# Chapter 1: Configuring a Spring Development Environment

🖟 Java SE Development Kit 8 Update 91 (64-bit) - Custom Setup 🛛 🛛 🗙				
Java Boracce				
	ures to install from the li g the Add/Remove Progra			of features after
Developme Source Cod Public JRE			Feature Description Java SE Develope Update 91 (64-bi JavaFX SDK, a per the Java Mission suite. This will re your hard drive.	ment Kit 8 it), including the rivate JRE, and Control tools
C:\Program Files\Ja	va\jdk1.8.0_91\			Change
		< Back	Next >	Cancel
New System Variable				×
Variable name: Variable value:	JAVA_HOME C:\Program Files\Java\jdk1	1.8.0_91		
Browse Directory	Browse File		ОК	Cancel

Edit environment variable

C:\ProgramData\Oracle\Java\javapath	New
C:\Program Files (x86)\Intel\iCLS Client\	
C:\Program Files\Intel\iCLS Client\	Edit
%SystemRoot%\system32	Luit
%SystemRoot%	<b>_</b>
%SystemRoot%\System32\Wbem	Browse
%SYSTEMROOT%\System32\WindowsPowerShell\v1.0\	
C:\Program Files\Intel\Intel(R) Management Engine Components\	Delete
C:\Program Files (x86)\Intel\Intel(R) Management Engine Compon	
C:\Program Files\Intel\Intel(R) Management Engine Components\	
C:\Program Files (x86)\Intel\Intel(R) Management Engine Compon	Move Up
C:\Program Files (x86)\ATI Technologies\ATI.ACE\Core-Static	l
%JAVA_HOME%\bin	Move Down
%M2_HOME%\bin	Move Down
	Edit text
OK	Cancel

Rpache Tomcat Setup: Java Virtual Machine par Java Virtual Machine Java Virtual Machine path selection.	h selection:	-		×
Please select the path of a Java SE 7.0 or later JRE	installed on yo	our system.		
C:\Program Files\Java\jre1.8.0_91				
Nullsoft Install System v2,51				
	< Back	Next >	Cano	el

CNew Maven Ru	New Maven Runtime		
Specify attributes	s for a Maven installation		
Installation type:	● External ○ Workspace		
Installation home:	C:\Program Files\apache-mave	en-3.3.9	Directory
Installation name:	apache-maven-3.3.9		
Additional extension	on libraries:		
			Project
			Remove
			Up
			Down
			Restore Default
0		Finish	Cancel

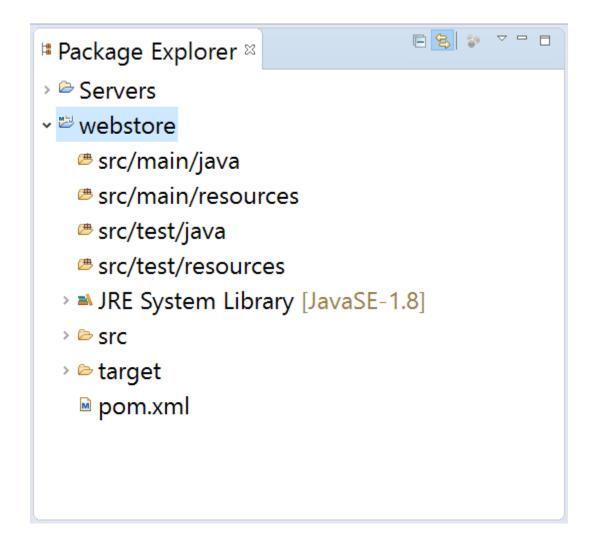
💋 New S	erver Runtime Er	nvironment	Capture			×
New Ser	ver Runtime E	nvironment				
Define a	new server runti	me environment				
			✓ Show down	loadab	le server a	adapters
Select the	type of runtime	environment:				
tomcat						<i>G</i> _
🗄 Apa	che Tomcat v3.2					~
	che Tomcat v4.0					
🗄 Apa	che Tomcat v4.1					
🗄 Apa	che Tomcat v5.0					
🗄 Apa	che Tomcat v5.5					
🗄 Apa	che Tomcat v6.0					
🗄 Apa	che Tomcat v7.0					
🗄 Apa	che Tomcat v8.0					~
Apache Tomcat v8.0 supports J2EE 1.2, 1.3, 1.4, and Java EE 5, 6, and 7 Web modules.						
⊡ Create a new local server						
?	< Back	Next >	Finish		Cano	el

💋 Ne	ew Server Runtime En	vironment				×
Tomo	at Server					-
Spec	ify the installation dir	ectory				
Name	:					
Apac	ne Tomcat v8.0					
Tomca	t installation director	y:				
C:\Pro	ogram Files\Apache S	oftware Foundati	on\Tomcat 8.0		Browse	
				Downl	oad and I	nstall
JRE:						
Work	oench default JRE		~	Ins	stalled JRE	s
?	< Back	Next >	Finish		Cancel	

