

Table Of Contents

SECTION I: UNDERSTANDING THE FRAMEWORK

1. INTRODUCTION TO SPRING FRAMEWORK	1
THE HISTORY OF THE JAVA WEB APPLICATIONS	1
The Servlet API	1
JavaServer Pages And The Model 1 Architecture	2
Model 2 Architecture	2
Enterprise JavaBeans	3
Enterprise JavaBeans 3.0	3
Enterprise JavaBeans 3.1	3
THE SPRING PROJECT	4
What Is The Purpose Of Spring?	4
WHAT IS THE SPRING FRAMEWORK?	4
ORIGIN OF SPRING FRAMEWORK	5
FEATURES OF THE SPRING FRAMEWORK	6
ALL ABOUT THE SPRING FRAMEWORK	7
Simplifies Java Enterprise Application Development	7
Core Parts Of The Spring Framework	7
POJOs	7
Dependency Injection [DI] aka Inversion of Control [IoC]	7
A Tightly Coupled Application	8
A Loosely Coupled Application	10
Aspect-Oriented Programming [AOP]	12
Reduce Boilerplate Code Using Templates	17
An Application With Boilerplate Code	17
An Application Using Spring's JdbcTemplate	19
SPRING FRAMEWORK MODULES	20
The Core Container	21
Bean Factories [org.springframework.beans.factory.BeanFactory]	21
Application Contexts [org.springframework.context.ApplicationContext]	21
Spring Context	21
Spring AOP	22
Spring DAO	22
Spring ORM	22
Spring Web Module	23
Spring Web MVC	23
SUMMARY	23
2. INTRODUCTION TO HIBERNATE 4	25
ABOUT HIBERNATE	26
ARCHITECTURE OF HIBERNATE	27
Connection Management	27

Transaction Management.....	28
Object Relational Mapping	28
A QUICK OVERVIEW OF HIBERNATE.....	28
REVIEWING TYPICAL HIBERNATE CODE SPEC	28
The Authors Table	28
Hibernate Configuration File [hibernate.cfg.xml].....	29
POJO [Authors.java].....	29
Mapping Document [Authors.hbm.xml].....	30
Performing Database Operations	31
Creating The Session Factory	32
Performing A Database Operation [Insert]	32
Performing A Database Operation [Select].....	33
PREREQUISITES	33

SECTION II: ABOUT THE PROJECT

3. THE PROJECT CASE STUDY	35
SOFTWARE REQUIREMENTS	36
SOFTWARE DEVELOPMENT LIFE CYCLE OF THE PROJECT	36
Requirement Analysis	37
Client Side Requirements.....	37
Customer Side Requirements.....	37
Software Design.....	38
The Design Pattern.....	38
Backend [Administration - For The Client]	38
Customer Module.....	39
Data Flow Diagram.....	39
Development	40
4. SOFTWARE REQUIREMENTS SPECIFICATION	43
BACKEND MODULES	43
Login.....	43
Steps.....	43
Alternate Steps	44
Data Validations.....	44
Manage Countries	44
View Countries	44
Steps.....	45
Add Countries	45
Steps.....	45
Alternate Steps	45
Edit Countries	46
Steps.....	46
Alternate Steps	46

Delete Countries	47
Steps.....	47
Alternate Steps.....	47
Data Validations	47
Manage States	48
View States	48
Steps.....	48
Add States	48
Steps.....	48
Alternate Steps.....	49
Edit States	49
Steps.....	49
Alternate Steps.....	50
Delete States	50
Steps.....	50
Alternate Steps.....	51
Data Validations	51
Manage Authors.....	51
View Authors.....	51
Steps.....	51
Add Authors.....	52
Steps.....	52
Alternate Steps.....	53
Edit Authors.....	53
Steps.....	53
Alternate Steps.....	54
Delete Authors	54
Steps.....	54
Alternate Steps.....	54
Data Validations	55
Manage Publishers	55
View Publishers	55
Steps.....	55
Add Publishers	56
Steps.....	56
Alternate Steps.....	56
Edit Publishers	57
Steps.....	57
Alternate Steps.....	57
Delete Publishers	58
Steps.....	58
Alternate Steps.....	58
Data Validations	58
Manage Categories	59
View Categories.....	59
Steps.....	59

Add Categories.....	59
Steps.....	59
Alternate Steps.....	60
Edit Categories.....	60
Steps.....	60
Alternate Steps.....	61
Delete Categories.....	61
Steps.....	61
Alternate Steps.....	62
Data Validations.....	62
Manage Users.....	62
View Users.....	62
Steps.....	62
Add Users.....	63
Steps.....	63
Alternate Steps.....	64
Edit Users.....	64
Steps.....	64
Alternate Steps.....	65
Delete Users.....	65
Steps.....	65
Alternate Steps.....	66
Data Validations.....	66
Manage Books.....	66
View Books.....	66
Steps.....	67
Add Books.....	67
Steps.....	67
Alternate Steps.....	68
Edit Books.....	69
Steps.....	69
Alternate Steps.....	69
Delete Books.....	70
Steps.....	70
Data Validations.....	70
Manage Transactions.....	71
View Transactions.....	71
Steps.....	71
Edit Transactions (Add Google Order Number).....	72
Steps.....	72
Logout.....	72
Steps.....	72
FRONTEND MODULES.....	73
Homepage.....	73
Signup.....	73
Steps.....	73

