



JAVA SPRING FRAMEWORK

Lab Guides

Document Code	25e-BM/HR/HDCV/FSOFT
Version	1.0
Effective Date	01/09/2024

Hanoi, 08/2024

RECORD OF CHANGES

No	Effective Date	Change Description	Reason	Reviewer	Approver
1	06/08/2024	Create a new Lab	Create new		VinhNV

Contents

Java Spring Framework Introduction	4
Objectives:.....	4
Lab Specifications:.....	4
Problem Description:.....	4
Prerequisites:.....	4
Guidelines:.....	5



CODE:	JSFW_Lab_06_Opt2
TYPE:	SHORT
LOC:	200
DURATION:	60 MINUTES

Java Spring Framework Introduction

Objectives:

- Learn how to configure the Spring Boot application properties.
- Set up PostgreSQL database integration.
- Understand the process of database connection pooling..

Lab Specifications:

- Trainees will configure the Spring Boot application for PostgreSQL database interaction.
You'll also set up properties for data sources and test the connection

Problem Description:

Trainees will configure the Spring Boot application for PostgreSQL database interaction. You'll also set up properties for data sources and test the connection

Prerequisites:

- Completed **JSFW_Lab_06_Opt1**.
- PostgreSQL installed.

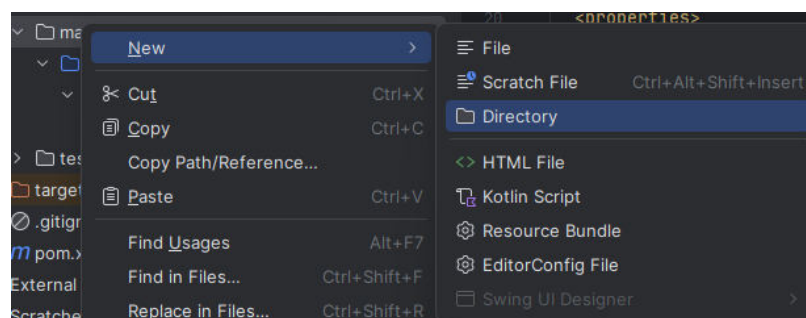
Guidelines:

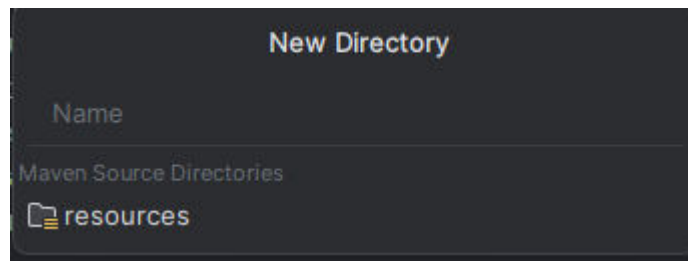
Step 1: Update pom.xml with these dependencies:

```
<!-- PostgreSQL Driver -->
<dependency>
  <groupId>org.postgresql</groupId>
  <artifactId>postgresql</artifactId>
  <scope>runtime</scope>
</dependency>
```

Step 2: Configure application.properties

- Right click on the main folder, choose **New / Directory**





Then click on Resource:

- Set up Database Properties: In `src/main/resources/application.properties`, configure PostgreSQL database settings (change the password to your Postgres password):

```
spring.datasource.url=jdbc:postgresql://localhost:5432/ums_db
spring.datasource.username=postgres
spring.datasource.password=1234567890
spring.jpa.properties.hibernate.dialect=org.hibernate.dialect.PostgreSQLDialect
spring.jpa.hibernate.ddl-auto=update
```

Step 3: Verify Database Connection

- Run the Spring Boot application:

```

  ____  _
 / __ \| | | | _ \| | | | _ \| | | |
(  __/| | | | | | | | | | | | | | |
 \___ \| | | | | | | | | | | | | | |
      \| | | | | | | | | | | | | | |
       \| | | | | | | | | | | | | | |
=====|_|=====|_|_/|_|_/|_|_/

:: Spring Boot ::                (v2.7.5)

2024-09-11 10:29:17.133 INFO 4224 --- [
2024-09-11 10:29:17.135 INFO 4224 --- [
2024-09-11 10:29:18.326 INFO 4224 --- [
2024-09-11 10:29:18.335 INFO 4224 --- [
2024-09-11 10:29:18.335 INFO 4224 --- [
2024-09-11 10:29:18.422 INFO 4224 --- [
2024-09-11 10:29:18.422 INFO 4224 --- [
2024-09-11 10:29:18.766 INFO 4224 --- [
2024-09-11 10:29:18.774 INFO 4224 --- [

main) .e.UniversityManagementSystemApplication : Starting UniversityManagementSystemApplication using Java 22.0.1 on [REDACTED] with
main) .e.UniversityManagementSystemApplication : No active profile set, falling back to 1 default profile: "default"
main) o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port(s): 8080 (http)
main) o.apache.catalina.core.StandardService : Starting service [Tomcat]
main) org.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/9.0.68]
main) o.a.c.c.[] [Tomcat].[] : Initializing Spring embedded WebApplicationContext
main) w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: Initialization completed in 1194 ms
main) o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port(s): 8080 (http) with context path ''
main) .e.UniversityManagementSystemApplication : Started UniversityManagementSystemApplication in 2.208 seconds (JVM running for 2.683)
```

---oOo---

THE END