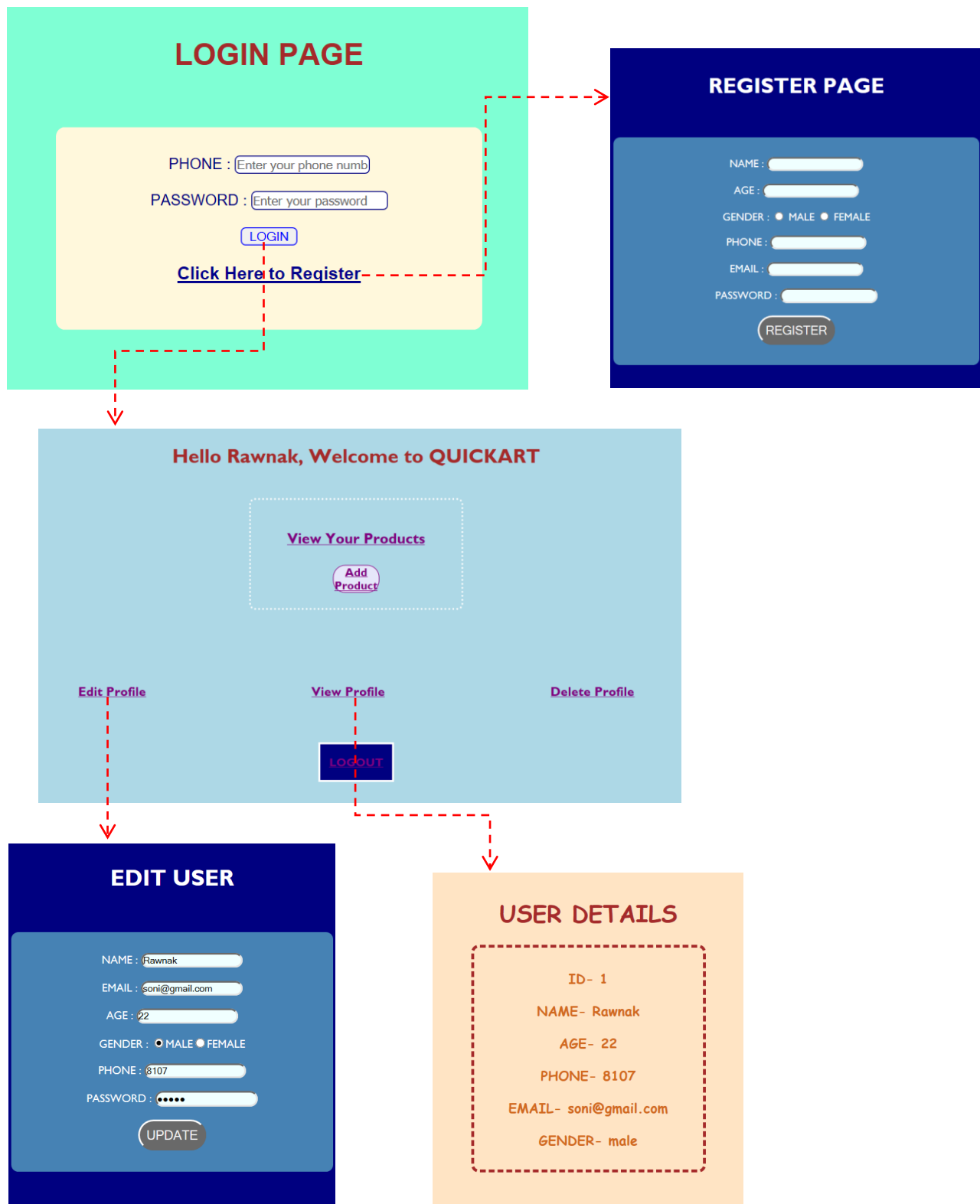# PROJECT...

Development of Shopping Cart application by using MAVEN
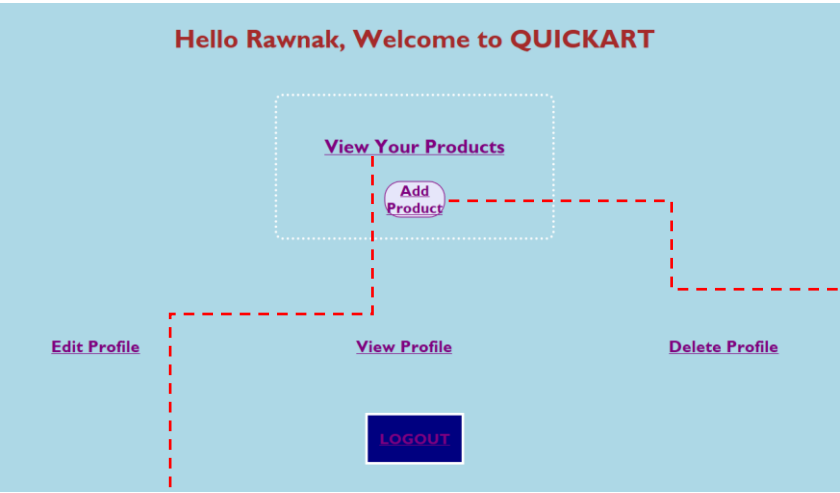**Technologies used :** HTML, JSP, CSS, Java, Servlet, JPA, Maven
**Database used :** My-SQL