Alternate Steps	73
Data Validations	74
Login.....	74
Steps.....	74
Alternate Steps.....	75
Data Validations	75
Forgot Password	75
Steps.....	75
Alternate Steps.....	75
Data Validations	76
Search	76
Steps.....	76
Directory Of Books.....	76
Steps.....	76
Popular Searches.....	77
Steps.....	77
New Releases.....	77
Steps.....	77
Updated Books.....	78
Steps.....	78
Top Titles.....	78
Steps.....	78
Our Authors	78
Steps.....	78
Our Publishers	79
Steps.....	79
Add To Cart	79
Steps.....	79
Cart	80
Steps.....	80
Alternate Steps.....	80
Google Wallet.....	80
Steps.....	80
Alternate Steps.....	81
Logout.....	81
Steps.....	82
5. PROJECT FILES	83
DIRECTORY STRUCTURE - BOOKSHOP	83
Dedicated Library Directory [lib]	84
The Project Source Code Directory (src/java)	88
Java Packages	88
Controllers (src\java\com\sharanamvaishali\controllers).....	89
DAO Classes (src\java\com\sharanamvaishali\ dao)	90
Services Classes (src\java\com\sharanamvaishali\ service).....	93

xviii Spring 3 With Hibernate 4 Project For Professionals

Bean Classes (src\java\com\sharanamvaishali\model).....	95
Configuration and Properties Files (src\java*)	96
The Web Directory (web\WEB-INF).....	97
Web Pages (web\WEB-INF\jsp).....	98
Cascading Style Sheet (web\WEB-INF\css)	100
6. DATA DICTIONARY	101
ENTITY RELATIONSHIP DIAGRAM	102
TABLE DEFINITIONS	103
Countries	103
State	103
Categories	103
Authors.....	104
Publishers.....	105
PopularSearches.....	105
Books	106
Users	107
Transactions.....	108
SECTION III: END USER MANUAL	
7. BACKEND [ADMINISTRATION].....	111
THE APPLICATION'S HOMEPAGE.....	112
BACKEND [ADMINISTRATION] LOGIN PAGE.....	113
Manage Countries	113
Adding New Record	115
Modifying Existing Record.....	116
Deleting Existing Record.....	117
Manage States	118
Adding New Record	120
Modifying Existing Record.....	120
Deleting Existing Record.....	122
Manage Categories.....	123
Adding New Record	124
Modifying Existing Record.....	125
Deleting Existing Record.....	127
Manage Publishers	128
Adding New Record	129
Modifying Existing Record.....	130
Deleting Existing Record.....	132
Manage Authors.....	133
Adding New Record	135
Modifying Existing Record.....	136
Deleting Existing Record.....	139

Manage Books	140
Adding New Record	142
Modifying Existing Record.....	145
Deleting Existing Record.....	149
Manage Users	150
Adding New Record	152
Modifying Existing Record.....	153
Deleting Existing Record.....	155
Manage Transactions	156
Viewing The Transaction Reports	157
By Username	157
By Date	158
Updating The Transaction [Entering The Google Order Number]	159
Logout.....	160
8. FRONTEND [CUSTOMER FACING].....	161
Frontend Home Page	162
Forgot Password	164
Signup	166
Login.....	170
Homepage After Logging In	171
Book Details	173
Directory Listing.....	173
New Releases	174
Updated Books.....	174
Top Titles.....	174
Book Details Without Logging In.....	174
Book Details After Logging In	175
Downloading Sample Chapter	176
Downloading TOC.....	176
Author Details.....	177
Category Details	180
Publisher Details	183
Search	185
Cart	186
Checkout	188
Buyer's Email.....	192
Seller's Email	193
After Placing The Order.....	193
SECTION IV: PROCESS FLOW	
9. THE APPLICATION'S HOME PAGE [HOME.JSP]	195
USER INTERFACE [/home → home.jsp].....	196
Process Flow	196

- HOME PAGE NAVIGATION [home.jsp]..... 199
- 10. BOOK DETAILS [showBookDetails.jsp] 201**
 - USER INTERFACE [/showBookDetails/\${bookNo} → showBookDetails.jsp]..... 202
 - PROCESS FLOW 203
- 11. AUTHOR DETAILS [showAuthorDetails.jsp] 205**
 - USER INTERFACE [/showAuthorDetails/\${authorNo} → showAuthorDetails.jsp] 206
 - PROCESS FLOW 206
- 12. PUBLISHER DETAILS [showPublisherDetails.jsp]..... 209**
 - USER INTERFACE [/showPublisherDetails/\${publisherNo} → showPublisherDetails.jsp] 210
 - PROCESS FLOW 210
- 13. CATEGORY DETAILS [showCategoryDetails.jsp] 213**
 - USER INTERFACE [/showCategoryDetails/\${categoryNo} → showCategoryDetails.jsp] 214
 - PROCESS FLOW 215
- 14. SEARCH [searchResults.jsp]..... 217**
 - SEARCH BY CRITERIA 218
 - User Interface [/searchResults/\${searchCriteria} → searchResults.jsp]..... 218
 - Process Flow 218
 - SEARCH WITHOUT CRITERIA 219
 - Process Flow 219
- 15. POPULAR SEARCHES..... 223**
 - Process Flow 224
- 16. SIGN UP 227**
 - SHOW SIGN UP PAGE 227
 - User Interface [/signUp → signUp.jsp]..... 228
 - Process Flow 228
 - ADDING NEW CUSTOMER 229
 - User Interface [/saveSignUp → /signUpThankYou → signUpThankYou.jsp] 229
 - Process Flow 230
 - User Interface For Validation Errors [/saveSignUp → signUp.jsp]..... 231
 - Process Flow 231
- 17. CUSTOMER LOGIN AND LOGOUT 233**
 - CUSTOMER LOGIN..... 233
 - User Interface [/login → home.jsp]..... 234
 - Process Flow 234
 - SUCCESSFUL LOGIN 235
 - Process Flow 235

