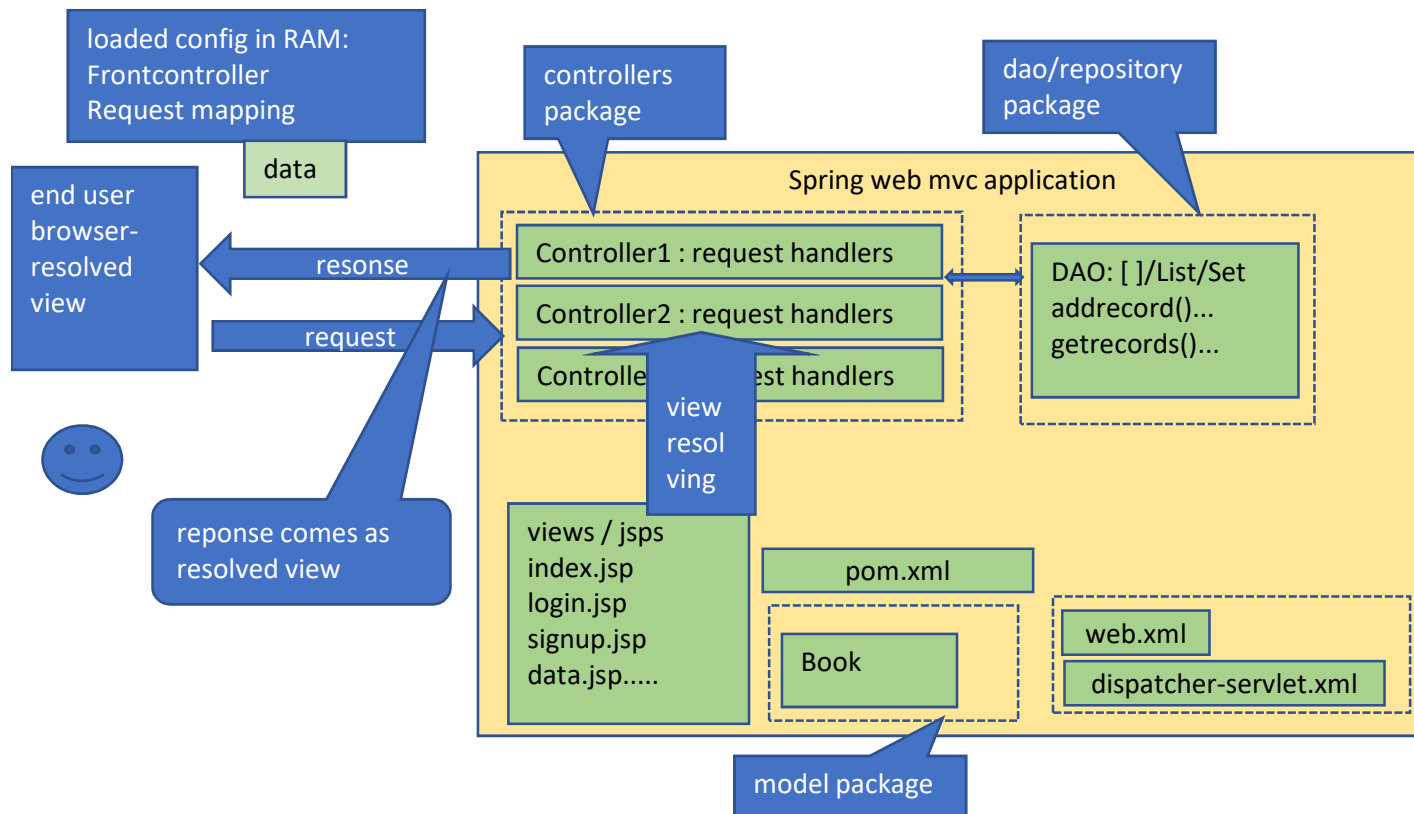


Application must capture data from UI and store in data source ( data source is an array/list/set )  
Application must retrieve data from data source and display on UI



How to display data from controller to view

ui	controller	ui	ts
jsp/view		{{a}}	a=10;
<code>\${a}</code>	<code>a=10;</code>		
<code>\${name}</code>	<code>name="abcd"</code>		
	1 attach data to view in controller method		
	2 display data in view		

Model class

```
addAttribute(name, value);
```

## attach data from controller to view (primitive)

### 1 attach data to view in controller method

```
10 // http://localhost:8080/webmvc2/
11 @RequestMapping("/")
12 @ public String displayHomePage(Model m){
13     System.out.println("/ request handled");
14     int a=10;
15     String b="NIIT";
16
17     // attach some data to view
18     m.addAttribute( attributeName: "x", a); // attribute x attached to view, this x attribute hold variable a
19     m.addAttribute( attributeName: "y", b); // attribute y attached to view, this y attribute hold variable b
20     return "Landpage"; // returning view
21 }
```