# USER MODULE FLOW

# PRODUCT MODULE FLOW

**Hello Rawnak, Welcome to QUICKART**

**View Your Products**

Add Product

Edit Profile      View Profile      Delete Profile

LOGOUT

## ADD PRODUCTS

### FOR USER

NAME
DESCRIPTION
BRAND
CATEGORY
IMAGE
PRICE

ADD

## PRODUCT DETAILS

| ID | NAME | DESCRIPTION | BRAND | CATEGORY | IMAGE | COST | EDIT | DELETE |
|----|------|-------------|-------|----------|-------|------|------|--------|
| 2 | Airpods | 100 hrs. Battery | Boat | Wearables | noImage | 1999.0 | EDIT | DELETE |
| 4 | iphone | Best Camera | Apple | Smart Phone | No Image | 89999.0 | EDIT | DELETE |

## EDIT PRODUCT

NAME iphone
DESCRIPTION Best Camera
BRAND Apple
CATEGORY Smart Phone
IMAGE No Image
COST 89999.0

UPDATE

**Steps to Create the above Project -**

Step 1 : Create a MAVEN project by selecting he following Arch Type -
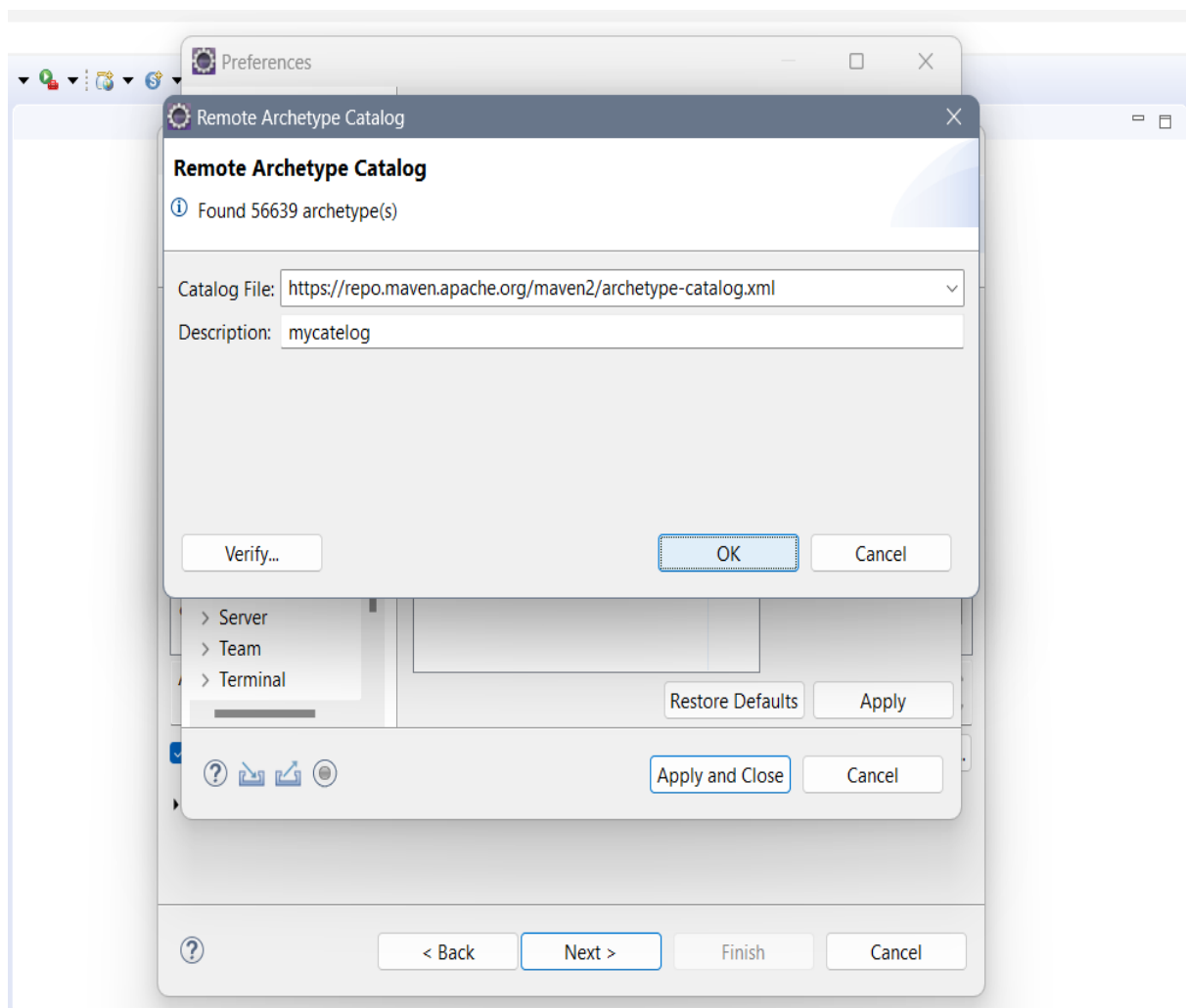GroupID -> org.apache.maven.archetypes
Artifact Id maven-archtype -> webapp
Version -> 1.4

