Create a Java program to demonstrate JDBC and Spring Integration

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 http://maven.apache.org/xsd/maven-4.0.0.xsd">

<modelVersion>4.0.0</modelVersion>

<groupId>com</groupId>

<artifactId>ecommerce</artifactId>

<version>0.0.1-SNAPSHOT</version>

<packaging>war</packaging>

<name>ecommerce Maven Webapp</name>

<properties>

<org.springframework.version>6.0.4</org.springframework.version>

<maven.compiler.source>1.8</maven.compiler.source>

<maven.compiler.target>1.8</maven.compiler.target>

</properties>

<dependencies>

<dependency>

<groupId>junit</groupId>

<artifactId>junit</artifactId>

<version>3.8.1</version>

<scope>test</scope>

</dependency>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-core</artifactId>

<version>${org.springframework.version}</version>

</dependency>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-expression</artifactId>

<version>${org.springframework.version}</version>

</dependency>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-beans</artifactId>

<version>${org.springframework.version}</version>

</dependency>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-context</artifactId>

<version>${org.springframework.version}</version>

</dependency>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-context-support</artifactId>

<version>${org.springframework.version}</version>

</dependency>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-jdbc</artifactId>

<version>${org.springframework.version}</version>

</dependency>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-orm</artifactId>

<version>${org.springframework.version}</version>

</dependency>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-web</artifactId>

<version>${org.springframework.version}</version>

</dependency>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-webmvc</artifactId>

<version>${org.springframework.version}</version>

</dependency>

<dependency>

<groupId>javassist</groupId>

<artifactId>javassist</artifactId>

<version>3.12.1.GA</version>

</dependency>

<dependency>

<groupId>taglibs</groupId>

<artifactId>standard</artifactId>

<version>1.1.2</version>

<scope>runtime</scope>

</dependency>

<dependency>

<groupId>commons-dbcp</groupId>

<artifactId>commons-dbcp</artifactId>

<version>1.4</version>

</dependency>

<!--

https://mvnrepository.com/artifact/jakarta.servlet.jsp/jakarta.servlet.jsp-api -->

<!--<dependency>

<groupId>jakarta.servlet</groupId>

<artifactId>jakarta.servlet-api</artifactId>

<version>6.0.0</version>

</dependency>-->

<!-- https://mvnrepository.com/artifact/javax.servlet/javax.servlet-api -->

<dependency>

<groupId>javax.servlet</groupId>

<artifactId>javax.servlet-api</artifactId>

<version>3.0.1</version>

<scope>provided</scope>

</dependency>

<!--

https://mvnrepository.com/artifact/jakarta.servlet.jsp.jstl/jakarta.servlet.jsp.jstl-api -->

<dependency>

<groupId>jakarta.servlet.jsp.jstl</groupId>

<artifactId>jakarta.servlet.jsp.jstl-api</artifactId>

<version>3.0.0</version>

</dependency>

<dependency>

<groupId>mysql</groupId>

<artifactId>mysql-connector-java</artifactId>

<version>8.0.32</version>

</dependency>

<dependency>

<groupId>javax.persistence</groupId>

<artifactId>persistence-api</artifactId>

<version>1.0.2</version>

<scope>provided</scope>

</dependency>

</dependencies>

<build>

<finalName>ecommerce</finalName>

<pluginManagement><!-- lock down plugins versions to avoid using Maven

defaults (may be moved to parent pom) -->

<plugins>

<plugin>

<artifactId>maven-clean-plugin</artifactId>

<version>3.1.0</version>

</plugin>

<!-- see

http://maven.apache.org/ref/current/maven-core/default-bindings.html#Plugin\_bindings\_for\_war\_packaging -->

<plugin>

<artifactId>maven-resources-plugin</artifactId>

<version>3.0.2</version>

</plugin>

<plugin>

<artifactId>maven-compiler-plugin</artifactId>

<version>3.8.0</version>

</plugin>

<plugin>

<artifactId>maven-surefire-plugin</artifactId>

<version>2.22.1</version>

</plugin>

<plugin>

<artifactId>maven-war-plugin</artifactId>

<version>3.2.2</version>

</plugin>

<plugin>

<artifactId>maven-install-plugin</artifactId>

<version>2.5.2</version>

</plugin>

<plugin>

<artifactId>maven-deploy-plugin</artifactId>

<version>2.8.2</version>

</plugin>

</plugins>

</pluginManagement>

</build>

</project>

**EProduct.java**

package com.ecommerce;

import java.math.BigDecimal;

import java.util.Date;

public class EProduct {

private long ID;

private String name;

private BigDecimal price;

private Date dateAdded;

public long getID() {return this.ID; }

public String getName() { return this.name;}

public BigDecimal getPrice() { return this.price;}

public Date getDateAdded() { return this.dateAdded;}

public void setID(long id) { this.ID = id;}

public void setName(String name) { this.name = name;}

public void setPrice(BigDecimal price) { this.price = price;}

public void setDateAdded(Date date) { this.dateAdded = date;}

}

**ProductController.java**

package com.ecommerce.controller;

import java.util.List;

import org.springframework.beans.factory.annotation.Autowired;

import org.springframework.stereotype.Controller;

import org.springframework.ui.ModelMap;

import org.springframework.web.bind.annotation.\*;

import com.ecommerce.EProduct;

import com.ecommerce.dao.EProductDAO;

