

Spring 5.2 +Hibernate 5.4

Mini Project

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Lab 82: Mini Project with Spring and Hibernate.

Lab82: Files required

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Books at Java Learning Center

Book ID	Book Name	Author	Price	Category	Publications	Add New Book	
<u>116</u>	Learn Spring5	Srinivas	500	Java	ЛС	Edit	Delete
<u>117</u>	Learn Hibernate5	Srinivas	400	Java	ЛС	Edit	Delete
<u>118</u>	Master Angular	Vas	300	Web	JLC	Edit	Delete
120	Master Pink	Sri	100	Java	SD	Edit	Delete
<u>.22</u>	Master Python 3	Srini	333	Python	SD	Edit	Delete
			<u>Previ</u>	ous Next			

1. index.jsp

- <html>
- <body>
-
<h1> Java Learning Center </h1>
- <h2> Display All Books </h2>
- </body> </html>



2.booksList.jsp

```
<%@ taglib uri="http://www.springframework.org/tags/form" prefix="form" %>
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<html>
<head>
<title>Welcome to CC!</title>
<style>
table,td,th{
border:0px rgb(180, 151, 151) solid;
border-collapse: collapse;
font-size: 25px;
}
.mytable{
width: 90%;
}
h2{
width: 90%;
background-color: goldenrod;
height:30px;
a{
color:blue;
tr:nth-child(odd){
background-color: azure;
tr:nth-child(even){
background-color:lavender;;
input[type=submit]{
color: blue;
font-family: verdana;
font-size: 20px;
font-weight:bold;
padding: 5px 5px;
margin: 5px 5px;
</style>
</head>
<body>
<div align="center">
<h1>Books at Java Learning Center</h1>
```



```
<h2 align="right"> ${FROM} to ${TO} of ${TotalBooks} </h2>
Book ID
Book Name
Author
Price
Category
Publications 
<form:form action="addEditBookForm">
<input type="hidden" name="bookId" value="0"/>
<input type="submit" value="Add New Book" />
</form:form> 
<c:forEach var="mybook" items="${MyBooksList}">
<a href="viewBook?bookId=${mybook.bid}"> ${mybook.bid} </a> 
${mybook.bname}
${mybook.author}
${mybook.price}
${mybook.category}
${mybook.pub}
<form:form action="addEditBookForm">
<input type="hidden" name="bookId" value="${mybook.bid}"/>
<input type="submit" value=" Edit " />
</form:form>
<form:form action="deleteBook">
<input type="hidden" name="bookId" value="${mybook.bid}"/>
<input type="submit" value="Delete" />
</form:form>
</c:forEach>
<h2 >
```



```
<c:if test="${ShowPrevious eq 'TRUE' }">
<a href="previousBooks">Previous </a> </c:if>
&nbsp; &nbsp;
<c:if test="${ShowNext eq 'TRUE' }">
<a href="nextBooks">Next </a> </c:if>
</h2>
</div>
</body>
</html>
```

3. viewBook.jsp

```
<%@ taglib prefix="form" uri="http://www.springframework.org/tags/form"%>
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<html>
<head>
<title>Welcome to CC!</title>
<style>
table,td,th{
border:0px rgb(180, 151, 151) solid;
border-collapse: collapse;
font-size: 25px;
width: 50%;
}
.mytable{
width: 90%;
}
tr:nth-child(odd){
background-color: azure;
tr:nth-child(even){
background-color:lavender;;
</style>
</head>
<body>
<div align="center">
 Book Details
```



```
Book Id
${MyBook.bid} 
Book Name
${MyBook.bname} 
Author
${MyBook.author} 
Price
${MyBook.price} 
Category
${MyBook.category} 
Publications
${MyBook.pub} 
<h2> <a href="showAllBooks">Goto Book Home</a> </h2>
</div>
</body>
</html>
```