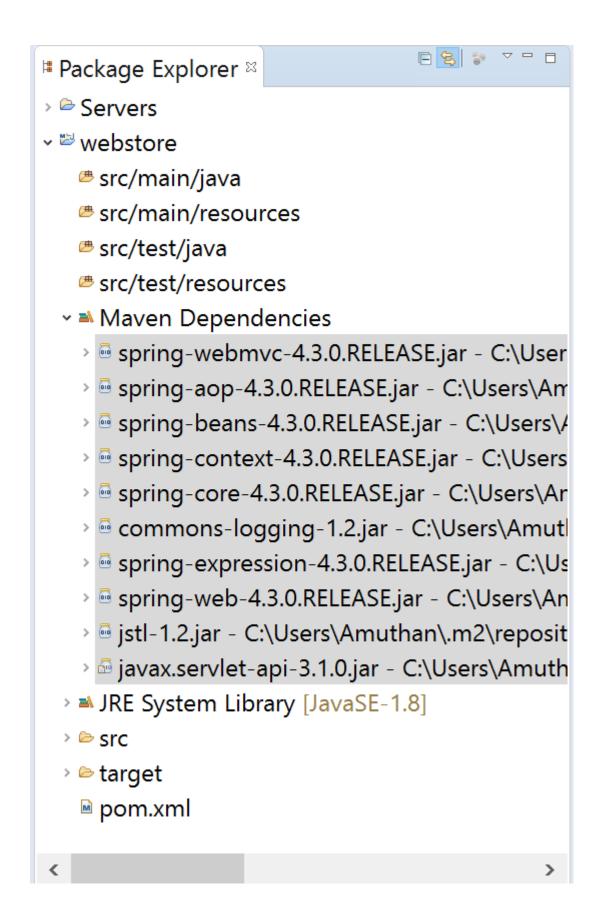
🖉 New Project			×
Select a wizard			
Create a Maven Project			
Wizards:			
type filter text			
> 🖻 General	 		^
> 🗁 AspectJ			
> 🖻 Eclipse Modeling Framework			
> 🗁 EJB			
> 🖻 Java			
> 🗁 Java EE			
> 🖻 JavaScript			
> 🗁 JAXB			
> 🗁 JPA			
✓ Maven			
Check out Maven Projects from SCM			
Maven Module			
Maven Project			
Plug-in Development	 		•
? < Back Next > Finish		Cancel	

🕏 New Ma	ven Project					×
New Mave	en project					M
Configure	project					
Artifact						
Group Id:	com.packt					~
Artifact Id:	webstore					~
Version:	0.0.1-SNAPSH( >					
Packaging:	war ~					
Name:						~
Description:						~
						~
Parent Proje	ct					
Group Id:						~
Artifact Id:						~
Version:	~	]		I	Browse	Clear
• Advanced						
?	< Back	Vext >	Finish		Can	cel

🖻 webstore/p	oom.xml ¤	
Overviev	v	
Artifact		
Group Id:	com.packt	
Artifact Id: *	webstore	
Version:	0.0.1-SNAPSHOT	
Packaging:	war 🗸	
• Parent	Add property X	۵ 🗳
• Propertie	S	
	Name: maven.compiler.source	Create
	Value: 1.8	Remove
• Modules	OK Cancel	New module element



💋 Select De	ependency			×
	Γ			
Group Id: *	org.springframework			
Artifact Id:*	spring-webmvc			
Version:	4.3.0.RELEASE	Scope	compile	• ~
	old, artifactId or sha1 prefix or pattern ownloads are disabled, search results ults:		ncomplete	).
?	OK		Cancel	



Welcome 
<sup>⋈</sup>

⇔ ⇔ ■ <br/>
<br/>
<br/>
<br/>
http://localhost:8080/webstore/

# Welcome to Web Store!

~ 🕨 🖻

The one and only amazing web store

🕏 Run On Se	rver				×	
Run On Serv	/er					
Select which	server to use					
How do you w	ant to select the server?					
Choose an	existing server					
O Manually o	define a new server					
Select the serv	ver that you want to use:					
type filter text						
Server		State				
🗸 🗠 localhost		<b>E</b>				
🖞 👘 Tomcat v	v8.0 Server at localhost	🖥 Stopped				
Apache Tomca modules.	t v8.0 supports J2EE 1.2, <sup>-</sup>	1.3, 1.4, and Java EE !	5, 6, and 7 Web	Colu	mns	
Always use this server when running this project						
0	< Back	Next >	Finish	Cancel		

Selcome

♀ ♀ ■ ◈ http://localhost:8080/webstore/

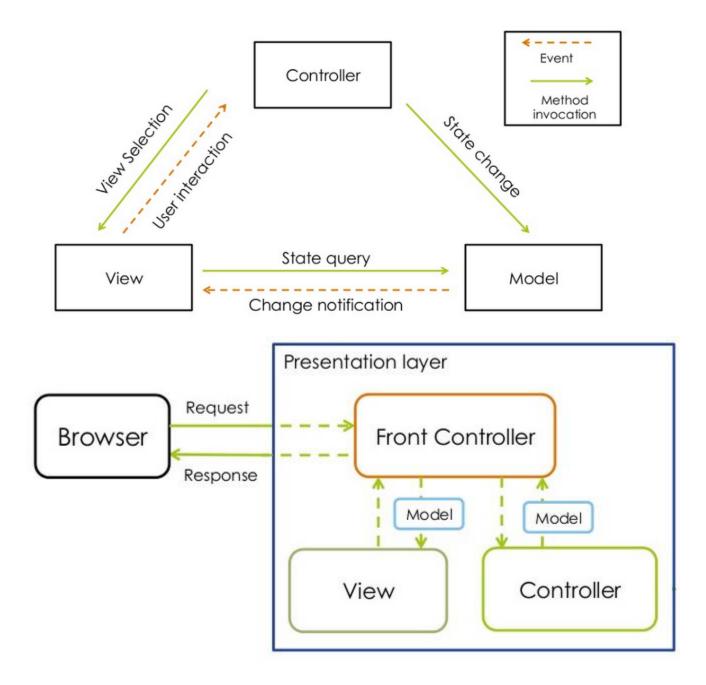
# Welcome to Web Store!

