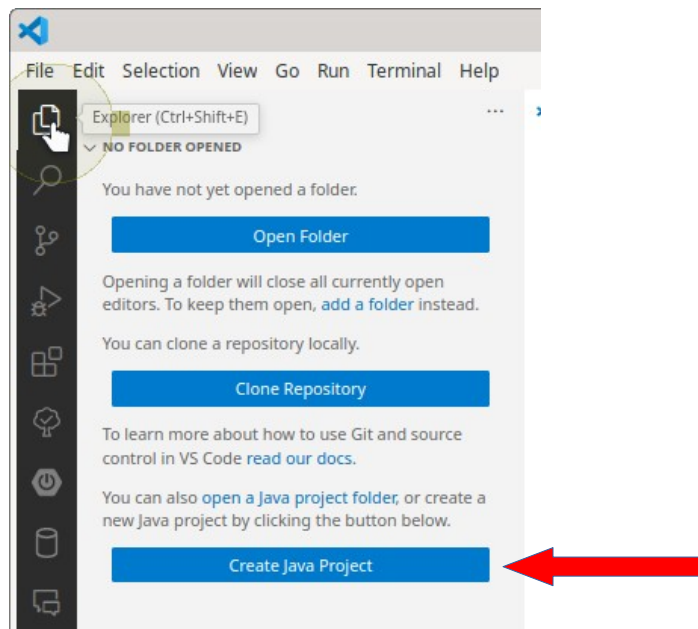


eLibrary - My First Spring Boot Web Application

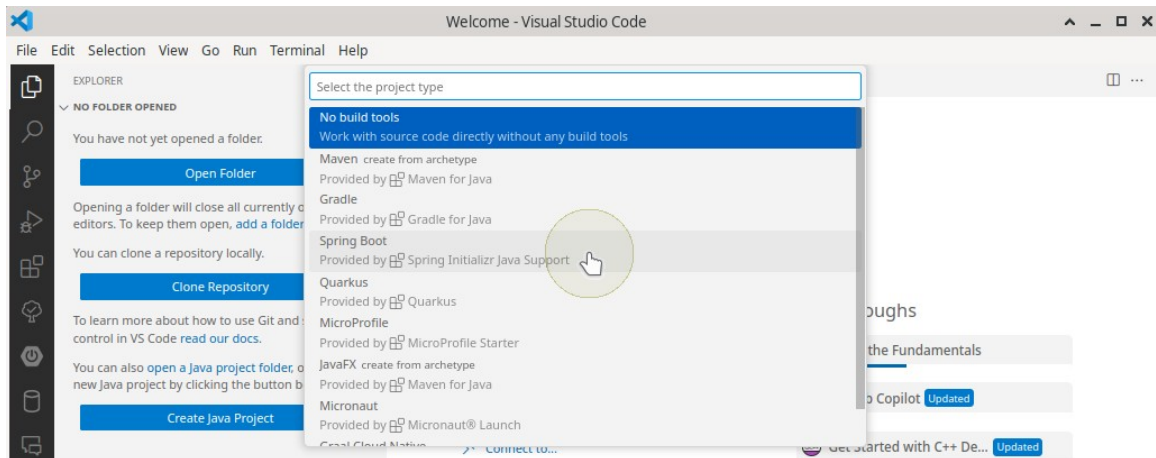
Visual Studio Code 2024-04

To create your first Spring Boot Webapp (named, eLibrary), do the following steps:

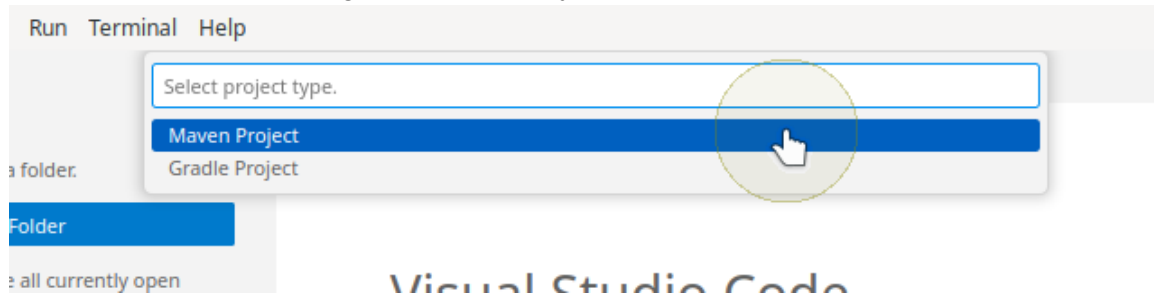
1. Open Visual Studio Code. A guide for Eclipse / STS also exists. IntelliJ should have very similar options, but we don't have a detailed document with screenshots yet.
2. If VSCode has a project / code opened already, create a new window.
3. In the new window open the explorer, and then click on "Create Java Project"



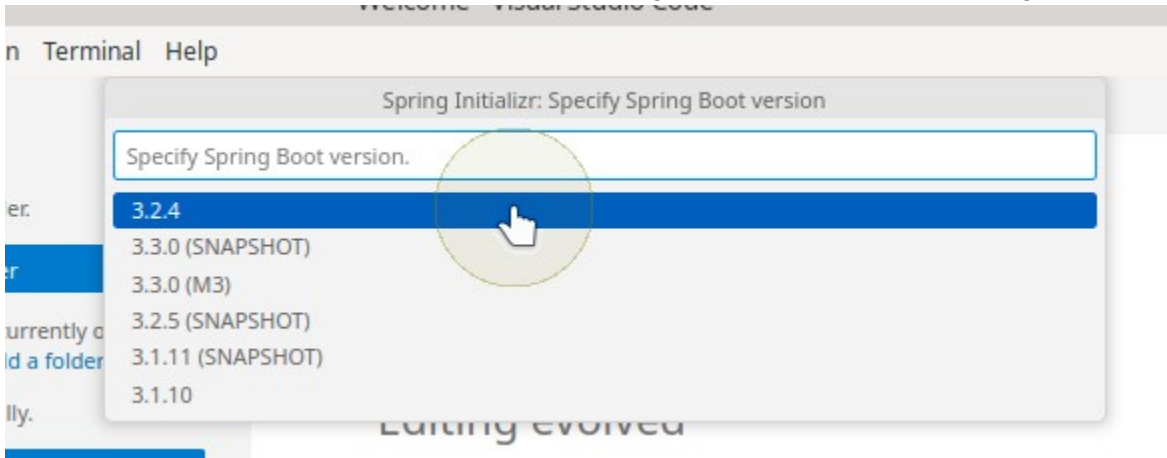
4. Select "Spring Boot" from the dropdown menu



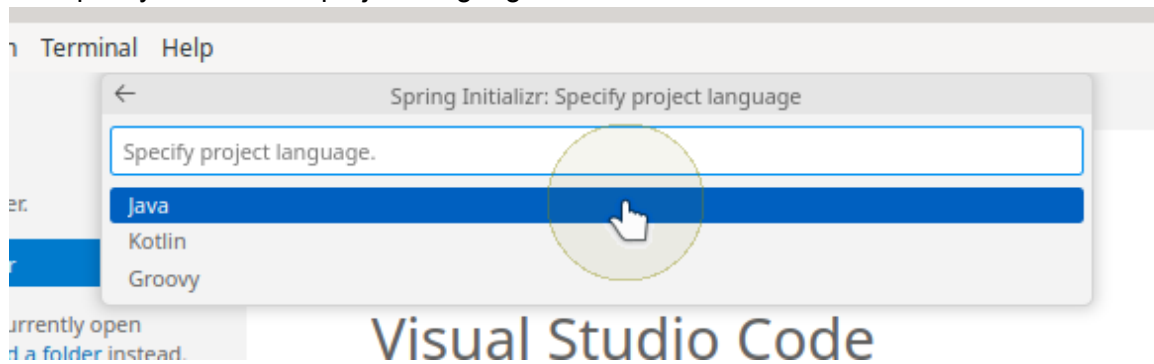
5. Next select maven or gradle based on your preferences



