**Build an application to communicate the status of railway crossings in advance**

dashboardServlet.java

**package** com.ecommerce;

**import** java.io.IOException;

**import** java.io.PrintWriter;

**import** java.sql.Connection;

**import** java.sql.DriverManager;

**import** java.sql.PreparedStatement;

**import** java.sql.ResultSet;

**import** java.sql.SQLException;

**import** java.util.ArrayList;

**import** java.util.List;

**import** javax.servlet.ServletException;

**import** javax.servlet.http.HttpServlet;

**import** javax.servlet.http.HttpServletRequest;

**import** javax.servlet.http.HttpServletResponse;

**import** javax.servlet.annotation.WebServlet;

@WebServlet("/DashboardServlet")

**public** **class** dashboardServlet **extends** HttpServlet {

**private** **static** **final** **long** ***serialVersionUID*** = 1L;

// JDBC database URL, username, and password

**private** **static** **final** String ***DB\_URL*** =

"jdbc:mysql://localhost:3306/railway";

**private** **static** **final** String ***DB\_USERNAME*** = "root";

**private** **static** **final** String ***DB\_PASSWORD*** = "Annu!a@123456";

// JDBC driver and connection variables

**private** **static** **final** String ***JDBC\_DRIVER*** = "com.mysql.jdbc.Driver";

**private** Connection conn;

@Override

**public** **void** init() **throws** ServletException {

**super**.init();

**try** {

// Register JDBC driver

Class.*forName*(***JDBC\_DRIVER***);

// Open a connection to the database

conn = DriverManager.*getConnection*(***DB\_URL***, ***DB\_USERNAME***,

***DB\_PASSWORD***);

} **catch** (ClassNotFoundException | SQLException e) {

e.printStackTrace();

**throw** **new** ServletException("Database connection error: " +

e.getMessage());

}

}

@Override

**public** **void** destroy() {

**super**.destroy();

**try** {

// Close the database connection

**if** (conn != **null** && !conn.isClosed()) {

conn.close();

}

} **catch** (SQLException e) {

e.printStackTrace();

}

}

**protected** **void** doGet(HttpServletRequest request, HttpServletResponse

response)

**throws** ServletException, IOException {

response.setContentType("text/html");

PrintWriter out = response.getWriter();

**try** {

// Prepare the SQL statement

String searchName = request.getParameter("searchName");

String sql = "SELECT \* FROM railway\_crossings";

**if** (searchName != **null** && !searchName.isEmpty()) {

sql += " WHERE name LIKE '%" + searchName + "%'";

}

PreparedStatement statement = conn.prepareStatement(sql);

// Execute the query

ResultSet resultSet = statement.executeQuery();

// Retrieve favorite crossings from session

List<Integer> favoriteCrossings = (List<Integer>)

request.getSession().getAttribute("favoriteCrossings");

**if** (favoriteCrossings == **null**) {

favoriteCrossings = **new** ArrayList<>();

request.getSession().setAttribute("favoriteCrossings",

favoriteCrossings);

}

// Generate HTML output

out.println("<!DOCTYPE html>");

out.println("<html>");

out.println("<head>");

out.println("<title>Railway Crossings</title>");

out.println("</head>");

out.println("<body>");

out.println("<h1>Railway Crossings</h1>");

// Search form

out.println("<h2>Search Railway Crossing</h2>");

out.println("<form method=\"GET\" action=\"DashboardServlet\">");

out.println("<input type=\"text\" name=\"searchName\"placeholder=\"Enter name\">");

out.println("<input type=\"submit\" value=\"Search\">");

out.println("</form>");

out.println("<table>");

out.println("<tr><th>ID</th><th>Name</th><th>Address</th><th>Landmark</th><th>Schedules</th><th>Person</th><th>Status</th><th>Action</th></tr>");

**while** (resultSet.next()) {

**int** id = resultSet.getInt("id");

String name = resultSet.getString("name");

String address = resultSet.getString("address");

String landmark = resultSet.getString("landmark");

String schedules = resultSet.getString("schedules");

String person = resultSet.getString("person");

String status = resultSet.getString("status");

out.println("<tr>");

out.println("<td>" + id + "</td>");

out.println("<td>" + name + "</td>");

out.println("<td>" + address + "</td>");

out.println("<td>" + landmark + "</td>");

out.println("<td>" + schedules + "</td>");

out.println("<td>" + person + "</td>");

out.println("<td>" + status + "</td>");

**if** (favoriteCrossings.contains(id)) {

out.println("<td><a href=\"DashboardServlet?removeFavorite=" + id + "\">Remove Favorite</a></td>");

} **else** {

out.println("<td><a href=\"DashboardServlet?markFavorite=" +

id + "\">Mark Favorite</a></td>");

}

out.println("</tr>");

}

out.println("</table>");