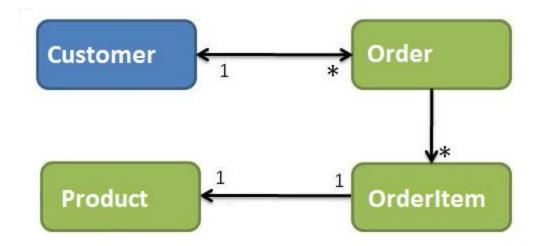
v 🕨 🖻

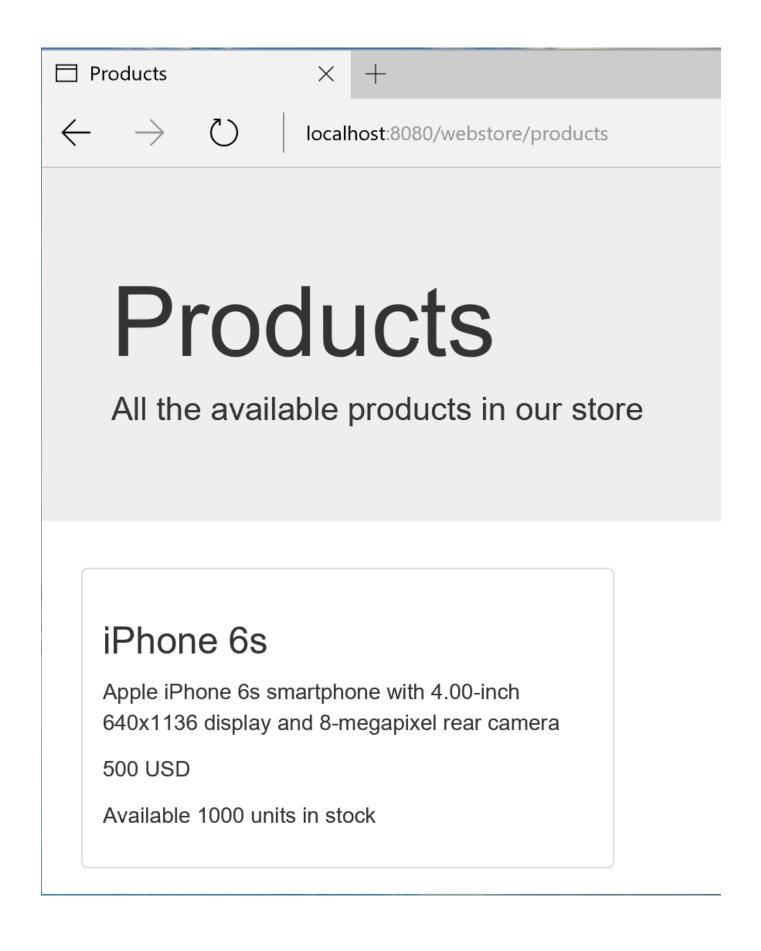
The one and only amazing web store

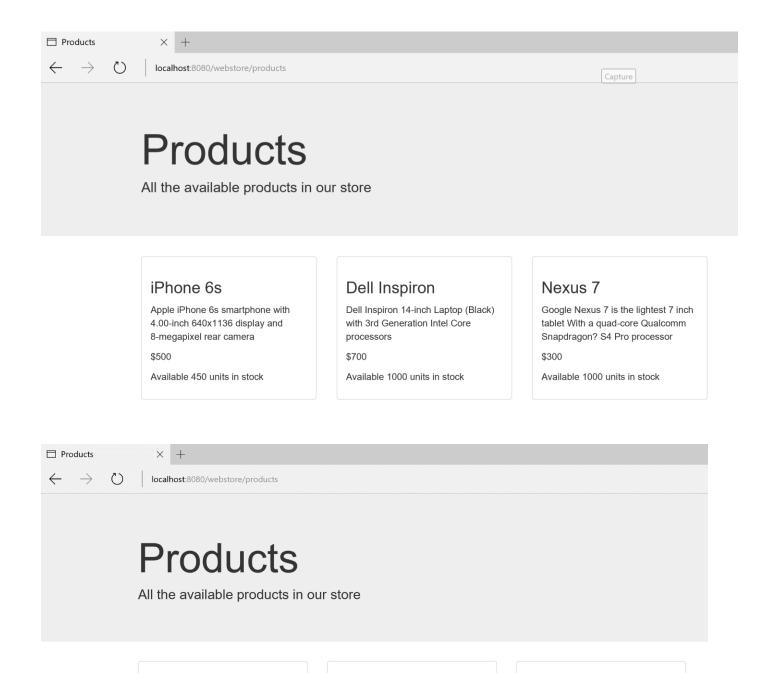
# Chapter 2: Spring MVC Architecture – Architecting Your Web Store