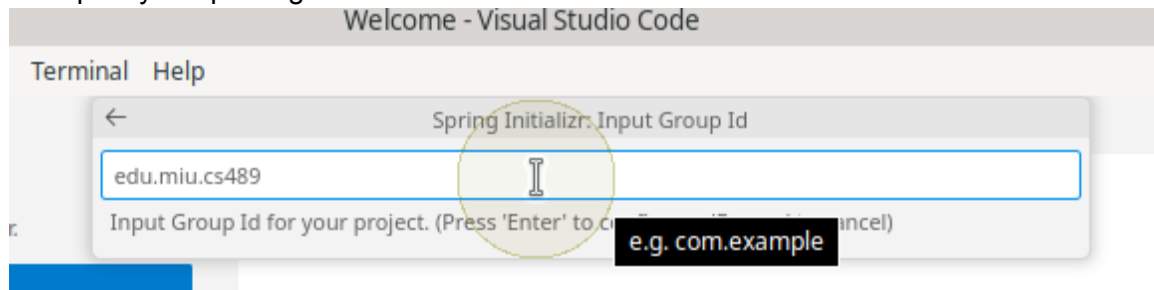
6. We'll select the latest current version of Spring Boot (3.2.4 as of this writing)



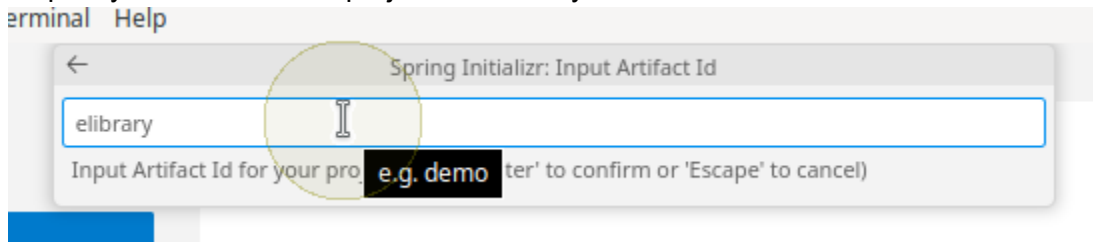
7. Specify Java as our project language



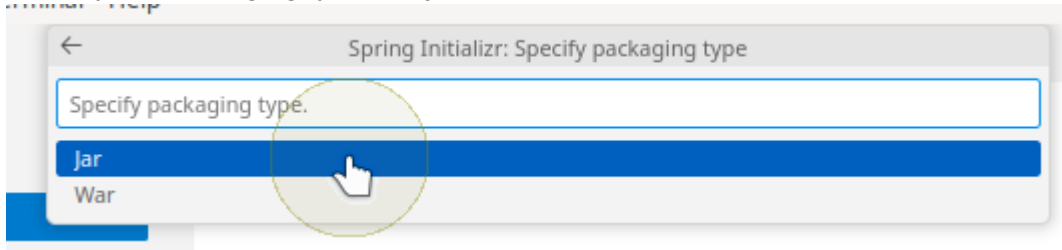
8. Specify the package as edu.miu.cs489



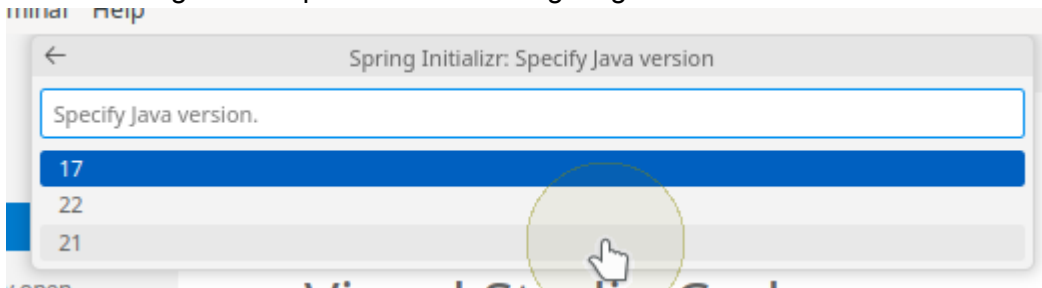
9. Specify the name of our project as: elibrary