### 2 display data in view

```
landpage.jsp x HomeCon
1 <html>
2
3 <head>
4
5 </head>
6 <body>
7     this is homepage
8
9     <br/>
10    <br/>
11    ${x}
12
13    </body>
14
15 </html>
```

localhost:8080/webmvc2/

this is homepage

`${x}`

`${y}`

EL is not enabled in browser by default, to be enabled

localhost:8080/webmvc2/

this is homepage

10

NIIT

```
landpage.jsp x
1 <%@ page isELIgnored="false" %>
2
3 <html>
4
5 <head>
```

## attach data from controller to view (object type)

create model class

attach object of model to view

```
22 Book book = new Book( bkId: 1, bkPrice: 200, bkStock: 15, bkName: "Tags in HTML", bkSubject: "HTML", bkAuthor: "McGr");
23 m.addAttribute( attributeName: "bookobj", book);
24 return "landpage"; // returning view
```

display value in view

```
15 ${bookobj}
16 <br/>
17 ${bookobj.bkId} ${bookobj.bkName}
```

← → ↻ ⓘ localhost:8080/webmvc2/

this is homepage

10

NIIT

Book{bkId=1, bkPrice=200, bkStock=15, bkName='Tags in HTML', bkSubject='HTML', bkAuthor='McGr'}

1 Tags in HTML

## attach data from controller to view (collection type)

```
28 Book book2 = new Book( bkId: 2, bkPrice: 300, bkStock: 25, bkName: "Applets in Java", bkSubject: "Java", bkAuthor: "Bgs");
29 Book book3 = new Book( bkId: 3, bkPrice: 400, bkStock: 17, bkName: "Threads in Java", bkSubject: "Java", bkAuthor: "MCooper");
30 Book book4 = new Book( bkId: 4, bkPrice: 350, bkStock: 31, bkName: "Joins in SQL", bkSubject: "SQL", bkAuthor: "Wen");
31
32 List<Book> books = new ArrayList<Book>();
33 books.add(book1); books.add(book2); books.add(book3); books.add(book4);
34 m.addAttribute( attributeName: "bookobjects", books);
35 return "landpage"; // returning view
```

```
24 <c:forEach items="${bookobjects}" var="bk">
25   ${bk}
26   <br/>
27 </c:forEach>
```

```
Book{bkId=1, bkPrice=200, bkStock=15, bkName='Tags in HTML', bkSubject='HTML', bkAuthor='McGr'}
Book{bkId=2, bkPrice=300, bkStock=25, bkName='Applets in Java', bkSubject='Java', bkAuthor='Bgs'}
Book{bkId=3, bkPrice=400, bkStock=17, bkName='Threads in Java', bkSubject='Java', bkAuthor='MCooper'}
Book{bkId=4, bkPrice=350, bkStock=31, bkName='Joins in SQL', bkSubject='SQL', bkAuthor='Wen'}
```

```

30 <table border="1">
31 <tbody>
32 <c:forEach items="${bookobjects}" var="bk">
33     <tr>
34         <td>${bk.bkId}</td>
35         <td>${bk.bkName}</td>
36         <td>${bk.bkSubject}</td>
37         <td>${bk.bkAuthor}</td>
38         <td>${bk.bkPrice}</td>
39         <td>${bk.bkStock}</td>
40     </tr>
41 </c:forEach>
42
43 </tbody>
44 </table>

```

1	Tags in HTML	HTML	McGr	200	15
2	Applets in Java	Java	Bgs	300	25
3	Threads in Java	Java	MCooper	400	17
4	Joins in SQL	SQL	Wen	350	31

#### Note

In order to use <c:..>

jstl core uri to be imported in page head section

```

5 <head>
6
7 <%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
8
9 </head>

```

## Capturing data from UI and send to controller

### 1 create form in page

GET: populates param data in URL

```
12 <h1>Book form</h1>
13
14 <form action="reqSendBookData" method="GET">
15
16 Book ID <input type="number" name="bid"/>
17 <br/> Book Name <input type="text" name="bn"/>
18 <br/> Book Subject <input type="text" name="bs"/>
19 <br/> Book Author <input type="text" name="ba"/>
20 <br/> Book Price <input type="number" name="bp"/>
21 <br/> Book Stock <input type="number" name="bst"/>
22 <br/>
23 <input type="submit" value="Save book"/>
24
25 </form>
```

localhost:8080/webmvc2/

this is homepage

### Book form

Book ID	4
Book Name	Let Us C
Book Subject	C Language
Book Author	Bg Swamy
Book Price	435
Book Stock	150
<input type="button" value="Save book"/>	

localhost:8080/webmvc2/reqSendBookData?bid=4&bn=Let+Us+C&bs=C+Language&ba=Bg+Swamy&bp=435&bst=15

BASE\_URL/request?param1=value&param2=value&param3=value.....

