

Contents

About the Authors	xv
About the Technical Reviewers	xvii
Acknowledgments	xviii
CHAPTER 1 Introduction	1
Skipping Ahead	2
How to View This Book	2
Roadmap	2
Target Audience	4
For More Information	4
Sample Applications	5
Spring 2.0	5
Summary	6
CHAPTER 2 Spring Fundamentals	7
Inversion of Control	7
IoC Example	8
Summary	10
Dependency Injection	11
Service Locator	12
Dependency Injection	14
Spring ApplicationContexts	17
The Return of the POJO	18
Impact on Web Applications	19
Summary	19
CHAPTER 3 Spring MVC Application Architecture	21
Layers of Abstractions	21
Layer Isolation	23
Java Interface As Layer Contract	23
Layers in a Spring MVC Application	24
Options: There's More Than One Way to Do It	38
Summary	39

CHAPTER 4	Jump into Spring MVC	41
	Use Cases	41
	Service Interface	42
	Use Case #1	42
	Use Case #2	45
	Summary	50
	Web Components	50
	JAR Dependencies	50
	Controllers	52
	Views	52
	ModelAndView	53
	Building the Home Page Use Case	53
	Spring MVC Components	53
	Web Application Configuration	58
	Start the Application	63
	Request Handling Sequence	63
	Summary	64
	Building the Search for Flights Use Case	65
	SimpleFormController	65
	SearchFlightsController	67
	Form View	69
	Spring JSP Tags	72
	Success View	73
	Summary	74
	Now Let's Learn How to Swim	75
CHAPTER 5	The Processing Pipeline	77
	Processing Requests	77
	Request Work Flow	77
	Functionality Overview	78
	Pieces of the Puzzle	79
	Summary	114
CHAPTER 6	The Controller Menagerie	115
	Introduction	115
	The Controller Interface and Implementations	116
	A Look at Design	116
	AbstractController	118
	Summary	122

BaseCommandController	122
Binding a Form to a Bean	124
Summary	148
SimpleFormController and Handling Forms	149
Redirect After Submit Pattern	164
MultiActionController	168
AbstractWizardFormController	176
ThrowawayController	193
ValidatableThrowawayController	196
HandlerInterceptors	196
HandlerInterceptor Example	197
Summary	198
Controllers Summary	199

■ CHAPTER 7 The View Layer 201

What's in a View	201
Treating Views in Isolation	202
Spring's View Interface	202
Implementing View	203
Views and Controllers: Happily Divorced	207
ViewResolvers	208
Putting View Resolution in Context	209
Types of ViewResolver	210
Making ViewResolvers Known to the Dispatcher	213
A Word on Redirecting	215
Themes	216
ThemeSources	217
ThemeResolvers	218
Internationalization in the View Layer	218
Locale Resolution	218
MessageSource Beans	219
View Resolution	220
Theme Resolution	221
Bind Support	221
Recap of Binding and Validation Sequence	221
Bind Support in View Templates	221
Summary	222

CHAPTER 8	Supported View Types	223
	JSP and JSTL	223
	Exposing the Model As Request Attributes	224
	Displaying the Model	225
	JSP Tag Libraries	227
	Forms	228
	Tiles	233
	Summary	235
	Velocity and FreeMarker	235
	Templating Pros and Cons	235
	Basic Configuring for Template Engines	236
	Exposing the Model	238
	The Template Language	238
	Advanced Configuration Options	239
	Forms and the SpringBind Macros	241
	Number and Date Tools	247
	Additional Velocity Views	249
	Summary	249
	XML and XSLT	250
	Defining an XSLT View	250
	Transforming the XML Source	252
	Returning XML in the Raw	254
	Other Noteworthy XSLT Features	254
	Summary	255
	PDF	256
	Configuring the Application to Use a PDF View	257
	Template PDFs with FOP	257
	Excel	258
	Creating the Template	258
	Coding the View	259
	Configuring the Application	260
	JasperReports	260
	Multiformat View	261
	Populating the Report	262
	Summary	263
	Creating New Views	263
	Summary	264

CHAPTER 9	Validation	265
	Programmatic Validators	265
	Declarative Validators	267
	Message Sources	278
	Validators and Business Logic	279
	Errors Interface	279
	Testing Validators	281
	Summary	282
CHAPTER 10	Testing Spring MVC Applications	283
	Overview	283
	Unit Tests	283
	Unit Test Summary	302
	Integration Tests	302
	Testing Summary	308
CHAPTER 11	Introduction to Spring Web Flow	309
	What Itch Does Spring Web Flow Scratch?	309
	The Problem with the Servlet Specification	310
	The Solution	311
	Not a Golden Hammer	314
	The Big Picture	314
	Architectural Overview	315
	Inside the Spring Web Flow System	315
	Different Scopes	316
	Building Blocks	316
	Your First Flow	319
	Installing Spring Web Flow	319
	Proposed Flow Directory Structure	319
	The Purchase Product Flow Definition	320
	Implementing the First Step: View States	320
	Transitions	320
	Actions	321
	Action Bean Definitions	322
	Testing the Flow Execution	324
	Extending AbstractFlowExecutionTests	324
	Decision States	326

Action States	327
End States	328
The Purchase Product Flow: What's Next	329
Spring MVC Deployment	330
The FlowController	330
FlowRegistry	330
Additional Configuration	331
View Template Resolution	331
View Template Requirements	331
Launching the Flow from the Browser	332
Summary	333
Model Conversations	333
Allows for Extension	334
Testable	334
Identifying Flows (Easy, Natural Language)	334

■ CHAPTER 12 Advanced Spring Web Flow

Business Logic and Flows	335
Business Logic	335
Flow Granularity	337
Subflows	337
Inline Flows	343
Summary	345
Managing FlowExecutions	346
Integration with Web Frameworks	346
The FlowExecutionManager	347
FlowExecutions	348
FlowExecutionListener	351
FlowExecution Repositories	353
Continuations	354
FlowExecutionRepository Implementations	356
Stateful FlowExecution Repositories	356
Stateless FlowExecution Repositories	357
Conversation Invalidation After Completion	358
States and Transitions Revisited	358
Action States	359
POJO Actions	362
Exposing POJO Method Return Values	363
Customizing View Selection with View States and End States ...	363
Decision States	365

Exception Handling	367
State Scoped ExceptionHandlers	369
Exception Handling Summary	369
Summary	369
■ APPENDIX A Documenting Your MVC Application	371
BeanDoc	371
Installing and Building BeanDoc	372
Running BeanDoc on Your Configuration Files	373
Other Options	374
Controlling the Output	374
Summary	375
■ APPENDIX B Ajax and DWR	377
Spring and DWR	377
A Practical Example	378
Configuration and Code Changes	378
Presentation File Changes	381
Accessibility	387
Summary	388
■ INDEX	389