SME Walkthrough: Project Structure and Configuration

(1) src/main/java

- Contains all your **Java source code** (controllers, services, etc.)
- Starts with the **main application class** (SpringLearnApplication.java)

(2) src/main/resources

Holds configuration and static resources:

- application.properties or application.yml
- Templates (Thymeleaf, etc.)
- Static files (CSS, JS, images)

(3) src/test/java

- Contains unit and integration tests.
- Follows the same package structure as src/main/java.

Example:

```
package com.cognizant.spring_learn;

import org.junit.jupiter.api.Test;
import org.springframework.boot.test.context.SpringBootTest;

@SpringBootTest
class SpringLearnApplicationTests {

    @Test
    void contextLoads() {
    }
}
```

(4) SpringLearnApplication.java

- Entry point of the Spring Boot app.
- Contains main() method.
 - Example Code:

```
(5) public static void main(String[] args) {
(6)     LOGGER.info("START");
(7)     SpringApplication.run(SpringLearnApplication.class, args);
(8)     LOGGER.info("END");
(9) }
```

5)Purpose of @SpringBootApplication

It is a combination of 3 annotations:

- @Configuration Allows registering Spring Beans via Java config
- @EnableAutoConfiguration Enables Spring Boot's auto configuration
- @ComponentScan Scans the package for components (beans, controllers, etc.)

6)pom.xml Walkthrough:

Maven configuration file.

Manages:

- Project metadata (groupId, artifactId, version)
- Dependencies (e.g., Spring Web, DevTools)
- Plugins and build instructions

Example code snippet:

7) Dependency Hierarchy in Eclipse

```
Dependency Hierarchy
    spring-boot-starter-web : 3.5.3 [compile]
     spring-boot-starter: 3.5.3 [compile]
        spring-boot : 3.5.3 [compile]
        spring-boot-autoconfigure : 3.5.3 [compile]
          spring-boot-starter-logging: 3.5.3 [compile]
           logback-classic : 1.5.18 [compile]
             logback-core : 1.5.18 [compile]
             slf4j-api : 2.0.17 [compile]
        log4j-to-slf4j : 2.24.3 [compile]
             log4j-api : 2.24.3 [compile]
             🧻 slf4j-api : 2.0.17 (managed from 2.0.16) [compil
          iul-to-slf4j : 2.0.17 [compile]
             🧻 slf4j-api : 2.0.17 [compile]
          jakarta.annotation-api : 2.1.1 [compile]
           spring-core: 6.2.8 [compile]
           snakeyaml: 2.4 [compile]
        spring-boot-starter-json: 3.5.3 [compile]
          spring-boot-starter: 3.5.3 [compile]
        🧻 spring-web : 6.2.8 [compile]
        jackson-databind : 2.19.1 [compile]
```