@Controller

public class ProductController {

@Autowired

EProductDAO eproductDAO;

@RequestMapping(value = "/listProducts", method = RequestMethod.GET)

public String listProducts(ModelMap model) {

List<EProduct> listOfProducts = eproductDAO.getProducts();

model.addAttribute("list", listOfProducts);

return "listProducts"; // go to listProducts.jsp

}

@RequestMapping(value = "/addProduct", method = RequestMethod.POST)

public String addProduct(@RequestParam String name, @RequestParam float price) {

eproductDAO.addProduct(name, price);

return "addProductSuccess"; // go to addProductSuccess.jsp

}

@RequestMapping(value = "/deleteProduct", method = RequestMethod.POST)

public String deleteProduct(@RequestParam int id) {

eproductDAO.deleteProduct(id);

return "deleteProductSuccess"; // go to deleteProductSuccess.jsp

}

}

EProductDAO.java

package com.ecommerce.dao;

import java.sql.ResultSet;

import java.sql.SQLException;

import java.util.List;

import org.springframework.jdbc.core.JdbcTemplate;

import org.springframework.jdbc.core.RowMapper;

import com.ecommerce.EProduct;

public class EProductDAO {

JdbcTemplate template;

public void setTemplate(JdbcTemplate template) {

this.template = template;

}

// Business methods

public List<EProduct> getProducts() {

return template.query("select \* from eproduct", new RowMapper<EProduct>() {

public EProduct mapRow(ResultSet rs, int row) throws SQLException {

EProduct e = new EProduct();

e.setID(rs.getInt(1));

e.setName(rs.getString(2));

e.setPrice(rs.getBigDecimal(3));

e.setDateAdded(rs.getDate(4));

return e;

}

});

}

public void addProduct(String name, float price) {

String insertSQL = "insert into eproduct(name,price) values(?,?)";

template.update(insertSQL, new Object[] { name, price });

}

public void deleteProduct(int id) {

String deleteSQL = "delete from eproduct where id=?";

template.update(deleteSQL, new Object[] { id });

}

}

Main-servlet.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"*

xmlns:aop=*"http://www.springframework.org/schema/aop"*

xmlns:context=*"http://www.springframework.org/schema/context"*

xmlns:jee=*"http://www.springframework.org/schema/jee"*

xmlns:lang=*"http://www.springframework.org/schema/lang"*

xmlns:p=*"http://www.springframework.org/schema/p"*

xmlns:tx=*"http://www.springframework.org/schema/tx"*

xmlns:util=*"http://www.springframework.org/schema/util"*

xsi:schemaLocation=*"http://www.springframework.org/schema/beans*

*http://www.springframework.org/schema/beans/spring-beans-2.5.xsd*

*http://www.springframework.org/schema/aop*

*http://www.springframework.org/schema/aop/spring-aop-2.5.xsd*

*http://www.springframework.org/schema/context*

*http://www.springframework.org/schema/context/spring-context-2.5.xsd*

*http://www.springframework.org/schema/tx*

*http://www.springframework.org/schema/tx/spring-tx-2.5.xsd"*>

<bean id=*"jspViewResolver"*

class=*"org.springframework.web.servlet.view.InternalResourceViewResolver"*>

<property name=*"viewClass"*

value=*"org.springframework.web.servlet.view.JstlView"*></property>

<property name=*"prefix"* value=*"/WEB-INF/view/"*></property>

<property name=*"suffix"* value=*".jsp"*></property>

</bean>

<bean id=*"messageSource"*

class=*"org.springframework.context.support.ReloadableResourceBundleMessageSource"*>