LOGIN FAILED	235
User Interface [/loginFailed → home.jsp]	236
Process Flow	236
LOGOUT	236
Process Flow	237
18. FORGOT PASSWORD	239
DISPLAY FORGOT PASSWORD PAGE	239
User Interface [/forgotPassword → forgotPassword.jsp].....	240
Process Flow	240
RETRIEVING PASSWORD	241
Process Flow	241
19. CART [showCart.jsp].....	243
ADD TO CART	243
User Interface [/addToCart/\${userName}/\${bookNo}]	244
Process Flow	245
SHOW CART	245
User Interface [/showCart/\${userName} → showCart.jsp].....	246
Process Flow	246
REMOVING THE CART ITEMS [BOOKS]	247
Process Flow	247
20. CHECKOUT	249
USER INTERFACE [/saveCart/\${userName} → /checkOut/\${userName}]	250
Process Flow	250
21. ADMINISTRATION LOGIN AND LOGOUT.....	253
ADMINISTRATION LOGIN.....	253
User Interface [/admin/adminLogin → adminLogin.jsp].....	254
Process Flow	254
SUCCESSFUL LOGIN	255
User Interface [/admin/manageTransactions → manageTransactions.jsp]	255
Process Flow	256
LOGIN FAILED	256
User Interface [/admin/adminLoginFailed → adminLogin.jsp].....	257
Process Flow	257
ACCESS DENIED.....	258
User Interface [/adminAccessDenied → adminAccessDenied.jsp]	258
Process Flow	258
LOGOUT.....	259
Process Flow	259

22. MANAGE COUNTRIES [manageCountries.jsp]	263
VIEWING EXISTING COUNTRY DETAILS	263
User Interface [/admin/manageCountries → manageCountries.jsp].....	264
Process Flow	265
ADDING NEW COUNTRY DETAILS	265
Process Flow	265
User Interface For Validation Errors [/admin/saveCountry → manageCountries.jsp]	266
Process Flow	266
EDITING EXISTING COUNTRY DETAILS.....	267
User Interface [/admin/editCountry/{countryNo} → manageCountries.jsp].....	267
Process Flow	268
DELETING EXISTING COUNTRY DETAILS	268
Process Flow	269
23. MANAGE STATES [manageStates.jsp]	275
VIEWING EXISTING STATE DETAILS	275
User Interface [/admin/manageStates → manageStates.jsp].....	276
Process Flow	277
ADDING NEW STATE DETAILS	277
Process Flow	277
User Interface For Validation Errors [/admin/saveState → manageStates.jsp].....	278
Process Flow	278
EDITING EXISTING STATE DETAILS.....	279
User Interface [/admin/editState/{stateNo} → manageStates.jsp].....	279
Process Flow	280
DELETING EXISTING STATE DETAILS	280
Process Flow	281
24. MANAGE CATEGORIES [manageCategories.jsp]	287
VIEWING EXISTING CATEGORY DETAILS	287
User Interface [/admin/manageCategories → manageCategories.jsp].....	288
Process Flow	288
ADDING NEW CATEGORY DETAILS	289
Process Flow	289
User Interface For Validation Errors [/admin/saveCategory → manageCategories.jsp]	290
Process Flow	290
EDITING EXISTING CATEGORY DETAILS	291
User Interface [/admin/editCategory/{categoryNo} → manageCategories.jsp]	291
Process Flow	292
DELETING EXISTING CATEGORY DETAILS.....	292
Process Flow	293
25. MANAGE PUBLISHERS [managePublishers.jsp]	299
VIEWING EXISTING PUBLISHER DETAILS	299
User Interface [/admin/managePublishers → managePublishers.jsp].....	300

Process Flow	300
ADDING NEW PUBLISHER DETAILS	301
Process Flow	302
User Interface For Validation Errors [/admin/savePublisher → managePublishers.jsp]	303
Process Flow	303
EDITING EXISTING PUBLISHER DETAILS	304
User Interface [/admin/editPublisher/{publisherNo} → managePublishers.jsp]	305
Process Flow	305
DELETING EXISTING PUBLISHER DETAILS	306
Process Flow	307
26. MANAGE AUTHORS [manageAuthors.jsp].....	313
VIEWING EXISTING AUTHOR DETAILS	313
User Interface [/admin/manageAuthors → manageAuthors.jsp]	314
Process Flow	315
ADDING NEW AUTHOR DETAILS	316
Process Flow	316
User Interface For Validation Errors [/admin/saveAuthor → manageAuthors.jsp]	317
Process Flow	317
Process Flow	318
EDITING EXISTING AUTHOR DETAILS	318
User Interface [/admin/editAuthor/{authorNo} → manageAuthors.jsp]	319
Process Flow	319
DELETING EXISTING AUTHOR DETAILS	320
Process Flow	321
27. MANAGE BOOKS [manageBooks.jsp].....	327
VIEWING EXISTING BOOK DETAILS	327
User Interface [/admin/manageBooks → manageBooks.jsp]	328
Process Flow	329
ADDING NEW BOOK DETAILS	330
Process Flow	330
User Interface For Validation Errors [/admin/saveBook → manageBooks.jsp]	331
Process Flow	331
Process Flow	332
EDITING EXISTING BOOK DETAILS.....	333
User Interface [/admin/editBook/{bookNo} → manageBooks.jsp]	333
Process Flow	333
DELETING EXISTING BOOK DETAILS	335
Process Flow	335
28. MANAGE USERS [manageUsers.jsp].....	341
VIEWING EXISTING USER DETAILS	341
User Interface [/admin/manageUsers → manageUsers.jsp]	342
Process Flow	343

