package simplehttpserver;import com.[sun.net](sun.net#sun.net).httpserver.HttpExchange;import com.[sun.net](sun.net#sun.net).httpserver.HttpHandler;import com.[sun.net](sun.net#sun.net).httpserver.HttpServer;import java.io.\*;import [java.net](java.net#java.net).InetSocketAddress;import java.sql.\*;import java.util.ArrayList;import java.util.List;public class SimpleHttpServer { public static void main(String[] args) throws Exception { HttpServer server = HttpServer.create(new InetSocketAddress(8000), 0); server.createContext("/students", new StudentHandler()); server.setExecutor(null); // creates a default executor server.start(); System.out.println("Server is listening on port 8000"); } static class StudentHandler implements HttpHandler { @Override public void handle(HttpExchange exchange) throws IOException { try { switch (exchange.getRequestMethod().toUpperCase()) { case "GET": handleGetRequest(exchange); break; case "POST": handlePostRequest(exchange); break; case "PUT": handlePutRequest(exchange); break; case "DELETE": handleDeleteRequest(exchange); break; default: exchange.sendResponseHeaders(405, -1); // Method Not Allowed break; } } catch (Exception e) { e.printStackTrace(); exchange.sendResponseHeaders(500, -1); // Internal Server Error } finally { exchange.close(); } } private void handleGetRequest(HttpExchange exchange) throws IOException, SQLException { List<Student> students = new ArrayList<>(); try (Connection conn = DriverManager.getConnection("jdbc:sqlserver://localhost:1433;databaseName=mydatabase", "root", "password"); Statement stmt = conn.createStatement(); ResultSet rs = stmt.executeQuery("SELECT \* FROM students")) { while (rs.next()) { Student student = new Student(); student.setId(rs.getInt("id")); student.setRollno(rs.getInt("rollno")); student.setName(rs.getString("name")); student.setStudentClass(rs.getString("class")); students.add(student); } } StringBuilder responseBody = new StringBuilder(); for (Student student : students) { responseBody.append(student.getId()).append(", ") .append(student.getRollno()).append(", ") .append(student.getName()).append(", ") .append(student.getStudentClass()).append("\n"); } exchange.sendResponseHeaders(200, responseBody.length()); try (OutputStream os = exchange.getResponseBody()) { os.write(responseBody.toString().getBytes()); } } private void handlePostRequest(HttpExchange exchange) throws IOException, SQLException { String requestBody = new BufferedReader(new InputStreamReader(exchange.getRequestBody(), "utf-8")).lines() .reduce("", (accumulator, actual) -> accumulator + actual); String[] parts = requestBody.split(","); Student student = new Student(); student.setRollno(Integer.parseInt(parts[0].trim())); student.setName(parts[1].trim()); student.setStudentClass(parts[2].trim()); try (Connection conn = DriverManager.getConnection("jdbc:sqlserver://localhost:1433;databaseName=mydatabase", "root", "password"); PreparedStatement pstmt = conn.prepareStatement("INSERT INTO students (rollno, name, class) VALUES (?, ?, ?)")) { pstmt.setInt(1, student.getRollno()); pstmt.setString(2, student.getName()); pstmt.setString(3, student.getStudentClass()); pstmt.executeUpdate(); } exchange.sendResponseHeaders(201, -1); // Created } private void handlePutRequest(HttpExchange exchange) throws IOException, SQLException { String requestBody = new BufferedReader(new InputStreamReader(exchange.getRequestBody(), "utf-8")).lines() .reduce("", (accumulator, actual) -> accumulator + actual); String[] parts = requestBody.split(","); Student student = new Student(); student.setId(Integer.parseInt(parts[0].trim())); student.setRollno(Integer.parseInt(parts[1].trim())); student.setName(parts[2].trim()); student.setStudentClass(parts[3].trim()); try (Connection conn = DriverManager.getConnection("jdbc:sqlserver://localhost:1433;databaseName=mydatabase", "root", "password"); PreparedStatement pstmt = conn.prepareStatement("UPDATE students SET rollno = ?, name = ?, class = ? WHERE id = ?")) { pstmt.setInt(1, student.getRollno()); pstmt.setString(2, student.getName()); pstmt.setString(3, student.getStudentClass()); pstmt.setInt(4, student.getId()); pstmt.executeUpdate(); } exchange.sendResponseHeaders(204, -1); // No Content } private void handleDeleteRequest(HttpExchange exchange) throws IOException, SQLException { String requestBody = new BufferedReader(new InputStreamReader(exchange.getRequestBody(), "utf-8")).lines() .reduce("", (accumulator, actual) -> accumulator + actual); int id = Integer.parseInt(requestBody.trim()); try (Connection conn = DriverManager.getConnection("jdbc:sqlserver://localhost:1433;databaseName=mydatabase", "root", "password"); PreparedStatement pstmt = conn.prepareStatement("DELETE FROM students WHERE id = ?")) { pstmt.setInt(1, id); pstmt.executeUpdate(); } exchange.sendResponseHeaders(204, -1); // No Content } }}