

```
CREATE TABLE Student(  
    ID INT NOT NULL AUTO_INCREMENT,  
    NAME VARCHAR(20) NOT NULL,  
    AGE INT NOT NULL,  
    PRIMARY KEY (ID)  
);
```

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### **StudentDAO.java**

```
import java.util.List;  
import javax.sql.DataSource;  
  
public interface StudentDAO {  
    public void setDataSource(DataSource ds);  
    public void create(String name, Integer age);  
    public Student getStudent(Integer id);  
    public List<Student> listStudents();  
    public void delete(Integer id);  
    public void update(Integer id, Integer age);  
}
```

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### **Student.java**

```
public class Student {  
    private Integer age;  
    private String name;  
    private Integer id;  
  
    public void setAge(Integer age) {  
        this.age = age;  
    }  
    public Integer getAge() {  
        return age;  
    }  
  
    public void setName(String name) {  
        this.name = name;  
    }  
    public String getName() {  
        return name;  
    }  
  
    public void setId(Integer id) {  
        this.id = id;  
    }  
    public Integer getId() {  
        return id;  
    }  
}
```

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## StudentMapper.java

```
import java.sql.ResultSet;
import java.sql.SQLException;
import org.springframework.jdbc.core.RowMapper;

public class StudentMapper implements RowMapper<Student> {
    public Student mapRow(ResultSet rs, int rowNum) throws SQLException {
        Student student = new Student();
        student.setId(rs.getInt("id"));
        student.setName(rs.getString("name"));
        student.setAge(rs.getInt("age"));
        return student;
    }
}
```

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## StudentJdbcTemplate.java

```
import java.util.List;
import javax.sql.DataSource;
import org.springframework.jdbc.core.JdbcTemplate;

public class StudentJdbcTemplate implements StudentDAO {
    private DataSource dataSource;
    private JdbcTemplate jdbcTemplateObject;

    public void setDataSource(DataSource dataSource) {
        this.dataSource = dataSource;
        this.jdbcTemplateObject = new JdbcTemplate(dataSource);
    }

    public void create(String name, Integer age) {
        String SQL = "insert into Student (name, age) values (?, ?)";

        jdbcTemplateObject.update( SQL, name, age);
        System.out.println("Created Record Name = " + name + " Age = " + age);
        return;
    }

    public Student getStudent(Integer id) {
        String SQL = "select * from Student where id = ?";
        Student student = jdbcTemplateObject.queryForObject(SQL,
            new Object[]{id}, new StudentMapper());
        return student;
    }

    public List<Student> listStudents() {
```

```

String SQL = "select * from Student";
List <Student> students = jdbcTemplateObject.query(SQL,
        new StudentMapper());
return students;
}

public void delete(Integer id){
    String SQL = "delete from Student where id = ?";
    jdbcTemplateObject.update(SQL, id);
    System.out.println("Deleted Record with ID = " + id );
    return;
}

public void update(Integer id, Integer age){
    String SQL = "update Student set age = ? where id = ?";
    jdbcTemplateObject.update(SQL, age, id);
    System.out.println("Updated Record with ID = " + id );
    return;
}
}

```

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## **MainApp.java**

```

import java.util.List;

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

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

        StudentJDBCTemplate studentJDBCTemplate =
            (StudentJDBCTemplate)context.getBean("studentJDBCTemplate");

        System.out.println("-----Records Creation-----" );
        studentJDBCTemplate.create("Zara", 11);
        studentJDBCTemplate.create("Nuha", 2);
        studentJDBCTemplate.create("Ayan", 15);

        System.out.println("-----Listing Multiple Records-----" );
        List<Student> students = studentJDBCTemplate.listStudents();
        for (Student record : students) {
            System.out.print("ID : " + record.getId() );
            System.out.print(", Name : " + record.getName() );
            System.out.println(", Age : " + record.getAge());
        }

        System.out.println("----Updating Record with ID = 2 ----" );
    }
}

```

```

studentJdbcTemplate.update(2, 20);

System.out.println("----Listing Record with ID = 2 -----" );
Student student = studentJdbcTemplate.getStudent(2);
System.out.print("ID : " + student.getId() );
System.out.print(", Name : " + student.getName() );
System.out.println(", Age : " + student.getAge());

}
}

```

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## 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
http://www.springframework.org/schema/beans/spring-beans-3.0.xsd ">

  <!-- Initialization for data source -->
  <bean id="dataSource"
    class="org.springframework.jdbc.datasource.DriverManagerDataSource">
    <property name="driverClassName" value="com.mysql.jdbc.Driver"/>
    <property name="url" value="jdbc:mysql://localhost:3306/TEST"/>
    <property name="username" value="kashish"/>
    <property name="password" value="Zildjian1"/>
  </bean>

  <!-- Definition for studentJdbcTemplate bean -->
  <bean id="studentJdbcTemplate"
    class="com.StudentJdbcTemplate">
    <property name="dataSource" ref="dataSource" />
  </bean>

</beans>

```