

SWE 642

Assignment 3

By:

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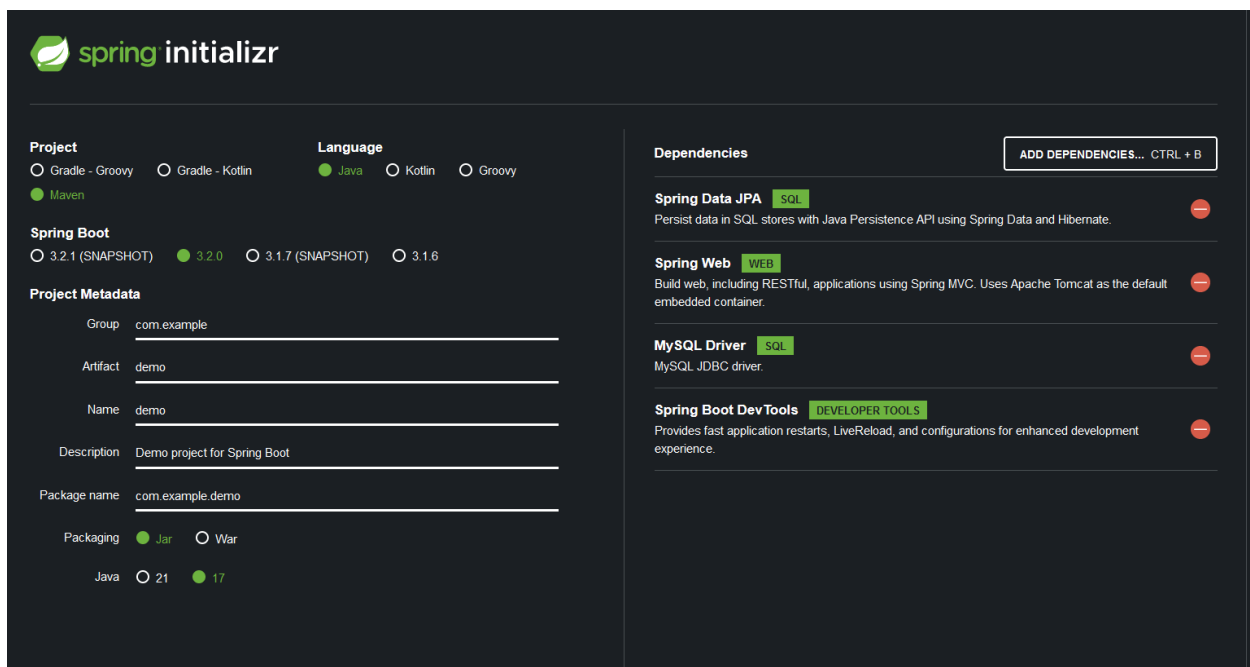
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Step 1: Creating the spring boot project using spring boot initializer

- Go to the [spring initializer](https://spring.io/guides-topics/docs/spring-boot-initializer/) website and start a new project.
- Under the Project select “**Maven**”.
- Under Spring Boot version select “**3.2.0**”.
- In the Project Metadata provide the necessary information.
- For Packaging select **Jar** and for **JAVA** version select “**17**”.
- And add the following dependencies:
 - Spring Data JPA
 - Spring Web
 - MySQL Driver
 - Spring Boot Dev Tools