### 2 define request handler method

this method has to receive all data coming along with request

```
40 // http://localhost:8080/webmvc2/reqSendBookData?bid=_&bn=_&bs=...
41 @PostMapping("/reqSendBookData")
42 public String saveBookData(@RequestParam("bid")String a, @RequestParam("bn")String b, @RequestParam("bs")String c,
43                             @RequestParam("ba")String d, @RequestParam("bp")String e, @RequestParam("bst")String f ){
44
45 }
```

### 3 Store received data into model object

```
40 // http://localhost:8080/webmvc2/reqSendBookData?bid=_&bn=_&bs=...
41 @PostMapping("/reqSendBookData")
42 public String saveBookData(@RequestParam("bid")String a, @RequestParam("bn")String b, @RequestParam("bs")String c,
43     @RequestParam("ba")String d, @RequestParam("bp")String e, @RequestParam("bst")String f ){
44
45     Book book = new Book(Integer.parseInt(a), Integer.parseInt(e), Integer.parseInt(f),b,c,d);
46     System.out.println(book);
47
48     return null;
49 }
```

### 4 Define DAO/Repository class

create collection to store book object

define method to add new book object to collection

```
8 public class BookDao {
    2 usages
9     private List<Book> masterdata = new ArrayList<Book>();
10
11     public void addBook(Book book){
12         masterdata.add(book);
13     }
14
15     public List<Book> getAllBooks(){
16         return masterdata;
17     }
18 }
```



## 5 call dao method in controller

to push book object into collection  
redirect to '/'

```
47 // http://localhost:8080/webmvc2/reqSendBookData?bid=_&bn=_&bs=...
48 @PostMapping("/reqSendBookData")
49 public String saveBookData(@RequestParam("bid")String a, @RequestParam("bn")String b, @RequestParam("bs")String c,
50     @RequestParam("ba")String d, @RequestParam("bp")String e, @RequestParam("bst")String f ){
51
52     Book book = new Book(Integer.parseInt(a), Integer.parseInt(e), Integer.parseInt(f),b,c,d);
53     System.out.println(book);
54
55     bookDao.addBook(book);
56     return "redirect:/";
57 }
```

## 6 redefine '/' request handler

```
19 // http://localhost:8080/webmvc2/
20 @RequestMapping("/")
21 @Controller
22 public class HomeController {
23
24     public String displayHomePage(Model m){
25         System.out.println("/ request handled");
26
27         List<Book> books = bookDao.getAllBooks();
28         m.addAttribute("bookobjects", books);
29         return "landpage";
30     }
31 }
```

## 7 modify jsp

remove all old code  
except table and form



```

1 <%@ page isELIgnored="false" %>
2 <html>
3 <head>
4 <%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
5 </head>
6 <body>
7 this is homepage
8 <h1>Book form</h1>
9 <form action="reqSendBookData" method="POST">
10 Book ID <input type="number" name="bid"/>
11 <br/> Book Name <input type="text" name="bn"/>
12 <br/> Book Subject <input type="text" name="bs"/>
13 <br/> Book Author <input type="text" name="ba"/>
14 <br/> Book Price <input type="number" name="bp"/>
15 <br/> Book Stock <input type="number" name="bst"/>
16 <br/> <input type="submit" value="Save book"/>
17 </form>
18 <hr/>
19 <table border="1">
20 <tbody>
21 <c:forEach items="${bookobjects}" var="bk">
22 <tr>
23 <td>${bk.bkId}</td>
24 <td>${bk.bkName}</td>
25 <td>${bk.bkSubject}</td>
26 <td>${bk.bkAuthor}</td>
27 <td>${bk.bkPrice}</td>
28 <td>${bk.bkStock}</td>
29 </tr>
30 </c:forEach>
31 </tbody>
32 </table>

```

Final output

← → ↻ ⓘ localhost:8080/webmvc2/

this is homepage

## Book form

Book ID

Book Name

Book Subject

Book Author

Book Price

Book Stock

1	Spirit of C	C Language	MCooper	435	12
2	Let Us C	C Language	BG	345	342
3	abcd	xyz	mnop	456	11
4	dfasdas	dasdas	dasdas	34	4