**Integration of Hibernate with Spring**

**Creating a web-enabled Maven Project`**

**pom.xml**

<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/maven-v4\_0\_0.xsd">

<modelVersion>4.0.0</modelVersion>

<groupId>SpringHibernateWeb</groupId>

<artifactId>SpringHibernateWeb</artifactId>

<packaging>war</packaging>

<version>0.0.1-SNAPSHOT</version>

<name>SpringHibernateWeb Maven Webapp</name>

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

<!-- JBoss repository for Hibernate -->

<repositories>

<repository>

<id>JBoss repository</id>

<url>http://repository.jboss.org/nexus/content/groups/public/</url>

</repository>

</repositories>

<properties>

<org.springframework.version>3.0.5.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.hibernate.javax.persistence</groupId>

<artifactId>hibernate-jpa-2.1-api</artifactId>

<version>1.0.0.Final</version>

</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>log4j</groupId>

<artifactId>log4j</artifactId>

<version>1.2.16</version>

<scope>runtime</scope>

</dependency>

<dependency>

<groupId>org.hibernate</groupId>

<artifactId>hibernate-core</artifactId>

<version>3.6.3.Final</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>mysql</groupId>

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

<version>5.1.9</version>

</dependency>

</dependencies>

<build>

<finalName>SpringHibernateWeb</finalName>

</build>

</project>

**MySQL table eproduct**

**CREATE DATABASE ecommerce**

**USE ecommerce**

**/\*!40101 SET @OLD\_CHARACTER\_SET\_CLIENT=@@CHARACTER\_SET\_CLIENT \*/;**

**/\*!40101 SET @OLD\_CHARACTER\_SET\_RESULTS=@@CHARACTER\_SET\_RESULTS \*/;**

**/\*!40101 SET @OLD\_COLLATION\_CONNECTION=@@COLLATION\_CONNECTION \*/;**

**/\*!40101 SET NAMES utf8 \*/;**

**/\*!40103 SET @OLD\_TIME\_ZONE=@@TIME\_ZONE \*/;**

**/\*!40103 SET TIME\_ZONE='+00:00' \*/;**

**/\*!40014 SET @OLD\_UNIQUE\_CHECKS=@@UNIQUE\_CHECKS, UNIQUE\_CHECKS=0 \*/;**

**/\*!40014 SET @OLD\_FOREIGN\_KEY\_CHECKS=@@FOREIGN\_KEY\_CHECKS, FOREIGN\_KEY\_CHECKS=0 \*/;**

**/\*!40101 SET @OLD\_SQL\_MODE=@@SQL\_MODE, SQL\_MODE='NO\_AUTO\_VALUE\_ON\_ZERO' \*/;**

**/\*!40111 SET @OLD\_SQL\_NOTES=@@SQL\_NOTES, SQL\_NOTES=0 \*/;**

**--**

**-- Table structure for table `eproduct`**

**--**

**DROP TABLE IF EXISTS `eproduct`;**

**/\*!40101 SET @saved\_cs\_client = @@character\_set\_client \*/;**

**/\*!40101 SET character\_set\_client = utf8 \*/;**

**CREATE TABLE `eproduct` (**

**`ID` bigint(20) NOT NULL AUTO\_INCREMENT,**

**`name` varchar(100) DEFAULT NULL,**

**`price` decimal(10,2) DEFAULT NULL,**

**`date\_added` timestamp NOT NULL DEFAULT CURRENT\_TIMESTAMP,**

**`parts\_hdd` varchar(10) DEFAULT NULL,**

**`parts\_cpu` varchar(10) DEFAULT NULL,**

**`parts\_ram` varchar(10) DEFAULT NULL,**

**PRIMARY KEY (`ID`)**

**) ENGINE=InnoDB AUTO\_INCREMENT=4 DEFAULT CHARSET=latin1;**

**/\*!40101 SET character\_set\_client = @saved\_cs\_client \*/;**

**--**

**-- Dumping data for table `eproduct`**

**--**

**LOCK TABLES `eproduct` WRITE;**

**/\*!40000 ALTER TABLE `eproduct` DISABLE KEYS \*/;**

**INSERT INTO `eproduct` VALUES (1,'HP Laptop ABC',21900.00,'2019-06-04 07:18:57','2 Gb HDD','AMD Phenom','4 Gb'),(2,'Acer Laptop ABC',23300.00,'2019-06-04 07:19:07','500 Gb HDD','Core-i7','4 Gb'),(3,'Lenovo Laptop ABC',33322.00,'2019-06-04 07:19:19','1 Tb HDD','Core-i7','8 Gb');**

**/\*!40000 ALTER TABLE `eproduct` ENABLE KEYS \*/;**

**UNLOCK TABLES;**

**/\*!40103 SET TIME\_ZONE=@OLD\_TIME\_ZONE \*/;**

**/\*!40101 SET SQL\_MODE=@OLD\_SQL\_MODE \*/;**

**/\*!40014 SET FOREIGN\_KEY\_CHECKS=@OLD\_FOREIGN\_KEY\_CHECKS \*/;**

**/\*!40014 SET UNIQUE\_CHECKS=@OLD\_UNIQUE\_CHECKS \*/;**

**/\*!40101 SET CHARACTER\_SET\_CLIENT=@OLD\_CHARACTER\_SET\_CLIENT \*/;**

**/\*!40101 SET CHARACTER\_SET\_RESULTS=@OLD\_CHARACTER\_SET\_RESULTS \*/;**

**/\*!40101 SET COLLATION\_CONNECTION=@OLD\_COLLATION\_CONNECTION \*/;**

**/\*!40111 SET SQL\_NOTES=@OLD\_SQL\_NOTES \*/;**

**-- Dump completed on 2019-06-07 10:05:19**

**Entity class EProductEntity**

**package** com.ecommerce.entity;

**import** java.math.BigDecimal;

**import** java.util.Date;

**import** javax.persistence.Column;

**import** javax.persistence.Entity;

**import** javax.persistence.GeneratedValue;

**import** javax.persistence.Id;

**import** javax.persistence.Table;

@Entity

@Table(name= "eproduct")

