# Groovy For Domain Specific Languages Second Edition

**AW Rasmussen**



## **Groovy For Domain Specific Languages Second Edition:**

*Groovy for Domain-Specific Languages - Second Edition* Fergal Dearle, 2015

Extend and enhance your Java applications with domain specific scripting in Groovy  
About This Book Build domain specific mini languages in Groovy that integrate seamlessly with your Java apps with this hands on guide  
Increase stakeholder participation in the development process with domain specific scripting in Groovy  
Get up to speed with the newest features in Groovy using this second edition and integrate Groovy based DSLs into your existing Java applications  
Who This Book Is For This book is for Java software developers who have an interest in building domain scripting into their Java applications  
No knowledge of Groovy is required although it will be helpful  
This book does not teach Groovy but quickly introduces the basic ideas of Groovy  
An experienced Java developer should have no problems with these and move quickly on to the more involved aspects of creating DSLs with Groovy  
No experience of creating a DSL is required  
What You Will Learn  
Familiarize yourself with Groovy scripting and work with Groovy closures  
Use the meta programming features in Groovy to build mini languages  
Employ Groovy mark up and builders to simplify application development  
Familiarize yourself with Groovy mark up and build your own Groovy builders  
Build effective DSLs with operator overloading command chains builders and a host of other Groovy language features  
Integrate Groovy with your Java and JVM based applications  
In Detail  
The times when developing on the JVM meant you were a Java programmer have long passed  
The JVM is now firmly established as a polyglot development environment with many projects opting for alternative development languages to Java such as Groovy Scala Clojure and JRuby  
In this pantheon of development languages Groovy stands out for its excellent DSL enabling features which allows it to be manipulated to produce mini languages that are tailored to a project s needs  
A comprehensive tutorial on designing and developing mini Groovy based Domain Specific Languages this book will guide you through the development of several mini DSLs that will help you gain all the skills needed to develop your own Groovy based DSLs with confidence and ease  
Starting with the bare basics this book will focus on how Groovy can be used to construct domain specific mini languages and will go through the more complex meta programming features of Groovy including using the Abstract Syntax Tree AST  
Practical examples are used throughout this book to de mystify these seemingly complex language features and to show how they can be used to create simple and elegant DSLs  
Packed with examples including several fully worked DSLs this book will serve as a springboard for developing your own DSLs  
Style and approach  
This book is a hands on guide that will walk you through examples for building DSLs with Groovy rather than just talking about metaprogramming with Groovy  
The examples in this book have been designed to help you gain a good working knowledge of the techniques involved and apply these to producing your own Groovy based DSLs

*Groovy for Domain-specific Languages* Fergal Dearle, 2015-09-28

Extend and enhance your Java applications with domain specific scripting in Groovy  
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process with domain specific scripting in Groovy Get up to speed with the newest features in Groovy using this second edition and integrate Groovy based DSLs into your existing Java applications Who This Book Is For This book is for Java software developers who have an interest in building domain scripting into their Java applications No knowledge of Groovy is required although it will be helpful This book does not teach Groovy but quickly introduces the basic ideas of Groovy An experienced Java developer should have no problems with these and move quickly on to the more involved aspects of creating DSLs with Groovy No experience of creating a DSL is required What You Will Learn Familiarize yourself with Groovy scripting and work with Groovy closures Use the meta programming features in Groovy to build mini languages Employ Groovy mark up and builders to simplify application development Familiarize yourself with Groovy mark up and build your own Groovy builders Build effective DSLs with operator overloading command chains builders and a host of other Groovy language features Integrate Groovy with your Java and JVM based applications In Detail The times when developing on the JVM meant you were a Java programmer have long passed The JVM is now firmly established as a polyglot development environment with many projects opting for alternative development languages to Java such as Groovy Scala Clojure and JRuby In this pantheon of development languages Groovy stands out for its excellent DSL enabling features which allows it to be manipulated to produce mini languages that are tailored to a project s needs A comprehensive tutorial on designing and developing mini Groovy based Domain Specific Languages this book will guide you through the development of several mini DSLs that will help you gain all the skills needed to develop your own Groovy based DSLs with confidence and ease Starting with the bare basics this book will focus on how Groovy can be used to construct domain specific mini languages and will go through the more complex meta programming features of Groovy including using the Abstract Syntax Tree AST Practical examples are used throughout this book to de mystify these seemingly complex language features and to show how they can be used to create simple and elegant DSLs Packed with examples including several fully worked DSLs this book will serve as a springboard for developing your own DSLs Style and approach This book is a hands on guide that will walk you through examples for building DSLs with Groovy rather than just talking about metaprogramming with Groovy The examples in this book have been designed to help you gain a good working knowledge of the techniques involved and apply these to producing your own Groovy based DSLs

