Contents

Book Revision		1
Bug Reports		1
Chat With The Community!		1
Vote for New Content (new!)		1
Be notified of updates via Twitter		1
We'd love to hear from you!		1
How to Read This Book	. 	2
Running Code Examples		2
Angular CLI		3
Code Blocks and Context		3
Code Block Numbering		3
A Word on Versioning		4
Getting Help		4
Emailing Us		5
Technical Support Response Time		5
Chapter Overview		6
Weiting Very Biret Auguster Web Angliestics		1
Writing Your First Angular Web Application		1
Simple Reddit Clone		1
Getting started		4
Node.js and npm		4
TypeScript		4
Browser		5
Ensure IIS is installed (Windows)		5
Angular CLI		5
		6
Example Project		
Example Project		10
Example Project		10 10
Example Project	· · ·	 10 10 12
Example Project	· · ·	 10 10

Adding a template	
Adding CSS Styles with styleUrls	
Loading Our Component	
Adding Data to the Component	
Working With Arrays	
Using the User Item Component	
Rendering the User ItemComponent	
Accepting Inputs	
Passing an Input value	
Bootstrapping Crash Course	
declarations	
imports	
providers	
bootstrap	
Expanding our Application	
Adding CSS	
The Application Component	
Adding Interaction	
Adding the Article Component	
Rendering Multiple Rows	
Creating an Article class	
Storing Multiple Articles	
Configuring the ArticleComponent with inputs	
Rendering a List of Articles	
Adding New Articles	
Finishing Touches	
Displaying the Article Domain	
Re-sorting Based on Score	
Deployment	
Building Our App for Production	
Uploading to a Server	
Installing now	
Full Code Listing	
Wrapping Up	
Getting Help	
TypeComint	
TypeScript	
Angular 4 is built in TypeScript	
What do we get with TypeScript?	
Types	
Trying it out with a REPL	
Built-in types	
Classes	

Properties	70
Methods	71
Constructors	73
Inheritance	74
Utilities	76
Fat Arrow Functions	76
Template Strings	78
Wrapping up	79
How Angular Works	80
Application	80
The Navigation Component	81
The Breadcrumbs Component	81
The Product List Component	
How to Use This Chapter	
Product Model	85
Components	86
Component Decorator	88
Component selector	88
Component template	88
Adding A Product	89
Viewing the Product with Template Binding	
Adding More Products	92
Selecting a Product	93
Listing products using <pre><pre>products-list></pre></pre>	
The ProductsListComponent	
Configuring the ProductsListComponent @Component Options	
Component inputs	98
Component outputs	
Emitting Custom Events	
Writing the ProductsListComponent Controller Class	
Writing the ProductsListComponent View Template	
The Full ProductsListComponent Component	106
The ProductRowComponent Component	
ProductRowComponent Configuration	
ProductRowComponent template	
The ProductImageComponent Component	
The PriceDisplayComponent Component	
The ProductDepartmentComponent	
NgModule and Booting the App	
Booting the app	
The Completed Project	
Deploying the App	
1 , 0 11	

A Word on Data Architecture	. 117
Built-in Directives	. 119
Introduction	. 119
NgIf	. 119
NgSwitch	. 120
NgStyle	
NgClass	. 125
NgFor	. 128
Getting an index	. 133
NgNonBindable	. 134
Conclusion	. 135
Forms in Angular	. 136
Forms are Crucial, Forms are Complex	
FormControls and FormGroups	. 136
FormControl	. 136
FormGroup	. 137
Our First Form	
Loading the FormsModule	. 139
Simple SKU Form: @Component Decorator	. 140
Simple SKU Form: template	. 140
Simple SKU Form: Component Definition Class	
Try it out!	. 144
Using FormBuilder	. 146
Reactive Forms with FormBuilder	. 147
Using FormBuilder	. 147
Using myForm in the view	. 148
Try it out!	. 149
Adding Validations	. 151
Explicitly setting the sku FormControl as an instance variable	. 152
Custom Validations	. 158
Watching For Changes	. 160
ngModel	. 161
Wrapping Up	. 163
Dependency Injection	. 164
Injections Example: PriceService	. 165
Dependency Injection Parts	. 169
Playing with an Injector	. 170
Providing Dependencies with NgModule	. 174
Providers are the Key	. 176
Providers	. 176