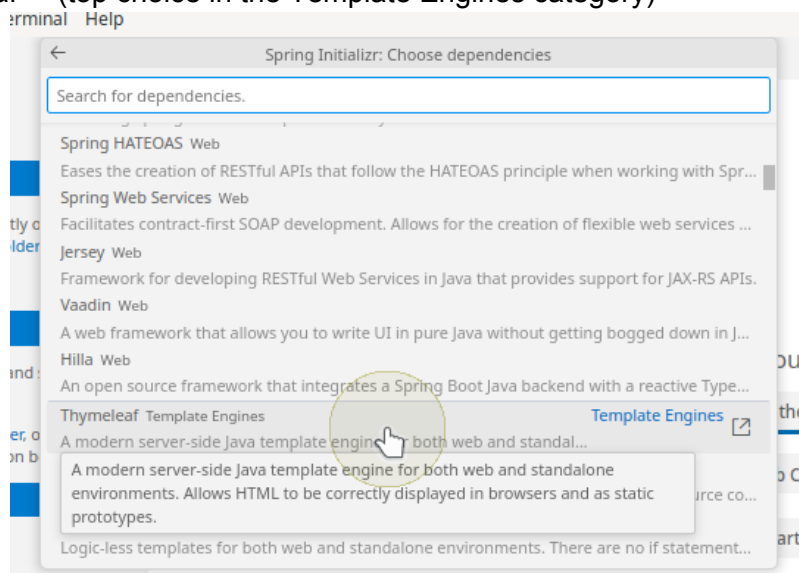
10. Specify the packaging type as: jar



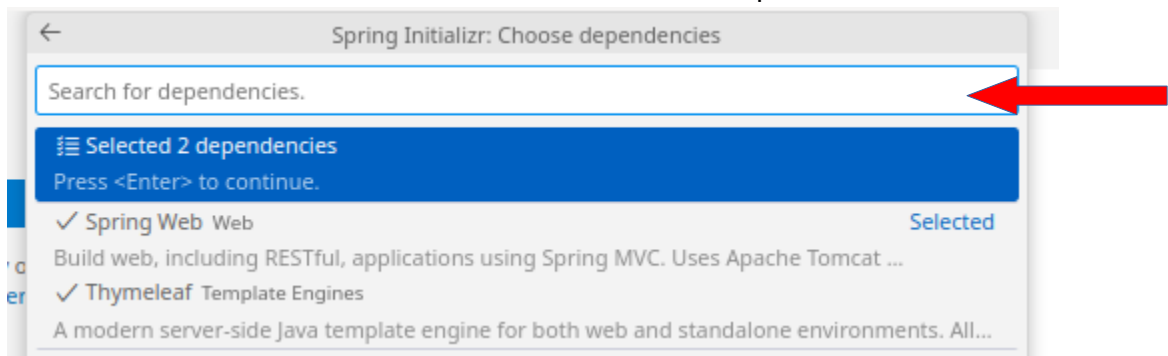
11. Java 17 or higher is required. Feel free to go higher.



