**Exercise 1: Employee Management System - Overview and Setup**

**Business Scenario:**

You are developing an employee management system that will manage employee data, departments, and their relationships.

**Instructions:**

1. **Creating a Spring Boot Project:**
   * Initialize a new Spring Boot project named **EmployeeManagementSystem**.
   * Add dependencies: **Spring Data JPA, H2 Database, Spring Web, Lombok**.
2. **Configuring Application Properties:**
   * Configure **application.properties** for H2 database connection.

*spring.datasource.url=jdbc:h2:mem:testdb*

*spring.datasource.driverClassName=org.h2.Driver*

*spring.datasource.username=sa*

*spring.datasource.password=password*

*spring.jpa.database-platform=org.hibernate.dialect.H2Dialect*

**Solution**

**EmployeeManagementSystemApplication.java**

package com.employee.employeemanagement;

import org.springframework.boot.SpringApplication;

import org.springframework.boot.CommandLineRunner;

import org.springframework.boot.autoconfigure.SpringBootApplication;

@SpringBootApplication

public class EmployeeManagementSystemApplication implements CommandLineRunner {

public static void main(String[] args) {

SpringApplication.run(EmployeeManagementSystemApplication.class, args);

}

@Override

public void run(String... args) throws Exception {

System.out.println("Employee Management System is running successfully!");

}

}

**application.properties**

spring.application.name=EmployeeManagementSystem

spring.datasource.url=jdbc:h2:mem:testdb

spring.datasource.driverClassName=org.h2.Driver

spring.datasource.username=sa

spring.datasource.password=password

spring.jpa.database-platform=org.hibernate.dialect.H2Dialect

**pom.xml**

<?xml version="1.0" encoding="UTF-8"?>

<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 https://maven.apache.org/xsd/maven-4.0.0.xsd">

<modelVersion>4.0.0</modelVersion>

<parent>

<groupId>org.springframework.boot</groupId>

<artifactId>spring-boot-starter-parent</artifactId>

<version>3.3.2</version>

<relativePath/> <!-- lookup parent from repository -->

</parent>

<groupId>com.employee.employeemanagement</groupId>

<artifactId>EmployeeManagementSystem</artifactId>

<version>0.0.1-SNAPSHOT</version>

<name>EmployeeManagementSystem</name>

<description>Employee Management System using Spring Boot</description>

<url/>

<licenses>

<license/>

</licenses>

<developers>

<developer/>

</developers>

<scm>

<connection/>

<developerConnection/>

<tag/>

<url/>

</scm>

<properties>

<java.version>17</java.version>

</properties>

<dependencies>

<dependency>

<groupId>org.springframework.boot</groupId>

<artifactId>spring-boot-starter-data-jpa</artifactId>

</dependency>

<dependency>

<groupId>org.springframework.boot</groupId>

<artifactId>spring-boot-starter-web</artifactId>

</dependency>

<dependency>

<groupId>com.h2database</groupId>

<artifactId>h2</artifactId>

<scope>runtime</scope>

</dependency>

<dependency>

<groupId>org.projectlombok</groupId>

<artifactId>lombok</artifactId>

<optional>true</optional>

</dependency>

<dependency>

<groupId>org.springframework.boot</groupId>

<artifactId>spring-boot-starter-test</artifactId>

<scope>test</scope>

</dependency>

</dependencies>

<build>

<plugins>

<plugin>

<groupId>org.springframework.boot</groupId>

<artifactId>spring-boot-maven-plugin</artifactId>

<configuration>

<excludes>

<exclude>

<groupId>org.projectlombok</groupId>

<artifactId>lombok</artifactId>

</exclude>

</excludes>

</configuration>

</plugin>

</plugins>

</build>

</project>

