**Exercise 2: Implementing Dependency Injection**

**Project Structure (Maven Standard)**

spring-basic-app/

├── pom.xml

└── src/

├── main/

│ ├── java/

│ │ └── com/example/

│ │ ├── App.java

│ │ ├── Address.java

│ │ └── Employee.java

│ └── resources/

│ └── beans.xml

*App.java*

package com.example;

import org.springframework.context.ApplicationContext;

import org.springframework.context.support.ClassPathXmlApplicationContext;

public class App {

public static void main(String[] args) {

ApplicationContext context = new ClassPathXmlApplicationContext("beans.xml");

Employee emp = context.getBean("employee", Employee.class);

emp.showInfo();

}

}

*Employee.java*

package com.example;

public class Employee {

private String name;

private Address address;

public void setName(String name) {

this.name = name;

}

public void setAddress(Address address) {

this.address = address;

}

public void showInfo() {

System.out.println("Employee Name: " + name);

address.display();

}

}

*Address.java*

package com.example;

public class Address {

private String city;

private String country;

public Address() {}

public Address(String city, String country) {

this.city = city;

this.country = country;

}

public void setCity(String city) {

this.city = city;

}

public void setCountry(String country) {

this.country = country;

}

public void display() {

System.out.println("City: " + city + ", Country: " + country);

}

}

*beans.xml*

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

<beans xmlns="http://www.springframework.org/schema/beans"

xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

xsi:schemaLocation="

<http://www.springframework.org/schema/beans>

<https://www.springframework.org/schema/beans/spring-beans.xsd>">

<bean id="address" class="com.example.Address">

<property name="city" value="Kolkata" />

<property name="country" value="India" />

</bean>

<bean id="employee" class="com.example.Employee">

<property name="name" value="Debangshu Dey" />

<property name="address" ref="address" />

</bean>

</beans>

**Running command**

mvn clean compile

mvn exec:java

**Output**

Employee Name: Debangshu Dey

City: Kolkata, Country: India