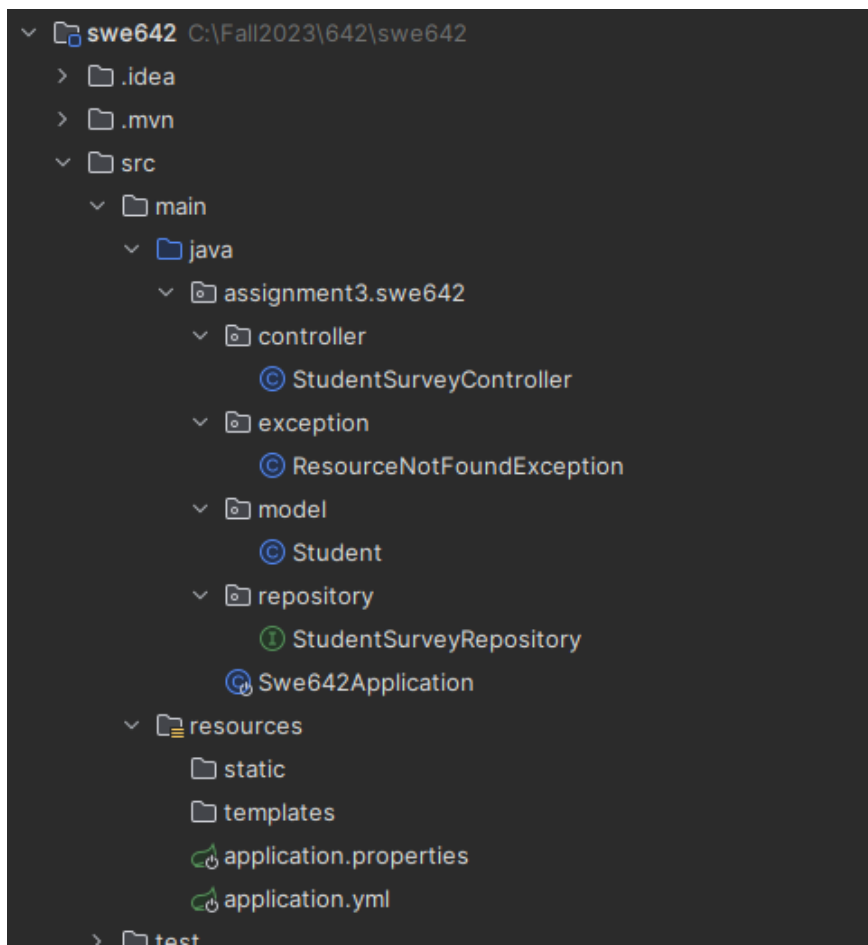


The screenshot displays the Spring Initializr web application interface. The top left features the Spring logo and the text "spring initializr". The main configuration area is divided into several sections:

- Project:** Includes radio buttons for "Gradle - Groovy", "Gradle - Kotlin", "Java" (selected), "Kotlin", and "Groovy". Below this is a "Maven" button.
- Spring Boot:** Includes radio buttons for "3.2.1 (SNAPSHOT)", "3.2.0" (selected), "3.1.7 (SNAPSHOT)", and "3.1.6".
- Project Metadata:** Includes input fields for "Group" (com.example), "Artifact" (demo), "Name" (demo), "Description" (Demo project for Spring Boot), and "Package name" (com.example.demo).
- Packaging:** Includes radio buttons for "Jar" (selected) and "War".
- Java:** Includes radio buttons for "21" and "17" (selected).
- Dependencies:** A section on the right with a button "ADD DEPENDENCIES... CTRL + B". It lists four dependencies, each with a red minus button to its right:
 - Spring Data JPA** (SQL): Persist data in SQL stores with Java Persistence API using Spring Data and Hibernate.
 - Spring Web** (WEB): Build web, including RESTful, applications using Spring MVC. Uses Apache Tomcat as the default embedded container.
 - MySQL Driver** (SQL): MySQL JDBC driver.
 - Spring Boot DevTools** (DEVELOPER TOOLS): Provides fast application restarts, LiveReload, and configurations for enhanced development experience.

Step 2: Setting up the Spring Boot Application.

- Create four packages under the “src/main/java” folder.
- Namely:
 - Controller
 - ResourceException
 - Entity
 - Repository
- The controller is the primary component of the backend which directs all frontend calls to their respective backend functions.
- The ResourceException package is for handling errors that occur in the backend.
- Entity package is the primary component that holds the student information.