**Spring Microservices in Action, Second Edition** John Carnell, Illary Huaylupo

Sánchez, 2021-06-29 Spring Microservices in Action Second Edition teaches you to build microservice based applications using Java and Spring Summary By dividing large applications into separate self contained units Microservices are a great step toward reducing complexity and increasing flexibility Spring Microservices in Action Second Edition teaches you how to build microservice based applications using Java and the Spring platform This second edition is fully updated for the latest version of Spring with expanded coverage of API routing with Spring Cloud Gateway logging with the ELK stack metrics with Prometheus and Grafana security with the Hashicorp Vault and modern deployment practices with Kubernetes and Istio

Purchase of the print book includes a free eBook in PDF Kindle and ePub formats from Manning Publications About the technology Building and deploying microservices can be easy in Spring Libraries like Spring Boot Spring Cloud and Spring Cloud Gateway reduce the boilerplate code in REST based services They provide an effective toolbox to get your microservices up and running on both public and private clouds About the book Spring Microservices in Action Second Edition teaches you to build microservice based applications using Java and Spring You ll start by creating basic services then move to efficient logging and monitoring Learn to refactor Java applications with Spring s intuitive tooling and master API management with Spring Cloud Gateway You ll even deploy Spring Cloud applications with AWS and Kubernetes What s inside Microservice design principles and best practices Configuration with Spring Cloud Config and Hashicorp Vault Client side resiliency with Resilience4j and Spring Cloud Load Balancer Metrics monitoring with Prometheus and Grafana Distributed tracing with Spring Cloud Sleuth Zipkin and ELK Stack About the reader For experienced Java and Spring developers About the author John Carnell is a senior cloud engineer with 20 years of Java experience Illary Huaylupo S nchez is a software engineer with over 13 years of experience Table of Contents 1 Welcome to the cloud Spring 2 Exploring the microservices world with Spring Cloud 3 Building microservices with Spring Boot 4 Welcome to Docker 5 Controlling your configuration with the Spring Cloud Configuration Server 6 On service discovery 7 When bad things happen Resiliency patterns with Spring Cloud and Resilience4j 8 Service routing with Spring Cloud Gateway 9 Securing your microservices 10 Event driven architecture with Spring Cloud Stream 11 Distributed tracing with Spring Cloud Sleuth and Zipkin 12 Deploying your microservices

The Well-Grounded Java Developer, Second Edition Benjamin Evans,Martijn Verburg,Jason Clark,2022-12-27 Understanding Java from the JVM up gives you a solid foundation to grow your expertise and take on advanced techniques for performance concurrency containerization and more In The Well Grounded Java Developer Second Edition you will learn The new Java module system and why you should use it Bytecode for the JVM including operations and classloading Performance tuning the JVM Working with Java s built in concurrency and expanded options Programming in Kotlin and Clojure on the JVM Maximizing the benefits from your build CI tooling with Maven and Gradle Running the JVM in containers Planning for future JVM releases The Well Grounded Java Developer Second Edition introduces both the modern innovations and timeless fundamentals you need to know to become a Java master Authors Ben Evans Martijn Verburg and Jason Clark distill their decades of experience as Java Champions veteran developers and key contributors to the Java ecosystem into this clear and practical guide You ll discover how Java works under the hood and learn design secrets from Java s long history Each concept is illustrated with hands on examples including a fully modularized application library and creating your own multithreaded application Foreword by Heinz Kabutz About the technology Java is the beating heart of enterprise software engineering Developers who really know Java can expect easy job hunting and interesting work Written by experts with years of boots on the ground experience this book upgrades your Java skills It dives into powerful features