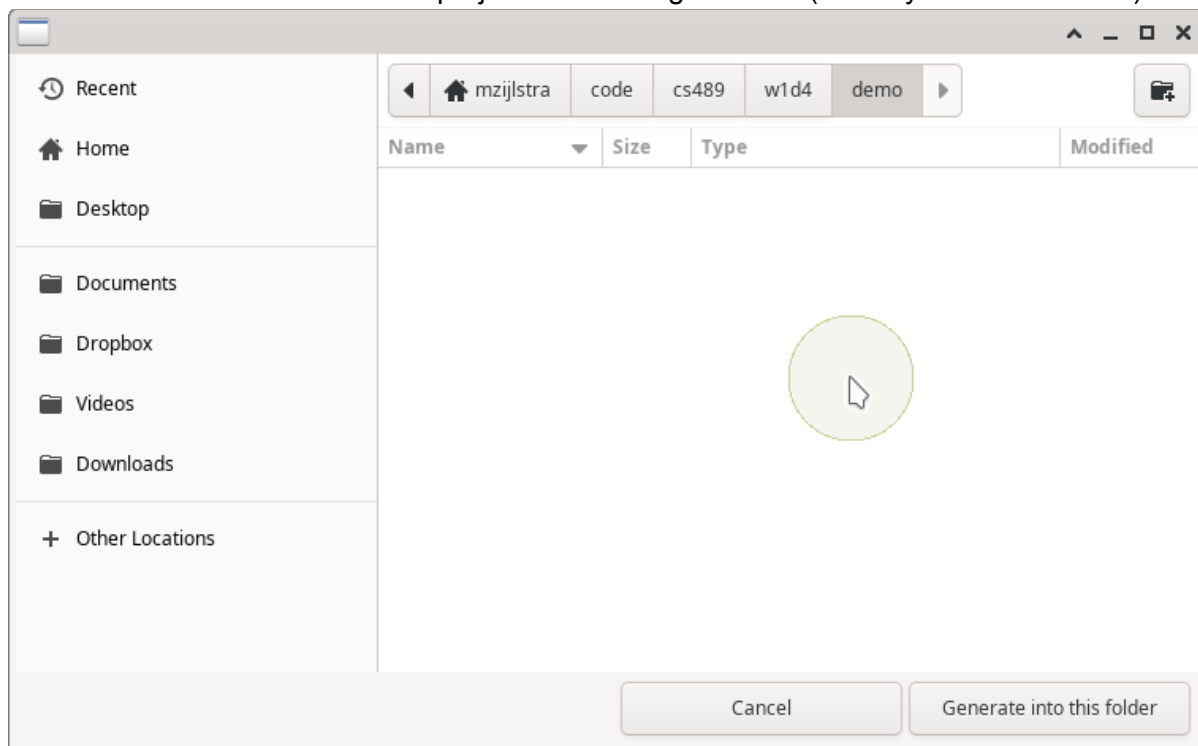
12. Scroll through the dependencies and Select the following two:
- Spring Web (top choice in the web category)
 - Thymeleaf (top choice in the Template Engines category)



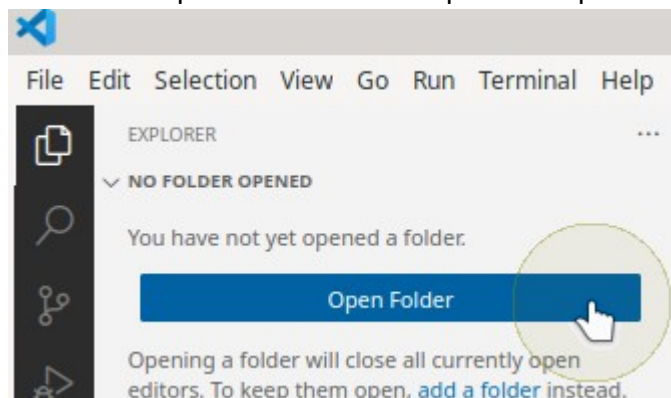
13. Press enter in the textbox to continue with the selected dependencies