**NOTE : if you don't get the specified archetype add the Remote Catalog by using the following link:**
**https://repo.maven.apache.org/maven2/archetype-catalog.xml**

Step 2 : Add the Following Dependencies in pom.xml
1) Hibernate-core-relocation (5.6.14.Final)
2) Mysql-Connector-java (8.0.28)
3) Servlet-api (4.0.1)

```xml
<!-- https://mvnrepository.com/artifact/mysql/mysql-connector-java -->
<dependency>
    <groupId>mysql</groupId>
    <artifactId>mysql-connector-java</artifactId>
    <version>8.0.28</version>
</dependency>

<!-- https://mvnrepository.com/artifact/org.hibernate/hibernate-core -->
<dependency>
    <groupId>org.hibernate</groupId>
    <artifactId>hibernate-core</artifactId>
    <version>5.6.14.Final</version>
</dependency>

<!-- https://mvnrepository.com/artifact/javax.servlet/javax.servlet-api -->
<dependency>
    <groupId>javax.servlet</groupId>
    <artifactId>javax.servlet-api</artifactId>
    <version>4.0.1</version>
    <scope>provided</scope>
</dependency>
```
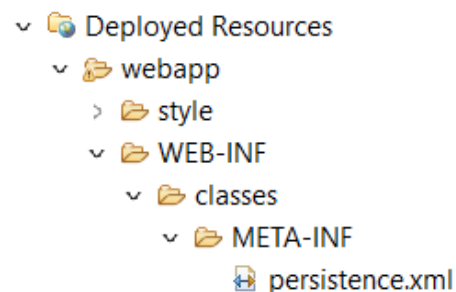
Step 3 : Create **persistence.xml** file, [ webapp > WEB-INF > Classes > META-INF > persistence.xml ]

```
∨ 🗁 Deployed Resources
    ∨ 🗁 webapp
        > 🗁 style
        ∨ 🗁 WEB-INF
            ∨ 🗁 classes
                ∨ 🗁 META-INF
                    📄 persistence.xml
```

**Here we BEGINS,**

**Add the below code in 'web.xml'**

```xml
<web-app>
    <display-name>Archetype Created Web Application</display-name>
    <welcome-file-list>
        <welcome-file>login.jsp</welcome-file>
    </welcome-file-list>
</web-app>
```

**Now create 3 packages in src/main/java, respectively:-**

**org.jsp.dto**
**org.jsp.dao**
**org.jsp.controller**

**Hierarchy of All the Folders of our Project**

- Java Resources
  - src/main/java
    - org.jsp.ekart.controller
      - AddProductServlet.java
      - DeleteProductServlet.java
      - DeleteUserServlet.java
      - EditProductServlet.java
      - EditUserServlet.java
      - FindProductServlet.java
      - LoginServlet.java
      - LogoutServlet.java
      - RegisterServlet.java
      - ViewProductsServlet.java
    - org.jsp.ekart.dao
      - ProductDao.java
      - UserDao.java
    - org.jsp.ekart.dto
      - Product.java
      - User.java
  - src/test/java
  - Libraries

- Deployed Resources
  - webapp
    - style
    - WEB-INF
      - classes
        - META-INF
          - persistence.xml
      - web.xml
    - addProduct.jsp
    - editProduct.jsp
    - edituser.jsp
    - home.jsp
    - login.jsp
    - register.jsp
    - viewProducts.jsp
    - viewuser.jsp
  - web-resources
  - src
  - target
  - pom.xml

**Code for web.xml, add your user Name and Password for SQL**

```xml
<persistence xmlns="http://xmlns.jcp.org/xml/ns/persistence" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance" xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/persistence
http://xmlns.jcp.org/xml/ns/persistence/persistence_2_1.xsd" version="2.1">
        <persistence-unit name="dev">
                <provider>org.hibernate.jpa.HibernatePersistenceProvider</provider>
                <properties>
                        <property name="javax.persistence.jdbc.driver" value="com.mysql.cj.jdbc.Driver"/>
                        <property name="javax.persistence.jdbc.url"
value="jdbc:mysql://localhost:3306/ekart?createDatabaseIfNotExist=true"/>
                        <property name="javax.persistence.jdbc.user" value="****"/>
                        <property name="javax.persistence.jdbc.password" value="****"/>
                        <property name="hibernate.show_sql" value="true"/>
                        <property name="hibernate.hbm2ddl.auto" value="update"/>
                        <property name="hibernate.dialect" value="org.hibernate.dialect.MySQL8Dialect"/>
                </properties>
        </persistence-unit>
</persistence>
```