Using a Class	
Dependency Injection in Apps	
More Resources	
Wiore Resources	. 103
HTTP	. 186
Introduction	. 186
Using @angular/http	. 187
import from @angular/http	. 187
A Basic Request	. 188
Building the SimpleHttpComponent Component Definition	. 189
Building the SimpleHttpComponent template	. 189
Building the SimpleHttpComponent Controller	. 190
Full SimpleHttpComponent	. 192
Writing a YouTubeSearchComponent	. 192
Writing a SearchResult	. 194
Writing the YouTubeSearchService	. 195
Writing the SearchBoxComponent	. 200
Writing SearchResultComponent	. 207
Writing YouTubeSearchComponent	. 208
@angular/http API	. 212
Making a POST request	. 212
PUT / PATCH / DELETE / HEAD	. 213
RequestOptions	. 214
Summary	. 215
Routing	. 216
Why Do We Need Routing?	. 216
How client-side routing works	. 217
The beginning: using anchor tags	. 218
The evolution: HTML5 client-side routing	. 218
Writing our first routes	. 219
Components of Angular routing	. 219
Imports	. 219
Routes	. 220
Installing our Routes	. 221
RouterOutlet using <router-outlet></router-outlet>	. 222
RouterLink using [routerLink]	. 224
Putting it all together	. 224
Creating the Components	. 226
HomeComponent	. 226
AboutComponent	. 227
ContactComponent	. 227

Application Component		228
Configuring the Routes		229
Routing Strategies		231
Running the application		
Route Parameters		234
ActivatedRoute		235
Music Search App		
First Steps		238
The SpotifyService		
The SearchComponent		
Trying the search		249
TrackComponent		
Wrapping up music search		
Router Hooks		
AuthService		
LoginComponent		
ProtectedComponent and Route Guards		
Nested Routes		
Configuring Routes		
ProductsModule		
Summary		
bullinury	• •	207
Data Architecture in Angular 4		270
An Overview of Data Architecture		270
Data Architecture in Angular 4		271
Data Architecture with Observables - Part 1: Services		
Observables and RxJS		
Note: Some RxJS Knowledge Required		
Learning Reactive Programming and RxJS		
Chat App Overview		
Components		
Models		
Services		277
Summary		277
Implementing the Models		278
User		278
Thread		278
Message		279
Implementing UsersService		280
currentUser stream		281
Setting a new user		282
\mathcal{O}		

The MessagesService	284
the newMessages stream	284
the messages stream	286
The Operation Stream Pattern	286
Sharing the Stream	288
Adding Messages to the messages Stream	289
Our completed MessagesService	292
Trying out MessagesService	295
The ThreadsService	297
A map of the current set of Threads (in threads)	297
A chronological list of Threads, newest-first (in orderedthreads)	302
The currently selected Thread (in currentThread)	302
The list of Messages for the currently selected Thread (in currentThreadMessages) 3	304
Our Completed ThreadsService	307
Data Model Summary	309
Data Architecture with Observables - Part 2: View Components	
Building Our Views: The AppComponent Top-Level Component	
The ChatThreadsComponent	
ChatThreadsComponent template	
The Single ChatThreadComponent	
ChatThreadComponent Controller and ngOnInit	
ChatThreadComponent template	
The ChatWindowComponent	
The ChatMessageComponent	
The ChatMessageComponent template	
The ChatNavBarComponent	
The ChatNavBarComponent @Component	
The ChatNavBarComponent template	
Summary	
Next Steps	554
Introduction to Redux with TypeScript	335
Redux	
Redux: Key Ideas	
•	337
	337
	338
e e e e e e e e e e e e e e e e e e e	339
č	339
e	340
	341
Action "Arguments"	343