**public** **class** EProductEntity {

@Id @GeneratedValue

@Column(name = "ID")

**private** **long** ID;

@Column(name = "name")

**private** String name;

@Column(name = "price")

**private** BigDecimal price;

@Column(name = "date\_added")

**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;}

}

**DAO class EProductDAO**

**package** com.ecommerce.dao;

**import** java.util.List;

**import** org.hibernate.SessionFactory;

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

**import** org.springframework.stereotype.Repository;

**import** org.springframework.stereotype.Service;

**import** org.springframework.transaction.annotation.Transactional;

**import** com.ecommerce.entity.EProductEntity;

@Repository

**public** **class** EProductDAO {

@Autowired

**private** SessionFactory sessionFactory;

@SuppressWarnings("unchecked")

**public** List<EProductEntity> getAllProducts() {

**return** **this**.sessionFactory.getCurrentSession().createQuery("from EProducts").list();

}

}

**class EProductController**

**package** com.ecommerce.controller;

**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** com.ecommerce.entity.EProductEntity;

**import** com.ecommerce.service.EProductService;

@Controller

**public** **class** EProductController {

@Autowired

**private** EProductService eproductService;

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

**public** String listProducts(ModelMap map)

{

map.addAttribute("eproduct", **new** EProductEntity());

map.addAttribute("productList", eproductService.getAllProducts());

**return** "productList";

}

}

**dispatcher servlet eproduct-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.xsd

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

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

http://www.springframework.org/schema/jee/ http://www.springframework.org/schema/jee/spring-jee.xsd

http://www.springframework.org/schema/lang/ http://www.springframework.org/schema/lang/spring-lang.xsd

http://www.springframework.org/schema/tx/ http://www.springframework.org/schema/tx/spring-tx.xsd

http://www.springframework.org/schema/util/ http://www.springframework.org/schema/util/spring-util.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.ReloadableResourceBundleMessageSource">

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

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

</bean>

<bean id="propertyConfigurer"

class="org.springframework.beans.factory.config.PropertyPlaceholderConfigurer"

p:location="/WEB-INF/jdbc.properties"></bean>

<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="sessionFactory"

class="org.springframework.orm.hibernate3.LocalSessionFactoryBean">

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

<property name="configLocation">

<value>classpath:hibernate.cfg.xml</value>

</property>

<property name="configurationClass">

<value>org.hibernate.cfg.AnnotationConfiguration</value>

</property>

<property name="hibernateProperties">

<props>

<prop key="hibernate.dialect">${jdbc.dialect}</prop>

<prop key="hibernate.show\_sql">true</prop>

</props>

</property>

</bean>

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

<bean id="eproductService" class="com.ecommerce.service.EProductService"></bean>

<tx:annotation-driven />

<bean id="transactionManager"

class="org.springframework.orm.hibernate3.HibernateTransactionManager">

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

</bean>

</beans>

**jdbc.properties file**

jdbc.driverClassName=com.mysql.jdbc.Driver

jdbc.dialect=org.hibernate.dialect.MySQLDialect

jdbc.databaseurl=jdbc:mysql://127.0.0.1:3306/ecommerce

jdbc.username=root

jdbc.password=ashiq321

**view productList.jsp to display the products**

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

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

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

<html>

<head>

<title>Spring With Hibernate</title>

</head>

<body>

<h3>Product List </h3>

<c:if test=*"*${!**empty** productList}*"*>

<table class=*"data"*>

<tr>

<th>Name</th>

<th>Price</th>

<th>Date Added</th>

</tr>

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

<tr>

<td>${product.name} </td>

<td>${product.price}</td>

<td>${product.date\_added}</td>

</tr>

</c:forEach>

</table>

</c:if>

</body>

</html>

**index.jsp**

<html>

<body>

<h2>Spring With Hibernate</h2>

<a href=*"/productList"*>Product List</a>

</body>

</html>

**Hibernate with hibernate.cfg.xml**

<?xml version='1.0' encoding='utf-8'?>

<!DOCTYPE hibernate-configuration PUBLIC

"-//Hibernate/Hibernate Configuration DTD//EN"

"http://hibernate.sourceforge.net/hibernate-configuration-3.0.dtd">

<hibernate-configuration>

<session-factory>

<mapping class="com.ecommerce.entity.EProductEntity"></mapping>

</session-factory>

</hibernate-configuration>

**web.xml**

<!DOCTYPE web-app PUBLIC

"-//Sun Microsystems, Inc.//DTD Web Application 2.3//EN"

"http://java.sun.com/dtd/web-app\_2\_3.dtd" >

<web-app>

<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>eproduct</servlet-name>

<servlet-class>

org.springframework.web.servlet.DispatcherServlet

</servlet-class>

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

</servlet>

<servlet-mapping>

<servlet-name>eproduct</servlet-name>

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

</servlet-mapping>

<context-param>

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

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

</context-param>

<listener>

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

</listener>

</web-app>