**Code for Entity class User.java in dto layer/package**

```java
package org.jsp.ekart.dto;

import java.util.List;
import javax.persistence.CascadeType;
import javax.persistence.Column;
import javax.persistence.Entity;
import javax.persistence.GeneratedValue;
import javax.persistence.GenerationType;
import javax.persistence.Id;
import javax.persistence.OneToMany;

@Entity
public class User
{
    public User(String name, String password, String gender, int age, String email, long phone)
    {
        super();
        this.name = name;
        this.password = password;
        this.gender = gender;
        this.age = age;
        this.email = email;
        this.phone = phone;
    }
    public User()
    {
    }
    @Id
    @GeneratedValue(strategy = GenerationType.IDENTITY)
    private int id;
```

```java
    private String name, password, gender;
    private int age;
    @Column(unique = true)
    private String email;
    @Column(unique = true)
    private long phone;
    @OneToMany(mappedBy = "user")
    private List<Product> products;
    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 getPassword()
    {
            return password;
    }
    public void setPassword(String password)
    {
            this.password = password;
    }
    public String getGender()
    {
            return gender;
    }
    public void setGender(String gender)
    {
            this.gender = gender;
    }
    public int getAge()
    {
            return age;
    }
    public void setAge(int age)
    {
            this.age = age;
    }
    public String getEmail()
    {
```

```java
                return email;
        }
        public void setEmail(String email)
        {
                this.email = email;
        }
        public long getPhone()
        {
                return phone;
        }
        public void setPhone(long phone)
        {
                this.phone = phone;
        }
        public List<Product> getProducts()
        {
                return products;
        }
        public void setProducts(List<Product> products)
        {
                this.products = products;
        }
}
```

**Code for Entity class Product.java in dto layer/package**

```java
package org.jsp.ekart.dto;

import javax.persistence.Entity;
import javax.persistence.GeneratedValue;
import javax.persistence.GenerationType;
import javax.persistence.Id;
import javax.persistence.JoinColumn;
import javax.persistence.ManyToOne;

@Entity
public class Product
{
    @Id
    @GeneratedValue(strategy = GenerationType.IDENTITY)
    private int id;
    private String name,description,brand,category;
    private double cost;
    private String image;
    @ManyToOne
    @JoinColumn
    private User user;

    public Product(String name, String description, String brand, String category, double cost, String
image)
```

```java
        {
                super();
                this.name = name;
                this.description = description;
                this.brand = brand;
                this.category = category;
                this.cost = cost;
                this.image = image;
        }
        public Product()
        {
        }
        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 String getBrand()
        {
                return brand;
        }
        public void setBrand(String brand)
        {
                this.brand = brand;
        }
        public String getCategory()
        {
                return category;
        }
        public void setCategory(String category)
        {
```

```java
                this.category = category;
        }
        public double getCost()
        {
                return cost;
        }
        public void setCost(double cost)
        {
                this.cost = cost;
        }
        public String getImage()
        {
                return image;
        }
        public void setImage(String image)
        {
                this.image = image;
        }
        public User getUser()
        {
                return user;
        }
        public void setUser(User user)
        {
                this.user = user;
        }
}
```

**Code for UserDao.java in dao layer/package**

```java
package org.jsp.ekart.dao;

import javax.persistence.EntityManager;
import javax.persistence.EntityTransaction;
import javax.persistence.NoResultException;
import javax.persistence.Persistence;
import javax.persistence.Query;
import org.jsp.ekart.dto.User;

public class UserDao
{
        EntityManager m = Persistence.createEntityManagerFactory("dev").createEntityManager();

        public User saveUSer(User user)
        {
                EntityTransaction t = m.getTransaction();
                m.persist(user);
                t.begin();
                t.commit();
                return user;
        }
```

```java
        public User updateUser(User user)
        {
                EntityTransaction t = m.getTransaction();
                m.merge(user);
                t.begin();
                t.commit();
                return user;
        }
        public User findById(int id)
        {
                return m.find(User.class,id);
        }
        public User verifyUser(long phone, String password)
        {
                Query q = m.createQuery("select u from User u where u.phone=?1 and u.password=?2");
                q.setParameter(1, phone);
                q.setParameter(2, password);
                try
                {
                        return (User) q.getSingleResult();
                }
                catch (NoResultException e)
                {
                        return null;
                }
        }
        public boolean deleteUser(int id)
        {
                User u = findById(id);
                if(u!=null)
                {
                        EntityTransaction t = m.getTransaction();
                        m.remove(u);
                        t.begin();
                        t.commit();
                        return true;
                }
                return false;
        }
}
```