// Option to see favorite crossings

out.println("<h2>Favorite Railway Crossings</h2>");

out.println("<form method=\"GET\" action=\"FavoriteCrossingsServlet\">");

out.println("<input type=\"submit\" value=\"See Favorite Crossings\">");

out.println("</form>");

out.println("</body>");

out.println("</html>");

statement.close();

} **catch** (SQLException e) {

e.printStackTrace();

out.println("Database error: " + e.getMessage());

}

}

}

**RailwayCrossingServlet.java**

**package** com.ecommerce;

**import** java.io.IOException;

**import** java.sql.Connection;

**import** java.sql.DriverManager;

**import** java.sql.PreparedStatement;

**import** java.sql.SQLException;

**import** javax.servlet.ServletException;

**import** javax.servlet.http.HttpServlet;

**import** javax.servlet.http.HttpServletRequest;

**import** javax.servlet.http.HttpServletResponse;

**import** javax.servlet.annotation.WebServlet;

@WebServlet(value = "/RailwayCrossingServlet")

**public** **class** RailwayCrossingServlet **extends** HttpServlet {

**private** **static** **final** **long** ***serialVersionUID*** = 1L;

// JDBC database URL, username, and password

**private** **static** **final** String ***DB\_URL*** =

"jdbc:mysql://localhost:3306/railway";

**private** **static** **final** String ***DB\_USERNAME*** = "root";

**private** **static** **final** String ***DB\_PASSWORD*** = "Annu!a@123456";

**protected** **void** doPost(HttpServletRequest request,

HttpServletResponse response)

**throws** ServletException, IOException {

String name = request.getParameter("name");

String address = request.getParameter("address");

String landmark = request.getParameter("landmark");

String schedules = request.getParameter("schedules");

String person = request.getParameter("person");

String status = request.getParameter("status");

String favourite = request.getParameter("favourite");

System.***out***.println(favourite);

**try** {

// Register JDBC driver

Class.*forName*("com.mysql.jdbc.Driver");

// Create a connection to the database

Connection conn = DriverManager.*getConnection*(***DB\_URL***,

***DB\_USERNAME***, ***DB\_PASSWORD***);

// Prepare the SQL statement

String sql = "INSERT INTO railway\_crossings (name, address,landmark, schedules, person, status,favourite) " +

"VALUES (?, ?, ?, ?, ?, ?,?)";

PreparedStatement statement = conn.prepareStatement(sql);

statement.setString(1, name);

statement.setString(2, address);

statement.setString(3, landmark);

statement.setString(4, schedules);

statement.setString(5, person);

statement.setString(6, status);

statement.setString(7, favourite);

// Execute the statement

**int** rowsInserted = statement.executeUpdate();

statement.close();

conn.close();

**if** (rowsInserted > 0) {

// Railway crossing added successfully

response.sendRedirect("GetRailwayDetailsServlet");

} **else** {

// Failed to add railway crossing

response.getWriter().println("Failed to add railway crossing.Please try again.");

}

} **catch** (ClassNotFoundException | SQLException e) {

e.printStackTrace();

response.getWriter().println("Database error: " + e.getMessage());

}

}

}

**LoginServlet**

**package** com.ecommerce;

**import** java.io.IOException;

**import** java.sql.Connection;

**import** java.sql.DriverManager;

**import** java.sql.PreparedStatement;

**import** java.sql.ResultSet;

**import** java.sql.SQLException;

**import** javax.servlet.ServletException;

**import** javax.servlet.http.HttpServlet;

**import** javax.servlet.http.HttpServletRequest;

**import** javax.servlet.http.HttpServletResponse;

**import** javax.servlet.http.HttpSession;

**import** javax.servlet.annotation.WebServlet;

@WebServlet(value = "/login")

**public** **class** LoginServlet **extends** HttpServlet {

**private** **static** **final** **long** ***serialVersionUID*** = 1L;

// JDBC database URL, username, and password

**private** **static** **final** String ***DB\_URL*** =

"jdbc:mysql://localhost:3306/railway";

**private** **static** **final** String ***DB\_USERNAME*** = "root";

**private** **static** **final** String ***DB\_PASSWORD*** = "Annu!a@123456";

**protected** **void** doPost(HttpServletRequest request,

HttpServletResponse response)

**throws** ServletException, IOException {

String email = request.getParameter("email");

String password = request.getParameter("password");

**try** {

// Load the MySQL JDBC driver

Class.*forName*("com.mysql.jdbc.Driver");

// Create a connection to the database

Connection conn = DriverManager.*getConnection*(***DB\_URL***,

***DB\_USERNAME***, ***DB\_PASSWORD***);

// Prepare the SQL statement

String sql = "SELECT \* FROM users WHERE email = ? AND password = ?";

PreparedStatement statement = conn.prepareStatement(sql);

statement.setString(1, email);

statement.setString(2, password);