Storing Our State	 	344
Using the Store	 	345
Being Notified with subscribe	 	345
The Core of Redux	 	349
A Messaging App	 	350
Messaging App state	 	350
Messaging App actions	 	351
Messaging App reducer	 	352
Trying Out Our Actions	 	355
Action Creators	 	356
Using Real Redux	 	358
Using Redux in Angular	 	360
Planning Our App	 	361
Setting Up Redux	 	361
Defining the Application State	 	361
Defining the Reducers	 	361
Defining Action Creators		
Creating the Store		
Providing the Store		
Bootstrapping the App		
The AppComponent		
imports		
The template		
The constructor		
Putting It All Together		
What's Next		
References		
Intermediate Redux in Angular		
Context For This Chapter		
Chat App Overview		
Components		374
Models		375
Reducers	 	376
Summary		
Implementing the Models	 	377
User	 	377
Thread	 	377
Message	 	378
App State	 	379
A Word on Code Layout	 	379
The Root Reducer	 	380
The UsersState	 	380

The ThreadsState	381
Visualizing Our AppState	382
Building the Reducers (and Action Creators)	
Set Current User Action Creators	
UsersReducer - Set Current User	384
Thread and Messages Overview	385
Adding a New Thread Action Creators	
Adding a New Thread Reducer	
Adding New Messages Action Creators	
Adding A New Message Reducer	
Selecting A Thread Action Creators	
Selecting A Thread Reducer	
Reducers Summary	
Building the Angular Chat App	
The top-level AppComponent	
The ChatPage	
Container vs. Presentational Components	
Building the ChatNavBarComponent	
Redux Selectors	
Threads Selectors	
Unread Messages Count Selector	
Building the ChatThreadsComponent	
ChatThreadsComponent Controller	
ChatThreadsComponent template	
The Single ChatThreadComponent	
ChatThreadComponent template	
Building the ChatWindowComponent	
The ChatMessageComponent	
Setting incoming	
The ChatMessageComponent template	
Summary	
Advanced Components	
Styling	
View (Style) Encapsulation	
Shadow DOM Encapsulation	
No Encapsulation	
Creating a Popup - Referencing and Modifying Host Elements	
Popup Structure	
Using ElementRef	
Binding to the host	
Adding a Button using exportAs	
Creating a Message Pane with Content Projection	442

Changing the Host's CSS	 443
Using ng-content	 443
Querying Neighbor Directives - Writing Tabs	 445
ContentTabComponent	 446
ContentTabsetComponent Component	 447
Using the ContentTabsetComponent	 449
Lifecycle Hooks	 451
OnInit and OnDestroy	 452
OnChanges	 456
DoCheck	 462
AfterContentInit, AfterViewInit, AfterContentChecked and AfterViewChecked	 475
Advanced Templates	 482
Rewriting ngIf - ngBookIf	 483
Rewriting ngFor - NgBookFor	 485
Change Detection	 491
Customizing Change Detection	
Zones	 502
Observables and OnPush	
Summary	 507
•	
Testing	
Test driven?	
End-to-end vs. Unit Testing	
Testing Tools	
Jasmine	 509
Karma	 510
Writing Unit Tests	 510
Angular Unit testing framework	 510
Setting Up Testing	 511
Testing Services and HTTP	 513
HTTP Considerations	 514
Stubs	 514
Mocks	 515
Http MockBackend	 516
TestBed.configureTestingModule and Providers	 516
Testing getTrack	 517
Testing Routing to Components	 523
Creating a Router for Testing	 524
Mocking dependencies	
Spies	
Back to Testing Code	
fakeAsync and advance $\dots\dots\dots\dots$	
inject	

Testing ArtistComponent's Initialization	522
Testing ArtistComponent Methods	
Testing ArtistComponent DOM Template Values	
Testing Forms	
Creating a ConsoleSpy	
e de la companya de	
Installing the ConsoleSpy	
Configuring the Testing Module	
Testing The Form	
Refactoring Our Form Test	
Testing HTTP requests	
Testing a POST	
Testing DELETE	
Testing HTTP Headers	
Testing YouTubeSearchService	
Conclusion	560
Converting an AngularJS 1.x App to Angular 4	561
Peripheral Concepts	
What We're Building	
<u> </u>	
Mapping AngularJS 1 to Angular 4	
Requirements for Interoperability	
The AngularJS 1 App	
The ng1-app HTML	
Code Overview	
ng1: PinsService	
ng1: Configuring Routes	
ng1: HomeController	
ng1: / HomeController template	
ng1: pin Directive	
ng1: pin Directive template	
ng1: AddController	
ng1: AddController template	
ng1: Summary	
Building A Hybrid	
Hybrid Project Structure	
Bootstrapping our Hybrid App	
What We'll Upgrade	
A Minor Detour: Typing Files	
Writing ng2 PinControlsComponent	
Using ng2 PinControlsComponent	
Downgrading ng2 PinControlsComponent to ng1	593
Adding Pins with ng2	
Upgrading ng1PinsService and \$state to ng2	596