<property name=*"basename"* value=*"classpath:messages"*></property>

<property name=*"defaultEncoding"* value=*"UTF-8"*></property>

</bean>

<context:annotation-config />

<context:component-scan base-package=*"com.ecommerce"* />

<context:component-scan

base-package=*"com.ecommerce.dao"* />

<context:component-scan

base-package=*"com.ecommerce.controller"* />

<bean id=*"dataSource"*

class=*"org.apache.commons.dbcp.BasicDataSource"* destroy-method=*"close"*

p:driverClassName=*"${jdbc.driverClassName}"*

p:url=*"${jdbc.databaseurl}"* p:username=*"${jdbc.username}"*

p:password=*"${jdbc.password}"*></bean>

<bean id=*"ds"*

class=*"org.springframework.jdbc.datasource.DriverManagerDataSource"*>

<property name=*"driverClassName"*

value=*"com.mysql.jdbc.Driver"*></property>

<property name=*"url"*

value=*"jdbc:mysql://localhost:3306/ECOMMERCE"*></property>

<property name=*"username"* value=*"root"*></property>

<property name=*"password"* value=*"Jyotidevadiga@371"*></property>

</bean>

<bean id=*"jt"* class=*"org.springframework.jdbc.core.JdbcTemplate"*>

<property name=*"dataSource"* ref=*"ds"*></property>

</bean>

<bean id=*"dao"* class=*"com.ecommerce.dao.EProductDAO"*>

<property name=*"template"* ref=*"jt"*></property>

</bean>

<tx:annotation-driven />

</beans>

**Web.xml**

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

<web-app xmlns=*"http://java.sun.com/xml/ns/javaee"* version=*"2.5"*

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

xsi:schemaLocation=*"http://java.sun.com/xml/ns/javaee http://java.sun.com/xml/ns/javaee/web-app\_2\_5.xsd"*>

<display-name>Archetype Created Web Application</display-name>

<welcome-file-list>

<welcome-file >/WEB-INF/view/index.jsp</welcome-file >

</welcome-file-list>

<context-param>

<param-name>contextConfigLocation</param-name>

<param-value>/WEB-INF/main-servlet.xml</param-value>

</context-param>

<servlet>

<servlet-name>main</servlet-name>

<servlet-class>org.springframework.web.servlet.DispatcherServlet</servlet-class>

<load-on-startup>1</load-on-startup>

</servlet>

<servlet-mapping>

<servlet-name>main</servlet-name>

<url-pattern>/</url-pattern>

</servlet-mapping>

<listener>

<listener-class>org.springframework.web.context.ContextLoaderListener</listener-class>

</listener>

</web-app>

**Index.jsp**

<html>

<body>

<h2>Spring Application</h2>

<a href=*"listProducts"*>List Products</a>

<br><br>

<a href=*"add-product.jsp"*>ADD Products</a>

<a href=*"delete-product.jsp"*>DELETE Products</a>

</body>

</html>

**listProducts.jsp**

<%@ page language=*"java"* contentType=*"text/html; charset=UTF-8"*

pageEncoding=*"UTF-8"*%>

<%@ taglib uri=*"http://www.springframework.org/tags/form"* prefix=*"form"*%>

<%@ taglib uri=*"http://java.sun.com/jsp/jstl/core"* prefix=*"c"*%>

<!DOCTYPE html>

<html>

<head>

<meta charset=*"UTF-8"*>

<title>List Products</title>

</head>

<body>

<c:forEach var=*"product"* items=*"*${list}*"*>

${product.name}, ${product.price}, ${product.dateAdded}<br>

</c:forEach>

</body>

</html>

**addProductSuccess.jsp**

<%@ page language=*"java"* contentType=*"text/html; charset=UTF-8"*

pageEncoding=*"UTF-8"*%>

Product added successfuly!

**deleteProductSuccess.jsp**

<%@ page language=*"java"* contentType=*"text/html; charset=UTF-8"*

pageEncoding=*"UTF-8"*%>

Product deleted successfuly!

**Add-product.jsp**

<h3> ADD a new Product here</h3>

<form action=*"addProduct"* METHOD=*"POST"*>

NAME <input name=*"name"*> <br>

PRICE <input name=*"price"*><br><br>

<input type=*submit*>

</form>

**delete-product.jsp**

<h3> DELETE a Product here</h3>

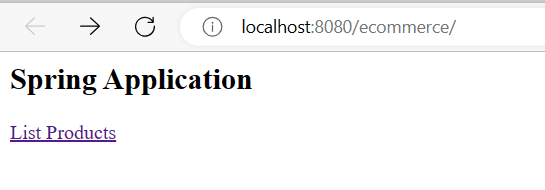
<form action=*"deleteProduct"* METHOD=*"POST"*>

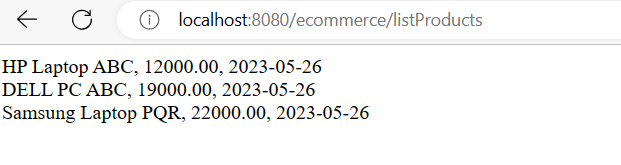
ID <input name=*"id"*> <br><br>

<input type=*submit*>

</form>

**Output**

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