$\Box$ Apache Tomcat/8.0.36 - $ imes$	+			-		×
$\leftarrow$ $\rightarrow$ $\circlearrowright$ $\mid$ loca	lhost:8080/webstore/welcome		=		٩	•••
HTTP Status 404	- /webstore/welco	me				
type Status report						- 1
message <u>/webstore/welcome</u> description <u>The requested resource</u>	ce is not available.					
Apache Tomcat/8.0.36						
	webstore/products/search "application name" "Request path				8	
$\Box$ Apache Tomcat/8.0.36 - $ imes$	+			-		×
$\leftarrow$ $\rightarrow$ $\circlearrowright$ $\mid$ loca	lhost:8080/webstore/welcome		=	1	٩	•••
HTTP Status 404	- /webstore/WEB-I	NF/views/	wel	com	e.jsp	
message /webstore/WEB-INF/view	vs/welcome.jsp					
description The requested resource	<u>ce is not available.</u>					
Apache Tomcat/8.0.36						









#### iPhone 6s

Apple iPhone 6s smartphone with 4.00-inch 640x1136 display and 8-megapixel rear camera

\$500

Available 1450 units in stock

#### Dell Inspiron

Dell Inspiron 14-inch Laptop (Black) with 3rd Generation Intel Core processors

\$700

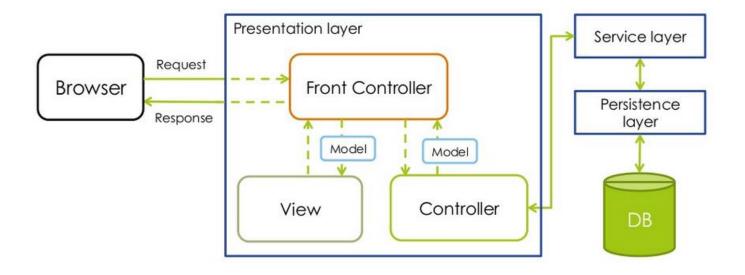
Available 1000 units in stock

#### Nexus 7

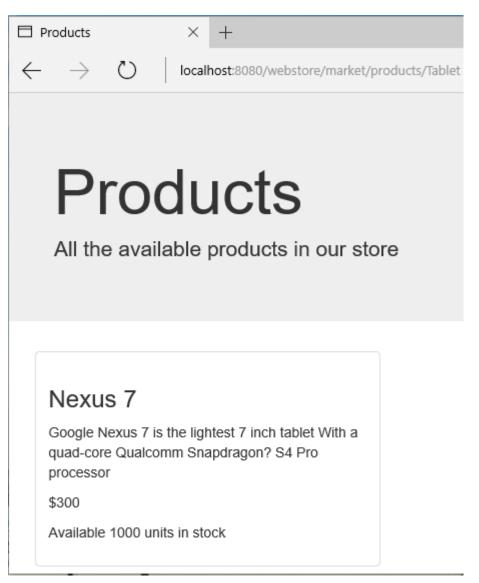
Google Nexus 7 is the lightest 7 inch tablet With a quad-core Qualcomm Snapdragon? S4 Pro processor

\$300

Available 1000 units in stock



## **Chapter 3: Control Your Store with Controllers**



 $\leftarrow \rightarrow$ 

 $\times$  +

localhost:8080/webstore/market/products/filter/params;brands=Google,Dell;categories=Tablet,Laptop

# Products

All the available products in our store

#### **Dell Inspiron**

 $\odot$ 

Dell Inspiron 14-inch Laptop (Black) with 3rd Generation Intel Core processors

\$700

Available 1000 units in stock

#### Nexus 7

Google Nexus 7 is the lightest 7 inch tablet With a quad-core Qualcomm Snapdragon? S4 Pro processor

\$300

Available 1000 units in stock

$\Box$ Products $\times$ +
$\leftarrow$ $\rightarrow$ $\circlearrowright$ localhost:8080/webstore/market/product?id=P1234
Products
iPhone 6s
Apple iPhone 6s smartphone with 4.00-inch 640x1136 display and 8-megapixel rear camera
Item Code : P1234
manufacturer : Apple
category : Smart Phone
Availble units in stock : 450
500 USD
T Order Now



 $\leftarrow \rightarrow \circ$ 

 $\times$  +

localhost:8080/webstore/market/products

# Products

All the available products in our store

#### iPhone 6s

Apple iPhone 6s smartphone with 4.00-inch 640x1136 display and 8-megapixel rear camera

\$500

Available 1450 units in stock



#### **Dell Inspiron**

Dell Inspiron 14-inch Laptop (Black) with 3rd Generation Intel Core processors

\$700

Available 1000 units in stock

Details

#### Nexus 7

Google Nexus 7 is the lightest 7 inch tablet With a quad-core Qualcomm Snapdragon? S4 Pro processor