xxiv Spring 3 With Hibernate 4 Project For Professionals

ADDING NEW USER DETAILS.....	343
Process Flow	344
User Interface For Validation Errors [/admin/saveUser → manageUsers.jsp]	345
Process Flow	345
EDITING EXISTING USER DETAILS.....	346
User Interface [/admin/editUser/\${userNo} → manageUsers.jsp]	346
Process Flow	347
DELETING EXISTING USER DETAILS	348
Process Flow	348
29. MANAGE TRANSACTIONS [manageTransactions.jsp].....	353
DISPLAYING THE MANAGE TRANSACTIONS PAGE.....	353
User Interface [/admin/manageTransactions → manageTransactions.jsp]	354
Process Flow	354
DISPLAYING TRANSACTIONS ACCORDING TO USERNAME	354
Displaying Only Particular User's Transactions.....	354
User Interface [/admin/searchTransactionByUsername/\${userName}]	355
Process Flow	355
Displaying All User's Transactions.....	356
User Interface [/admin/searchTransactionByUsername → manageTransactions.jsp]	357
Process Flow	357
DISPLAYING TRANSACTIONS ACCORDING TO DATE.....	358
User Interface [/admin/searchTransactionByDate/\${year}/\${month}/\${day}].....	359
Process Flow	359
UPDATING GOOGLE ORDER NUMBER.....	360
Process Flow	361
 SECTION V: BACKEND [ADMINISTRATION] SOFTWARE DESIGN DOCUMENTATION	
30. ADMINISTRATION LOGIN AND LOGOUT	367
JSP [adminLogin.jsp].....	368
Form Specifications	368
Data Fields	368
Data Controls	369
Code Spec	369
CONTROLLER [AuthenticationController.java]	370
Controller Specifications.....	371
Code Spec	371
showAdminLogin().....	372
showAdminLoginError()	372
showAdminLoginAfterLogout().....	373
showAccessDeniedPage().....	373
SPRING SECURITY [spring-security.xml].....	374
Code Spec	375
Namespace Declaration In Spring Configuration File	376

<http> Configuration	376
pattern	377
auto-config	377
<form-login> Configuration	378
login-page	378
authentication-failure-url	378
login-processing-url	378
default-target-url	379
Access Denied	379
error-page	379
Logging Out	379
logout-url	380
logout-success-url	380
Intercepting Requests	380
Authentication Services	380
data-source-ref	381
users-by-username-query	381
authorities-by-username-query	381
SETTING UP SPRING SECURITY CONFIGURATION IN web.xml	382
Code Spec	382
Spring Security's Configuration	382
<context-param>	383
<param-name>	383
<param-value>	383
Spring Context Listener	383
Servlet Filters	383
DelegatingFilterProxy	384
31. MANAGE COUNTRIES	385
JSP [manageCountries.jsp]	387
Form Specifications	388
Data Fields	388
Micro-Help For Form Fields	388
Data Controls	388
Code Spec	388
<form:form>	390
<form:input>	391
<form:errors>	391
CONTROLLER [CountryController.java]	392
Controller Specifications	392
Code Spec	392
showManageCountries()	394
saveCountry()	394
deleteCountry()	395
editCountry()	395

SERVICE CLASS.....	395
Interface [CountryService.java]	395
Service Interface Specifications	396
Code Spec	396
Implementation Class [CountryService.java]	396
Service Implementation Specifications	396
Code Spec	396
saveCountry().....	397
listCountry().....	397
removeCountry().....	398
getCountryById().....	398
DAO CLASS.....	398
Interface [CountryDAO.java]	398
DAO Interface Specifications	398
Code Spec	398
Implementation Class [CountryDAOImpl.java]	398
DAO Implementation Specifications	399
Code Spec	399
saveCountry().....	400
listCountry().....	400
removeCountry().....	401
getCountryById().....	401
DOMAIN CLASS [Country.java].....	401
Domain Specifications	402
Code Spec	402
32. MANAGE STATES	403
JSP [manageStates.jsp]	405
Form Specifications	406
Data Fields	406
Micro-Help For Form Fields.....	406
Data Controls	406
Code Spec	406
CONTROLLER [StateController.java].....	408
Controller Specifications.....	408
Code Spec	409
showManageStates()	410
saveState().....	410
deleteState()	411
editState().....	412
SERVICE CLASS.....	412
Interface [StateService.java]	412
Service Interface Specifications	412
Code Spec	412
Implementation Class [StateServiceImpl.java]	413
Service Implementation Specifications	413