**Code for ProductDao.java in dao layer/package**

```java
package org.jsp.ekart.dao;

import java.util.List;
import javax.persistence.EntityManager;
import javax.persistence.EntityTransaction;
import javax.persistence.Persistence;
import javax.persistence.Query;
```

```java
import org.jsp.ekart.dto.Product;
import org.jsp.ekart.dto.User;

public class ProductDao
{
EntityManager m = Persistence.createEntityManagerFactory("dev").createEntityManager();

        public Product saveProduct(Product product, int user_id)
        {
                User u = m.find(User.class, user_id);
                if(u!=null)
                {
                        u.getProducts().add(product);
                        product.setUser(u);
                        EntityTransaction t = m.getTransaction();
                        m.persist(product);
                        t.begin();
                        t.commit();
                        return product;
                }
                return null;
        }
        public Product updateProduct(Product product, int user_id)
        {
                User u = m.find(User.class, user_id);
                if(u!=null)
                {
                        u.getProducts().add(product);
                        product.setUser(u);
                        EntityTransaction t = m.getTransaction();
                        m.merge(product);
                        t.begin();
                        t.commit();
                        return product;
                }
                return null;
        }
        public Product findProductById(int id)
        {
                return m.find(Product.class,id);
        }
        public boolean deleteProduct(int id)
        {
                Product u = findProductById(id);
                if(u!=null)
                {
                        EntityTransaction t = m.getTransaction();
                        m.remove(u);
                        t.begin();
                        t.commit();
```

```
                        return true;
                }
                return false;
        }
        public List<Product> findUserByUserId(int user_id)
        {
                Query q = m.createQuery("select u.products from User u where u.id=?1");
                q.setParameter(1, user_id);
                return q.getResultList();
        }
}
```

**Code for JSP Files in 'webapps' Folder**

**Login.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>Insert title here</title>
</head>
<body>
        <%
                String message=(String) request.getAttribute("msg");
                if(message != null)
                {
        %>
                        <h2><%=message%></h2>
        <%
                }
        %>
        <form action="login" method="post">
        <h1>LOGIN PAGE</h1><br><br>
        <div>
                PHONE : <input type="tel" name="ph" placeholder="Enter your phone number"> <br> <br>
                PASSWORD : <input type="password" name="ps" placeholder="Enter your password"> <br>
<br>
                <input type="submit" value="LOGIN" id="btn">
                <h3> <a href="register.jsp">Click Here to Register</a> </h3>
        </div>
        </form>
</body>
</html>
```

**Register.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>Insert title here</title>
</head>
<body>
      <h1>REGISTER PAGE</h1> <br> <br>
      <form action="reg" method="post">
               NAME : <input type="text" name="nm"> <br> <br>
               AGE : <input type="number" name="age"> <br> <br>
               GENDER : <input type="radio" name="gender" value="male"> MALE <input type="radio"
name="gender" value="female"> FEMALE<br> <br>
               PHONE : <input type="tel" name="ph"> <br> <br>
               EMAIL : <input type="email" name="em"> <br> <br>
               PASSWORD : <input type="password" name="ps"> <br> <br>
               <input type="submit" value="REGISTER" id="btn">
      </form>
</body>
</html>
```

**Home.jsp**

```
<%@page import="org.jsp.ekart.dto.User"%>
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
   pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
      <%
               User u = (User) session.getAttribute("user");
               if(u !=null)
               {
      %>
                        <h3 id="wlc">Hello <%=u.getName() %>, Welcome to QUICKART</h3>
                  <div id="bx">
                     <h3 id="vw"><a href="viewproducts">View Your Products</a></h3>
                     <h3 id="add"><a href="addProduct.jsp">Add Product</a></h3>
                  </div>
                  <div id="nv">
                     <h3><a href="edituser.jsp">Edit Profile</a></h3>
                     <h3><a href="viewuser.jsp">View Profile</a></h3>
                     <h3 id="dlt"><a href="delete">Delete Profile</a></h3>
```

```
                </div>
                <div id="foot">
                    <h3 id="lo"><a href="logout">LOGOUT</a></h3>
                </div>
    <%
        }
        else
        {
                response.sendRedirect("login.jsp");
        }
    %>
</body>
</html>
```

**ViewUser.jsp**

```
<%@page import="org.jsp.ekart.dto.User"%>
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
    pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
    <%
        User user = (User) session.getAttribute("user");
        if(user != null)
        {
    %>
    <h1>USER DETAILS</h1>
    <div>
                <h3>ID- <%=user.getId() %></h3>
                <h3>NAME- <%=user.getName() %></h3>
                <h3>AGE- <%=user.getAge() %></h3>
                <h3>PHONE- <%=user.getPhone() %></h3>
                <h3>EMAIL- <%=user.getEmail() %></h3>
                <h3>GENDER- <%=user.getGender() %></h3>
    </div>
        <%
        }
        else
        {
                response.sendRedirect("login.jsp");
        }
        %>
</body>
</html>
```