- I replaced the application.properties file with an application.yml file.
- The structure of the application.yml file should look like this.

```
spring:
  datasource:
    driver-class-name: com.mysql.cj.jdbc.Driver
    url: jdbc:mysql://${DB_HOST:localhost}:${DB_PORT:3306}/${DB_NAME:mysurveys}
    username: ${DB_USERNAME:root}
    password: ${DB_PASSWORD:root123}
    hikari:
      initialization-fail-timeout: 0
  jpa:
    database-platform: org.hibernate.dialect.MySQLDialect
    hibernate:
      ddl-auto: update
      generate-ddl: true
      show-sql: true
```

Step 3: Installing NodeJS and Angular.

- First, we will install NodeJS from the following [site](#).
- After installation, we can check if installation occurred successfully by using the command:
 - node -v
- Installing NodeJS automatically installs npm as well, we can check this installation as well using the command:
 - npm -v
- To install Angular we need to open the command prompt/terminal and type in the following command:
 - npm install -g @angular/cli
- We can check for the angular installation using
 - ng version

```
C:\Users\endso>node -v
v20.9.0
```

```
C:\Users\endso>npm -v
10.1.0
```

```
C:\Users\endso>ng version
```



```
Angular CLI: 17.0.1
Node: 20.9.0
Package Manager: npm 10.1.0
OS: win32 x64
```

```
Angular:
...
```

Package	Version
@angular-devkit/architect	0.1700.1 (cli-only)
@angular-devkit/core	17.0.1 (cli-only)
@angular-devkit/schematics	17.0.1 (cli-only)
@schematics/angular	17.0.1 (cli-only)

Step 4: Creating a new Angular project and setting up the frontend.

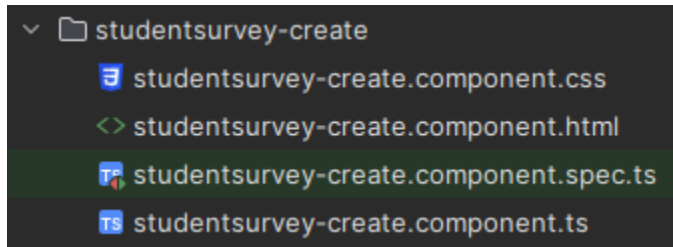
- To create a new Angular project use the command:
 - `ng new <app-name>`
- After creating the new project, we cd into the app and install bootstrap, to do this we use the following command.
 - `npm install bootstrap --save`
- We can see that bootstrap package is installed in package.json file

```
"@angular/router": "^17.0.0",
"bootstrap": "^5.3.2",
```

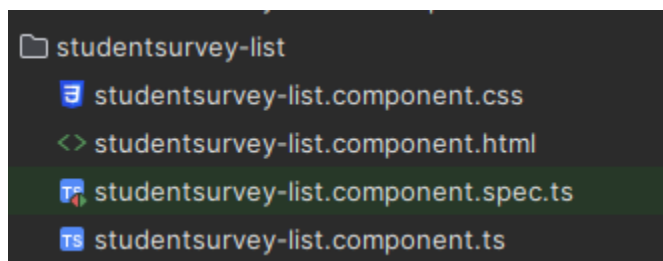
- Once, bootstrap package is successfully installed need to enable it in our project by adding bootstrap to styles in angular.json

```
"styles": [  
  "./node_modules/bootstrap/dist/css/bootstrap.css",  
  "src/styles.css"  
]
```

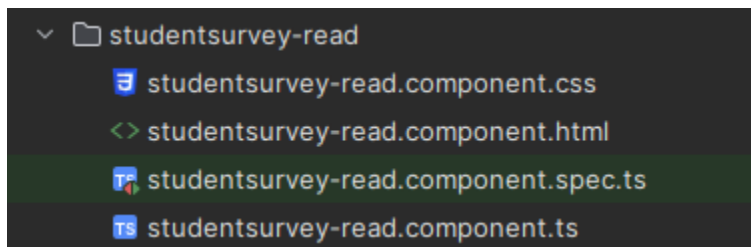
- Then we create four components using the command
 - `ng g c <component-name>`
- We also need to create a new service using the command
 - `ng g s <service-name>`
- We also need to create a class similar to an entity in the spring boot application
 - `ng g class <class-name>`
- One component is for creating a new survey