\$300

Available 1000 units in stock

Details

# Chapter 4: Working with Spring Tag Libraries

## Add new product

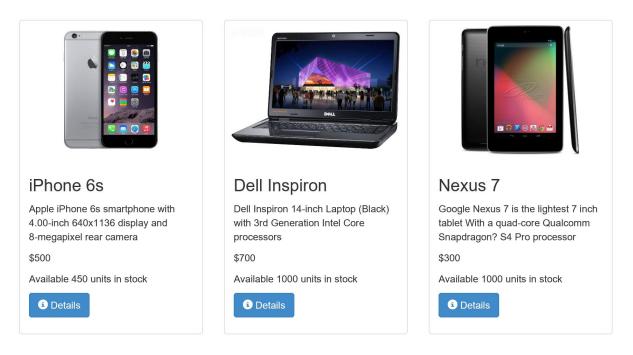
Product Id	
Name	
Unit Price	
Manufacturer	
Category	
Unit in Stock	0
Unit in Order	0
Description	
Discontinued	
Condition	Old Refurbished
	Add

Apache Tomcat/8.0.30 - Er 🗙	*	_		×
← → C □ localhost:8080/webstore/market/products/add	ŝ	2	0	@ ≡
HTTP Status 500 - Request processing failed; nested java.lang.RuntimeException: Attempting to bind disa <mark>unitsInOrder,discontinued</mark>		-		
type Exception report				
message Request processing failed; nested exception is java.lang.RuntimeException: Attempting to bind di unitsInOrder, discontinued	sallowed fi	elds:		
description The server encountered an internal error that prevented it from fulfilling this request.				
exception				+

## **Chapter 5: Working with View Resolver**

# Products

All the available products in our store



# Products



#### Dell Inspiron

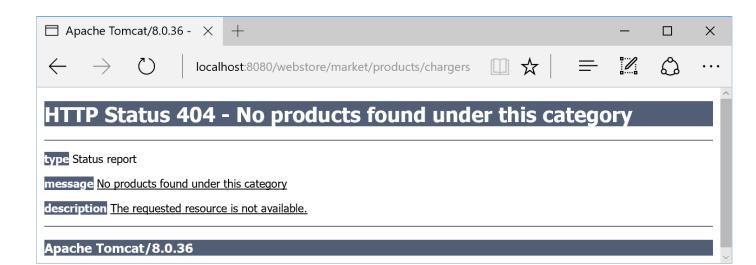
Dell Inspiron 14-inch Laptop (Black) with 3rd Generation Intel Core processors



එ back 🛛 🚽 Order Now

Produc	cts				
		<i> </i> Choose File to Upload			×
Add products		← → · ↑ 🖡 « webap	p > resources > images	V ひ Search images	Q
		Organize • New folder			· 🗆 🕐
		🚺 Music 🔷		^	_
		a OneDrive	P1235		
Add new product		👃 Books			
New Product ID	P1237	Documents Finance Distance			
Name	MDR Head Phone	Pictures Projects	P1236		)
Unit Price	250	🧢 This PC			
Manufacturer	Sony	Network Homegroup	P1237		
Category	Headphone	·	11237	·	
Units in stock	1000	File name:	P1237	<ul> <li>All Files (*.*)</li> <li>Open</li> </ul>	Cancel
Description	With Built-in Noise cancellation				.:
Condition	New Oold ORefurbished				
Product Image file		Browse			
	Add				
Attp://localho	ost:8080/webstore/market/pro	oduct.xml?id=P1235 🔎 🗸	C 🙋 localhost	× Capture	
<ul> <li><product></product></li> <li><category>Lap</category></li> <li><condition>Net</condition></li> <li><description>D</description></li> <li><discontinued></discontinued></li> <li><manufacturer:< li=""> <li><name>Dell Ir</name></li> <li><productid>P1</productid></li> <li><unitprice>700</unitprice></li> <li><unitsinorder></unitsinorder></li> </manufacturer:<></li></ul>	ell Inspiron 14-inch false >Dell nspiron 235	Laptop (Black) with	3rd Generation Int	tel Core processors<,	/description>

```
C
            localhost:8080/webstore/market/product.json?id=P1235
←
                                                                                              Capture
{
 "product" : {
    "productId" : "P1235",
    "name" : "Dell Inspiron",
    "unitPrice" : 700,
    "description" : "Dell Inspiron 14-inch Laptop (Black) with 3rd Generation Intel Core processors",
    "manufacturer" : "Dell",
    "category" : "Laptop",
    "unitsInStock" : 1000,
    "unitsInOrder" : 0,
    "discontinued" : false,
    "condition" : "New"
 }
}
```