Code Spec	413
saveState().....	414
listState().....	414
removeState().....	414
getStateById().....	414
DAO CLASS	414
Interface [StateDAO.java]	414
DAO Interface Specifications	415
Code Spec	415
Implementation Class [StateDAOImpl.java]	415
DAO Implementation Specifications	415
Code Spec	415
saveState().....	416
listState().....	416
removeState().....	417
getStateById().....	418
DOMAIN CLASS [State.java].....	418
Domain Specifications	418
Code Spec	418
33. MANAGE CATEGORIES.....	421
JSP [manageCategories.jsp].....	423
Form Specifications	424
Data Fields	424
Micro-Help For Form Fields.....	424
Data Controls	424
Code Spec	424
CONTROLLER [CategoryController.java]	427
Controller Specifications	427
Code Spec	427
showManageCategories()	428
saveCategory()	429
deleteCategory().....	429
editCategory().....	430
SERVICE CLASS	430
Interface [CategoryService.java]	430
Service Interface Specifications.....	430
Code Spec	431
Implementation Class [CategoryServiceImpl.java]	431
Service Implementation Specifications.....	431
Code Spec	431
saveCategory().....	432
listCategory()	432
removeCategory()	432
getCategoryById()	433

xxviii Spring 3 With Hibernate 4 Project For Professionals

DAO CLASS.....	433
Interface [CategoryDAO.java]	433
DAO Interface Specifications	433
Code Spec	433
Implementation Class [CategoryDAOImpl.java].....	433
DAO Implementation Specifications	433
Code Spec	434
saveCategory()	435
listCategory()	435
removeCategory()	436
getCategoryById()	436
DOMAIN CLASS [Category.java]	436
Domain Specifications	436
Code Spec	437
34. MANAGE PUBLISHERS	439
JSP [managePublishers.jsp]	441
Form Specifications	442
Data Fields	442
Micro-Help For Form Fields.....	442
Data Controls	443
Code Spec	443
CONTROLLER [PublisherController.java].....	446
Controller Specifications.....	446
Code Spec	446
showManagePublishers()	448
savePublisher().....	449
deletePublisher()	449
editPublisher().....	450
SERVICE CLASS.....	450
Interface [PublisherService.java]	450
Service Interface Specifications	451
Code Spec	451
Implementation Class [PublisherServiceImpl.java]	451
Service Implementation Specifications	451
Code Spec	451
savePublisher().....	452
listPublisher()	452
removePublisher().....	453
getPublisherById()	453
DAO CLASS.....	453
Interface [PublisherDAO.java]	453
DAO Interface Specifications	453
Code Spec	453
Implementation Class [PublisherDAOImpl.java]	454
DAO Implementation Specifications	454

Code Spec	454
savePublisher().....	455
listPublisher().....	455
removePublisher().....	456
getPublisherById().....	456
DOMAIN CLASS [Publisher.java].....	457
Domain Specifications	457
Code Spec	457
35. MANAGE AUTHORS	461
JSP [manageAuthors.jsp]	463
Form Specifications	464
Data Fields	464
Micro-Help For Form Fields.....	464
Data Controls	465
Code Spec	465
CONTROLLER [AuthorController.java]	469
Controller Specifications	469
Code Spec	470
showManageAuthors().....	472
downloadAuthorPhotograph()	473
saveAuthor()	473
deleteAuthor().....	474
editAuthor()	474
SERVICE CLASS	475
Interface	475
AuthorService.java	475
Service Interface Specifications	475
Code Spec	475
CommonService.java.....	475
Service Interface Specifications	475
Code Spec	476
Implementation Class	476
AuthorServiceImpl.java	476
Service Implementation Specifications.....	476
Code Spec	476
saveAuthor()	477
listAuthor().....	477
removeAuthor()	477
getAuthorById().....	478
CommonServiceImpl.java	478
Service Implementation Specifications.....	478
Code Spec	478
getBlob().....	479

DAO CLASS.....	479
Interface	479
AuthorDAO.java.....	479
DAO Interface Specifications	479
Code Spec	479
CommonDAO.java	480
DAO Interface Specifications	480
Code Spec	480
Implementation Class.....	480
AuthorDAOImpl.java	480
DAO Implementation Specifications	480
Code Spec	480
saveAuthor()	481
listAuthor().....	481
removeAuthor().....	482
getAuthorById().....	483
CommonDAOImpl.java.....	483
DAO Implementation Specifications	483
Code Spec	483
getBlob()	484
DOMAIN CLASS [Author.java].....	484
Domain Specifications	484
Code Spec	485
36. MANAGE BOOKS	489
JSP [manageBooks.jsp].....	491
Form Specifications	492
Data Fields	492
Micro-Help For Form Fields.....	493
Data Controls	493
Code Spec	493
CONTROLLER [BookController.java]	499
Controller Specifications.....	499
Code Spec	499
showManageBooks()	503
downloadBookPhotograph()	504
downloadBookTOC().....	504
downloadBookSampleChapter()	504
saveBook()	505
deleteBook().....	506
editBook()	506
SERVICE CLASS.....	507
Interface [BookService.java]	507
Service Interface Specifications	507
Code Spec	507

Implementation Class	507
BookServiceImpl.java.....	507
Service Implementation Specifications.....	507
Code Spec	508
saveBook()	510
listBook()	510
removeBook()	510
getBookById()	510
notifyCustomersByMail()	510
MailService.java	511
Service Implementation Specifications.....	511
Code Spec	511
sendMail().....	512
DAO CLASS	513
Interface [BookDAO.java].....	513
DAO Interface Specifications	514
Code Spec	514
Implementation Class [BookDAOImpl.java].....	514
DAO Implementation Specifications	514
Code Spec	514
saveBook().....	515
listBook()	515
removeBook()	516
getBookById()	517
DOMAIN CLASS [Book.java].....	517
Domain Specifications	517
Code Spec	518
37. MANAGE USERS	523
JSP [manageUsers.jsp].....	525
Form Specifications	526
Data Fields	526
Micro-Help For Form Fields.....	527
Data Controls	527
Code Spec	527
CONTROLLER [UserController.java]	532
Controller Specifications	532
Code Spec	533
showManageUsers()	535
saveUser()	535
deleteUser().....	536
editUser()	536
SERVICE CLASS	537
Interface [UserService.java]	537
Service Interface Specifications.....	537
Code Spec	537