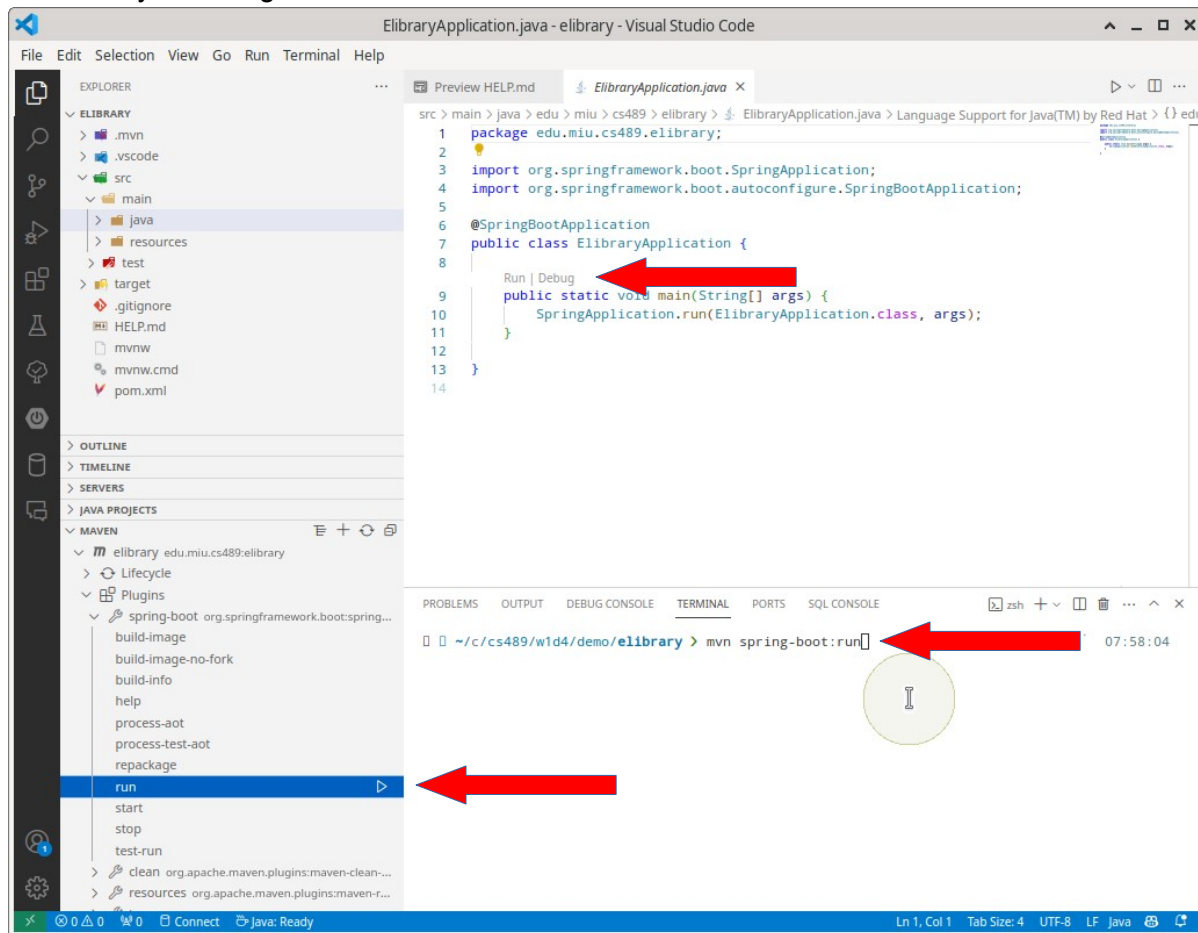
14. Select the folder where the project should be generated (choose your own location)



