

## Phase – 2 Practice Project: Assisted Practice

### 28. Demonstrate integration of Hibernate with spring.

- **Code**

- ✓ **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>

```

## ✓ Database Code

```

/*!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 */;

```

## ✓ EProductEntity.java

```

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;}
}

```

## ✓ EproductDAO.java

```
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();
    }
}
```

## ✓ EProductController.java

```
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";
    }
}

```

## ✓ 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

```

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=root

```

## ✓ productList.jsp

```

<%@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.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>
    </servlet>

```

```
        <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>
```