4.addEditBook.jsp

```
<%@ taglib prefix="form" uri="http://www.springframework.org/tags/form"%>
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>

<html> <head>
<title>Welcome to CC!</title>
<style>
table,td,th{
border:0px rgb(180, 151, 151) solid;
border-collapse: collapse;
font-size: 25px;
}
.mytable{
width: 90%;
}
```



```
tr:nth-child(odd){
background-color: azure;
tr:nth-child(even){
background-color:lavender;;
input[type=submit]{
color: blue;
font-family: verdana;
font-size: 20px;
font-weight:bold;
padding: 5px 5px;
margin: 5px 5px;
input{
color: blue;
font-family: verdana;
font-size: 20px;
font-weight:bold;
padding: 5px 5px;
margin: 5px 5px;
</style> </head>
<body>
<div align="center">
<form:form action="saveUpdateBook" method="post" modelAttribute="mybook">
<c:if test="${OpType eq 'ADD' }">
Add New Book
</c:if>
<c:if test="${OpType eq 'UPDATE' }">
Update Book
</c:if>
Book Name
<form:input path="bname" />
<font color=red size=4><form:errors path="bname" /></font>
Author
<form:input path="author" />
<font color=red size=4><form:errors path="author" /></font>
```



```
Price
<form:input path="price" />
<font color=red size=4><form:errors path="price" /></font>
Category
<form:input path="category" />
<font color=red size=4><form:errors path="category" /></font>
Publications
<form:input path="pub" />
<font color=red size=4><form:errors path="pub" /></font>
<input type="hidden" name="OpType" value="${OpType}"/>
<c:if test="${OpType eq 'ADD' }">
<input type="submit"
                    value="Add New Book" />
</c:if>
<c:if test="${OpType eq 'UPDATE' }">
                  value="Update Book" />
<input type="submit"
<form:hidden path="bid" />
</c:if>

</form:form>
</div> </body> </html>
```



6.BookController.java

```
package com.coursecube.spring.controller;
import java.util.List;
import javax.servlet.http.HttpServletRequest;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Controller;
import org.springframework.ui.Model;
import org.springframework.validation.BindingResult;
import org.springframework.web.bind.annotation.*;
import com.coursecube.spring.entity.Book;
import com.coursecube.spring.service.BookService;
/*
* @Author : Srinivas Dande
* @company : Java Learning Center
* */
@Controller
@SessionAttributes("MyBooksList")
public class BookController {
@Autowired
BookService bookService;
int start=0;
int end=5:
int totalDisplay=5;
int totalBooks;
private void showFirstPage(Model model) {
start=0;
end=5:
totalDisplay=5;
totalBooks=(int)bookService.getBookCount();
model.addAttribute("FROM", start+1);
model.addAttribute("TO",end);
model.addAttribute("TotalBooks",totalBooks);
model.addAttribute("ShowPrevious", "FALSE");
model.addAttribute("ShowNext", "TRUE");
}
```



```
@GetMapping("/showAllBooks")
public String showBooksList(Model model) {
System.out.println("------BookController--showBooksList()------");
List<Book> blist=bookService.getAllBooks(start,totalDisplay);
model.addAttribute("MyBooksList", blist);
showFirstPage(model);
return "booksList";
}
@GetMapping("/nextBooks")
public String showNextBooks(Model model) {
System.out.println("------BookController--showNextBooks()-----");
start=start+totalDisplay;
if(start<=0) {
start=0;
model.addAttribute("ShowPrevious", "FALSE");
}
else {
model.addAttribute("ShowPrevious", "TRUE");
model.addAttribute("FROM", start+1);
end=end+totalDisplay;
if(end>=totalBooks) {
model.addAttribute("TO",totalBooks);
model.addAttribute("ShowNext", "FALSE");
} else {
model.addAttribute("TO",end);
model.addAttribute("ShowNext", "TRUE");
}
List<Book> blist=bookService.getAllBooks(start,totalDisplay);
model.addAttribute("MyBooksList", blist);
model.addAttribute("TotalBooks",totalBooks);
return "booksList";
}
@GetMapping("/previousBooks")
public String showPreviousBooks(Model model) {
System.out.println("-----BookController--showPreviousBooks()-----");
start=start-totalDisplay;
```



```
if(start<=0) {
start=0:
model.addAttribute("ShowPrevious", "FALSE");
}
else {
model.addAttribute("ShowPrevious", "TRUE");
model.addAttribute("FROM", start+1);
end=end-totalDisplay;
if(end>=totalBooks) {
model.addAttribute("TO",totalBooks);
model.addAttribute("ShowNext", "FALSE");
} else {
model.addAttribute("TO",end);
model.addAttribute("ShowNext", "TRUE");
List<Book> blist=bookService.getAllBooks(start,totalDisplay);
model.addAttribute("MyBooksList", blist);
model.addAttribute("TotalBooks",totalBooks);
return "booksList";
}
@PostMapping("/addEditBookForm")
public String addBookForm(@RequestParam("bookId") Integer bookId,Model model) {
System.out.println("-----BookController--addEditBookForm()-----");
System.out.println(bookId);
Book book=new Book();
String opType="ADD";
if(bookId!=0) {
book=bookService.getBookById(bookId);
opType="UPDATE";
model.addAttribute("mybook", book);
model.addAttribute("OpType", opType);
showFirstPage(model);
return "addEditBook";
}
```



```
@PostMapping("/saveUpdateBook")
public String saveUpdateBook(@ModelAttribute("mybook") Book book,BindingResult
result, Model model, HttpServletRequest req) {
System.out.println("------BookController--saveUpdateBook()-----");
String opType=req.getParameter("OpType");
System.out.println(opType);
if(opType.equals("ADD")) {
bookService.addBook(book);
if(opType.equals("UPDATE")) {
bookService.updateBook(book);
}
List<Book> blist=bookService.getAllBooks(start,totalDisplay);
model.addAttribute("MyBooksList", blist);
showFirstPage(model);
return "booksList";
}
@PostMapping("/deleteBook")
public String deleteBook(@RequestParam("bookId") Integer bookId,Model model) {
System.out.println("------BookController--deleteBook()------");
bookService.deleteBook(bookId);
List<Book> blist=bookService.getAllBooks(start,totalDisplay);
model.addAttribute("MyBooksList", blist);
showFirstPage(model);
return "booksList";
@GetMapping("/viewBook")
public String viewBook(@RequestParam("bookId") String bookId,Model model) {
System.out.println("-----BookController--viewBook()-----");
System.out.println(bookId);
Book book=bookService.getBookById(Integer.parseInt(bookId));
model.addAttribute("MyBook", book);
showFirstPage(model);
return "viewBook";
}
```



```
7.BookService.java

package com.coursecube.spring.service;

import java.util.List;
import com.coursecube.spring.entity.Book;
/*
    *@Author : Srinivas Dande
    *@company : Java Learning Center
    **/
public interface BookService {
        public List<Book> getAllBooks();
        public List<Book> getAllBooks(int start,int total);
        public Book getBookById(Integer bid);
        public void addBook(Book book);
        public void updateBook(Book book);
        public void deleteBook(Integer bid);
        public int getBookCount();
}
```