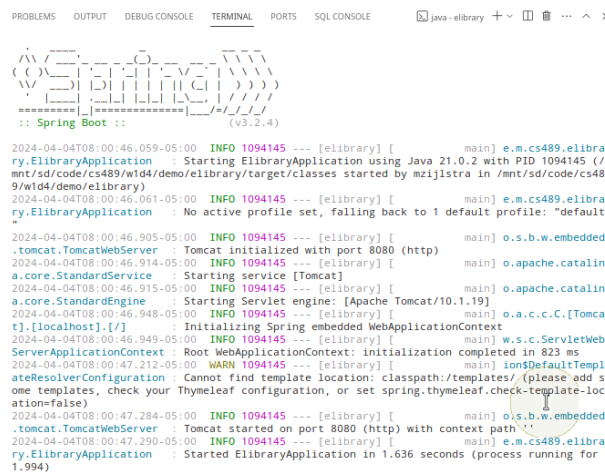
15. Back in VSCode click on "Open Folder" in the explorer to open the generated code



16. There are a couple of different ways that you can run the project. You could execute the main method found in: `src/main/java/edu/miu/cs489/ElibraryApplication.java`
Or through maven by executing on the command line: `mvn spring-boot:run`
Or by selecting the same maven command from the maven menu



17. The project is then executed and the embedded tomcat engine is started on the default port number, 8080, as shown below:



18. However, opening a web browser and navigating to the url - <http://localhost:8080/>, produces a Whitelabel Error page with status code, 404. This is because there is no resource (e.g. a view template resource, like a webpage) available at that url, yet. Therefore, to enable a webpage (e.g. our eLibrary web application's homepage) to be displayed, do the following:

- 18.1. In the IDE, go to the Project Explorer, expand/open the "src/main/resources" folder.
- 18.2. Right-click on the "templates" sub-folder and select "New -> Folder" and add a new folder named, called, home.
- 18.3. Right-click on this new "home" folder and select "New -> File" and call it index.html.
- 18.4. Copy and paste the following HTML into the file:

```
<!DOCTYPE html>
<html xmlns:th="http://www.thymeleaf.org">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <meta name="description" content="">
    <meta name="author" content="O. Kalu">
    <link rel="icon" href="favicon.ico">
    <link href="https://stackpath.bootstrapcdn.com/bootswatch/4.1.2/cerulean/
bootstrap.min.css" rel="stylesheet" integrity="sha384-
EmRcsPP774S9M0i4ywb+JXUWjYnBdyInMzG2XsC5siZEUpeqx0MJW358dCYEjPu" crossorigin="anonymous">
    <link rel="stylesheet" type="text/css" th:href="@{/css/master.css}">
    <title>eLibrary - a demo spring boot webapp</title>
</head>
<body>
    <nav class="navbar navbar-expand-lg navbar-dark bg-primary">
        <a style="padding-right: 2em;" class="navbar-brand" href="/elibrary/home">eLibrary : :
: a basic demo webapp using Spring Boot</a>
        <!--<span style="color: #ffffff;"> &nbsp; | &nbsp;</span>-->
        <button class="navbar-toggler" type="button" data-toggle="collapse" data-
target="#navbarColor01" aria-controls="navbarColor01" aria-expanded="false" aria-label="Toggle
navigation">
            <span class="navbar-toggler-icon"></span>
        </button>

        <div class="collapse navbar-collapse" id="navbarColor01">
            <ul class="navbar-nav mr-auto">
                <li class="nav-item" style="border-left: white 1px solid; padding-left: 2em;
padding-right: 2em;">
                    <a class="nav-link" href="/elibrary/book/list">Browse Books</a>
                </li>
            </ul>
            <form class="form-inline my-2 my-lg-0">
                <!--<input class="form-control mr-sm-2" type="text" placeholder="Search">-->
                <!--<a style="color: #ffffff; margin-right: 0em;" class="nav-link"
href="#">John Doe</a>-->
                <!--<a href="#" class="btn btn-secondary">Sign In</a>-->
            </form>
        </div>
    </nav>

    <p>&nbsp;</p>
    <div class="container">
        <h3>Welcome to the eLibrary Management system (eLMS)</h3>
        <hr/>
        <div style="font-size: 1em">
            To browse and manage the <a href="/elibrary/book/list">catalogue of Books</a>,
please first make sure to read the
instructions and key points provided below. And then click the
appropriate menu item, located on the menu-bar above.<br/><br/>
```

```

        Lorem Ipsum is simply dummy text of the printing and typesetting
        industry. Lorem Ipsum has been the industry's standard dummy text
        ever since the 1500s, when an unknown printer took a galley of type
        and scrambled it to make a type specimen book. It has survived not
        only five centuries, but also the leap into electronic typesetting,
        remaining essentially unchanged. It was popularised in the 1960s with
        the release of Letraset sheets containing Lorem Ipsum passages, and
        more recently with desktop publishing software like Aldus PageMaker
        including versions of Lorem Ipsum.
    </div>
</div>

<!--      <footer class="footer">
        <div class="container">
            <span class="text-muted">0. Kalu : : CS425-SWE</span><span style="float:right;"
class="text-muted">&copy; November 2018</span>
        </div>
    </footer> -->

<!-- Bootstrap core JavaScript
===== -->
<!-- Placed at the end of the document so the pages load faster -->
<script src="https://code.jquery.com/jquery-3.3.1.slim.min.js"
integrity="sha384-q8i/X+965Dz00rT7abK41JStQIAqVgRVzpbzo5smXKp4YfRvH+8abtTE1Pi6jizo"
crossorigin="anonymous"></script>
<script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.14.3/umd/popper.min.js"
integrity="sha384-ZMP7rVo3mIykV+2+9J3UJ46jBk0WLauAdn689aCwoqbBJiSnjAK/l8WvCWPm49"
crossorigin="anonymous"></script>
<script src="https://stackpath.bootstrapcdn.com/bootstrap/4.1.1/js/bootstrap.min.js"
integrity="sha384-smHYKdLADwkXOn1EmN1qk/HfnUcbVRZyYmZ4qpPea6sjB/pTJ0euyQp0Mk8ck+5T"
crossorigin="anonymous"></script>
</body>
</html>

