

1.Set up a Spring framework environment

Application.java

```
package com.example.demo;

import org.springframework.boot.SpringApplication;
import org.springframework.boot.autoconfigure.SpringBootApplication;

@SpringBootApplication
public class Application {

    public static void main(String[] args) {
        SpringApplication.run(Application.class, args);
    }

}
```

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>
  <!-- FIXME change it to the project's website -->
  <url>http://www.example.com</url>

  <properties>
    <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
    <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>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.ser
    vlet.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>
    <dependency>
        <groupId>junit</groupId>
        <artifactId>junit</artifactId>
        <version>4.11</version>
        <scope>test</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>
```

2. Create a Java program to demonstrate default and custom event handling.

Pom.xml

```
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/maven-v4_0_0.xsd">

<modelVersion>4.0.0</modelVersion>

<groupId>SpringSetup</groupId>

<artifactId>SpringSetup</artifactId>

<packaging>war</packaging>

<version>0.0.1-SNAPSHOT</version>

<name>SpringSetup Maven Webapp</name>

<url>http://maven.apache.org</url>

<properties>
  <org.springframework.version>5.1.6.RELEASE</org.springframework.version>
</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>
```

```
<dependency>  
<groupId>javax.servlet</groupId>  
<artifactId>jstl</artifactId>  
<version>1.2</version>  
</dependency>
```

```
<dependency>  
<groupId>javax.servlet</groupId>  
<artifactId>jstl</artifactId>  
<version>1.2</version>  
</dependency>
```

```
<dependency>  
<groupId>javax.persistence</groupId>  
<artifactId>persistence-api</artifactId>  
<version>1.0.2</version>  
<scope>provided</scope>  
</dependency>
```

```
</dependencies>

<build>

  <finalName>SpringSetup</finalName>

</build>
```

StartEventHandler

```
package com.ecommerce.beans;

import org.springframework.context.ApplicationListener;
import org.springframework.context.event.ContextStartedEvent;

public class StartEventHandler implements
ApplicationListener<ContextStartedEvent>{

    public void onApplicationEvent(ContextStartedEvent event) {

        System.out.println("ContextStartedEvent Received");

    }
```

```
package com.ecommerce.beans;

import org.springframework.context.ApplicationListener;
import org.springframework.context.event.ContextStoppedEvent;

public class StopEventHandler implements
ApplicationListener<ContextStoppedEvent>{
```

```
    public void onApplicationEvent(ContextStoppedEvent event) {  
        System.out.println("ContextStoppedEvent Received");  
    }  
}
```

CustomEvent

```
package com.ecommerce.beans;  
  
import org.springframework.context.ApplicationEvent;  
  
public class CustomEvent extends ApplicationEvent{  
  
    public CustomEvent(Object source) {  
        super(source);  
    }  
  
    public String toString(){  
        return "This is a custom event";  
    }  
}
```

CustomEventPublisher

```
package com.ecommerce.beans;  
  
import org.springframework.context.ApplicationEventPublisher;  
import org.springframework.context.ApplicationEventPublisherAware;
```

```
public class CustomEventPublisher implements ApplicationEventPublisherAware {  
    private ApplicationEventPublisher publisher;  
  
    public void setApplicationEventPublisher (ApplicationEventPublisher publisher) {  
        this.publisher = publisher;  
    }  
  
    public void publish() {  
        CustomEvent ce = new CustomEvent(this);  
        publisher.publishEvent(ce);  
    }  
}
```

CustomEventListener

```
package com.ecommerce;  
  
import org.springframework.context.ApplicationListener;  
  
public class CustomEventListener implements ApplicationListener<CustomEvent>  
{  
  
    public void onApplicationEvent(CustomEvent event) {  
        System.out.println(event.toString());  
    }  
}
```

MainController

```
package com.ecommerce.controller;

import org.apache.log4j.Logger;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Controller;
import org.springframework.ui.ModelMap;
import org.springframework.validation.BindingResult;
import org.springframework.web.bind.annotation.ModelAttribute;
import org.springframework.web.bind.annotation.PathVariable;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RequestMethod;
import org.springframework.web.bind.annotation.RequestParam;

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

@Controller
public class MainController {
```

```

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

    public String customEvent(ModelMap map)
    {

        String confFile = "main-servlet.xml";

        ApplicationContext context = new
ClassPathXmlApplicationContext(confFile);

        CustomEventPublisher cvp =

            (CustomEventPublisher) context.getBean("customEventPublisher");


        cvp.publish();

        cvp.publish();

        return "customEvent";

    }

}

```

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">
    <context:annotation-config />
    <context:component-scan base-package="com.ecommerce.controller" />
    <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.ReloadableResourceBundleMessageS
        ource">
        <property name="basename" value="classpath:messages"></property>
        <property name="defaultEncoding" value="UTF-8"></property>
    </bean>
```

```

<bean id = "startEventHandler" class =
"com.ecommerce.beans.StartEventHandler"/>

<bean id = "stopEventHandler" class =
"com.ecommerce.beans.StopEventHandler"/>

<bean id = "customEventListener" class =
"com.ecommerce.beans.CustomEventListener"/>

<bean id = "customEventPublisher" class =
"com.ecommerce.beans.CustomEventPublisher"/>

<tx:annotation-driven />

</beans>

```

index.jsp

```

<html>
<body>
<h2>Spring Application</h2>

<a href="customevent">Custom Event Handling</a>

</body>
</html>

```

customEvent.jsp

```

<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>

```



```
<head>
<meta charset="UTF-8">
<title>Custom Event</title>
</head>
<body>
  Custom Event has been generated in the Java Console.
</body>
</html>
```

web.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>

  <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>

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

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

3. Create a Java program to demonstrate JDBC and Spring Integration

Index.jsp

```
<h3><a href="listProducts">List Products</a></h3>
```

List-product.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="${listOfProducts}">
    ${product.name}, ${product.price}, ${product.dateAdded} <br>
  </c:forEach>
</body>

</html>
```

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>
```

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>
  <!-- FIXME change it to the project's website -->
  <url>http://www.example.com</url>

  <properties>
```

```
<project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
<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>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>
</dependencies>
```

```

        </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.ser
        vlet.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>
        <dependency>
            <groupId>junit</groupId>
            <artifactId>junit</artifactId>
            <version>4.11</version>
            <scope>test</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 map) {
        List<EProduct> list = eproductDAO.getProducts();

        map.addAttribute("listOfProducts", list);

        return "list-products"; // go to "list-products.jsp"
    }
}

```


EProductDAO.java

```
package com.ecommerce.dao;

import java.sql.*;
import java.util.List;

import org.springframework.jdbc.core.*;

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;
            }

        });
    }
}
```

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.InternalResourceViewResolve
r">

    <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.ReloadableResourceBundleMess
ageSource">
    <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="8143303511@Sri"></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>

```

OUTPUT