Attp://localhost:8080/webstore/market/prod P - C

×

\_\_\_ ₩ ☆ ₩ 🙂

Х

# There is no product found with the Product id P1000

http://localhost:8080/webstore/market/product?id=P1000

com.packt.webstore.exception.ProductNotFoundException

ூ products

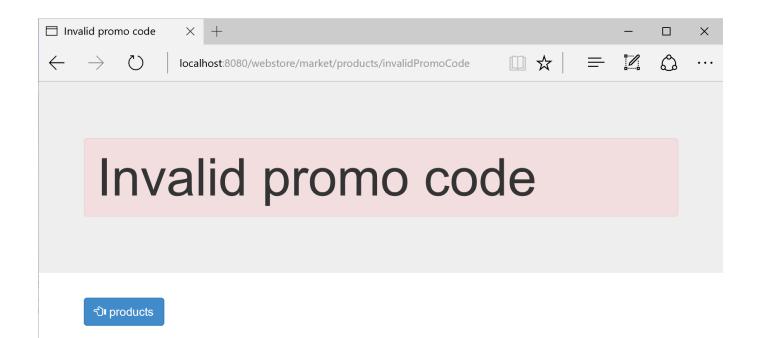
4

## **Chapter 6: Internalize Your Store with Interceptor**

= x 🔌 🔓 🛛 🕬 🦊 🛃 🔍 💌 💌 🔗

che Tomcat] C:\Program Files\Java\jre1.8.0\_73\bin\javaw.exe (Apr 9, 2016, 11:07:13 PM)
ProcessingTimeLogInterceptor:28 - 20 millisecond taken to process the request http://localhost:8080/webstore/.
ProcessingTimeLogInterceptor:28 - 21 millisecond taken to process the request http://localhost:8080/webstore/market/products.
ProcessingTimeLogInterceptor:28 - 25 millisecond taken to process the request http://localhost:8080/webstore/market/products.

Products ×		± _		×
← → C	webstore/market/products/add?language=en		53	
<b>Produc</b> Add products		English Du		
Add new product				1
New Product ID				I
Name				
Unit Price				
Manufacturer				1
Category				
Units in stock	0			1
Description				l
Condition	New Old Refurbished			
Product Image file	Choose File No file chosen			
	Add			a





 $\times$  +

localhost:8080/webstore/market/products

# Products

All the available products in our store



#### iPhone 6s

Apple iPhone 6s smartphone with 4.00-inch 640x1136 display and 8-megapixel rear camera

\$500

Available 450 units in stock

#### i Details



Dell Inspiron

Dell Inspiron 14-inch Laptop (Black) with 3rd Generation Intel Core processors

\$700

Available 1000 units in stock





#### Nexus 7

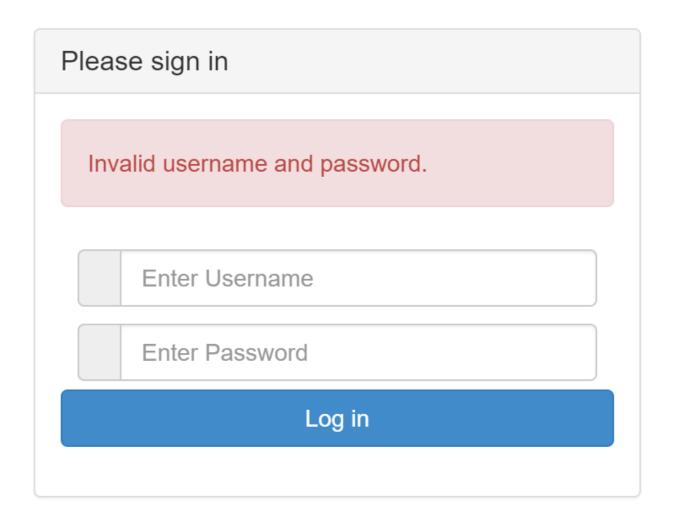
Google Nexus 7 is the lightest 7 inch tablet With a quad-core Qualcomm Snapdragon? S4 Pro processor

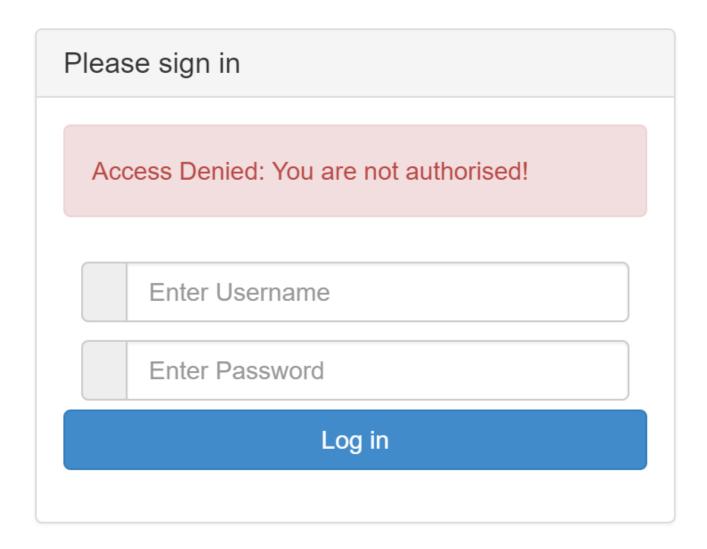
\$300

Available 1000 units in stock

i Details

## **Chapter 7: Incorporating Spring Security**





# Chapter 8: Validate Your Products with a Validator

Add new product

	d start with character P followe	to maximum 50 characters long. d by number.
New Product ID		Invalid product ID. It should start with character P followed by number.
Name		Invalid product name. It should be minimum 4 characters to maximum 50 characters long.
Unit Price		Unit price is Invalid. It cannot be empty.
Manufacturer		
Category		
Units in stock	0	
Description		
Condition	Old Refurbished	
Product Image file	Choose File No file chose	en
	Add	