// Execute the statement

ResultSet resultSet = statement.executeQuery();

**if** (resultSet.next()) {

// Login successful, create a session for the user

HttpSession session = request.getSession();

session.setAttribute("email", email);

response.sendRedirect("DashboardServlet");

} **else** {

// Login failed, display an error message

response.getWriter().println("Invalid email or password. Please try again.");

}

resultSet.close();

statement.close();

conn.close();

} **catch** (ClassNotFoundException e) {

e.printStackTrace();

response.getWriter().println("MySQL JDBC driver not found.");

} **catch** (SQLException e) {

e.printStackTrace();

response.getWriter().println("Database error: " + e.getMessage());

}

}

}

**DeleteRailwayCrossingServlet**

**package** com.ecommerce;

**import** java.io.IOException;

**import** java.sql.Connection;

**import** java.sql.DriverManager;

**import** java.sql.PreparedStatement;

**import** java.sql.SQLException;

**import** javax.servlet.ServletException;

**import** javax.servlet.http.HttpServlet;

**import** javax.servlet.http.HttpServletRequest;

**import** javax.servlet.http.HttpServletResponse;

**import** javax.servlet.annotation.WebServlet;

@WebServlet("/DeleteRailwayCrossingServlet")

**public** **class** DeleteRailwayCrossingServlet **extends** HttpServlet {

**private** **static** **final** **long** ***serialVersionUID*** = 1L;

// JDBC database URL, username, and password

**private** **static** **final** String ***DB\_URL*** =

"jdbc:mysql://localhost:3306/railway";

**private** **static** **final** String ***DB\_USERNAME*** = "root";

**private** **static** **final** String ***DB\_PASSWORD*** = "Simplilearn";

**protected** **void** doGet(HttpServletRequest request, HttpServletResponse

response)

**throws** ServletException, IOException {

**int** id = Integer.*parseInt*(request.getParameter("id"));

**try** {

// Register the JDBC driver

Class.*forName*("com.mysql.jdbc.Driver");

// Create a connection to the database

Connection conn = DriverManager.*getConnection*(***DB\_URL***,

***DB\_USERNAME***, ***DB\_PASSWORD***);

// Prepare the SQL statement

String sql = "DELETE FROM railway\_crossings WHERE id = ?";

PreparedStatement statement = conn.prepareStatement(sql);

statement.setInt(1, id);

// Execute the statement

**int** rowsDeleted = statement.executeUpdate();

statement.close();

conn.close();

**if** (rowsDeleted > 0) {

// Railway crossing deleted successfully

response.sendRedirect("GetRailwayDetailsServlet");

} **else** {

// Failed to delete railway crossing

response.getWriter().println("Failed to delete railway crossing. Please try again.");

}

} **catch** (ClassNotFoundException | SQLException e) {

e.printStackTrace();

response.getWriter().println("Database error: " + e.getMessage());

}

}

}

**FavoriteCrossingsServlet**

package com.ecommerce;

import java.io.IOException;

import java.io.PrintWriter;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.PreparedStatement;

import java.sql.ResultSet;

import java.sql.SQLException;

import java.util.List;

import javax.servlet.ServletException;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

import javax.servlet.annotation.WebServlet;

@WebServlet("/FavoriteCrossingsServlet")

public class FavoriteCrossingsServlet extends HttpServlet {

private static final long serialVersionUID = 1L;

// JDBC database URL, username, and password

private static final String DB\_URL = "jdbc:mysql://localhost:3306/railway";

private static final String DB\_USERNAME = "root";

private static final String DB\_PASSWORD = "Annu!a@123456";

// JDBC driver and connection variables

private static final String JDBC\_DRIVER = "com.mysql.jdbc.Driver";

private Connection conn;

@Override

public void init() throws ServletException {

super.init();

try {

// Register JDBC driver

Class.forName(JDBC\_DRIVER);

// Open a connection to the database

conn = DriverManager.getConnection(DB\_URL, DB\_USERNAME,

DB\_PASSWORD);

} catch (ClassNotFoundException | SQLException e) {

e.printStackTrace();

throw new ServletException("Database connection error: " +

e.getMessage());

}

}

@Override

public void destroy() {

super.destroy();

try {

// Close the database connection

if (conn != null && !conn.isClosed()) {

conn.close();

}

} catch (SQLException e) {

e.printStackTrace();

}

}

protected void doGet(HttpServletRequest request, HttpServletResponse

response)

throws ServletException, IOException {

response.setContentType("text/html");

PrintWriter out = response.getWriter();

try {

// Retrieve favorite crossings from session

List<Integer> favoriteCrossings = (List<Integer>)

request.getSession().getAttribute("favoriteCrossings");

System.out.println(favoriteCrossings);