Implementation Class [UserServiceImpl.java]	537
Service Implementation Specifications	537
Code Spec	538
saveUser()	539
listUser()	539
removeUser()	539
getUserById()	539
DAO CLASS.....	539
Interface [UserDAO.java].....	539
DAO Interface Specifications	540
Code Spec	540
Implementation Class [UserDAOImpl.java].....	540
DAO Implementation Specifications	540
Code Spec	540
saveUser()	541
listUser()	541
removeUser()	542
getUserById()	543
DOMAIN CLASS [User.java]	543
Domain Specifications	543
Code Spec	544
38. MANAGE TRANSACTIONS.....	549
JSP [manageTransactions.jsp].....	550
Form Specifications	551
Data Fields	551
Micro-Help For Form Fields.....	551
Data Controls	551
Code Spec	552
CONTROLLER [TransactionController.java]	556
Controller Specifications.....	556
Code Spec	557
showManageTransactions()	558
showTransactions()	558
showTransactionsByUsername()	559
showTransactionsByDate()	559
updateGoogleOrderNo()	560
SERVICE CLASS.....	561
Interface [TransactionService.java]	561
Service Interface Specifications	561
Code Spec	561
Implementation Class [TransactionServiceImpl.java]	561
Service Implementation Specifications	561
Code Spec	562
listTransactions().....	563
listGroupedTransactions().....	563

listTransactionsByUsername()	563
listGroupedTransactionsByUsername()	564
listTransactionsByDate()	564
listGroupedTransactionsByDate()	564
updateGoogleOrderNo()	564
DAO CLASS	564
Interface [TransactionDAO.java]	564
DAO Interface Specifications	564
Code Spec	565
Implementation Class [TransactionDAOImpl.java]	565
DAO Implementation Specifications	565
Code Spec	565
listGroupedTransactions()	567
listTransactions()	568
listGroupedTransactionsByUsername()	569
listTransactionsByUsername()	570
listGroupedTransactionsByDate()	572
listTransactionsByDate()	573
updateGoogleOrderNo()	575
DOMAIN CLASS [TRANSACTION.JAVA]	575
Domain Specifications	575
Code Spec	575
39. COMMON INCLUDES	579
ADMINISTRATION HEADER	579
JSP [adminHeader.jsp]	579
Code Spec	580
ADMINISTRATION FOOTER	581
JSP [adminFooter.jsp]	581
Code Spec	582
ADMINISTRATION ACCESS DENIED PAGE	582
JSP [adminAccessDenied.jsp]	583
Code Spec	583
STYLESHEET	584
Code Spec	584

SECTION VI: FRONTEND [CUSTOMER FACING] SOFTWARE DESIGN DOCUMENTATION

40. HOME PAGE	591
JSP	594
home.jsp	595
Form Specifications	595
Code Spec	595

leftMenu.jsp	596
Code Spec	598
allCategories.jsp	600
Code Spec	600
login.jsp	602
Form Specifications	602
Data Fields	603
Data Controls	603
Code Spec	603
popularSearches.jsp	604
Code Spec	606
CONTROLLER [HomeController.java]	606
Controller Specifications	607
Code Spec	607
startHome()	608
showHome()	608
SERVICE CLASSES	609
Interface	609
BookService.java	609
Service Interface Specifications	609
Code Spec	610
AuthorService.java	610
Service Interface Specifications	610
Code Spec	610
PublisherService.java	610
Service Interface Specifications	610
Code Spec	610
CategoryService.java	611
Service Interface Specifications	611
Code Spec	611
SearchService.java	611
Service Interface Specifications	611
Code Spec	611
UserService.java	611
Service Interface Specifications	611
Code Spec	612
Implementation Class	612
BookServiceImpl.java	612
Service Implementation Specifications	612
Code Spec	612
listBook()	613
listNewReleases()	613
listUpdatedBooks()	613
listTopTitles()	614
AuthorServiceImpl.java	614
Service Implementation Specifications	614

Code Spec	614
listOurAuthors()	615
PublisherServiceImpl.java	615
Service Implementation Specifications	615
Code Spec	615
listOurPublishers()	616
CategoryServiceImpl.java	616
Service Implementation Specifications	616
Code Spec	616
listCategory()	617
SearchServiceImpl.java	617
Service Implementation Specifications	617
Code Spec	617
listPopularSearches()	618
UserServiceImpl.java	618
Service Implementation Specifications	618
Code Spec	618
getUserByUsername()	619
DAO CLASSES	619
Interface	619
BookDAO.java	619
DAO Interface Specifications	619
Code Spec	619
AuthorDAO.java	619
DAO Interface Specifications	619
Code Spec	619
PublisherDAO.java	620
DAO Interface Specifications	620
Code Spec	620
CategoryDAO.java	620
DAO Interface Specifications	620
Code Spec	620
SearchDAO.java	621
DAO Interface Specifications	621
Code Spec	621
UserDAO.java	621
DAO Interface Specifications	621
Code Spec	621
Implementation Class	621
BookDAOImpl.java	621
DAO Implementation Specifications	621
Code Spec	622
listBook()	623
listNewReleases()	624
listUpdatedBooks()	624
listTopTitles()	625

