

Contents

Introduction	1
Foreword	1
Acknowledgments	2
About the Author	2
About This Book	2
Organization of This Book	3
Additional Resources	4
Conventions Used in This Book	4
Development Environment	5
The Basics of AngularJS	6
How Web Pages Get to Your Browser	6
What Is a Browser?	7
What Is AngularJS	8
Data Binding and Your First AngularJS Web Application	10
Introducing Data Binding in AngularJS	11
Simple Data Binding	12
Best Data Binding Practices	16
Modules	18
Properties	19
Scopes	20
The \$scope View of the World	20
It's Just HTML	21
What Can Scopes Do?	22
\$scope Lifecycle	23
Directives and Scopes	24
Controllers	25
Controller Hierarchy (Scopes Within Scopes)	27
Expressions	31
Interpolating a String	32

CONTENTS

Filters	37
Making Our Own Filter	44
Form Validation	45
Introduction to Directives	59
Directives: Custom HTML Elements and Attributes	61
Passing Data into a Directive	70
Built-In Directives	79
Basic ng Attribute Directives	79
Directives with Child Scope	83
Directives Explained	103
Directive Definition	103
Directive Scope	110
AngularJS Life Cycle	122
ngModel	127
Angular Module Loading	132
Configuration	132
Run Blocks	134
Multiple Views and Routing	136
Installation	136
Layout Template	137
Routes	138
\$routeLocation Service	142
Routing Modes	145
Other Advanced Routing Topics	148
Dependency Injection	149
Annotation by Inference	151
Explicit Annotation	151
Inline Annotation	152
@Inject API	153
ngMin	155
Services	157
Registering a Service	158
Using Services	159
Options for Creating Services	163
Communicating with the Outside World: XHR and Server-Side Communication	173
Using \$http	173
Configuration Object	178

CONTENTS

Response Object	180
Caching HTTP Requests	180
Interceptors	182
Configuring the \$httpProvider	184
Using \$resource	185
Installation	186
Using \$resource	186
Custom \$resource Methods	191
\$resource Configuration Object	192
\$resource Services	194
Using Restangular	196
The What and the Why	197
Installation	198
Intro to the Restangular Object	199
Using Restangular	200
Configuring Restangular	204
XHR in Practice	211
Cross-Origin and Same-Origin Policy	211
JSONP	211
Using CORS	213
Server-Side Proxies	216
Working with JSON	217
Working with XML	217
Authentication with AngularJS	218
Talking to MongoDB	226
Promises	229
What's a Promise?	229
Why Promises?	230
Promises in Angular	231
Chaining Requests	236
Server Communication	238
Custom Server-Side	238
Install NodeJS	238
Install Express	239
Calling APIs	242
Server-less with Amazon AWS	245
AWSJS + Angular	247
Getting Started	247
Introduction	249
Installation	250

CONTENTS

Running	251
User Authorization/Authentication	252
UserService	256
All Aboard AWS	258
AWSService	261
Starting on Dynamo	264
\$cacheFactory	264
Saving Our currentUser	265
Uploading to S3	268
Handling File Uploads	271
Querying Dynamo	274
Showing the Listing in HTML	275
Selling Our Work	276
Using Stripe	278
Server-less with Firebase	282
Three-Way Data Binding With Firebase and Angular	283
Getting Started With AngularFire	284
Ordering in AngularFire	288
Firebase Events	289
Implicit Synchronization	290
Authentication with AngularFire	290
Authentication Events	291
Beyond AngularFire	294
Testing	295
Why Test?	295
Testing Strategies	295
Getting Started Testing	296
Types of AngularJS Tests	296
Getting Started	298
Initializing Karma Config File	299
Configuration Options	302
Using RequireJS	309
Jasmine	312
Expectations	313
End-to-End Introduction	320
Mocking and Test Helpers	331
Mocking the \$httpBackend	332
Testing an App	340
Testing Events	363
Continuous Integration for Angular	365
Protractor	365
Configuration	367

CONTENTS

Configuration Options	367
Writing Tests	370
Page Objects	371
Events	373
What are Events	373
Event Propagation	373
Listening	375
Event Object	376
Core Services Riding on Events	376
Architecture	379
Directory Structure	379
Modules	380
Controllers	382
Directives	384
Testing	384
Angular Animation	386
Installation	386
How It Works	387
Using CSS3 Transitions	388
Using CSS3 Animations	390
Staggering CSS Transitions / Animations	392
Using JavaScript Animations	394
Fine-tuning animations	395
Animating Built-In Directives	395
Building Custom Animations	416
Integrating with Third-Party Libraries	423
The Digest Loop and \$apply	426
\$watch List	427
Dirty Checking	427
\$watch	428
\$watchCollection	430
The \$digest Loop in a Page	431
\$evalAsync List	432
\$apply	433
When to Use \$apply()	434
Demystifying Angular	436
How the View <i>Works</i>	437
Essential AngularJS Extensions	440

CONTENTS

AngularUI	440
Installation	440
ui-router	440
ui-utils	453
Mobile Apps	458
Responsive Web Apps	458
Interaction	458
Native Applications with Cordova	465
Getting Started with Cordova	466
Including Angular	474
Building with Yeoman	474
Localization	482
angular-translate	482
Installation	482
Teaching Your App a New Language	483
Multi-language Support	485
Switching the Language at Run Time	486
Loading Languages	487
angular-gettext	489
Installation	489
Usage	489
String Extraction	491
Translating Our Strings	493
Compiling Our New Language	495
Changing Languages	496
Caching	498
What Is a Cache?	498
Angular Caching	498
Caching through \$http	500
Setting Default Cache for \$http	501
Security	503
Strict Contextual Escaping: the \$sce Service	503
Whitelisting URLs	506
Blacklisting URLs	507
\$sce API	508
Configuring \$sce	510
Trusted Context Types	510
AngularJS and Internet Explorer	512
Ajax Caching	514

CONTENTS

SEO with AngularJS	514
Getting Angular Apps Indexed	515
Server Side	515
Options for Handling SEO from the Server Side	516
Taking Snapshots	519
Using Zombie.js to Grab HTML Snapshots	519
Using grunt-html-snapshot	522
Prerender.io	523
<noscript> Approach	524
Building Angular Chrome Apps	525
Understanding Chrome Apps	525
Building our Chrome App	526
Building the Skeleton	527
manifest.json	528
tab.html	528
Loading the App in Chrome	530
The Main Module	530
Building the Home Page	531
Sign Up for Wunderground's Weather API	533
A Settings Screen	538
Implementing a User Service	540
City Autofill/Autocomplete	544
Sprinkling in Time Zone Support	547
Optimizing Angular Apps	551
What to Optimize	551
Optimizing the \$digest Loop	551
Optimizing ng-repeat	554
Optimizing the \$digest Call	554
Optimizing \$watch Functions	554
Optimizing Filters	559
Tips for Optimizing Page Load	561
Debugging AngularJS	563
Debugging from the DOM	563
Debugger	565
Angular Batarang	565
Next Steps	569
jqLite and jQuery	569
Essential Tools to Know About	571
Grunt	571
grunt-angular-templates	575

CONTENTS

Lineman	580
Bower	582
Yeoman	586
Configuring the Angular Generator	592
Testing Our App	592
Packaging Our App	593
Packaging Our Templates	594