8.BookServiceImpl.java

```
package com.coursecube.spring.serviceimpl;
import java.util.List;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Service;
import com.coursecube.spring.dao.BookDAO;
import com.coursecube.spring.entity.Book;
import com.coursecube.spring.service.BookService;
* @Author : Srinivas Dande
* @company : Java Learning Center
* */
@Service
public class BookServiceImpl implements BookService{
      @Autowired
      BookDAO bookDAO;
      @Autowired
       MailService mailService;
```



```
@Override
public List<Book> getAllBooks() {
      System.out.println("-----BookServiceImpl--getAllBooks()------");
return bookDAO.getAllBooks();
@Override
public List<Book> getAllBooks(int start, int total) {
      System.out.println("-----BookServiceImpl--getAllBooks(start,total)------");
      return bookDAO.getAllBooks(start,total);
}
@Override
public Book getBookById(Integer bid) {
      System.out.println("-----BookServiceImpl--getBookById()------");
      return bookDAO.getBookById(bid);
}
@Override
public void addBook(Book book) {
System.out.println("-----BookServiceImpl--addBook()------");
bookDAO.addBook(book);
String from="<username>@gmail.com";
String to="<username>@gmail.com";
String subject="New Book @ JLC Book Store";
String body="<font color=red size=5> New Book: "+ book.getBname() +" <br/> By
"+book.getAuthor()+" <br/> at Rs." +book.getPrice();
mailService.sendMail(from, to, subject, body);
@Override
public void updateBook(Book book) {
      System.out.println("-----BookServiceImpl--updateBook()------");
      bookDAO.updateBook(book);
@Override
public void deleteBook(Integer bid) {
      System.out.println("-----BookServiceImpl--deleteBook()------");
      bookDAO.deleteBook(bid);
public int getBookCount() {
      return bookDAO.getBookCount();
}
```



```
package com.coursecube.spring.service;

import java.io.File;
/*
 * @Author : Srinivas Dande
 * @company : Java Learning Center
 * */
public interface MailService {
    public void sendMail(String from,String to,String subject,String body);
    public void sendMail(String from,String to,String subject,String body,File file);
}
```

