Source Code

Pom.xml

```
instance"
xsi:schemaLocation="http://maven.apache.org/POM/4.0.0http://maven.apache.org/maven-
v4 0 0.xsd">
 <modelVersion>4.0.0</modelVersion>
 <groupId>com.operation/groupId>
 <artifactId>productcrudapp</artifactId>
 <packaging>war</packaging>
 <version>0.0.1-SNAPSHOT
 <name>productcrudapp Maven Webapp</name>
 <url>http://maven.apache.org</url>
 <dependencies>
 <!--spring webmvc-->
            <!-- https://mvnrepository.com/artifact/org.springframework/spring-webmvc-->
<dependency>
 <groupId>org.springframework
 <artifactId>spring-webmvc</artifactId>
  <version>5.3.22</version>
</dependency>
<!-- spring orm-->
<!-- https://mvnrepository.com/artifact/org.springframework/spring-orm -->
<dependency>
 <groupId>org.springframework</groupId>
 <artifactId>spring-orm</artifactId>
 <version>5.3.22</version>
</dependency>
<!-- hibernate core-->
<!-- https://mvnrepository.com/artifact/org.hibernate/hibernate-core -->
```

```
<dependency>
 <groupId>org.hibernate
  <artifactId>hibernate-core</artifactId>
 <version>5.6.10.Final</version>
</dependency>
             <!--mysqlconnector-->
             <!-- https://mvnrepository.com/artifact/mysql/mysql-connector-java -->
<dependency>
 <groupId>mysql
  <artifactId>mysql-connector-java</artifactId>
  <version>8.0.30</version>
</dependency>
<!-- jstl -->
<!-- https://mvnrepository.com/artifact/jstl/jstl -->
<dependency>
 <groupId>jstl
  <artifactId>jstl</artifactId>
  <version>1.2</version>
</dependency>
  <dependency>
   <groupId>junit
   <artifactId>junit</artifactId>
   <version>3.8.1</version>
   <scope>test</scope>
 </dependency>
 </dependencies>
 <build>
 <finalName>productcrudapp</finalName>
 </build>
</project>
```

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>
 <servlet>
             <servlet-name>spring</servlet-name>
             <servlet-class>org.springframework.web.servlet.DispatcherServlet</servlet-class>
 </servlet>
 <servlet-mapping>
      <servlet-name>spring</servlet-name>
      <url-pattern>/</url-pattern>
 </servlet-mapping>
</web-app>
Spring-servlet.xml
<?xml version="1.0" encoding="UTF-8"?>
<beans xmlns="http://www.springframework.org/schema/beans"</pre>
 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns:context="http://www.springframework.org/schema/context"
 xmlns:p="http://www.springframework.org/schema/p"
      xmlns:tx="http://www.springframework.org/schema/tx"
 xsi:schemaLocation="
    http://www.springframework.org/schema/beans
    http://www.springframework.org/schema/beans/spring-beans.xsd
```

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

```
http://www.springframework.org/schema/context/spring-context.xsd
    http://www.springframework.org/schema/tx
         http://www.springframework.org/schema/tx/spring-tx.xsd
         ">
         <tx:annotation-driven/>
<context:component-scan base-package="productcrudapp"/>
      <bean
             class="org.springframework.web.servlet.view.InternalResourceViewResolver"
             name="viewResolver">
             cproperty name="prefix" value="/WEB-INF/views/"/>
             cproperty name="suffix" value=".jsp"></property>
      </bean>
      <!-- data source -->
      <bean
             class="org.springframework.jdbc.datasource.DriverManagerDataSource" name="ds">
             cproperty name="driverClassName" value="com.mysql.jdbc.Driver" />
             cproperty name="url" value="jdbc:mysql://localhost:3306/productcrud" />
             cproperty name="username" value="root" />
             cproperty name="password" value="978213" />
      </bean>
      <bean
             class="org.springframework.orm.hibernate5.LocalSessionFactoryBean"
             name="factory">
             <!-- data source -->
             cproperty name="dataSource" ref="ds"></property>
```

```
<!-- hibernate properties -->
     cproperty name="hibernateProperties">
           ops>
                prop key="hibernate.show sql">true>
                </props>
     </property>
     <!-- annotated classes -->
     cproperty name="annotatedClasses">
           <list>
                <value>productcrudapp.model.Product</value>
           </list>
     </property>
</bean>
<bean class="org.springframework.orm.hibernate5.HibernateTemplate"</pre>
     name="hibernateTemplate">
     cproperty name="sessionFactory" ref="factory" >
</bean>
<bean
     class="org.springframework.orm.hibernate5.HibernateTransactionManager"
     name="transactionManager">
     cproperty name="sessionFactory" ref="factory"></property>
</bean>
```

</beans>

MainController.java

