Spring Application Documentation

**2️⃣ Add Dependencies**

Search and select the following dependencies:

✅ **Core Dependencies**

* **Spring Web** → To build REST APIs
* **Spring Boot DevTools** → For hot reloading
* **Lombok** → To reduce boilerplate code

✅ **Database & Persistence**

* **Spring Data JPA** → For database operations
* **H2 Database** (for in-memory DB) or **MySQL Driver** (for MySQL)

✅ **Authentication & Security**

* **Spring Security** → For user authentication

✅ **Logging & Error Handling**

* **Spring Boot Starter Logging** → (Built-in, no need to select separately)

✅ **Testing Frameworks**

* **Spring Boot Starter Test** → Includes JUnit & Mockito
* **Spring Security Test** → For security testing

**PROJECT STRUCTURE**

taskmanagement/

│── src/main/java/com/example/taskmanagement/

│ ├── controller/ # Handles API requests

│ ├── model/ # Entity classes (Task, User)

│ ├── repository/ # Database queries using JPA

│ ├── service/ # Business logic for tasks & users

│ ├── security/ # JWT Authentication & role management

│ ├── exception/ # Custom error handling

│ ├── config/ # App configurations

│

│── src/test/java/com/example/taskmanagement/ # Unit tests

│── resources/

│ ├── application.properties # Database & app configs

│

│── pom.xml # Maven dependencies

│── README.md # Project documentation

**TECHNOLOGIES USED**

| **Technology** | **Purpose** |
| --- | --- |
| **Spring Boot** | Main framework for the backend |
| **Spring Security** | User authentication & role management |
| **Spring Data JPA** | Database interactions |
| **H2 / MySQL** | Database for storing tasks & users |
| **Lombok** | Reduce boilerplate code |
| **SLF4J & Logback** | Logging for debugging & error tracking |
| **JUnit & Mockito** | Testing framework |