10.MailServiceImpl.java package com.coursecube.spring.serviceimpl; import java.io.File; import javax.mail.internet.MimeMessage; import org.springframework.beans.factory.annotation.Autowired; import org.springframework.core.io.FileSystemResource; import org.springframework.mail.javamail.JavaMailSender; import org.springframework.mail.javamail.MimeMessageHelper; import org.springframework.stereotype.Service; import com.coursecube.spring.service.MailService; @Service public class MailServiceImpl implements MailService { @Autowired JavaMailSender mailSender; public void sendMail(String from, String to, String subject, String body) { try { MimeMessage mimeMessage = mailSender.createMimeMessage(); MimeMessageHelper mailMsg = new MimeMessageHelper(mimeMessage); mailMsg.setFrom(from); mailMsg.setTo(to); mailMsg.setSubject(subject); mailMsg.setText(body, true); mailSender.send(mimeMessage); } catch (Exception ex) { ex.printStackTrace(); }

}



```
public void sendMail(String from, String to, String subject, String body, File file) {
MimeMessage mimeMessage = mailSender.createMimeMessage();
MimeMessageHelper mailMsg = new MimeMessageHelper(mimeMessage, true);
mailMsg.setFrom(from);
mailMsg.setTo(to);
mailMsg.setSubject(subject);
mailMsg.setText(body, true);
FileSystemResource fileRes = new FileSystemResource(file);
mailMsg.addAttachment(file.getName(), fileRes);
mailSender.send(mimeMessage);
} catch (Exception ex) { ex.printStackTrace(); }
11.BookDAO.java
package com.coursecube.spring.dao;
import java.util.List;
import com.coursecube.spring.entity.Book;
* @Author : Srinivas Dande
* @company : Java Learning Center
public interface BookDAO {
public List<Book> getAllBooks();
public List<Book> getAllBooks(int start,int total);
public Book getBookById(Integer bid);
public void addBook(Book book);
public void updateBook(Book book);
public void deleteBook(Integer bid);
public int getBookCount();
```

12.BookDAOImpl.java

```
package com.coursecube.spring.daoimpl;

import java.math.BigInteger;
import java.util.List;
import org.hibernate.*;
import org.hibernate.criterion.DetachedCriteria;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.orm.hibernate5.HibernateTemplate;
import org.springframework.stereotype.Repository;
import org.springframework.transaction.annotation.Transactional;
```



```
import com.coursecube.spring.dao.BookDAO;
import com.coursecube.spring.entity.Book;
* @Author : Srinivas Dande
* @company : Java Learning Center
@Repository
@Transactional
public class BookDAOImpl implements BookDAO{
      @Autowired
      HibernateTemplate hibernateTemp;
      @Override
      public List<Book> getAllBooks() {
             System.out.println("-----BookDAOImpl--getAllBooks()------");
             return hibernateTemp.loadAll(Book.class);
      @Override
      public List<Book> getAllBooks(int start, int total) {
             System.out.println("-----BookDAOImpl--getAllBooks(start,total)------");
             DetachedCriteria dc=DetachedCriteria.forClass(Book.class);
             return (List<Book>) hibernateTemp.findByCriteria(dc,start,total);
      }
      @Override
      public Book getBookById(Integer bid) {
             System.out.println("-----BookDAOImpl--getBookById()------");
             return hibernateTemp.load(Book.class, bid, LockMode.READ);
      @Override
      public void addBook(Book book) {
             System.out.println("-----BookDAOImpl--addBook()------");
             hibernateTemp.save(book);
      @Override
      public void updateBook(Book book) {
             System.out.println("-----BookDAOImpl--updateBook()------");
             hibernateTemp.update(book);
      @Override
      public void deleteBook(Integer bid) {
```



```
System.out.println("----BookDAOImpl--deleteBook()------");
Book book = hibernateTemp.get(Book.class, bid);
if (book!= null)
hibernateTemp.delete(book);
}

public int getBookCount() {
    SessionFactory sessionFactory=hibernateTemp.getSessionFactory();
    Session session=sessionFactory.openSession();
    String sql="select count(*) from mybooks";

BigInteger big=(BigInteger) session.createNativeQuery(sql).uniqueResult();
    return big.intValue();
}
```

13.Book.java

```
package com.coursecube.spring.entity;
import java.math.BigDecimal;
import javax.persistence.*;
* @Author : Srinivas Dande
* @company : Java Learning Center
* */
@Entity
@Table(name="mybooks")
public class Book {
@Id
@Column(name="bid")
@GeneratedValue(strategy = GenerationType.AUTO)
private Integer bid;
@Column(name="bname")
private String bname;
@Column(name="author")
private String author;
@Column(name="price")
private BigDecimal price;
@Column(name="category")
private String category;
```



```
@Column(name="pub")
private String pub;

//Constructors
//Setters and Getters

@Override
public String toString() {
  return "[" + bid + ", " + bname + "," + author + "," + price + "," + category + "," + pub+ "]";
  }
}
```