**EditUser.jsp**

```jsp
<%@page import="org.jsp.ekart.dto.User"%>
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
    pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
    <%
      User user = (User) session.getAttribute("user");
      if(user != null)
      {
    %>
    <h1>EDIT USER</h1> <br> <br>
            <form action="edit" method="post">
                    <input type="hidden" name="id" value="<%=user.getId()%>">
                    NAME : <input type="text" name="nm" value="<%=user.getName() %>"><br><br>
                    EMAIL : <input type="email" name="em" value="<%=user.getEmail() %>"><br><br>
                    AGE : <input type="number" name="age" value="<%=user.getAge() %>"><br><br>
                    GENDER : <input type="radio" name="gender" value="male">MALE<input
type="radio" name="gender" value="female">FEMALE <br><br>
                    PHONE : <input type="tel" name="ph" value="<%=user.getPhone() %>"><br><br>
                    PASSWORD : <input type="password" name="ps"
value="<%=user.getPassword() %>"><br><br>
                    <input type="submit" value="UPDATE" id="btn">
                    </form>
    <%
      }
      else
      {
                    response.sendRedirect("login.jsp");
      }
    %>
</body>
</html>
```

**AddProduct.jsp**

```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>Insert title here</title>
```

```html
</head>
<body>

    <h1>ADD PRODUCTS</h1>
    <h2>FOR USER</h2> <br> <br>
    <form action="addproduct" method="post">
            NAME <input type="text" name="nm"><br><br>
            DESCRIPTION <input type="text" name="desc"><br><br>
            BRAND <input type="text" name="br"><br><br>
            CATEGORY <input type="text" name="cat"><br><br>
            IMAGE <input type="text" name='im'><br><br>
            PRICE <input type="text" name="cost"><br><br>
    <input type="submit" value="ADD" id="btn">
</form>
</body>
</html>
```

**EditProduct.jsp**

```jsp
<%@page import="org.jsp.ekart.dto.Product"%>
<%@page import="org.jsp.ekart.dto.User"%>
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
   pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
    <h1>EDIT PRODUCT</h1> <br> <br>
    <%
    User user = (User) session.getAttribute("user");
    if (user != null)
    {
            Product p = (Product) request.getAttribute("product");
    %>
            <form action="editproduct" method="post">
                    <input type="hidden" value="<%=p.getId()%>" name="id">
                        NAME <input type="text" name="nm" value="<%=p.getName()%>"><br> <br>
                         DESCRIPTION <input type="text" name="desc"
value="<%=p.getDescription()%>"><br> <br>
                        BRAND <input type="text" name="br" value="<%=p.getBrand()%>"><br><br>
                        CATEGORY <input type="text" name="cat"
value="<%=p.getCategory()%>"><br><br>
                        IMAGE <input type="text" name='im' value="<%=p.getImage()%>"><br><br>
                        COST <input type="text" name="cost" value="<%=p.getCost()%>"><br><br>
                    <input type="submit" value="UPDATE" id="btn">
            </form>
```

```jsp
			<%
			}

			else
			{
					response.sendRedirect("login.jsp");

			}
			%>
</body>
</html>
```

**ViewProducts.jsp**

```jsp
<%@page import="org.jsp.ekart.dto.Product"%>
<%@page import="java.util.List"%>
<%@page import="org.jsp.ekart.dto.User"%>
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
    pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
		<h1>PRODUCT DETAILS</h1>
		<%
		User user = (User) session.getAttribute("user");
		if(user!=null)
		{
				List<Product> products = (List<Product>) request.getAttribute("products");
		%>
		<div>
		<table>
			<tr>
					<th>ID</th>
					<th>NAME</th>
					<th>DESCRIPTION</th>
					<th>BRAND</th>
					<th>CATEGORY</th>
					<th>IMAGE</th>
					<th>COST</th>
					<th>EDIT</th>
					<th>DELETE</th>
			</tr>
			<%
					for (Product p : products)
					{
			%>
						<tr>
							<td><%=p.getId()%></td>
```

```html
                                    <td><%=p.getName()%></td>
                                    <td><%=p.getDescription()%></td>
                                    <td><%=p.getBrand()%></td>

                                    <td><%=p.getCategory()%></td>
                                    <td><%=p.getImage()%></td>
                                    <td><%=p.getCost() %></td>
                                    <td id="editbtn"><a href="find?pid=<%=p.getId()%>">EDIT</a></td>
                                    <td id="dltbtn"><a
href="deleteproduct?pid=<%=p.getId()%>">DELETE</a></td>
                            </tr>
            <%
                    }
            %>
        </table>
        </div>
        <%
        }
        else
        {
                response.sendRedirect("login.jsp");
        }
        %>
</body>
</html>
```

