**Today’s Agenda**

1. **Project Development Roadmap**
2. **Tech Stack Used**
3. **Setting Up The Project Structure**
4. **Project Development Roadmap**

**Phase 1: Planning & Setup**

* **Define requirements** (**CRUD** for **Voters** & **Candidates**, **Voting Logic**, **Election Results**)
* **Choose tech stack** (Spring Boot, JPA, MySQL, etc.)
* **Set up Spring Boot Proj**

**Phase 2: Database Design & Models**

* **Define entities** (**Voter**, **Candidate**, **Vote, ElectionResult**)
* **Establish relationships**

**Phase 3: Implement Backend Logic**

* **Implement CRUD operations** for **voters** and **candidates**
* **Implement** **Voting functionality**
* **Implement** **Election results API**

**Phase 4: Exception Handling**

* Add **global exception handling**
* Add **Validations**

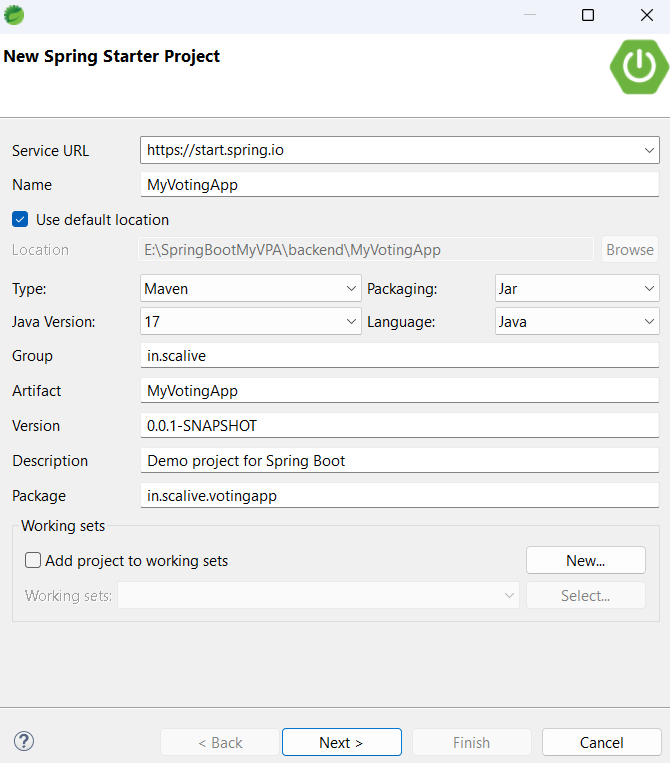
1. **Tech Stack Used In This Project**

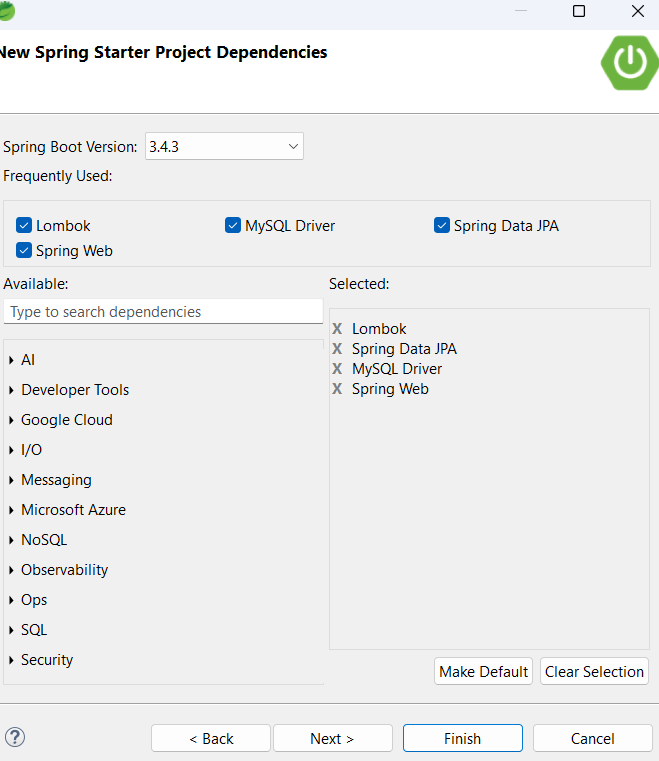
|  |  |
| --- | --- |
| Component | Technology Used |
| Backend | Java 17+ , Spring Boot 3 |
| Database | MySQL |
| ORM | Spring Data JPA |
| Build Tool | Maven |
| API Testing | Postman |

1. **Setting Up The Project Structure**

**✅ Step 1: Create the Spring Boot Project**

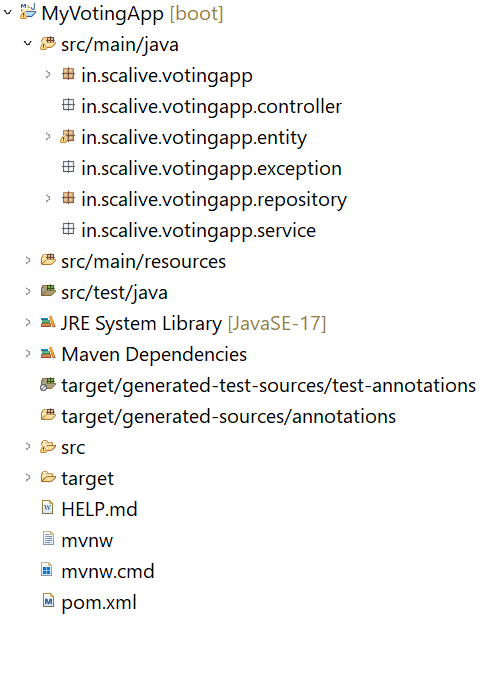
1. **Open** the **desired workspace** in **STS** and Go to ***File->New->Spring Starter Project***
2. **Select** the **following**:
   * **Project Type:** **Maven**
   * **Language:** **Java**
   * **Spring Boot Version:** **3.1**
   * **Group:** **in.scalive**
   * **Artifact:** **MyVotingApp**
   * **Packaging:** **Jar**
   * **Java Version: 17**
3. **Add Dependencies:**
   * **Spring Web**
   * **Spring Data JPA**
   * **MySQL Driver (for production)**
   * **Lombok (reduces boilerplate code)**
   * **SpringBoot Dev Tools**
   * **Validation**
4. **Click Finish**

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**✅ Step 2: Project Folder Structure**

**After setup**, the **folder structure** should **look like this**:



**✅ Step 3: Create The Database/Schema In MySQL**

* + - * 1. The **next step** is to **create** the **database** so that **Spring** can **automatically add tables** to it
        2. So goto **MySQL command line client** , login to the **root user** and **execute** the **following command**:  
           **Create Database vtp\_db**
        3. **Alternatively** you can use **MySQL workbench** and **create the database** by **creating the SCHEMA** as mentioned below:

In **Navigator Panel,** go to **Schemas** (left side).

Click on the **Create Schema** icon (cylinder with a plus sign).

Enter a **database name**

Click **Apply → Apply again → Finish**.

**✅ Step 4: Update application.properties**

Now , **update** the **application.properties** file as **shown below:**

**spring.application.name=MyVotingApp**

**spring.datasource.url=jdbc:mysql://localhost:3306/vtp\_db**

**spring.datasource.username=root**

**spring.datasource.password=root123**

**spring.jpa.show-sql=true**

**spring.jpa.hibernate.ddl-auto=update**

**spring.jpa.database-platform=org.hibernate.dialect.MySQLDialect**