**REG NO. : 412422205009**

**NAME : AKASH RAJ L**

**SOURCE CODE :**

**SQL COMMANDS :**

mysql> -- Create the database

mysql> CREATE DATABASE IF NOT EXISTS airlinedb;

Query OK, 1 row affected (0.00 sec)

mysql>

mysql> -- Use the airlinedb database

mysql> USE airlinedb;

Database changed

mysql>

mysql> -- Create the airlines table if it doesn't exist

mysql> CREATE TABLE IF NOT EXISTS airlines (

-> airline\_id INT PRIMARY KEY,

-> name VARCHAR(100),

-> code VARCHAR(10),

-> origin VARCHAR(50),

-> destination VARCHAR(50),

-> departure\_time TIME,

-> arrival\_time TIME

-> );

Query OK, 0 rows affected (0.02 sec)

mysql>

mysql> -- Insert initial records into the airlines table

mysql> INSERT INTO airlines (airline\_id, name, code, origin, destination, departure\_time, arrival\_time) VALUES

-> (1, 'Airline 1', 'AI101', 'New York', 'London', '09:00:00', '22:00:00'),

-> (2, 'Airline 2', 'AI102', 'London', 'Paris', '12:00:00', '14:00:00');

Query OK, 2 rows affected (0.00 sec)

Records: 2 Duplicates: 0 Warnings: 0

mysql>

mysql> -- Insert additional 20 records into the airlines table

mysql> INSERT INTO airlines (airline\_id, name, code, origin, destination, departure\_time, arrival\_time) VALUES

-> (3, 'Airline 3', 'AI103', 'Paris', 'Berlin', '10:00:00', '12:00:00'),

-> (4, 'Airline 4', 'AI104', 'Berlin', 'New York', '11:00:00', '16:00:00'),

-> (5, 'Airline 5', 'AI105', 'Tokyo', 'Los Angeles', '13:00:00', '18:00:00'),

-> (6, 'Airline 6', 'AI106', 'Los Angeles', 'Tokyo', '15:00:00', '20:00:00'),

-> (7, 'Airline 7', 'AI107', 'London', 'Berlin', '08:00:00', '10:00:00'),

-> (8, 'Airline 8', 'AI108', 'Berlin', 'Paris', '09:00:00', '11:00:00'),

-> (9, 'Airline 9', 'AI109', 'Paris', 'New York', '14:00:00', '16:00:00'),

-> (10, 'Airline 10', 'AI110', 'New York', 'Tokyo', '16:00:00', '19:00:00'),

-> (11, 'Airline 11', 'AI111', 'Tokyo', 'London', '18:00:00', '22:00:00'),

-> (12, 'Airline 12', 'AI112', 'Los Angeles', 'Paris', '17:00:00', '20:00:00'),

-> (13, 'Airline 13', 'AI113', 'London', 'Tokyo', '07:00:00', '21:00:00'),

-> (14, 'Airline 14', 'AI114', 'New York', 'Los Angeles', '10:00:00', '12:00:00'),

-> (15, 'Airline 15', 'AI115', 'Paris', 'Los Angeles', '13:00:00', '15:00:00'),

-> (16, 'Airline 16', 'AI116', 'Tokyo', 'Berlin', '09:00:00', '12:00:00'),

-> (17, 'Airline 17', 'AI117', 'Berlin', 'New York', '14:00:00', '20:00:00'),

-> (18, 'Airline 18', 'AI118', 'Los Angeles', 'London', '16:00:00', '20:00:00'),

-> (19, 'Airline 19', 'AI119', 'New York', 'Paris', '12:00:00', '14:00:00'),

-> (20, 'Airline 20', 'AI120', 'Paris', 'Tokyo', '11:00:00', '15:00:00'),

-> (21, 'Airline 21', 'AI121', 'London', 'New York', '08:00:00', '11:00:00'),

-> (22, 'Airline 22', 'AI122', 'Berlin', 'Tokyo', '10:00:00', '16:00:00');

Query OK, 20 rows affected (0.00 sec)

Records: 20 Duplicates: 0 Warnings: 0

**AirlineService.java**

package com.akash;

import javax.jws.WebService;

import java.sql.\*;

import java.util.ArrayList;

import java.util.List;

@WebService(endpointInterface = "com.akash.AirlineServiceInterface")

public class AirlineService implements AirlineServiceInterface {

@Override

public List<String[]> searchAirlines(String origin, String destination) {

List<String[]> result = new ArrayList<>();

// JDBC Connection Parameters

String dbURL ="jdbc:mysql://localhost:3306/AirlineDB?useSSL=false&serverTimezone=UTC&allowPublicKeyRetrieval=true";

String dbUsername = "root";

String dbPassword = "root";

try {

// Load the MySQL JDBC driver

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

// Establish the connection

try (Connection conn = DriverManager.getConnection(dbURL, dbUsername, dbPassword)) {

