

## Advanced Java Lab

### Week-8

Roll Number: 248W5A1213

#### **1. Create and manage a Spring Boot project using Maven.**

##### **Code:**

##### **Step 1 — Open STS**

Launch Spring Tool Suite.

##### **Step 2 — Create New Spring Boot Project**

1. Go to:

File → New → Spring Starter Project

2. Fill the details:

<b>Field</b>	<b>Value</b>
Name	demo
Type	Maven Project
Packaging	Jar
Java Version	17
Group	com.example
Artifact	demo

##### **Step 3 — Select Dependencies**

Choose at least:

- Spring Web

Click **Finish**.

STS will generate a full Maven Spring Boot project.

##### **Step 4 — Project Structure Explanation**

After generation, STS creates:

```
demo
├── src/main/java      → Application + Controllers + Code
├── src/main/resources  → application.properties + static files
└── pom.xml            → Maven build file
└── src/test/java       → Test classes
```

##### **DemoApplication.java:**

```
@SpringBootApplication
public class DemoApplication {
    public static void main(String[] args) {
```

```
    SpringApplication.run(DemoApplication.class, args);  
}
```

## Output:

```
( ( ) \ \_ ) | ' . ' . ' - ' . ' \ V _ ' | ' \ \ \ \ \ )  
(\ \ \_) | ( ) | | | | | | ( ( ) ) ) ) )  
=====|_|=====|_|/_=/_|/_/_/  
  
:: Spring Boot ::          (v4.0.0)  
  
2025-11-25T18:25:51.132+05:30  INFO 32316 --- [demo-2] [           main] com.exa  
2025-11-25T18:25:51.135+05:30  INFO 32316 --- [demo-2] [           main] com.exa  
2025-11-25T18:25:52.011+05:30  INFO 32316 --- [demo-2] [           main] o.s.boo  
2025-11-25T18:25:52.033+05:30  INFO 32316 --- [demo-2] [           main] o.apach  
2025-11-25T18:25:52.033+05:30  INFO 32316 --- [demo-2] [           main] o.apach  
2025-11-25T18:25:52.080+05:30  INFO 32316 --- [demo-2] [           main] b.w.c.s  
2025-11-25T18:25:52.576+05:30  INFO 32316 --- [demo-2] [           main] o.s.boo  
2025-11-25T18:25:52.582+05:30  INFO 32316 --- [demo-2] [           main] com.exa  
2025-11-25T18:25:58.607+05:30  INFO 32316 --- [demo-2] [nio-8080-exec-1] o.a.c.c  
2025-11-25T18:25:58.608+05:30  INFO 32316 --- [demo-2] [nio-8080-exec-1] o.s.web  
2025-11-25T18:25:58.621+05:30  INFO 32316 --- [demo-2] [nio-8080-exec-1] o.s.web
```

## **2. Add dependencies and explore the application.properties file.**

## Code:

## Pom.xml:

```
</dependencies>

<!-- Spring Web -->
<dependency>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-starter-web</artifactId>
</dependency>

<!-- H2 Database -->
<dependency>
    <groupId>com.h2database</groupId>
    <artifactId>h2</artifactId>
    <scope>runtime</scope>
</dependency>

<!-- Testing -->
<dependency>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-starter-test</artifactId>
    <scope>test</scope>
</dependency>

</dependencies>
```

**application.properties:**

```
server.port=8081

# Enable H2 Console
spring.h2.console.enabled=true

# H2 DB Configuration
spring.datasource.url=jdbc:h2:mem:testdb
spring.datasource.username=sa
spring.datasource.password=

# Show SQL queries
spring.jpa.show-sql=true
spring.jpa.hibernate.ddl-auto=update
```