like modules and concurrency models and even reveals some of Java's deep secrets About the book With The Well Grounded Java Developer Second Edition you will go beyond feature descriptions and learn how Java operates at the bytecode level Master high value techniques for concurrency and performance optimization along with must know practices for build test and deployment You'll even look at alternate JVM languages like Kotlin and Clojure Digest this book and stand out from the pack What's inside The new Java module system Performance tuning the JVM Maximizing CI/CD with Maven and Gradle Running the JVM in containers Planning for future JVM releases About the reader For intermediate Java developers About the author Benjamin J Evans is a senior principal engineer at Red Hat Martijn Verburg is the principal SWE manager for Microsoft's Java Engineering Group Both Benjamin and Martijn are Java Champions Jason Clark is a principal engineer and architect at New Relic Table of Contents PART 1 FROM 8 TO 11 AND BEYOND 1 Introducing modern Java 2 Java modules 3 Java 17 PART 2 UNDER THE HOOD 4 Class files and bytecode 5 Java concurrency fundamentals 6 JDK concurrency libraries 7 Understanding Java performance PART 3 NON JAVA LANGUAGES ON THE JVM 8 Alternative JVM languages 9 Kotlin 10 Clojure A different view of programming PART 4 BUILD AND DEPLOYMENT 11 Building with Gradle and Maven 12 Running Java in containers 13 Testing fundamentals 14 Testing beyond JUnit PART 5 JAVA FRONTIERS 15 Advanced functional programming 16 Advanced concurrent programming 17 Modern internals 18 Future Java

**Programming Groovy 2**

Venkat Subramaniam, 2013-07-18 Groovy brings you the best of both worlds a flexible highly productive agile dynamic language that runs on the rich framework of the Java Platform Groovy preserves the Java semantics and extends the JDK to give you true dynamic language capabilities Programming Groovy 2 will help you the experienced Java developer learn and take advantage of the latest version of this rich dynamic language You'll go from the basics of Groovy to the latest advances in the language including options for type checking tail call and memoization optimizations compile time metaprogramming and fluent interfaces to create DSLs You don't have to leave the rich Java Platform to take advantage of Groovy Groovy preserves Java's semantics and extends the JDK so programming in Groovy feels like the Java language has been augmented it's like working with a lighter more elegant Java If you're an experienced Java developer who wants to learn how Groovy works you'll find exactly what you need in this book You'll start with the fundamentals of programming in Groovy and how it works with Java and then you'll explore advanced concepts such as unit testing with mock objects using Builders working with databases and XML and creating DSLs You'll master Groovy's powerful yet complex run time and compile time metaprogramming features Much has evolved in the Groovy language since the publication of the first edition of Programming Groovy Programming Groovy 2 will help you learn and apply Groovy's new features Creating DSLs is easier now and Groovy's already powerful metaprogramming facilities have improved even more You'll see how to work with closures including tail call optimization and memoization The book also covers Groovy's new static compilation feature Whether you're learning the basics of the language or interested in getting proficient with the new features Programming