// Generate HTML output

out.println("<!DOCTYPE html>");

out.println("<html>");

out.println("<head>");

out.println("<title>Favorite Railway Crossings</title>");

out.println("</head>");

out.println("<body>");

out.println("<h1>Favorite Railway Crossings</h1>");

if (favoriteCrossings == null || favoriteCrossings.isEmpty()) {

out.println("<p>No favorite crossings found.</p>");

} else {

// Prepare the SQL statement

String sql = "SELECT \* FROM railway\_crossings WHERE id IN (";

for (int i = 0; i < favoriteCrossings.size(); i++) {

sql += favoriteCrossings.get(i);

if (i < favoriteCrossings.size() - 1) {

sql += ",";

}

}

sql += ")";

PreparedStatement statement = conn.prepareStatement(sql);

// Execute the query

ResultSet resultSet = statement.executeQuery();

out.println("<table>");

out.println("<tr><th>ID</th><th>Name</th><th>Address</th><th>Landmark</th><th>Schedules</th><th>Person</th><th>Status</th></tr>");

while (resultSet.next()) {

int id = resultSet.getInt("id");

String name = resultSet.getString("name");

String address = resultSet.getString("address");

String landmark = resultSet.getString("landmark");

String schedules = resultSet.getString("schedules");

String person = resultSet.getString("person");

String status = resultSet.getString("status");

out.println("<tr>");

out.println("<td>" + id + "</td>");

out.println("<td>" + name + "</td>");

out.println("<td>" + address + "</td>");

out.println("<td>" + landmark + "</td>");

out.println("<td>" + schedules + "</td>");

out.println("<td>" + person + "</td>");

out.println("<td>" + status + "</td>");

out.println("</tr>");

}

out.println("</table>");

statement.close();

}

out.println("</body>");

out.println("</html>");

} catch (SQLException e) {

e.printStackTrace();

out.println("Database error: " + e.getMessage());

}

}

}

**GetRailwayDetailsServlet**

**package** com.ecommerce;

**import** java.io.IOException;

**import** java.io.PrintWriter;

**import** java.sql.Connection;

**import** java.sql.DriverManager;

**import** java.sql.PreparedStatement;

**import** java.sql.ResultSet;

**import** java.sql.SQLException;

**import** javax.servlet.ServletException;

**import** javax.servlet.http.HttpServlet;

**import** javax.servlet.http.HttpServletRequest;

**import** javax.servlet.http.HttpServletResponse;

**import** javax.servlet.annotation.WebServlet;

@WebServlet("/GetRailwayDetailsServlet")

**public** **class** GetRailwayDetailsServlet **extends** HttpServlet {

**private** **static** **final** **long** ***serialVersionUID*** = 1L;

// JDBC database URL, username, and password

**private** **static** **final** String ***DB\_URL*** =

"jdbc:mysql://localhost:3306/railway";

**private** **static** **final** String ***DB\_USERNAME*** = "root";

**private** **static** **final** String ***DB\_PASSWORD*** = "Annu!a@123456";

**protected** **void** doGet(HttpServletRequest request, HttpServletResponse

response)

**throws** ServletException, IOException {

response.setContentType("text/html");

PrintWriter out = response.getWriter();

**try** {

// Create a connection to the database

Connection conn = DriverManager.*getConnection*(***DB\_URL***,

***DB\_USERNAME***, ***DB\_PASSWORD***);

// Prepare the SQL statement

String sql = "SELECT \* FROM railway\_crossings";

PreparedStatement statement = conn.prepareStatement(sql);

// Execute the query

ResultSet resultSet = statement.executeQuery();

// Generate HTML output

out.println("<!DOCTYPE html>");

out.println("<html>");

out.println("<head>");

out.println("<title>Railway Crossings</title>");

out.println("</head>");

out.println("<body>");

out.println("<h1>Railway Crossings</h1>");

out.println("<table>");

out.println("<tr><th>ID</th><th>Name</th><th>Address</th><th>Landmar k</th><th>Schedules</th><th>Person</th><th>Status</th></tr>");

**while** (resultSet.next()) {

**int** id = resultSet.getInt("id");

String name = resultSet.getString("name");

String address = resultSet.getString("address");

String landmark = resultSet.getString("landmark");

String schedules = resultSet.getString("schedules");

String person = resultSet.getString("person");

String status = resultSet.getString("status");

String favourite = resultSet.getString("favourite");

out.println("<tr>");

out.println("<td>" + id + "</td>");

out.println("<td>" + name + "</td>");

out.println("<td>" + address + "</td>");

out.println("<td>" + landmark + "</td>");

out.println("<td>" + schedules + "</td>");

out.println("<td>" + person + "</td>");

out.println("<td>" + status + "</td>");

out.println("<td>" + favourite + "</td>");

out.println("<td><a href='update\_railway.jsp?id=" + id +

"'>Update</a> | <a href='DeleteRailwayCrossingServlet?id=" + id +

"'>Delete</a></td>");

out.println("</tr>");