```
package productcrudapp.controller;
import java.util.List;
import javax.servlet.http.HttpServletRequest;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Controller;
import org.springframework.ui.Model;
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.servlet.view.RedirectView;
import productcrudapp.dao.ProductDao;
import productcrudapp.model.Product;
@Controller
public class MainController {
       @Autowired
      private ProductDao productDao;
      @RequestMapping("/")
      public String home(Model m)
      {
             List<Product> products = productDao.getProducts();
             m.addAttribute("products", products);
             return "index";
```

```
}
      //Show add prouduct fomr
       @RequestMapping("/add-product")
      public String addProduct(Model m)
      {
             m.addAttribute("title", "Add Product");
             return "add product form";
      }
      //handle add prouuct form
      @RequestMapping(value="/handle-product", method=RequestMethod.POST)
      public RedirectView handleProuduct(@ModelAttribute Product product, HttpServletRequest
request)
      {
             System.out.println(product);
             productDao.createProduct(product);
             RedirectView redirectView = new RedirectView();
             redirectView.setUrl(request.getContextPath()+"/");
             return redirectView;
      }
      //handler to delete
       @RequestMapping("/delete/{productId}")
      public RedirectView deleteProduct(@PathVariable("productId") int productId ,HttpServletRequest
request)
      {
             this.productDao.deleteProduct(productId);
             RedirectView redirectView = new RedirectView();
             redirectView.setUrl(request.getContextPath()+"/");
```

```
return redirectView;
}

@RequestMapping("/update/{productId}")
public String updateFormt(@PathVariable("productId") int pid, Model model)
{
         Product product = this.productDao.getProduct(pid);
         model.addAttribute("product", product);
         return "update_form";
}

public String getbyid()
{
}
```

<u>Productdao.java</u>

```
package productcrudapp.dao;

import java.util.List;

import javax.transaction.Transactional;

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

import org.springframework.orm.hibernate5.HibernateTemplate;

import org.springframework.stereotype.Component;

import productcrudapp.model.Product;
```

```
@Component
public class ProductDao {
       @Autowired
       private HibernateTemplate hibernateTemplate;
       //create
       @Transactional
       public void createProduct(Product product)
       {
              this.hibernateTemplate.saveOrUpdate(product);
       }
       //get all products
       public List<Product> getProducts()
       {
              List<Product> products = this.hibernateTemplate.loadAll(Product.class);
              return products;
       }
       //delete the single product
       @Transactional
       public void deleteProduct(int pid)
       {
              Product p = this.hibernateTemplate.load(Product.class, pid);
              this.hibernateTemplate.delete(p);
       }
       //get the single product
       @Transactional
```

```
public Product getProduct(int pid)
       {
               return this.hibernateTemplate.get(Product.class, pid);
       }
}
```

```
Product.java
package productcrudapp.model;
import javax.persistence.Entity;
import javax.persistence.GeneratedValue;
import javax.persistence.GenerationType;
import javax.persistence.ld;
@Entity
public class Product {
       @Id
       @GeneratedValue(strategy = GenerationType.AUTO)
       private int id;
       private String name;
       private String description;
       private long price;
       public int getId() {
              return id;
       }
       public void setId(intid) {
              this.id = id;
       }
```

```
public String getName() {
               return name;
       }
       public void setName(String name) {
               this.name = name;
       }
       public String getDescription() {
               return description;
       }
       public void setDescription(String description) {
               this.description = description;
       }
       public long getPrice() {
               return price;
       }
       public void setPrice(long price) {
               this.price = price;
       }
       public Product(int id, String name, String description, long price) {
               super();
               this.id = id;
               this.name = name;
               this.description = description;
               this.price = price;
       }
       public Product() {
               super();
               // TODO Auto-generated constructor stub
       }
       @Override
       public String toString() {
               return "Product [id="+ id + ", name="+ name + ", description=" + description + ", price=" +
price + "]";
```

```
}
```

}

Add_product_form.jsp

```
< @ page language="java" contentType="text/html; charset=ISO-8859-1"
      pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<%@include file="./base.jsp"%>
</head>
<body>
      <div class="container mt-3">
             <div class="row">
                    <div class="col-md-6 offset-md-3">
                           <h1 class="text-center mb-3">Fill the product details</h1>
                           <form action="handle-product" method="post">
                                  <div class="form-group">
                                         <label for="name">Product Name</label> <input type="text"
                                                class="form-control" id="name" aria-
describe="emailHelp"
                                                name="name" placeholder="Enter the product name
here">
                                  </div>
                                  <div class="form-group">
```

```
<label for="description">Product description</label>
                                           <textarea class="form-control" name="description"
id="description"
                                                  rows="5" placeholder="Enter the product
description"></textarea>
                                    </div>
                                    <div class="form-group">
                                           <label for="price">Product Price</label> <input type="text"</pre>
                                                  placeholder="enter product price" name="price"
                                                  class="form-control" id="price">
                                    </div>
                                    <div class="container text-center">
                                           <a href="${pageContext.request.contextPath}/"class="btn
btn-outline-danger">Back</a>
                                           <button type="submit" class="btn btn-
primary">Add</button>
                                    </div>
                            </form>
                     </div>
              </div>
       </div>
```