Groovy 2 has you covered What You Need To work on the examples in the book you need Groovy 2 0 5 and Java JDK 5 or higher Groovy in Action Cédric Champeau,Dierk Koenig,Hamlet D'Arcy,Paul King,2015-06-03 Summary Groovy in Action Second Edition is a thoroughly revised comprehensive guide to Groovy programming It introduces Java developers to the dynamic features that Groovy provides and shows how to apply Groovy to a range of tasks including building new apps integration with existing code and DSL development Covers Groovy 2 4 Purchase of the print book includes a free eBook in PDF Kindle and ePub formats from Manning Publications About the Technology In the last ten years Groovy has become an integral part of a Java developer s toolbox Its comfortable common sense design seamless integration with Java and rich ecosystem that includes the Grails web framework the Gradle build system and Spock testing platform have created a large Groovy community About the Book Groovy in Action Second Edition is the undisputed definitive reference on the Groovy language Written by core members of the Groovy language team this book presents Groovy like no other can from the inside out With relevant examples careful explanations of Groovy s key concepts and features and insightful coverage of how to use Groovy in production tasks including building new applications integration with existing code and DSL development this is the only book you ll need Updated for Groovy 2 4 Some experience with Java or another programming language is helpful No Groovy experience is assumed What s Inside Comprehensive coverage of Groovy 2 4 including language features libraries and AST transformations Dynamic static and extensible typing Concurrency actors data parallelism and dataflow Applying Groovy Java integration XML SQL testing and domain specific language support Hundreds of reusable examples About the Authors Authors Dierk K nig Paul King Guillaume Laforge Hamlet D Arcy C dric Champeau Erik Pragt and Jon Skeet are intimately involved in the creation and ongoing development of the Groovy language and its ecosystem Table of Contents PART 1 THE GROOVY LANGUAGE Your way to Groovy Overture Groovy basics Simple Groovy datatypes Collective Groovy datatypes Working with closures Groovy control structures Object orientation Groovy style Dynamic programming with Groovy Compile time metaprogramming and AST transformations Groovy as a static language PART 2 AROUND THE GROOVY LIBRARY Working with builders Working with the GDK Database programming with Groovy Working with XML and JSON Interacting with Web Services Integrating Groovy PART 3 APPLIED GROOVY Unit testing with Groovy Concurrent Groovy with GParc Domain specific languages The Groovy ecosystem **Java Projects** Peter Verhas,2018-08-31 Learn how to build scalable resilient and effective applications in Java that suit your software requirements Key Features Explore advanced technologies that Java 11 delivers such as web programming and parallel computing Discover modern programming paradigms such as microservices cloud computing and enterprise structures Build highly responsive applications with this practical introduction to Reactive programming Book Description Java is one of the most commonly used software languages by programmers and developers In this book you ll learn the new features of Java 11 quickly and experience a simple and powerful approach to software development You ll see how to use the Java runtime tools understand

the Java environment and create a simple namesorting Java application Further on you ll learn about advanced technologies that Java delivers such as web programming and parallel computing and will develop a mastermind game Moving on we provide more simple examples to build a foundation before diving into some complex data structure problems that will solidify your Java 11 skills With a special focus on the features of new projects Project Valhalla Project Panama Project Amber and Project Loom this book will help you get employed as a top notch Java developer By the end of the book you ll have a firm foundation to continue your journey toward becoming a professional Java developer What you will learn Compile package and run a program using a build management tool Get to know the principles of test driven development Separate the wiring of multiple modules from application logic Use Java annotations for configuration Master the scripting API built into the Java language Understand static versus dynamic implementation of code Who this book is for This book is for anyone who wants to learn the Java programming language No programming experience required If you have prior experience it will help you through the book more easily