}

out.println("</table>");

out.println("</body>");

out.println("</html>");

statement.close();

conn.close();

} **catch** (SQLException e) {

e.printStackTrace();

out.println("Database error: " + e.getMessage());

}

}

}

GovernmentLoginServlet.java

**package** com.ecommerce;

**import** java.io.IOException;

**import** java.sql.Connection;

**import** java.sql.DriverManager;

**import** java.sql.PreparedStatement;

**import** java.sql.ResultSet;

**import** java.sql.SQLException;

**import** javax.servlet.ServletException;

**import** javax.servlet.http.HttpServlet;

**import** javax.servlet.http.HttpServletRequest;

**import** javax.servlet.http.HttpServletResponse;

**import** javax.servlet.http.HttpSession;

**import** javax.servlet.annotation.WebServlet;

@WebServlet(value = "/GovernmentLoginServlet")

**public** **class** GovernmentLoginServlet **extends** HttpServlet {

**private** **static** **final** **long** ***serialVersionUID*** = 1L;

**private** **static** **final** String ***DB\_URL*** =

"jdbc:mysql://localhost:3306/railway";

**private** **static** **final** String ***DB\_USERNAME*** = "root";

**private** **static** **final** String ***DB\_PASSWORD*** = "Annu!a@123456";

**protected** **void** doPost(HttpServletRequest request,

HttpServletResponse response)

**throws** ServletException, IOException {

String email = request.getParameter("email");

String password = request.getParameter("password");

**try** {

Class.*forName*("com.mysql.jdbc.Driver");

Connection conn = DriverManager.*getConnection*(***DB\_URL***,

***DB\_USERNAME***, ***DB\_PASSWORD***);

String sql = "SELECT \* FROM admin WHERE email = ? AND password = ?";

PreparedStatement statement = conn.prepareStatement(sql);

statement.setString(1, email);

statement.setString(2, password);

ResultSet resultSet = statement.executeQuery();

**if** (resultSet.next()) {

HttpSession session = request.getSession();

session.setAttribute("email", email);

response.sendRedirect("add\_railway.html");

} **else** {

response.getWriter().println("Invalid email or password. Please try again.");

}

resultSet.close();

statement.close();

conn.close();

} **catch** (ClassNotFoundException | SQLException e) {

e.printStackTrace();

response.getWriter().println("Database error: " + e.getMessage());

}

}

}

**GovernmentRegisterServlet.java**

**package** com.ecommerce;

**import** java.io.IOException;

**import** java.sql.Connection;

**import** java.sql.DriverManager;

**import** java.sql.PreparedStatement;

**import** java.sql.SQLException;

**import** javax.servlet.ServletException;

**import** javax.servlet.http.HttpServlet;

**import** javax.servlet.http.HttpServletRequest;

**import** javax.servlet.http.HttpServletResponse;

**import** javax.servlet.annotation.WebServlet;

@WebServlet(value = "/GovernmentRegisterServlet")

**public** **class** GovernmentRegisterServlet **extends** HttpServlet {

**private** **static** **final** **long** ***serialVersionUID*** = 1L;

**private** **static** **final** String ***DB\_URL*** =

"jdbc:mysql://localhost:3306/railway";

**private** **static** **final** String ***DB\_USERNAME*** = "root";

**private** **static** **final** String ***DB\_PASSWORD*** = "Annu!a@123456";

**protected** **void** doPost(HttpServletRequest request,

HttpServletResponse response)

**throws** ServletException, IOException {

String name = request.getParameter("name");

String email = request.getParameter("email");

String password = request.getParameter("password");

**try** {

Class.*forName*("com.mysql.jdbc.Driver");

Connection conn = DriverManager.*getConnection*(***DB\_URL***,

***DB\_USERNAME***, ***DB\_PASSWORD***);

String sql = "INSERT INTO admin (name, email, password) VALUES (?, ?, ?)";

PreparedStatement statement = conn.prepareStatement(sql);

statement.setString(1, name);

statement.setString(2, email);

statement.setString(3, password);

**int** rowsInserted = statement.executeUpdate();

statement.close();

conn.close();

**if** (rowsInserted > 0) {

response.sendRedirect("government\_login.jsp");

} **else** {

response.getWriter().println("Registration failed. Please try again.");

}

} **catch** (ClassNotFoundException | SQLException e) {

e.printStackTrace();

response.getWriter().println("Database error: " + e.getMessage());

}

}

}

LoginServlet.java

package com.ecommerce;

import java.io.IOException;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.PreparedStatement;

import java.sql.ResultSet;

import java.sql.SQLException;

import javax.servlet.ServletException;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

import javax.servlet.http.HttpSession;

import javax.servlet.annotation.WebServlet;

@WebServlet(value = "/login")

public class LoginServlet extends HttpServlet {

private static final long serialVersionUID = 1L;

