

## Source 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>com.operation</groupId>
```

```
    <artifactId>productcrudapp</artifactId>
```

```
    <packaging>war</packaging>
```

```
    <version>0.0.1-SNAPSHOT</version>
```

```
    <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</groupId>
```

```
            <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</groupId>
  <artifactId>hibernate-core</artifactId>
  <version>5.6.10.Final</version>
</dependency>

  <!--mysql connector-->
  <!-- https://mvnrepository.com/artifact/mysql/mysql-connector-java -->
<dependency>
  <groupId>mysql</groupId>
  <artifactId>mysql-connector-java</artifactId>
  <version>8.0.30</version>
</dependency>

<!-- jstl -->
<!-- https://mvnrepository.com/artifact/jstl/jstl -->
<dependency>
  <groupId>jstl</groupId>
  <artifactId>jstl</artifactId>
  <version>1.2</version>
</dependency>

  <dependency>
    <groupId>junit</groupId>
    <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"
  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">

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

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

</bean>

<!-- data source -->

<bean

class="org.springframework.jdbc.datasource.DriverManagerDataSource" name="ds">

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

<property name="url" value="jdbc:mysql://localhost:3306/productcrud" />

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

<property name="password" value="978213" />

</bean>

<bean

class="org.springframework.orm.hibernate5.LocalSessionFactoryBean"

name="factory">

<!-- data source -->

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

```
<!-- hibernate properties -->
<property name="hibernateProperties">
    <props>
        <prop key="hibernate.dialect">org.hibernate.dialect.MySQL5Dialect</prop>
        <prop key="hibernate.show_sql">true</prop>
        <prop key="hibernate.hbm2ddl.auto">update</prop>
    </props>
</property>
```

```
<!-- annotated classes -->
<property name="annotatedClasses">
    <list>
        <value>productcrudapp.model.Product</value>
    </list>
</property>
```

```
</bean>
```

```
<bean class="org.springframework.orm.hibernate5.HibernateTemplate"
    name="hibernateTemplate">
    <property name="sessionFactory" ref="factory"></property>
```

```
</bean>
```

```
<bean
    class="org.springframework.orm.hibernate5.HibernateTransactionManager"
    name="transactionManager">
    <property 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()
    {

    }

}

```

## **Productdao.java**

```

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.Id;

@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(int id) {
        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"
        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"

pageEncoding="ISO-8859-1"%>

<meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">

<%@ page isELIgnored="false" %>

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

<link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap@4.0.0/dist/css/bootstrap.min.css" integrity="sha384-Gn5384xqQ1aoWXA+058RXPxPg6fy4IWvTNh0E263XmFcJISAWiGgFAW/dAiS6JXm" crossorigin="anonymous">

<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.1.2/css/all.min.css" integrity="sha512-1sCRPdkRXhBV2PBLUdRb4tMg1w2YPf37qatUFeS7zIBy7jJI8Lf4VHwWfZZfpXtYSLy85pkm9GaYVYMfw5BC1A==" crossorigin="anonymous" referrerpolicy="no-referrer" />

<script src="https://code.jquery.com/jquery-3.2.1.slim.min.js" integrity="sha384-KJ3o2DKtIkvYIK3UEZmM7KCKRr/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+76PVCmYI" 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 class="row">
```

```
            <div class="col-md-12">
```

```
                <h1 class="text-center mb-3">Welcome to product</h1>
```

```
                <table class="table">
```

```
                    <thead class="thead-dark">
```

```
                        <tr>
```

```
                            <th scope="col">Id</th>
```

```
                            <th scope="col">Product Name</th>
```

```
                            <th scope="col">Description</th>
```

```
                            <th scope="col">Price</th>
```

```
                            <th scope="col">Action</th>
```

```
                        </tr>
```

```
                    </thead>
```

```
                    <tbody>
```

```
                        <c:forEach items="${products}" var="p">
```

```
                            <tr>
```

```
                                <th scope="row">${p.id}</th>
```

```
                                <td>${p.name}</td>
```

```
                                <td>${p.description}</td>
```

```
                                <td>${p.price}</td>
```

```
                                <td><a href="delete/${p.id}"><i
```

```
                                    class="fas fa-trash text-danger"
```

```
                                    style="font-size: 25px;"></i></a>
```

```

fa-marker"
                                <a href="update/{p.id}"><i class="fas
                                style="font-size:
25px"></i></a></td>
                                </tr>
                                </c:forEach>
                                </tbody>
                                </table>

                                <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"
    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="${pageContext.request.contextPath }/handle-product"
method="post">


                    <input type="text" value="${product.id}" name="id"/>


                    <div class="form-group">

                        <label for="name">Product Name</label> <input type="text"
                        class="form-control"
                        id="name" aria-describedby="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"
            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>
```

</html>