#### Add new product

A product already exists wi	th this product id.	
	24004	
New Product ID	P1234	A product already exists with this product id.
Name	Sony Head Phone	
Unit Price	250	
Manufacturer		
Category		
Units in stock	0	
Description	1	
Condition	Old Refurbished	
Product Image file	Choose File No file chose	en
	Add	

#### Add new product

You cannot add more than 99 units if the unit price is greater than 1000.				
New Product ID	P1237			
Name	Sony Head Phone			
Unit Price	1500			
Manufacturer	Sony			
Category	Head phones			
Units in stock	150			
Description	With built-in noise canceling technology			
Condition	New Old      Refurbished			
Product Image file	Choose File No file chosen			
	Add			

#### Add new product

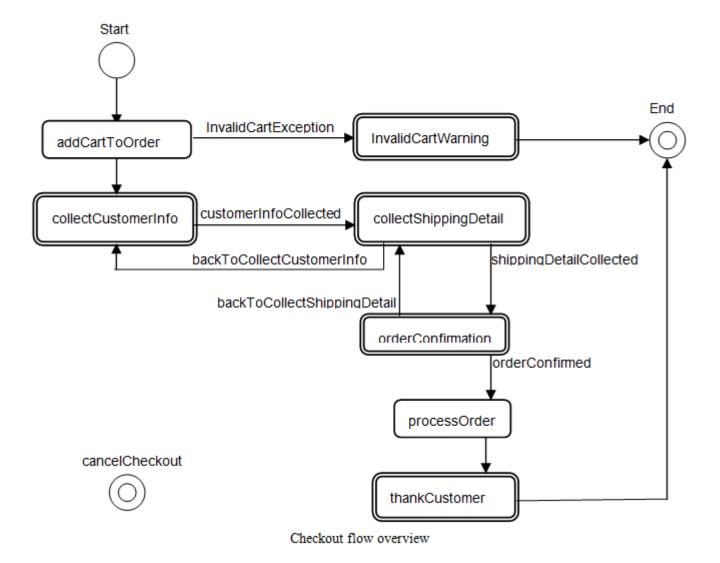
Invalid product name. It should be minimum 4 characters to maximum 50 characters long. A product already exists with this product id. You cannot add more than 99 units if the unit price is greater than 1000.				
New Product ID	P1234	A product already exists with this product id.		
Name		Invalid product name. It should be minimum 4 characters to maximum 50 characters long.		
Unit Price	1500			
Manufacturer	Sony			
Category	Head phones			
Units in stock	150			
Description	With built-in noise canceling technology			
Condition	●New Old ORefurbished			
Product Image file	Choose File No file chose	en		
	Add			

# Chapter 9: Give REST to Your Application with Ajax

OVERVIEW	REVIEWS	SUPP	ORT	RELATED	G+1
		Collaborate with	Cloud		F Runs Offline Compatible with your device
	er Import 🕞	Builder Team Library	8 🤇	enc De V D	Supercharge your API workflow with Postman! Build, test, and document your APIs faster. More than a million developers already do
(G. Type	- 13			Refresh Libnary Team Settings	Supercharge your API workflow with Postman!
Cine Cine	time mailers posts 0 autoritaire	Add description für better docs	Alex J V Verse di Falle	View Docs Subscribe	Build, test, and document your APIs faster.
Coper 3 reg	nBucket outsts 9 subscribers	A simple API to store & retrieve JSON object Requires an API key to use. You can request View/more	S Akaburg Bint View & Edit	View Docs Subscribe	More than a million developers already do.
Philip Philip 7 reg	ps Hue Bulbs nexts 2 suberribers	Add description flue better docs	Abhinav Visor & Billi	View Docs	The idea for Postman arose while the founders were working together, and were
Pinp 4 reg	dom Status - Postman Labs	This collection allows you to monitor the status of services provided by Postman. The View micro	Stamasis Bhattacharya Vane Only	View Docs Subscribe	For the second and the data and the second s
	man API Bin gonts 3 salashbers	A collection which echos back the requests made.	Parvan Ramal View Only	View Docs Subscribe	<ul> <li>Website</li> <li>Report Abuse</li> </ul>
	tman Cloud Analytics units 2 subarriters	Add description for better docs	Ankit Sabri Vess II, Totti	View Docs Subscribe	Additional Information
Con Post	rman Echo (shamasified) rovata 4 admirritoris	Postman Echo is service you can use to test your REST clients and make sample API calls View more	Shamasis Bhattacharya Vese & toto	View Docs Subscribe	Version: <b>4.2.2</b> Updated: <b>May 31, 2016</b>
					>
Runn	er Import	С+ в	uilder	Team Library	
Runn		В	uilder	Team Library	
	8080/web: +	Dcalhost:8080/web			
ttp://localhost:	*8080/web: +	ocalhost:8080/web	ostore/rest/		No environment
ttp://localhost:	*8080/web: + http://w Headers (	ocalhost:8080/web	ostore/rest/	cart Params lest Script Tests	No environment   Send   Save
POST Authorization	*8080/web: + http://w Headers (	ocalhost:8080/web	ostore/rest/ Pre-requ raw	cart Params lest Script Tests	No environment   Send   Save   Generate Code
POST Authorizatior of form-dat	*8080/web: + http://d Headers ( a x-www-f 'dd": "111", 'cartItems" : :	ocalhost:8080/web	ostore/rest/ Pre-requ raw	cart Params lest Script Tests	No environment   Send   Save   Generate Code

