

PRACTICAL 7(D) – SPRING AUTOWIRING

AIM

To demonstrate Autowiring feature of Spring Framework using byName and byType.

THEORY

Autowiring is a feature of Spring Framework that allows the Spring container to automatically inject dependencies into a bean. It reduces the need for explicit configuration. Common autowiring modes include byName and byType.

SOURCE CODE – Address.java

```
package springdemo;

public class Address {
    private String city;

    public void setCity(String city) {
        this.city = city;
    }

    public String getCity() {
        return city;
    }
}
```

SOURCE CODE – Student.java

```
package springdemo;

public class Student {
    private Address address;

    public void setAddress(Address address) {
        this.address = address;
    }

    public void display() {
        System.out.println("City: " + address.getCity());
    }
}
```

SOURCE CODE – applicationContext.xml (byName)

```
<?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
           http://www.springframework.org/schema/beans/spring-beans.xsd">

    <bean id="address" class="springdemo.Address">
        <property name="city" value="Delhi"/>
    </bean>
```

```
<bean id="student" class="springdemo.Student" autowire="byName" />
</beans>
```

SOURCE CODE – applicationContext.xml (byType)

```
<?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
           http://www.springframework.org/schema/beans/spring-beans.xsd">

    <bean class="springdemo.Address">
        <property name="city" value="Chennai"/>
    </bean>

    <bean id="student" class="springdemo.Student" autowire="byType" />
</beans>
```

SOURCE CODE – MainApp.java

```
package springdemo;

import org.springframework.context.ApplicationContext;
import org.springframework.context.support.ClassPathXmlApplicationContext;

public class MainApp {
    public static void main(String[] args) {
        ApplicationContext context =
            new ClassPathXmlApplicationContext("applicationContext.xml");

        Student s = (Student) context.getBean("student");
        s.display();
    }
}
```

NETBEANS 7 – EXECUTION STEPS

1. Use the same Spring project and libraries from Practical 7(A)
2. Create Address.java and Student.java
3. Use either byName or byType configuration in applicationContext.xml
4. Run MainApp.java using Shift + F6

OUTPUT

City: Delhi (byName) OR City: Chennai (byType)

RESULT

Thus, autowiring using byName and byType was successfully demonstrated in Spring Framework.