```

- 18.5. In the Project Explorer, expand/open the "src/main/java" folder; right-click on the elibrary package in "java./edu/miu/cs489/elibrary" and select "New -> Folder" and create a new (sub)package named controller
- 18.6. Right-click on the new "controller" package / folder, and select "New File" and call it HomePageController.java.
- 18.7. Add the correct package name, the import statements, the @Controller annotation, and the displayHomePage method with its @GetMapping anntation

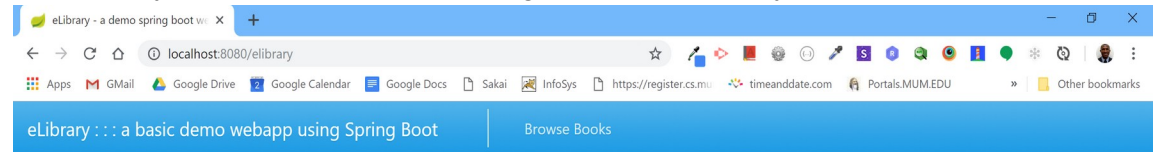
```

1  package edu.miu.cs489.elibrary.controller;
2
3  import org.springframework.stereotype.Controller;
4  import org.springframework.web.bind.annotation.GetMapping;
5
6  @Controller
7  public class HomePageController {
8      @GetMapping(value = { "/", "/home", "/elibrary" })
9      public String homePage() {
10         return "home/index";
11     }
12 }

```

- 18.8. Now, re-run the project (be sure to stop it first if it's still running in the terminal by pressing CTRL-C) and when the embedded tomcat engine has started, simply access the elibrary webapp by opening your browser to the url, <http://localhost:8080/> (or <http://localhost:8080/elibrary> or <http://localhost:8080/home>).

The elibrary web application's home page should be displayed as shown below:



19. If you got this home page displayed, then Congratulations! You've successfully created a web application using Spring Framework version 6.x.x, with Spring Boot 3.x.x and Thymeleaf 3.x.x.
20. The End!!!