Product Management

**Spring boot MVC project**

Spring-starter-Project

Group Id: com.boot.project

Artifact Id: Spring-MVC-Project

Version: 3.2.5

**Dependencies:**

* Spring-boot-starter-validation
* spring-boot-starter-web
* spring-boot-devtools
* Lombok

Extra dependencies to add in pom.xml file:

<dependency>

<groupId>org.apache.tomcat.embed</groupId>

<artifactId>tomcat-embed-jasper</artifactId>

</dependency>

<dependency>

<groupId>org.glassfish.web</groupId>

<artifactId>jakarta.servlet.jsp.jstl</artifactId>

<version>2.0.0</version>

</dependency>

**Folder Structure:**

src/main/java

* + com.boot.project
    - Main method (default)
  + com.boot.project.controller
    - BookController
  + com.boot.project.model
    - Book
  + com.boot.project.exception
    - DuplicateBookException
  + com.boot.project.service
    - BookService
  + com.boot.project.aop
    - BookControllerAdvice

src/main/resources

* application.properties

src

* main
  + webapp 🡪 create folder
    - WEB-INF 🡪 create folder
      * myviews 🡪 create folder
        + add-book.jsp
        + edit-book.jsp
        + error-page.jsp
        + view-book.jsp

**Project over view:**

**Java Classes and Codes**

**Model Layer: Book class**

Book:

@Data

@AllArgsConstructor

@NoArgsConstructor

**public** **class** Book {

@NotNull(message= "ISBN cannot be null")

**private** Integer isbn;

@NotBlank(message = "Book Name Required")

**private** String name;

@NotBlank(message = "Book Author Required")

@Size(min = 3, max = 30, message = "Author name between 5 to 30 charecters")

**private** String author;

**Explanation:**

@Data

@AllArgsConstructor

@NoArgsConstructor

3 annotations on model Book class for reducing the boiler plate code with the help of Lombok dependency  
using these 3 annotations archives the All-argument Constructor, No args Constructor, setter and getter, to string method.

**Variable:**

Isbn: Indian Standard Book Number (book id)

Name: Title of the book

Author: Writer of the book

**Validations:**

@NotNull(message= "ISBN cannot be null")

used to validate the isbn number, if there was no entry in isbn text box below message will pop.

@NotBlank(message = "Book Name Required")

Used to validate the name of the book, if there was no entry in the name text box below message will pop.

@NotBlank(message = "Book Author Required")

Used to validate the author of the book, if there was no entry in the author text box below message will pop.

@Size(min = 3, max = 30, message = "Author name between 5 to 30 characters")

Used to validate the author’s name of the book by counting the characters of the book.

It should contain min of 3 characters to max of 30 characters.

**Service Layer: Book service class**

@Service

**public** **class** BookService {

**public** **static** ArrayList<Book> *books* = **new** ArrayList<Book>();

**static**

{

*books*.add(**new** Book(1001,"Spring","Mr Ratan"));

*books*.add(**new** Book(1002,"Springboot","Mr Ram"));

*books*.add(**new** Book(1003,"Microservices","Mr Sathya"));

}

@Service

This annotation indicates the controller that this class is a service layer where all the business logic will be there.

Then created an array with book information

Added 3 books initially to start with.

// used to get all the books from books array

**public** List<Book> getBooks()

{

**return** *books*;

}

This above method is used to call all the books from the array and this method will called in controller class.

**Controller Layer: Book Controller class**

@Controller

@RequestMapping("/books")

**public** **class** BookController {

@Autowired

BookService bookService;

@GetMapping("/viewbooks")

**public** String getAllBooks(Model model)

{

// read the books and send the books to view layer using model object

List<Book> books= bookService.getBooks();

model.addAttribute("books",books);

**return** "view-books";

}

@Controller

Used to indicate that it’s a controller layer in MVC Architecture patterns.

@RequestMapping("/books")

It is used to indicate the end pointer in the URL. Here its /books. If it is placed below the class level then all the method with in the class will comes under this URL as default.