**Beginning Groovy, Grails and Griffon** Christopher M Judd, Joseph Faisal Nusairat, Jim Shingler, Vishal Layka, 2013-03-12 Web frameworks are playing a major role in the creation of today s most compelling web applications because they automate many of the tedious tasks allowing developers to instead focus on providing users with creative and powerful features Java developers have been particularly fortunate in this area having been able to take advantage of Grails an open source framework that supercharges productivity when building Java driven web sites Grails is based on Groovy which is a very popular and growing dynamic scripting language for Java developers and was inspired by Python Ruby and Smalltalk Beginning Groovy Grails and Griffon is the first introductory book on the Groovy language and its primary web framework Grails Griffon is also covered While Grails is the Web framework for building Groovy Web applications Griffon is the desktop framework for building desktop Groovy applications Could Groovy be the new Java It s light fast and free open source This book gets you started with Groovy Grails and Griffon and culminates in the example and possible application of some real world projects You follow along with the development of each project implementing and running each application while learning new features along the way

**Domain-Specific Languages** Andrzej Wąsowski, Thorsten Berger, 2023-02-01 This textbook describes the theory and the pragmatics of using and engineering high level software languages also known as modeling or domain specific languages DSLs for creating quality software This includes methods design patterns guidelines and testing practices for defining the syntax and the semantics of languages While remaining close to technology the book covers multiple paradigms and solutions avoiding a particular technological silo It unifies the modeling the object oriented and the functional programming perspectives on DSLs The book has 13 chapters Chapters 1 and 2 introduce and motivate DSLs Chapter 3 kicks off the DSL engineering lifecycle describing how to systematically develop abstract syntax by analyzing a domain Chapter 4 addresses the concrete syntax including the systematic engineering of context free grammars Chapters 5 and 6 cover the static semantics with basic constraints as a



starting point and type systems for advanced DSLs Chapters 7 Transformation 8 Interpretation and 9 Generation describe different paradigms for designing and implementing the dynamic semantics while covering testing and other kinds of quality assurance Chapter 10 is devoted to internal DSLs Chapters 11 to 13 show the application of DSLs and engage with simpler alternatives to DSLs in a highly distinguished domain software variability These chapters introduce the underlying notions of software product lines and feature modeling The book has been developed based on courses on model driven software engineering MDSE and DSLs held by the authors It aims at senior undergraduate and junior graduate students in computer science or software engineering Since it includes examples and lessons from industrial and open source projects as well as from industrial research practitioners will also find it a useful reference The numerous examples include code in Scala 3 ATL Alloy C F Groovy Java JavaScript Kotlin OCL Python QVT Ruby and Xtend The book contains as many as 277 exercises The associated code repository facilitates learning and using the examples in a course

**Beginning Groovy and Grails** Jim Shingler, Joseph Faisal Nusairat, Christopher M Judd, 2008-09-22 Web frameworks are playing a major role in the creation of today's most compelling web applications because they automate many of the tedious tasks allowing developers to instead focus on providing users with creative and powerful features Java developers have been particularly fortunate in this area having been able to take advantage of Grails an open source framework that supercharges productivity when building Java driven web sites Grails is based on Groovy which is a very popular and growing dynamic scripting language for Java developers and was inspired by Python Ruby and Smalltalk Beginning Groovy and Grails is the first introductory book on the Groovy language and its primary web framework Grails This book gets you started with Groovy and Grails and culminates in the example and possible application of some real world projects You follow along with the development of each project implementing and running each application while learning new features along the way

**Digital Libraries for Open Knowledge** Antoine Doucet, Antoine Isaac, Koraljka Golub, Trond Aalberg, Adam Jatowt, 2019-09-09 This book constitutes the proceedings of the 23rd International Conference on Theory and Practice of Digital Libraries TPD L 2019 held in Oslo Norway in September 2019 The 16 revised full papers 12 short papers and 18 poster papers presented were carefully reviewed and selected from 75 submissions The general theme of TPD L 2019 was Connecting with Communities and so the papers attempt to facilitate establishing connections and convergences between diverse research communities such as Digital Humanities Information Sciences and others that could benefit from ecosystems offered by digital libraries and repositories To become especially useful to the diverse research and practitioner communities digital libraries need to consider special needs and requirements for effective data utilization management and exploitation