Writing ng2 AddPinComponent
Using AddPinComponent
Exposing an ng2 service to ng1
Writing the AnalyticsService
Downgrade ng2 AnalyticsService to ng1
Using AnalyticsService in ng1
Summary
References
NativeScript: Mobile Applications for the Angular Developer
What is NativeScript?
Where NativeScript Differs from Other Popular Frameworks 609
What are the System and Development Requirements for NativeScript? 610
Creating your First Mobile Application with NativeScript and Angular 612
Adding Build Platforms for Cross Platform Deployment 612
Building and Testing for Android and iOS
Installing JavaScript, Android, and iOS Plugins and Packages 613
Understanding the Web to NativeScript UI and UX Differences 614
Planning the NativeScript Page Layout
Adding UI Components to the Page
Styling Components with CSS
Developing a Geolocation Based Photo Application
Creating a Fresh NativeScript Project
Creating a Multiple Page Master-Detail Interface
Creating a Flickr Service for Obtaining Photos and Data
Creating a Service for Calculating Device Location and Distance 629
Including Mapbox Functionality in the NativeScript Application
Implementing the First Page of the Geolocation Application
Implementing the Second Page of the Geolocation Application
Try it out!
NativeScript for Angular Developers
Changelog
Revision 60 - 2017-04-27
Revision 59 - 2017-04-07
Revision 58 - 2017-03-24
Revision 57 - 2017-03-23
Revision 56 - 2017-03-22
Revision 55 - 2017-03-17
Revision 54 - 2017-03-10
Revision 53 - 2017-03-01
Revision 52 - 2017-02-22
Revision 51 - 2017-02-14

Revision 50 - 2017-02-10
Revision 49 - 2017-01-18
Revision 48 - 2017-01-13
Revision 47 - 2017-01-06
Revision 46 - 2017-01-03
Revision 45 - 2016-12-05
Revision 44 - 2016-11-17
Revision 43 - 2016-11-08
Revision 42 - 2016-10-14
Revision 41 - 2016-09-28
Revision 40 - 2016-09-20
Revision 39 - 2016-09-03
Revision 38 - 2016-08-29
Revision 37 - 2016-08-02
Revision 36 - 2016-07-20
Revision 35 - 2016-06-30
Revision 34 - 2016-06-15
Revision 33 - 2016-05-11
Revision 32 - 2016-05-06
Revision 31 - 2016-04-28
Revision 30 - 2016-04-20
Revision 29 - 2016-04-08
Revision 28 - 2016-04-01
Revision 27 - 2016-03-25
Revision 26 - 2016-03-24
Revision 25 - 2016-03-21
Revision 24 - 2016-03-10
Revision 23 - 2016-03-04
Revision 22 - 2016-02-24
Revision 21 - 2016-02-20
Revision 20 - 2016-02-11
Revision 19 - 2016-02-04
Revision 18 - 2016-01-29
Revision 17 - 2016-01-28
Revision 16 - 2016-01-14
Revision 15 - 2016-01-07
Revision 14 - 2015-12-23
Revision 13 - 2015-12-17
Revision 12 - 2015-11-16
Revision 11 - 2015-11-09
Revision 10 - 2015-10-30
Revision 9 - 2015-10-15

Revision 8 - 2015-10-08																	654
Revision 7 - 2015-09-23																	654
Revision 6 - 2015-08-28																	655
Revision 5 - 2015-08-01																	655
Revision 4 - 2015-07-30																	655
Revision 3 - 2015-07-21																	655
Revision 2 - 2015-07-15																	655
Revision 1 - 2015-07-01																	655