// JDBC database URL, username, and password

private static final String DB\_URL =

"jdbc:mysql://localhost:3306/railway";

private static final String DB\_USERNAME = "root";

private static final String DB\_PASSWORD = "Annu!a@123456";

protected void doPost(HttpServletRequest request,

HttpServletResponse response)

throws ServletException, IOException {

String email = request.getParameter("email");

String password = request.getParameter("password");

try {

// Load the MySQL JDBC driver

Class.forName("com.mysql.jdbc.Driver");

// Create a connection to the database

Connection conn = DriverManager.getConnection(DB\_URL,

DB\_USERNAME, DB\_PASSWORD);

// Prepare the SQL statement

String sql = "SELECT \* FROM users WHERE email = ? AND password = ?";

PreparedStatement statement = conn.prepareStatement(sql);

statement.setString(1, email);

statement.setString(2, password);

// Execute the statement

ResultSet resultSet = statement.executeQuery();

if (resultSet.next()) {

// Login successful, create a session for the user

HttpSession session = request.getSession();

session.setAttribute("email", email);

response.sendRedirect("DashboardServlet");

} else {

// Login failed, display an error message

response.getWriter().println("Invalid email or password. Please try again.");

}

resultSet.close();

statement.close();

conn.close();

} catch (ClassNotFoundException e) {

e.printStackTrace();

response.getWriter().println("MySQL JDBC driver not found.");

} catch (SQLException e) {

e.printStackTrace();

response.getWriter().println("Database error: " + e.getMessage());

}

}

}

**RailwayServlet.java**

**package** com.ecommerce;

**import** java.io.IOException;

**import** java.sql.Connection;

**import** java.sql.DriverManager;

**import** java.sql.PreparedStatement;

**import** java.sql.SQLException;

**import** javax.servlet.ServletException;

**import** javax.servlet.http.HttpServlet;

**import** javax.servlet.http.HttpServletRequest;

**import** javax.servlet.http.HttpServletResponse;

**import** javax.servlet.annotation.WebServlet;

@WebServlet(value = "/register")

**public** **class** RegisterServlet **extends** HttpServlet {

**private** **static** **final** **long** ***serialVersionUID*** = 1L;

// JDBC database URL, username, and password

**private** **static** **final** String ***DB\_URL*** =

"jdbc:mysql://localhost:3306/railway";

**private** **static** **final** String ***DB\_USERNAME*** = "root";

**private** **static** **final** String ***DB\_PASSWORD*** = "Annu!a@123456";

**protected** **void** doPost(HttpServletRequest request,

HttpServletResponse response)

**throws** ServletException, IOException {

String name = request.getParameter("name");

String email = request.getParameter("email");

String password = request.getParameter("password");

**try** {

// Load the MySQL JDBC driver

Class.*forName*("com.mysql.jdbc.Driver");

// Create a connection to the database

Connection conn = DriverManager.*getConnection*(***DB\_URL***,

***DB\_USERNAME***, ***DB\_PASSWORD***);

// Prepare the SQL statement

String sql = "INSERT INTO users (name, email, password) VALUES (?, ?, ?)";

PreparedStatement statement = conn.prepareStatement(sql);

statement.setString(1, name);

statement.setString(2, email);

statement.setString(3, password);

// Execute the statement

**int** rowsInserted = statement.executeUpdate();

statement.close();

conn.close();

**if** (rowsInserted > 0) {

// Registration successful, redirect to login page

response.sendRedirect("login.jsp");

} **else** {

// Registration failed, display an error message

response.getWriter().println("Registration failed. Please try again.");

}

} **catch** (ClassNotFoundException e) {

e.printStackTrace();

response.getWriter().println("MySQL JDBC driver not found.");

} **catch** (SQLException e) {

e.printStackTrace();

response.getWriter().println("Database error: " + e.getMessage());

}

}

}

**UpdateRailwayCrossingServlet**

**package** com.ecommerce;

**import** java.io.IOException;

**import** java.sql.Connection;

**import** java.sql.DriverManager;

**import** java.sql.PreparedStatement;

**import** java.sql.SQLException;

**import** javax.servlet.ServletException;

**import** javax.servlet.http.HttpServlet;

**import** javax.servlet.http.HttpServletRequest;

**import** javax.servlet.http.HttpServletResponse;

**import** javax.servlet.annotation.WebServlet;

@WebServlet("/UpdateRailwayCrossingServlet")

**public** **class** UpdateRailwayCrossingServlet **extends** HttpServlet {

**private** **static** **final** **long** ***serialVersionUID*** = 1L;

// JDBC database URL, username, and password

**private** **static** **final** String ***DB\_URL*** = "jdbc:mysql://localhost:3306/railway";

**private** **static** **final** String ***DB\_USERNAME*** = "root";

**private** **static** **final** String ***DB\_PASSWORD*** = "Annu!a@123456";

// JDBC driver class name

**private** **static** **final** String ***JDBC\_DRIVER*** = "com.mysql.jdbc.Driver";

**protected** **void** doPost(HttpServletRequest request, HttpServletResponse

response)