**Code for Servlet files in Controller layer/package**

**LoginServlet.java**

```java
package org.jsp.ekart.controller;

import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.RequestDispatcher;
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 javax.servlet.http.HttpSession;
import org.jsp.ekart.dao.UserDao;
import org.jsp.ekart.dto.User;

@WebServlet("/login")
public class LoginServlet extends HttpServlet
{
        @Override
        protected void doPost(HttpServletRequest req, HttpServletResponse resp) throws ServletException,
IOException
        {
```

```java
            long phone = Long.parseLong(req.getParameter("ph"));
            String password = req.getParameter("ps");
            UserDao dao  = new UserDao();
            User u = dao.verifyUser(phone, password);

            RequestDispatcher d = null;
            PrintWriter w = resp.getWriter();
            if(u!=null)
            {
                    HttpSession s = req.getSession();
                    s.setAttribute("user", u);
                    d = req.getRequestDispatcher("home.jsp");
                    d.forward(req, resp);
            }
            else
            {
                    w.write("<html><body><h2>INVALID Number or Password</h2></body></html>");
                    d = req.getRequestDispatcher("login.jsp");
                    d.include(req, resp);
            }
     }
}
```

**LogoutServlet.java**

```java
package org.jsp.ekart.controller;

import java.io.IOException;
import javax.servlet.RequestDispatcher;
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 javax.servlet.http.HttpSession;

@WebServlet("/logout")
public class LogoutServlet extends HttpServlet
{
     @Override
     protected void doGet(HttpServletRequest req, HttpServletResponse resp) throws ServletException,
IOException
     {
            HttpSession s = req.getSession();
            s.invalidate();
            req.setAttribute("msg", "You Are Logged Out");
            RequestDispatcher d = req.getRequestDispatcher("login.jsp");
            d.forward(req, resp);
     }
}
```
**RegisterServlet.java**

```java
package org.jsp.ekart.controller;

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.jsp.ekart.dao.UserDao;
import org.jsp.ekart.dto.User;

@WebServlet("/reg")
public class RegisterServlet extends HttpServlet
{
    @Override
    protected void doPost(HttpServletRequest req, HttpServletResponse resp) throws ServletException,
IOException
    {
            long phone = Long.parseLong(req.getParameter("ph"));
            String password = req.getParameter("ps");
            String email = req.getParameter("em");
            String gender = req.getParameter("gender");
            String name = req.getParameter("nm");
            int age = Integer.parseInt(req.getParameter("age"));
            User u = new User(name, password, gender, age, email, phone);
            UserDao dao = new UserDao();
            u = dao.saveUSer(u);
            PrintWriter w = resp.getWriter();
            w.write("<html><body><h2>User Registered with id :"+u.getId()+"</h2></body></html>");
    }
}
```

**EditUserServlet.java**

```java
package org.jsp.ekart.controller;

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 javax.servlet.http.HttpSession;
import org.jsp.ekart.dao.UserDao;
import org.jsp.ekart.dto.User;
```

```java
@WebServlet("/edit")
public class EditUserServlet extends HttpServlet
{
    @Override
    protected void doPost(HttpServletRequest req, HttpServletResponse resp) throws ServletException,
IOException
    {
            int id = Integer.parseInt(req.getParameter("id"));
            long phone = Long.parseLong(req.getParameter("ph"));
            String password = req.getParameter("ps");
            String email = req.getParameter("em");
            String gender = req.getParameter("gender");
            String name = req.getParameter("nm");
            int age = Integer.parseInt(req.getParameter("age"));
            User u = new User(name, password, gender, age, email, phone);
            u.setId(id);
            UserDao dao = new UserDao();
            u = dao.updateUser(u);
            HttpSession s = req.getSession();
            s.setAttribute("user", u);
            PrintWriter w = resp.getWriter();
            w.write("<html><body><h2>User Updated Succesfully</h2></body></html>");
    }
}
```

**DeleteUserServlet.java**

```java
package org.jsp.ekart.controller;

import java.io.IOException;
import javax.servlet.RequestDispatcher;
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 javax.servlet.http.HttpSession;
import org.jsp.ekart.dao.UserDao;
import org.jsp.ekart.dto.User;

@WebServlet("/delete")
public class DeleteUserServlet extends HttpServlet
{
    @Override
    protected void doGet(HttpServletRequest req, HttpServletResponse resp) throws ServletException,
IOException
    {
            HttpSession s = req.getSession();
            User u = (User) s.getAttribute("user");

            if(u != null)
```

```java
                {
                        int id = u.getId();
                        UserDao dao = new UserDao();
                        dao.deleteUser(id);
                        s.invalidate();
                        req.setAttribute("msg", "Your Account is Deleted");
                        RequestDispatcher d = req.getRequestDispatcher("login.jsp");
                        d.forward(req, resp);
                }
                else
                {
                        resp.sendRedirect("login.jsp");
                }
        }
}
```

