

Adding a New Product in the Database Source Code

index.html

```
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
<h1>Welcome to Hibernate CRUD application</h1>

        <a href="read-product">Read Product</a>
        <br />
        <a href="AddProduct.jsp">Add Product</a>

</body>
</html>
```

AddProduct.jsp

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
    pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Add Product</title>
    <style>
        fieldset {
            border: 1px solid #ccc;
            padding: 10px;
        }
    </style>
</head>
<body>
<h1>Add Product</h1>

    <form method="post" action="add-product">
        <fieldset>
            <legend>Add Product form</legend>
            <label for="productId">Product ID:</label>
            <input type="text" id="productId" name="id" required><br><br>

            <label for="productName">Product Name:</label>
            <input type="text" id="productName" name="name"
required><br><br>

            <label for="productDescription">Product Description:</label>
            <input type="text" id="productDescription" name="description"
required><br><br>

            <label for="productPrice">Product Price:</label>
            <input type="text" id="productPrice" name="price"
required><br><br>
```

```
        <input type="submit" value="Add Product">
    </fieldset>
</form>
</body>
</html>
```

HibernateUtil.java

```
package com.util;

import org.hibernate.SessionFactory;

import org.hibernate.cfg.Configuration;

import com.entitiy.Products;

public class HibernateUtil {

    public static SessionFactory buildSessionFactory() {

        Configuration cfg = new Configuration();

        cfg.configure("hibernate.cfg.xml");

        cfg.addAnnotatedClass(Products.class);

        SessionFactory sf = cfg.buildSessionFactory();

        return sf;

    }

}
```

Products.java

```
package com.entitiy;

import javax.persistence.Column;

import javax.persistence.Entity;

import javax.persistence.GeneratedValue;

import javax.persistence.Id;

import javax.persistence.Table;

@Entity

@Table(name = "product")
```

```
public class Products {

    @Id
    @Column(name = "id")
    private int id;

    @Column(name = "name")
    private String name;

    @Column(name = "description")
    private String description;

    @Column(name = "price")
    private Double 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 Double getPrice() {
        return price;
    }

    public void setPrice(Double price) {
        this.price = price;
    }
}
```

AddProductServlet.java

```
package com.servlet;

import java.io.IOException;
import java.io.PrintWriter;

import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

import org.hibernate.Session;
import org.hibernate.SessionFactory;
import org.hibernate.Transaction;
```

```

import com.entitiy.Products;
import com.util.HibernateUtil;

@WebServlet("/add-product")

public class AddProductServlet extends HttpServlet {
    private static final long serialVersionUID = 1L;

    public AddProductServlet() {
        super();
    }

    protected void doGet(HttpServletRequest request,
        HttpServletResponse response)
        throws ServletException, IOException {
        request.getRequestDispatcher("add-
product.html").include(request, response);
    }

    protected void doPost(HttpServletRequest request,
        HttpServletResponse response)
        throws ServletException, IOException {

        PrintWriter out = response.getWriter();
        response.setContentType("text/html");

        int id = Integer.parseInt(request.getParameter("id"));
        String name = request.getParameter("name");
        String description = request.getParameter("description");
        double price =
Double.parseDouble(request.getParameter("price"));

        // Step 1: Get session Factory
        SessionFactory sf = HibernateUtil.buildSessionFactory();

```

```

// Step 2: Get Session object
Session session = sf.openSession();

// Step 3: Get Transaction object and begin transaction
Transaction tx = session.beginTransaction();

try {
    // Step 4: Create and populate entity object
    Products product = new Products();
    product.setId(id);
    product.setName(name);
    product.setDescription(description);
    product.setPrice(price);
    // Step 5: Save record in DB
    session.save(product);

    tx.commit();

    out.print("<h3>Product is created successfully!</h3>");
} catch (Exception e) {
    if (tx != null) {
        tx.rollback();
    }

    out.print("<h3>Error occurred while creating the
product.</h3>");
    e.printStackTrace();
} finally {
    session.close();
}
}
}

```

ReadProductServlet.java