**Making Java Groovy** Kenneth Kousen, 2013-09-18 Summary Making Java Groovy is a practical handbook for developers who want to blend Groovy into their day to day work with Java It starts by introducing the key differences between Java and Groovy and how you can use them to your advantage Then it guides you step by step through realistic development challenges from web

applications to web services to desktop applications and shows how Groovy makes them easier to put into production About this Book You don t need the full force of Java when you re writing a build script a simple system utility or a lightweight web app but that s where Groovy shines brightest This elegant JVM based dynamic language extends and simplifies Java so you can concentrate on the task at hand instead of managing minute details and unnecessary complexity Making Java Groov is a practical guide for developers who want to benefit from Groovy in their work with Java It starts by introducing the key differences between Java and Groovy and how to use them to your advantage Then you ll focus on the situations you face every day like consuming and creating RESTful web services working with databases and using the Spring framework You ll also explore the great Groovy tools for build processes testing and deployment and learn how to write Groovy based domain specific languages that simplify Java development Written for developers familiar with Java No Groovy experience required Purchase of the print book includes a free eBook in PDF Kindle and ePub formats from Manning Publications What s Inside Easier Java Closures builders and metaprogramming Gradle for builds Spock for testing Groovy frameworks like Grails and Griffon About the Author Ken Kousen is an independent consultant and trainer specializing in Spring Hibernate Groovy and Grails Table of Contents PART 1 UP TO SPEED WITH GROOVY Why add Groovy to Java Groovy by example Code level integration Using Groovy features in Java PART 2 GROOVY TOOLS Build processes Testing Groovy and Java projects PART 3 GROOVY IN THE REAL WORLD The Spring framework Database access RESTful web services Building and testing web applications

**Object-Oriented Technology. ECOOP 2008 Workshop Reader** Patrick Eugster,2009-05-25 This book contains the final reports of the workshops held during the 22nd European Conference on Object Oriented Programming ECOOP 2008 in Paphos Cyprus in July 2008 The 11 collected reports from high quality workshops provided by the respective organizers all are related to selected aspects in the field of object oriented programming and technology The topics covered span areas related to object oriented programming and technology such as programming languages aspects parallel computing formal techniques software engineering tools and applications

**GroovyMag December 2008** , *Formal and Practical Aspects of Domain-Specific Languages: Recent Developments* Mernik, Marjan,2012-09-30 This book presents current research on all aspects of domain specific language for scholars and practitioners in the software engineering fields providing new results and answers to open problems in DSL research

Building and Testing with Gradle Tim Berglund,Matthew McCullough,2011-07-06 Build and test software written in Java and many other languages with Gradle the open source project automation tool that s getting a lot of attention This concise introduction provides numerous code examples to help you explore Gradle both as a build tool and as a complete solution for automating the compilation test and release process of simple and enterprise level applications Discover how Gradle improves on the best ideas of Ant Maven and other build tools with standards for developers who want them and lots of flexibility for those who prefer less structure Use Gradle with Groovy Clojure Scala and languages beyond the JVM such as Flex and C Get started building a simple Java

program using Gradle's command line tooling and a small build script Learn how to configure and construct tasks Gradle's fundamental unit of build activity Take advantage of Gradle's integration with Ant Use Gradle to integrate with or transition from Maven and to build software more cleanly Perform application unit and integration tests using JUnit TestNG Spock and Geb