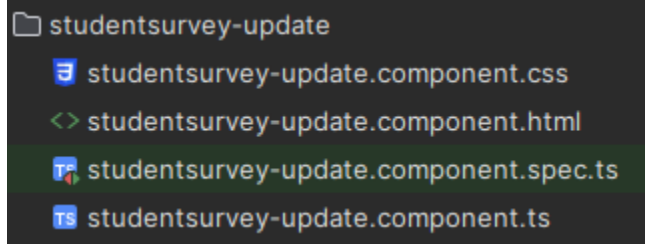
- Another component for listing the surveys



- Another component reading the surveys



- One final component for updating a survey



- The student class for storing information from the survey looks like this

```
export class Student {  
  id: number;  
  firstName: string;  
  lastName: string;  
  emailId: string;  
  streetAddress: string;  
  city: string;  
  state: string;  
  zipCode: number;  
  telephone: string;  
  mostLiked: string;  
  interest: string;  
  recommend: string;  
  comment: string;  
}
```


- After building the the angular app we can start the application using the command
 - ng serve

Code Github Links: <https://github.com/ASDPKP/SWE642-Assignment3.git>

Output Screenshots

Springboot Execution:

```

  ____  _
 / ___|| | | |
 \___ \| |_| |
  ___) | __| |
 |____|_|_|_|

:: Spring Boot ::
              (v3.1.5)

2023-11-27T23:32:58.886-05:00 INFO 24404 --- [ restartedMain] assignment3.swe642.Swe642Application : Starting Swe642Application using Java 21.0.1 with PID 24404 (C:\Fall2023\642\swe642\target\
2023-11-27T23:32:58.887-05:00 INFO 24404 --- [ restartedMain] assignment3.swe642.Swe642Application : No active profile set, falling back to 1 default profile: 'default'
2023-11-27T23:32:58.917-05:00 INFO 24404 --- [ restartedMain] .e.DevToolsPropertyDefaultsPostProcessor : Devtools property defaults active! Set 'spring.devtools.add-properties' to 'false' to disab
2023-11-27T23:32:58.917-05:00 INFO 24404 --- [ restartedMain] .e.DevToolsPropertyDefaultsPostProcessor : For additional web related logging consider setting the 'logging.level.web' property to 'DE
2023-11-27T23:32:59.223-05:00 INFO 24404 --- [ restartedMain] .s.d.r.c.RepositoryConfigurationDelegate : Bootstrapping Spring Data JPA repositories in DEFAULT mode.
2023-11-27T23:32:59.251-05:00 INFO 24404 --- [ restartedMain] .s.d.r.c.RepositoryConfigurationDelegate : Finished Spring Data repository scanning in 23 ms. Found 1 JPA repository interfaces.
2023-11-27T23:32:59.542-05:00 INFO 24404 --- [ restartedMain] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port(s): 8080 (http)
2023-11-27T23:32:59.547-05:00 INFO 24404 --- [ restartedMain] o.apache.catalina.core.StandardService : Starting service [Tomcat]
2023-11-27T23:32:59.548-05:00 INFO 24404 --- [ restartedMain] o.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/10.1.15]
2023-11-27T23:32:59.581-05:00 INFO 24404 --- [ restartedMain] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext
2023-11-27T23:32:59.581-05:00 INFO 24404 --- [ restartedMain] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: initialization completed in 603 ms
2023-11-27T23:32:59.666-05:00 INFO 24404 --- [ restartedMain] o.hibernate.jpa.internal.util.LogHelper : HHH000204: Processing PersistenceUnitInfo [name: default]
2023-11-27T23:32:59.698-05:00 INFO 24404 --- [ restartedMain] org.hibernate.Version : HHH000412: Hibernate ORM core version 6.2.13.Final
2023-11-27T23:32:59.700-05:00 INFO 24404 --- [ restartedMain] org.hibernate.cfg.Environment : HHH000406: Using bytecode reflection optimizer
2023-11-27T23:32:59.826-05:00 INFO 24404 --- [ restartedMain] o.s.o.j.p.SpringPersistenceUnitInfo : No LoadTimeWeaver setup: ignoring JPA class transformer
2023-11-27T23:32:59.839-05:00 INFO 24404 --- [ restartedMain] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Starting...
2023-11-27T23:33:00.038-05:00 INFO 24404 --- [ restartedMain] com.zaxxer.hikari.pool.HikariPool : HikariPool-1 - Added connection com.mysql.cj.jdbc.ConnectionImpl@28a1f667
2023-11-27T23:33:00.040-05:00 INFO 24404 --- [ restartedMain] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Start completed.
2023-11-27T23:33:00.079-05:00 WARN 24404 --- [ restartedMain] org.hibernate.orm.deprecation : HHH000025: MySQLDialect does not need to be specified explicitly using 'hibernate.dialect
2023-11-27T23:33:00.504-05:00 INFO 24404 --- [ restartedMain] o.h.e.t.j.p.i.JtaPlatformInitiator : HHH000489: No JTA platform available (set 'hibernate.transaction.jta.platform' to enable JTA
2023-11-27T23:33:00.527-05:00 INFO 24404 --- [ restartedMain] j.LocalContainerEntityManagerFactoryBean : Initialized JPA EntityManagerFactory for persistence unit 'default'
2023-11-27T23:33:00.664-05:00 WARN 24404 --- [ restartedMain] JpaBaseConfiguration$JpaWebConfiguration : spring.jpa.open-in-view is enabled by default. Therefore, database queries may be performed
2023-11-27T23:33:00.842-05:00 INFO 24404 --- [ restartedMain] o.s.b.d.a.OptionalLiveReloadServer : LiveReload server is running on port 35729
2023-11-27T23:33:00.868-05:00 INFO 24404 --- [ restartedMain] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port(s): 8080 (http) with context path ''
2023-11-27T23:33:00.872-05:00 INFO 24404 --- [ restartedMain] assignment3.swe642.Swe642Application : Started Swe642Application in 2.172 seconds (process running for 2.506)