AuthorDAOImpl.java	626
DAO Implementation Specifications	626
Code Spec	626
listOurAuthors()	627
PublisherDAOImpl.java	628
DAO Implementation Specifications	628
Code Spec	628
listOurPublishers()	628
CategoryDAOImpl.java	629
DAO Implementation Specifications	629
Code Spec	629
listCategory()	630
SearchDAOImpl.java	631
DAO Implementation Specifications	631
Code Spec	631
listPopularSearches()	632
UserDAOImpl.java	633
DAO Implementation Specifications	633
Code Spec	633
getUserByUsername()	633
SPRING SECURITY [spring-security.xml]	634
Code Spec	634
use-expressions Attribute Of <http>	635
login-page Attribute Of <form-login>	635
authentication-failure-url Attribute Of <form-login>	635
login-processing-url Attribute Of <form-login>	635
default-target-url Attribute Of <form-login>	635
logout-url Attribute Of <logout>	635
logout-success-url Attribute Of <logout>	636
41. BOOK DETAILS	637
JSP [showBookDetails.jsp]	638
Book Details Without Logging In	638
Book Details After Logging In	639
Form Specifications	640
Code Spec	640
CONTROLLER [HomeController.java]	643
Controller Specifications	643
Code Spec	644
showBookDetails()	644
SERVICE CLASS	645
Interface [BookService.java]	645
Service Interface Specifications	645
Code Spec	645
Implementation Class [BookServiceImpl.java]	646
Service Implementation Specifications	646

Code Spec	646
updateHits()	647
DAO CLASS	647
Interface [BookDAO.java].....	647
DAO Interface Specifications	647
Code Spec	647
Implementation Class [BookDAOImpl.java].....	647
DAO Implementation Specifications	648
Code Spec	648
updateHits()	649
42. AUTHOR DETAILS	651
JSP [showAuthorDetails.jsp]	652
Author Details Without Logging In	652
Author Details After Logging In.....	653
Form Specifications	654
Code Spec	654
CONTROLLER [HomeController.java].....	657
Controller Specifications	657
Code Spec	657
showAuthorDetails().....	658
SERVICE CLASS	659
Interface [AuthService.java].....	659
Service Interface Specifications	659
Code Spec	659
Implementation Class [BookServiceImpl.java]	660
Service Implementation Specifications.....	660
Code Spec	660
getAllBooksByAuthor().....	661
DAO CLASS	661
Interface [AuthorDAO.java]	661
DAO Interface Specifications	661
Code Spec	661
Implementation Class [AuthorDAOImpl.java]	661
DAO Implementation Specifications	662
Code Spec	662
getAllBooksByAuthor().....	663
43. PUBLISHER DETAILS.....	665
JSP [showPublisherDetails.jsp]	666
Publisher Details Without Logging In	666
Publisher Details After Logging In.....	667
Form Specifications	668
Code Spec	668
CONTROLLER [HomeController.java].....	670
Controller Specifications	670

xxxviii Spring 3 With Hibernate 4 Project For Professionals

Code Spec	671
showPublisherDetails()	671
SERVICE CLASS.....	672
Interface [PublisherService.java]	672
Service Interface Specifications	672
Code Spec	672
Implementation Class [PublisherServiceImpl.java]	673
Service Implementation Specifications	673
Code Spec	673
getAllBooksByPublisher()	674
DAO CLASS.....	674
Interface [PublisherDAO.java]	674
DAO Interface Specifications	674
Code Spec	674
Implementation Class [PublisherDAOImpl.java]	675
DAO Implementation Specifications	675
Code Spec	675
getAllBooksByPublisher().....	676
44. CATEGORY DETAILS.....	677
JSP [showCategoryDetails.jsp]	678
Category Details Without Logging In.....	678
Category Details After Logging In	679
Form Specifications	680
Code Spec	680
CONTROLLER [HomeController.java].....	682
Controller Specifications.....	682
Code Spec	682
showCategoryDetails().....	683
SERVICE CLASS.....	684
Interface [CategoryService.java].....	684
Service Interface Specifications	684
Code Spec	684
Implementation Class [CategoryServiceImpl.java]	684
Service Implementation Specifications	684
Code Spec	685
getAllBooksByCategory()	685
DAO CLASS.....	686
Interface [CategoryDAO.java].....	686
DAO Interface Specifications	686
Code Spec	686
Implementation Class [CategoryDAOImpl.java].....	686
DAO Implementation Specifications	686
Code Spec	687
getAllBooksByCategory()	687

45. SEARCH RESULTS.....	689
JSP [searchResults.jsp]	690
Form Specifications	691
Code Spec	691
CONTROLLER [SearchController.java].....	692
Controller Specifications	692
Code Spec	693
showSearchResultsByCriteria()	694
showSearchResults().....	694
SERVICE CLASS	695
Interface [SearchService.java]	695
Service Interface Specifications.....	695
Code Spec	695
Implementation Class [SearchServiceImpl.java]	695
Service Implementation Specifications.....	695
Code Spec	696
searchResults().....	697
searchAllResults().....	697
savePopularSearch()	697
DAO CLASS	697
Interface [SearchDAO.java]	697
DAO Interface Specifications	697
Code Spec	698
Implementation Class [SearchDAOImpl.java]	698
DAO Implementation Specifications	698
Code Spec	698
searchResults().....	700
searchAllResults().....	700
savePopularSearch()	700
getTotalPopularSearches().....	701
deletePopularSearches().....	701
DOMAIN CLASS.....	701
PopularSearch.java	701
Domain Specifications	701
Code Spec	702
Search.java.....	702
Domain Specifications	702
Code Spec	703
46. CART	705
JSP [showCart.jsp].....	707
Form Specifications	708
Code Spec	708
Spring Security Tags.....	710