**Java Testing with Spock** Konstantinos Kapelonis, 2016-03-06 Summary Java Testing with Spock teaches you how to use Spock for a wide range of testing use cases in Java Readers new to Groovy will appreciate the succinct language tutorial that'll give you just enough Groovy to use Spock effectively Purchase of the print book includes a free eBook in PDF Kindle and ePub formats from Manning Publications About the Technology Spock combines the features of tools like JUnit Mockito and JBehave into a single powerful Java testing library With Spock you use Groovy to write more readable and concise tests Spock enables seamless integration testing and with the intuitive Geb library you can even handle functional testing of web applications About the Book Java Testing with Spock teaches you how to use Spock for a wide range of testing use cases in Java You'll start with a quick overview of Spock and work through writing unit tests using the Groovy language You'll discover best practices for test design as you learn to write mocks implement integration tests use Spock's built-in BDD testing tools and do functional web testing using Geb Readers new to Groovy will appreciate the succinct language tutorial in chapter 2 that gives you just enough Groovy to use Spock effectively What's Inside Testing with Spock from the ground up Write mocks without an external library BDD tests your business analyst can read Just enough Groovy to use Spock About the Reader Written for Java developers Knowledge of Groovy and JUnit is helpful but not required About the Author Konstantinos Kapelonis is a software engineer who works with Java daily Table of Contents PART 1 FOUNDATIONS AND BRIEF TOUR OF SPOCK Introducing the Spock testing framework Groovy knowledge for Spock testing A tour of Spock functionality PART 2 STRUCTURING SPOCK TESTS Writing unit tests with Spock Parameterized tests Mocking and stubbing PART 3 SPOCK IN THE ENTERPRISE Integration and functional testing with Spock Spock features for enterprise testing

**New Perspectives in Information Systems and Technologies, Volume 2** Álvaro Rocha, Ana Maria Correia, Felix . B Tan, Karl . A Stroetmann, 2014-03-19 This book contains a selection of articles from The 2014 World Conference on Information Systems and Technologies WorldCIST 14 held between the 15th and 18th of April in Funchal Madeira Portugal a global forum for researchers and practitioners to present and discuss recent results and innovations current trends professional experiences and challenges of modern Information Systems and Technologies research technological development and applications The main topics covered are Information and Knowledge Management Organizational Models and Information Systems Intelligent and Decision Support Systems Software Systems Architectures Applications and Tools Computer Networks Mobility and Pervasive Systems Radar Technologies Human Computer Interaction Health Informatics and Information Technologies in Education

**Simulating Interacting Agents and Social Phenomena** Keiki Takadama, Claudio Cioffi-Revilla, Guillaume Deffuant, 2010-09-02 Agent based modeling and social simulation have emerged as an interdisciplinary area of social science

that includes computational economics organizational science social dynamics and complex systems This area contributes to enriching our understanding of the fundamental processes of social phenomena caused by complex interactions among agents Bringing together diverse approaches to social simulation and research agendas this book presents a unique collection of contributions from the Second World Congress on Social Simulation held in 2008 at George Mason University in Washington DC USA This book in particular includes articles on norms diffusion social networks economy markets and organizations computational modeling and programming environments providing new hypotheses and theories new simulation experiments compared with various data sets and new methods for model design and development These works emerged from a global and interdisciplinary scientific community of the three regional scientific associations for social simulation the North American Association for Computational Social and Organizational Science NAACSOS now the Computational Social Science Society CSSS the European Social Simulation Association ESSA and the Pacific Asian Association for Agent bBased Approach in Social Systems Sciences PAAA

**Gradle Beyond the Basics** Tim Berglund, 2013-07-16 If you re familiar with Gradle s basics elements possibly through the author s previous O Reilly book Building and Testing with Gradle this more advanced guide provides the recipes techniques and syntax to help you master this build automation tool With clear concise explanations and lots of ready to use code examples you ll explore four discrete areas of Gradle functionality file operations custom Gradle plugins build lifecycle hooks and dependency management Learn how to use Gradle s rich set of APIs and Groovy based Domain Specific Language to customize build software that actually conforms to your product By using the techniques in this book you ll be able to write domain specific builds that support every other line of code your team creates Examine Gradle s file API including copy tasks pattern matching content filtering and the FileCollection interface Understand the process for building and packaging a custom Gradle plug in Manage build complexity with hook methods and Gradle s rule feature Learn how Gradle handles dependency management natively and through customization Explore Gradle s core plug ins as well as key examples from the Gradle community

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