// Prepare SQL query

String query = "SELECT name, code, origin, destination, departure\_time, arrival\_time FROM Airlines WHERE origin = ? AND destination = ?";

try (PreparedStatement stmt = conn.prepareStatement(query)) {

stmt.setString(1, origin);

stmt.setString(2, destination);

// Execute the query and store the results

ResultSet rs = stmt.executeQuery();

while (rs.next()) {

// Store airline details in a String array

String[] airlineDetails = new String[6];

airlineDetails[0] = rs.getString("name");

airlineDetails[1] = rs.getString("code");

airlineDetails[2] = rs.getString("origin");

airlineDetails[3] = rs.getString("destination");

airlineDetails[4] = rs.getString("departure\_time");

airlineDetails[5] = rs.getString("arrival\_time");

// Add this array to the result list

result.add(airlineDetails);

}

}

}

} catch (SQLException | ClassNotFoundException e) {

e.printStackTrace();

}

return result;

}

}

**AirlineClient.java**

package com.akash;

import javax.xml.namespace.QName;

import javax.xml.ws.Service;

import java.net.URL;

import java.util.List;

public class AirlineClient {

public static void main(String[] args) throws Exception {

// Ensure there are two parameters (origin and destination)

if (args.length < 2) {

System.out.println("Usage: AirlineClient <origin> <destination>");

System.exit(1);

}

String origin = args[0];

String destination = args[1];

// URL of the WSDL of the deployed Web Service

URL url = new URL("http://localhost:8080/akash2/AirlineServiceService?WSDL");

QName qname = new QName("http://akash1.com/", "AirlineServiceService");

// Create the service object

Service service = Service.create(url, qname);

// Get the Web Service client (port) using the interface

AirlineServiceInterface port = service.getPort(AirlineServiceInterface.class);

// Call the Web Service method with the dynamic parameters

List<String[]> airlines = port.searchAirlines(origin, destination);

System.out.println("Airlines found from " + origin + " to " + destination + ":");

for (String[] airline : airlines) {

// Print each airline's details from the String array

System.out.println("Name: " + airline[0] +

", Code: " + airline[1] +

", Origin: " + airline[2] +

", Destination: " + airline[3] +

", Departure Time: " + airline[4] +

", Arrival Time: " + airline[5]);

}}}

**AirlineServiceInterface.java**

package com.akash;

import javax.jws.WebMethod;

import javax.jws.WebService;

import java.util.List;

@WebService

public interface AirlineServiceInterface {

@WebMethod

List<String[]> searchAirlines(String origin, String destination);

}

**searchAirlines.jsp**

<%@ page contentType="text/html;charset=UTF-8" language="java" %>

<html>

<head>

<title>Search Airlines</title>

</head>

<body>

<h1>Search for Airlines</h1>

<form action="searchResults.jsp" method="get">

<label for="origin">Origin:</label>

<input type="text" id="origin" name="origin">

<br>

<label for="destination">Destination:</label>

<input type="text" id="destination" name="destination">

<br>

<input type="submit" value="Search">

</form>

</body>

</html>

**searchResults.java**

<%@page import="com.akash.AirlineServiceInterface"%>

<%@page import="java.net.URL"%>

<%@page import="java.util.\*, javax.xml.namespace.QName, javax.xml.ws.Service" %>

<%@ page contentType="text/html;charset=UTF-8" language="java" %>

<html>

<head>

<title>Search Results</title>

</head>

<body>

<h1>Airline Search Results</h1>

<%

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

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

// Web Service URL

URL url = new URL("http://localhost:8080/akash2/AirlineServiceService?WSDL");

// Define QName for the service

QName qname = new QName("http://akash.com/", "AirlineServiceService");

// Create the Service object

Service service = Service.create(url, qname);

// Get the Web Service client (port)

AirlineServiceInterface port = service.getPort(AirlineServiceInterface.class);

// Call the Web Service to search for airlines

List<String[]> airlines = port.searchAirlines(origin, destination);

if (airlines != null && !airlines.isEmpty()) {

%>

<table border="1">

<tr>

<th>Airline Name</th>

<th>Code</th>

<th>Origin</th>

<th>Destination</th>

<th>Departure Time</th>

<th>Arrival Time</th>

</tr>

<%

for (String[] airline : airlines) {

%>

<tr>

<td><%= airline[0] %></td>

<td><%= airline[1] %></td>

<td><%= airline[2] %></td>

<td><%= airline[3] %></td>

<td><%= airline[4] %></td>

<td><%= airline[5] %></td>

</tr>

<%

}

%>

</table>

<%

} else {

%>

<p>No airlines found for the selected route.</p>

<%

}

%>

</body>

</html>

**OUTPUT :**