**throws** ServletException, IOException {

**int** id = Integer.*parseInt*(request.getParameter("id"));

String name = request.getParameter("name");

String address = request.getParameter("address");

String landmark = request.getParameter("landmark");

String schedules = request.getParameter("schedules");

String person = request.getParameter("person");

String status = request.getParameter("status");

Connection conn = **null**;

PreparedStatement statement = **null**;

**try** {

// Register the JDBC driver

Class.*forName*(***JDBC\_DRIVER***);

// Create a connection to the database

conn = DriverManager.*getConnection*(***DB\_URL***, ***DB\_USERNAME***,

***DB\_PASSWORD***);

// Prepare the SQL statement

String sql = "UPDATE railway\_crossings SET name=?, address=?, landmark=?, schedules=?, person=?, status=? WHERE id=?";

statement = conn.prepareStatement(sql);

statement.setString(1, name);

statement.setString(2, address);

statement.setString(3, landmark);

statement.setString(4, schedules);

statement.setString(5, person);

statement.setString(6, status);

statement.setInt(7, id);

// Execute the statement

**int** rowsUpdated = statement.executeUpdate();

**if** (rowsUpdated > 0) {

// Railway crossing updated successfully

response.sendRedirect("GetRailwayDetailsServlet");

} **else** {

// Failed to update railway crossing

response.getWriter().println("Failed to update railway crossing. Please try again.");

}

} **catch** (ClassNotFoundException e) {

e.printStackTrace();

response.getWriter().println("JDBC driver not found.");

} **catch** (SQLException e) {

e.printStackTrace();

response.getWriter().println("Database error: " + e.getMessage());

} **finally** {

// Close the resources

**if** (statement != **null**) {

**try** {

statement.close();

} **catch** (SQLException e) {

e.printStackTrace();

}

}

**if** (conn != **null**) {

**try** {

conn.close();

} **catch** (SQLException e) {

e.printStackTrace();