```
package com.servlet;

import java.io.IOException;
import java.io.PrintWriter;
import java.util.List;

import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

import org.hibernate.Session;
import org.hibernate.SessionFactory;
import org.hibernate.query.Query;

import com.entitiy.Products;
import com.util.HibernateUtil;

@WebServlet("/read-product")
public class ReadProductServlet extends HttpServlet {
    private static final long serialVersionUID = 1L;

    public ReadProductServlet() {
        super();
    }

    protected void doGet(HttpServletRequest request,
        HttpServletResponse response)
        throws ServletException, IOException {
```

```

        response.setContentType("text/html");

        PrintWriter out = response.getWriter();

        out.println("<html><head><title>Product
List</title></head><body>");

        SessionFactory sf = HibernateUtil.buildSessionFactory();
        Session session = sf.openSession();

        Query<Products> query = session.createQuery("from Products",
Products.class);

        List<Products> productList = query.getResultList();

        session.close();

        out.println("<h2>Product List</h2>");
        out.println("<table border='1'>");

        out.println("<tr><th>ID</th><th>Name</th><th>Description</th><th>Pri
ce</th></tr>");

        for (Products product : productList) {
            out.println("<tr>");
            out.println("<td>" + product.getId() + "</td>");
            out.println("<td>" + product.getName() + "</td>");
            out.println("<td>" + product.getDescription() +
"</td>");
            out.println("<td>" + product.getPrice() + "</td>");
            out.println("</tr>");
        }

        out.println("</table>");
        out.println("</body></html>");
    }

```



```
}
```

hibernate.cfg.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE hibernate-configuration PUBLIC
    "-//Hibernate/Hibernate Configuration DTD 3.0//EN"
    "http://www.hibernate.org/dtd/hibernate-configuration-3.0.dtd">
<hibernate-configuration>
    <session-factory>
        <property
name="hibernate.connection.driver_class">com.mysql.jdbc.Driver</property>
        <property name="hibernate.connection.password">root</property>
        <property
name="hibernate.connection.url">jdbc:mysql://localhost:3306/Products</prope
rty>
        <property name="hibernate.connection.username">root</property>
        <property
name="hibernate.dialect">org.hibernate.dialect.MySQLDialect</property>
        <!-- Optional properties -->
        <property name="hibernate.show_sql">true</property>
        <property name="hibernate.format_sql">true</property>
        <property name="hibernate.hbm2ddl.auto">update</property>
    </session-factory>
</hibernate-configuration>
```

MySQL Query

```
create database Products;

use Products;

create table product(
    id INT PRIMARY KEY,
    name VARCHAR(255),
    description VARCHAR(255),
    price DOUBLE
);

show tables;

INSERT INTO product (id, name, description, price) VALUES
(101, 'iPhone 12', 'Flagship smartphone by Apple', 999.99),
```

```
(102, 'Samsung Galaxy S21', 'Premium Android phone by Samsung',  
899.99),  
(103, 'Google Pixel 5', 'High-end Android phone by Google', 799.99),  
(104, 'OnePlus 9 Pro', 'Powerful smartphone by OnePlus', 899.99),  
(105, 'Xiaomi Mi 11', 'Feature-rich phone by Xiaomi', 699.99),  
(106, 'Huawei P40 Pro', 'Top-tier Android phone by Huawei', 899.99),  
(107, 'Sony Xperia 1 III', 'Premium Xperia phone by Sony', 1099.99),  
(108, 'LG Velvet', 'Stylish smartphone by LG', 599.99),  
(109, 'Motorola Edge+', 'Flagship device by Motorola', 799.99),  
(1010, 'Nokia 8.3', 'Sleek phone by Nokia', 499.99);  
select * from product;
```