```
</body>
</html>
Base.jsp
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"</pre>
  pageEncoding="ISO-8859-1"%>
  <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
< @ page is ELI gnored = "false" %>
<%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core"%>
k rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap@4.0.0/dist/css/bootstrap.min.css"
integrity="sha384-Gn5384xqQ1aoWXA+058RXPxPg6fy4IWvTNh0E263XmFcJlSAwiGgFAW/dAiS6JXm"
crossorigin="anonymous">
integrity="sha512-
1sCRPdkRXhBV2PBLUdRb4tMg1w2YPf37qatUFeS7zlBy7jJI8Lf4VHwWfZZfpXtYSLy85pkm9GaYVYMfw5BC1A
=="crossorigin="anonymous" referrerpolicy="no-referrer"/>
<script src="https://code.jquery.com/jquery-3.2.1.slim.min.js" integrity="sha384-</p>
KJ3o2DKtlkvYIK3UENzmM7KCkRr/rE9/Qpg6aAZGJwFDMVNA/GpGFF93hXpG5KkN"
crossorigin="anonymous"></script>
<script src="https://cdn.jsdelivr.net/npm/popper.js@1.12.9/dist/umd/popper.min.js"integrity="sha384-
ApNbgh9B+Y1QKtv3Rn7W3mgPxhU9K/ScQsAP7hUibX39j7fakFPskvXusvfa0b4Q"
crossorigin="anonymous"></script>
<script src="https://cdn.jsdelivr.net/npm/bootstrap@4.0.0/dist/js/bootstrap.min.js"integrity="sha384-
JZR6Spejh4U02d8jOt6vLEHfe/JQGiRRSQQxSfFWpi1MquVdAyjUar5+76PVCmYl"
crossorigin="anonymous"></script>
<title><c:out value="${title }">Product CRUD APP</c:out></title>
Index.jsp
```

<html>

<head>

```
<%@include file="./base.jsp"%>
<%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core"%>
</head>
<body>
    <div class="container mt-3">
         <div classs="row">
              <div class="col-md-12">
                    <h1 class="text-center mb-3">Welcome to product</h1>
                    <thead class="thead-dark">
                             Id
                                  Product Name
                                  Description
                                  Price
                                  Action
                             </thead>
                        <c:forEach items="${products}"var="p">
                                  ${p.id}
                                       ${p.name}
                                       ${p.description}
                                       ${p.price}
                                       <ahref="delete/${p.id}"><i
                                                 class="fas fa-trash text-danger"
style="font-size: 25px;"></i></a>
```

```
<a href="update/${p.id}"><i class="fas
fa-marker"
                                                                  style="font-size:
25px"></i></a>
                                              </c:forEach>
                                 <div class="container text-center">
                                 <input type="text"id="id" name="id" placeholder="search by id">
                                        <a href="detailsByid" class="btn btn-outline-success">By
id</a>
                                 <a href="add-product" class="btn btn-outline-success">Add
                                        Product</a>
                          </div>
                    </div>
             </div>
      </div>
</body>
</html>
Update form.jsp
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"</pre>
```

pageEncoding="ISO-8859-1"%>

<!DOCTYPE html>

```
<html>
<head>
<meta charset="ISO-8859-1">
<%@include file="./base.jsp"%>
</head>
<body>
       <div class="container mt-3">
              <div class="row">
                     <div class="col-md-6 offset-md-3">
                            <h1 class="text-centermb-3">Fill the product details</h1>
                            <form action="${pageContext.request.contextPath}/handle-product"</pre>
method="post">
                            <input type="text" value="${product.id}" name="id"/>
                                   <div class="form-group">
                                          <label for="name">Product Name</label> <input type="text"</pre>
                                                 class="form-control"
                                                 id="name" aria-describe="emailHelp"
                                                 name="name"
                                                 placeholder="Enter the product name here"
                                                 value="${product.name}">
                                   </div>
                                   <div class="form-group">
                                          <label for="description">Product Description</label>
                                          <textarea class="form-control"
                                          name="description"
                                          id="description"
```

```
rows="5" placeholder="Enter the product description">
                                           ${product.description}
                                           </textarea>
                                    </div>
                                    <div class="form-group">
                                           <label for="price">Product Price</label> <input type="text"</pre>
                                                  placeholder="enter product price" name="price"
                                                  class="form-control" id="price"
value="${product.price}">
                                    </div>
                                    <div class="container text-center">
                                           <a href="${pageContext.request.contextPath}/"class="btn"
btn-outline-danger">Back</a>
                                           <button type="submit" class="btn btn-
warning">Update</button>
                                    </div>
                             </form>
                      </div>
              </div>
       </div>
</body>
```