}

}

}

}

}

Add\_railwaycrossing.jsp

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<!DOCTYPE html>

<html><head>

<title>Add Railway Crossing</title>

</head>

<body>

<h1>Add Railway Crossing</h1>

<form action=*"RailwayCrossingServlet"* method=*"POST"*>

<label for=*"name"*>Name:</label>

<input type=*"text"* id=*"name"* name=*"name"* required=*""*>

<br><br>

<label for=*"address"*>Address:</label>

<input type=*"text"* id=*"address"* name=*"address"* required=*""*>

<br><br>

<label for=*"landmark"*>Landmark:</label>

<input type=*"text"* id=*"landmark"* name=*"landmark"* required=*""*>

<br><br>

<label for=*"schedules"*>Train Schedules:</label>

<textarea id=*"schedules"* name=*"schedules"* required=*""*></textarea>

<br><br>

<label for=*"person"*>Person in Charge:</label>

<input type=*"text"* id=*"person"* name=*"person"* required=*""*>

<br><br>

<label for=*"status"*>Status:</label>

<select id=*"status"* name=*"status"* required=*""*>

<option value=*"Open"*>Open</option>

<option value=*"Closed"*>Closed</option></select>

Government\_login.jsp

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<!DOCTYPE html>

<html>

<head>

<meta charset=*"UTF-8"*>

<title>Insert title here</title>

</head>

<body>

<h2>Government User Login</h2>

<form action=*"GovernmentLoginServlet"* method=*"post"*>

<label for=*"email"*>Email:</label>

<input type=*"email"* id=*"email"* name=*"email"* required><br><br>

<label for=*"password"*>Password:</label>

<input type=*"password"* id=*"password"* name=*"password"* required><br><br>

<input type=*"submit"* value=*"Login"*>

</form>

</body>

</html>

Government\_user.jsp

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<!DOCTYPE html>

<html>

<head>

<meta charset=*"UTF-8"*>

<title>Insert title here</title>

</head>

<body>

<h1>Govt. User Registration</h1>

<h2>Government User Registration</h2>

<form action=*"GovernmentRegisterServlet"* method=*"post"*>

<label for=*"name"*>Name:</label>

<input type=*"text"* id=*"name"* name=*"name"* required><br><br>

<label for=*"email"*>Email:</label>

<input type=*"email"* id=*"email"* name=*"email"* required><br><br>

<label for=*"password"*>Password:</label>

<input type=*"password"* id=*"password"* name=*"password"* required><br><br>

<input type=*"submit"* value=*"Register"*>

</form>

<p> <a href=*"government\_login.jsp"*>sign in</a></p>

</body>

</html>

**Home.jsp**

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<!DOCTYPE html>

<html>

<head>

<meta charset=*"UTF-8"*>

<title>Insert title here</title>

</head>

<body>

<h1>Welcome to the Railway Crossing Application</h1>

<h3>Select from below option:</h3>

<ul>

<li><a href=*"government\_users.jsp"*>Government Section</a></li>

<li><a href=*"register.jsp"*>User Section</a></li>

</ul>

</body>

</html>

**Login.jsp**

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<!DOCTYPE html>

<html>

<head>

<meta charset=*"UTF-8"*>

<title>Insert title here</title>

</head>

<body>

<h1>Railway Crossing</h1>

<h2>User Login</h2>

<form method=*"post"* action=*"login"*>

<label for=*"email"*>Enter Email:</label>

<input type=*"email"* id=*"email"* name=*"email"* required><br><br>

<label for=*"password"*>Enter Password:</label>

<input type=*"password"* id=*"password"* name=*"password"*

required><br><br>

<input type=*"submit"* value=*"Login"*>

</form>

<br>

<p>Don't have an account? <a href=*"register.jsp"*>Create New

Account</a></p>

</body>

</html>

**Register.jsp**

package com.ecommerce;

import java.io.IOException;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.PreparedStatement;

import java.sql.SQLException;

import javax.servlet.ServletException;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

import javax.servlet.annotation.WebServlet;

@WebServlet(value = "/register")

public class RegisterServlet extends HttpServlet {

private static final long serialVersionUID = 1L;

// JDBC database URL, username, and password

private static final String DB\_URL =

"jdbc:mysql://localhost:3306/railway";

private static final String DB\_USERNAME = "root";

private static final String DB\_PASSWORD = "Annu!a@123456";

protected void doPost(HttpServletRequest request,

HttpServletResponse response)

throws ServletException, IOException {

String name = request.getParameter("name");

String email = request.getParameter("email");

String password = request.getParameter("password");

try {

// Load the MySQL JDBC driver

Class.forName("com.mysql.jdbc.Driver");

// Create a connection to the database

Connection conn = DriverManager.getConnection(DB\_URL,

DB\_USERNAME, DB\_PASSWORD);

// Prepare the SQL statement

String sql = "INSERT INTO users (name, email, password) VALUES (?, ?, ?)";

PreparedStatement statement = conn.prepareStatement(sql);

statement.setString(1, name);

statement.setString(2, email);

statement.setString(3, password);

// Execute the statement

int rowsInserted = statement.executeUpdate();

statement.close();

conn.close();

if (rowsInserted > 0) {

// Registration successful, redirect to login page

response.sendRedirect("login.jsp");

} else {

// Registration failed, display an error message

response.getWriter().println("Registration failed. Please try again.");

}

} catch (ClassNotFoundException e) {

e.printStackTrace();

response.getWriter().println("MySQL JDBC driver not found.");

} catch (SQLException e) {

e.printStackTrace();

response.getWriter().println("Database error: " + e.getMessage());

}

}

}

**Update\_railway.jsp**

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<!DOCTYPE html>

<html>

<head>

<meta charset=*"UTF-8"*>

<title>Insert title here</title>

</head>

<body>

<h1>Update Railway Crossing</h1>

<h1>Update Railway Crossing</h1>

<%

// Retrieve the railway crossing details from the request parameters

**int** id = Integer.parseInt(request.getParameter("id"));

String name = request.getParameter("name");

String address = request.getParameter("address");

String landmark = request.getParameter("landmark");

String schedules = request.getParameter("schedules");

String person = request.getParameter("person");

String status = request.getParameter("status");

%>

<form action=*"UpdateRailwayCrossingServlet"* method=*"post"*>

<input type=*"hidden"* name=*"id"* value=*"*<%= id %>*"*>

<label for=*"name"*>Name:</label>

<input type=*"text"* name=*"name"* id=*"name"* value=*"*<%= name %>*"*>

<br>

<label for=*"address"*>Address:</label>

<input type=*"text"* name=*"address"* id=*"address"* value=*"*<%= address

%>*"*>

<br>

<label for=*"landmark"*>Landmark:</label>

<input type=*"text"* name=*"landmark"* id=*"landmark"* value=*"*<%=

landmark %>*"*>

<br>

<label for=*"schedules"*>Schedules:</label>

<input type=*"text"* name=*"schedules"* id=*"schedules"* value=*"*<%=

schedules %>*"*>

<br>

<label for=*"person"*>Person:</label>

<input type=*"text"* name=*"person"* id=*"person"* value=*"*<%= person

%>*"*>

<br>

<label for=*"status"*>Status:</label>

<input type=*"text"* name=*"status"* id=*"status"* value=*"*<%= status %>*"*>

<br>

<input type=*"submit"* value=*"Update"*>

</form>

</body>

</html>