```

Angular Execution:

```

polyfills.js | polyfills | 82.71 kB |
main.js      | main      | 54.69 kB |

| Initial Total | 411.41 kB

Application bundle generation complete. [1.385 seconds]
Watch mode enabled. Watching for file changes...

→ Local: http://localhost:4200/
→ Network: http://192.168.1.208:4200/

```

Homepage:

Student Surveys

New Survey

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Student Surveys

First Name	Last Name	Email ID	Street Address	City	State	Zip Code	Phone Number	Most Liked	Interest Reason	Recommend	Comments	Actions
Abishek	Daniel	abhisheksamuel0409@gmail.com	9419 Lee Hwy	Fairfax	Virginia	22031	5715671920	Sports	Friends	Likely	nothing	<div>UpdateDeleteView</div>

New Survey:

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New Survey

First Name:

Last Name:

Email ID:

Street Address:

City:

State:

Zip Code:

Telephone:

What did you like most about the campus?

- ☐ Students
- ☐ Location
- ☐ Campus
- ☐ Atmosphere
- ☐ Dorm Rooms
- ☐ Sports

How did you get to know about our University?

- ☐ Friends
- ☐ Television
- ☐ Internet
- ☐ Others

How likely are you to recommend this University?

Any additional comments?

Submit

Update Survey:

Update Survey

First Name:

Abishek

Last Name:

Daniel

Email ID:

abhisheksamuel0409@gmail.com

Street Address:

9419 Lee Hwy

City:

Fairfax

State:

Virginia

Zip Code:

22031

Telephone:

5715671920

What did you like most about the campus?

- ☐ Students
- ☐ Location
- ☐ Campus
- ☐ Atmosphere
- ☐ Dorm Rooms
- ☒ Sports

How did you get to know about our University?

- ☒ Friends
- ☐ Television
- ☐ Internet
- ☐ Others

How likely are you to recommend this University?

Likely

Any additional comments?

nothing

Submit