				- 0	×
Runner	Import 📑 Bui	lder Team Library	*		~
http://localhost:8080/we	b: +		No	environment 🗸 🗸 🗸	©
put 🗸	http://localhost:8080/webst	ore/rest/cart/111 Param	s Send	✓ Save	~
Authorization He	eaders (1) Body •	Pre-request Script Tests	5	Generate (	Code
form-data	x-www-form-urlencoded	• raw • binary JSON	(application/jso	n) 🗸	
1 * { 2 * "id": "1 3 * "cartIte 4 * 5 6 7 7 8 8 9 10 * 11 12 13 14 15 ] 16 }	<pre>111", ems" : [</pre>				
ិ Cart	×		Amuthan	- 0	×
_		core/cart/0CFCC12FS	) 1BF6B3A5(	087公 🕐 🚺	
Apps 🔺 Bookma	rks 📋 pay check 📋	GE healthcare	>	> 🦲 Other bool	kmarks
Cart All the se	lected products	s in your cart		≓ Check o	put
Product	Unit price	Qauntity	Price	Action	
P1234-iPhone	6s 500	1	500	X Remove	
		Grand Total	500		
භ Continue shop	oping				

### **Chapter 10: Float Your Application with Web Flow**



# Customer

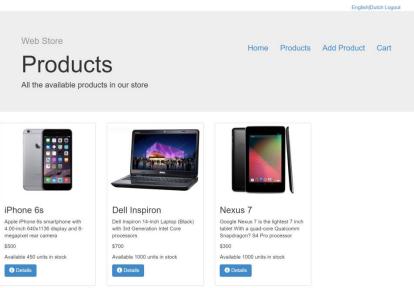
Customer details

#### **Customer Details**

Name	John Doe
Door No	Apt # 2A
Street Name	1808 Continental Ave
Area Name	Lisle
State	IL
country	USA
Zip Code	60532
Phone Number	302 409 3309
	Add Cancel

Rec	eipt		
Shipping Address John Doe 305,4625 Lake Trail Dr, Lisle,IL USA,60563	Shipping Dat	eDate: Oct	10, 2016
Billing Address John Doe Apt # 2A,1808 Continental Ave Lisle,IL USA,60532 P: 302 409 3309			
Product	#	Price	Total
iPhone 6s	2	\$500	\$1000
Dell Inspiron	1	\$700	\$700
Nexus 7	1	\$300	\$300
		Grand Total:	\$2000
back Confirm > Cancel			

## **Chapter 11: Template with Tiles**



© Company 2016

# Chapter 12: Testing Your Application

∎JUnit ¤			
Finished after 0.0	016 seconds		
Runs: 1/1	Errors: 0	■ Failures:	1
- Som.packt.we	ebstore.domain.Ca	rtltemTest [Runner: JUni	it 4] (0.0 ≡ Failure Trace
			it_price_ ½java.lang.AssertionError: expected:<500> but was:<0>
			≡ at com.packt.webstore.domain.CartItemTest.cartItem_tota
<			> <>
			0 0 🗗 🖓 🖓 🔳 🗮 🗸 🗸 👘
r#JUnit ¤			
a®JUnit ¤ Finished after 0.0	)16 seconds		
Finished after 0.0	016 seconds	■ Failures:	
Finished after 0.0 Runs: 1/1	<sup> ■</sup> Errors: 0		0
Finished after 0.0 Runs: 1/1	<sup> ■</sup> Errors: 0	■ Failures: rtltemTest [Runner: JUni	0
Finished after 0.0 Runs: 1/1	<sup> ■</sup> Errors: 0		0
Finished after 0.0 Runs: 1/1	<sup> ■</sup> Errors: 0		0
Finished after 0.0 Runs: 1/1	<sup> ■</sup> Errors: 0		0
Finished after 0.0 Runs: 1/1	<sup> ■</sup> Errors: 0		0
Finished after 0.0 Runs: 1/1	<sup> ■</sup> Errors: 0		0
Finished after 0.0 Runs: 1/1	<sup> ■</sup> Errors: 0		0
Finished after 0.0 Runs: 1/1	<sup> ■</sup> Errors: 0		0

	<sup>เ</sup> บ JUn	it 🛛																Ð	Ŷ	×		Q	R		0-	•	$\overline{\nabla}$	
Fi	nishe	d after 6.27	2 seco	onds																								
	Runs:	3/3		🛛 Erro	rs:	0			×	l Fai	lures:	0																
	<ul> <li>com.packt.webstore.domain.ProductTest [Runner: JUnit 4] (6.178 s)</li> <li>product_with_existing_productId_invalid (6.176 s)</li> </ul>											_	Fail	lure	Trac	2			*8									
	a_valid_product_should_not_get_any_error_during_validation (0.000 s)																											
		撞 produ	ict_wit	hout_	pro	du	ctId_	and	_Un	itPri	ice_ar	nd_c	ateg	gory_	_sho	uld_	shou	ıld_ł	e_ir	nvali	d							
-								I	11												•							