14.JLCWebConfig.java

```
package com.coursecube.spring.config;
import java.util.Properties;
import javax.sql.DataSource;
import org.hibernate.SessionFactory;
import org.springframework.context.*;
import org.springframework.context.annotation.*;
import org.springframework.context.support.ReloadableResourceBundleMessageSource;
import org.springframework.jdbc.datasource.DriverManagerDataSource;
import org.springframework.mail.javamail.JavaMailSender;
import org.springframework.mail.javamail.JavaMailSenderImpl;
import org.springframework.orm.hibernate5.*;
import org.springframework.transaction.PlatformTransactionManager;
import org.springframework.transaction.annotation.EnableTransactionManagement;
import org.springframework.web.servlet.config.annotation.EnableWebMvc;
import org.springframework.web.servlet.view.*;
* @Author: Srinivas Dande
* @company : Java Learning Center
**/
@EnableWebMvc
@Configuration
@EnableTransactionManagement
@ComponentScan({ "com.coursecube.spring" })
public class JLCWebConfig {
@Bean
public InternalResourceViewResolver viewResolver() {
InternalResourceViewResolver viewResolver = new InternalResourceViewResolver();
viewResolver.setViewClass([stlView.class);
viewResolver.setPrefix("/WEB-INF/myjsps/");
```



```
viewResolver.setSuffix(".jsp");
return viewResolver;
@Bean
public MessageSource messageSource() {
ReloadableResourceBundleMessageSource messageSource = new
ReloadableResourceBundleMessageSource();
messageSource.setBasename("classpath:messages");
messageSource.setDefaultEncoding("UTF-8");
return messageSource;
}
@Bean()
public HibernateTemplate hibernateTemplate(SessionFactory sessionFactory) {
return new HibernateTemplate(sessionFactory);
}
@Bean
public PlatformTransactionManager transactionManager(SessionFactory sessionFactory) {
return new HibernateTransactionManager(sessionFactory);
}
@Bean
public LocalSessionFactoryBean sessionFactory(DataSource dataSource) {
LocalSessionFactoryBean sessionFactoryBean = new LocalSessionFactoryBean();
sessionFactoryBean.setDataSource(dataSource);
Properties props = new Properties();
props.put("hibernate.show_sql", "true");
props.put("hibernate.hbm2ddl.auto", "update");
props.put("hibernate.transaction.factory_class",
"org.hibernate.transaction.JDBCTransactionFactory");
sessionFactoryBean.setHibernateProperties(props);
sessionFactoryBean.setPackagesToScan("com.coursecube.spring.entity");
return sessionFactoryBean;
@Bean
public DataSource dataSource() {
DriverManagerDataSource ds = new DriverManagerDataSource();
ds.setDriverClassName("com.mysql.jdbc.Driver");
ds.setUrl("jdbc:mysql://localhost:3306/bookstoredb");
ds.setUsername("root");
ds.setPassword("srinivas");
return ds;
```



```
@Bean
public JavaMailSender javaMailSenderImpl() {
    JavaMailSenderImpl mailSender = new JavaMailSenderImpl();
    mailSender.setHost("smtp.gmail.com");
    mailSender.setPort(465);

mailSender.setUsername("<username>@gmail.com");
    mailSender.setPassword("<password>");

Properties prop = mailSender.getJavaMailProperties();
    prop.put("mail.smtp.host", "smtp.gmail.com");
    prop.put("mail.smtp.socketFactory.port", "465");
    prop.put("mail.smtp.socketFactory.class", "javax.net.ssl.SSLSocketFactory");
    prop.put("mail.smtp.auth", "true");
    prop.put("mail.smtp.startssl.enable", "true");
    return mailSender;
    }
}
```

15. JLCWebAppInitializer.java

```
package com.coursecube.spring.config;
import org.springframework.web.servlet.support.*;
* @Author: Srinivas Dande
* @company : Java Learning Center
public class JLCWebAppInitializer extends
AbstractAnnotationConfigDispatcherServletInitializer {
      @Override
      protected Class<?>[] getRootConfigClasses() {
             return new Class[] { JLCWebConfig.class };
       @Override
      protected Class<?>[] getServletConfigClasses() {
             return new Class[] { JLCWebConfig.class };
      @Override
      protected String[] getServletMappings() {
             return new String[] { "/" };
      }
```