CONTROLLER [CartController.java].....	711
Controller Specifications.....	711
Code Spec	711
showCart()	713
addToCart().....	714
removeFromCart()	715
SERVICE CLASS.....	715
Interface [CartService.java]	715
Service Interface Specifications	715
Code Spec	715
Implementation Class [CartServiceImpl.java]	716
Service Implementation Specifications	716
Code Spec	716
addBookToCart()	717
removeBookFromCart().....	718
DOMAIN CLASS [CartItem.java].....	719
Domain Specifications	719
Code Spec	719
47. CHECKOUT	723
JSP [checkOut.jsp]	725
Form Specifications	725
Data Fields	725
Code Spec	725
CONTROLLER [CartController.java].....	727
Controller Specifications.....	727
Code Spec	727
saveCart().....	728
checkout()	728
SERVICE CLASS.....	729
Interface	729
CartService.java	729
Service Interface Specifications	729
Code Spec	729
TransactionService.java	729
Service Interface Specifications	729
Code Spec	729
Implementation Class.....	729
CartServiceImpl.java	730
Service Implementation Specifications	730
Code Spec	730
saveCart().....	731
TransactionServiceImpl.java.....	731
Service Implementation Specifications	731
Code Spec	731
saveTransaction()	732

DAO CLASS	732
Interface [TransactionDAO.java]	732
DAO Interface Specifications	732
Code Spec	732
Implementation Class [TransactionDAOImpl.java]	733
DAO Implementation Specifications	733
Code Spec	733
saveTransaction()	734
getNextTransactionNo()	734
48. SIGN UP	735
JSP	736
signUp.jsp	736
Form Specifications	737
Data Fields	738
Micro-Help For Form Fields	738
Data Controls	739
Code Spec	739
signUpThankYou.jsp	743
Form Specifications	744
Code Spec	744
CONTROLLER [SignUpController.java]	744
Controller Specifications	745
Code Spec	745
showSignUp()	747
registerCustomer()	747
showSignUpThankYou()	748
49. FORGOT PASSWORD	749
JSP [forgotPassword.jsp]	750
Form Specifications	750
Data Fields	751
Micro-Help For Form Fields	751
Data Controls	751
Code Spec	751
CONTROLLER [UserController.java]	753
Controller Specifications	753
Code Spec	753
showForgotPassword()	755
retrievePassword()	755
50. COMMON INCLUDES	757
FRONTEND HEADER	757
JSP [header.jsp]	757
Form Specifications	758
Data Fields	758

Micro-Help For Form Fields.....	758
Data Controls	758
Code Spec	759
FRONTEND FOOTER.....	761
JSP [footer.jsp].....	761
Code Spec	761
STYLESHEET.....	762
Code Spec	762

SECTION VII: PROJECT CONFIGURATION FILES

51. DISPATCHER SERVLET [bookshopdispatcher-servlet.xml]	771
bookshopdispatcher-servlet.xml	773
Code Spec	773
<context:annotation-config>.....	775
<context:component-scan>.....	775
<context:property-placeholder>.....	775
properties	775
viewResolver	775
dataSource.....	776
sessionFactory.....	776
multipartResolver.....	776
transactionManager.....	777
<mvc:annotation-driven>.....	777
<mvc:resources>.....	777
mailSender	777
mailService	777
52. STANDARD DEPLOYMENT DESCRIPTOR [web.xml]	779
web.xml	779
Code Spec	780
53. PROPERTIES FILE [bookshop.properties]	783
bookshop.properties	784
Code Spec	784
54. HIBERNATE CONFIGURATION FILE [hibernate.cfg.xml]	785
hibernate.cfg.xml	785
Code Spec	785

SECTION VIII: RUNNING THE PROJECT

55. ASSEMBLING AND DEPLOYING THE PROJECT USING NETBEANS IDE	787
PREREQUISITES	787
NetBeans IDE 7.1.2	787
MySQL 5.5.25	788
AN IMPORTANT NOTE!!!	788
CREATING A WEB APPLICATION	788
ADDING THE LIBRARIES TO THE PROJECT	791
BUILDING THE CODE SPEC.....	794
Model Classes	795
Country.java.....	795
Data Access Object [DAO] Layer	796
Interfaces.....	796
CountryDAO.java	796
Implementations.....	798
CountryDAOImpl.java	798
Service Layer	798
Interfaces.....	798
CountryService.java.....	798
Implementations.....	799
CountryServiceImpl.java	799
Controllers	800
AuthenticationController.java.....	800
Views	800
login.jsp	800
Spring XML Configuration Files.....	802
bookshopdispatcher-servlet.xml	802
Standard Deployment Descriptor [web.xml]	804
Hibernate Configuration File [hibernate.cfg.xml]	806
Properties File [bookshop.properties]	808
IMAGES AND CSS.....	810
MODIFYING bookshop.properties	811
LOADING THE BMS DATABASE IN MySQL.....	811
Creating The MySQL Database.....	811
Creating Tables With Sample Data.....	812
BUILDING THE PROJECT	812
RUNNING THE PROJECT.....	813

SECTION IX: APPENDIX

A. UNDERSTANDING GOOGLE WALLET	817
---	------------