**AddProductServlet.java**

```java
package org.jsp.ekart.controller;

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.jsp.ekart.dao.ProductDao;
import org.jsp.ekart.dto.Product;
import org.jsp.ekart.dto.User;
@WebServlet("/addproduct")
public class AddProductServlet extends HttpServlet
{
    @Override
    protected void doPost(HttpServletRequest req, HttpServletResponse resp) throws ServletException,
IOException {
            String name = req.getParameter("nm");
            String brand = req.getParameter("br");
            String description = req.getParameter("desc");
            String category = req.getParameter("cat");
            String image = req.getParameter("im");
            double cost = Double.parseDouble(req.getParameter("cost"));
            Product p = new Product(name, description, brand, category, cost, image);
            ProductDao dao = new ProductDao();
            User u = (User) req.getSession().getAttribute("user");
            p = dao.updateProduct(p, u.getId());
            PrintWriter w = resp.getWriter();
            w.write("<html><body><h2>Product added with ID :" + p.getId() + "</h2></body></html>");
    }
}
```

**DeleteProductServlet.java**

```java
package org.jsp.ekart.controller;

import java.io.IOException;
import javax.servlet.RequestDispatcher;
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.jsp.ekart.dao.ProductDao;
import org.jsp.ekart.dto.User;

@WebServlet("/deleteproduct")
public class DeleteProductServlet extends HttpServlet
{
    @Override
    protected void doGet(HttpServletRequest req, HttpServletResponse resp) throws ServletException,
IOException {
            User u = (User) req.getSession().getAttribute("user");
            if(u!=null)
            {
                    int id = Integer.parseInt(req.getParameter("pid"));
                    ProductDao dao = new ProductDao();
                    dao.deleteProduct(id);
                    RequestDispatcher d = req.getRequestDispatcher("viewproducts");
                    d.forward(req, resp);
            }
            else
            {
                    resp.sendRedirect("login.jsp");
            }
    }
}
```

**EditProductServlet.java**

```java
package org.jsp.ekart.controller;

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.jsp.ekart.dao.ProductDao;
import org.jsp.ekart.dto.Product;
import org.jsp.ekart.dto.User;
@WebServlet("/editproduct")
```

```java
public class EditProductServlet extends HttpServlet
{
    @Override
    protected void doPost(HttpServletRequest req, HttpServletResponse resp) throws ServletException,
IOException {
            int id = Integer.parseInt(req.getParameter("id"));
            String name = req.getParameter("nm");
            String brand = req.getParameter("br");
            String description = req.getParameter("desc");
            String category = req.getParameter("cat");
            String image = req.getParameter("im");
            double cost = Double.parseDouble(req.getParameter("cost"));
            Product p = new Product(name, description, brand, category, cost, image);
            p.setId(id);
            ProductDao dao = new ProductDao();
            User u = (User) req.getSession().getAttribute("user");
            p = dao.updateProduct(p, u.getId());
            PrintWriter w = resp.getWriter();
            w.write("<html><body><h2>Product added with ID :" + p.getId() + "</h2></body></html>");
    }
}
```

**FindProductServlet.java**

```java
package org.jsp.ekart.controller;

import java.io.IOException;
import javax.servlet.RequestDispatcher;
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.jsp.ekart.dao.ProductDao;
import org.jsp.ekart.dto.Product;

@WebServlet("/find")
public class FindProductServlet extends HttpServlet
{
    @Override
    protected void doGet(HttpServletRequest req, HttpServletResponse resp) throws ServletException,
IOException {
            int pid = Integer.parseInt(req.getParameter("pid"));
            ProductDao dao = new ProductDao();
            Product p = dao.findProductById(pid);
            if(p!=null)
            {
                    RequestDispatcher d = req.getRequestDispatcher("editProduct.jsp");
                    req.setAttribute("product", p);
```

```
                        d.forward(req, resp);
            }
            else
            {
                        resp.sendRedirect("login.jsp");
            }
      }
}
```

**ViewProductsServlet.java**

```java
package org.jsp.ekart.controller;

import java.io.IOException;
import java.util.List;
import javax.servlet.RequestDispatcher;
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.jsp.ekart.dao.ProductDao;
import org.jsp.ekart.dto.Product;
import org.jsp.ekart.dto.User;

@WebServlet("/viewproducts")
public class ViewProductsServlet extends HttpServlet
{
      @Override
      protected void doGet(HttpServletRequest req, HttpServletResponse resp) throws ServletException,
IOException {
            User u = (User) req.getSession().getAttribute("user");
            ProductDao dao = new ProductDao();
            List<Product> products = dao.findUserByUserId(u.getId());
            req.setAttribute("products", products);
            RequestDispatcher d = req.getRequestDispatcher("viewProducts.jsp");
            d.forward(req, resp);
      }
}
```