OOP

Lab Manual (Lab 10)

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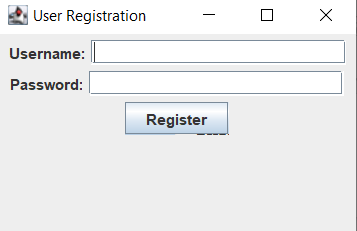
**Step 1:** Create a schema named lab9.

**Step 2:** Create a table named lab9 within schema named lab9.

**Step 3:** Create three columns.

* id (Primary key, Not Null)
* username (Not Null, Unique)
* password (Not Null)

Code to register the user and store its data in database.



import java.sql.\*;//packages are used for JDBC (Java Database Connectivity)

import javax.swing.\*; // packages are used for building GUI applications in Java Swing.

class MysqlCon extends JFrame {

JTextField textFieldUsername;

JPasswordField passwordField;

JButton buttonRegister;

public MysqlCon() {

setTitle("User Registration");

setSize(300, 200);

setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

JPanel panel = new JPanel();

JLabel labelUsername = new JLabel("Username:");

textFieldUsername = new JTextField(20);

JLabel labelPassword = new JLabel("Password:");

passwordField = new JPasswordField(20);

buttonRegister = new JButton("Register");

buttonRegister.addActionListener(e -> registerUser());

panel.add(labelUsername);

panel.add(textFieldUsername);

panel.add(labelPassword);

panel.add(passwordField);

panel.add(buttonRegister);

add(panel);

setVisible(true);

}

private void registerUser() {

String username = textFieldUsername.getText();

String password = new String(passwordField.getPassword());

// JDBC connection parameters

//These lines specify the JDBC connection parameters: URL of the MySQL database

String url = "jdbc:mysql://localhost:3306/lab9";

String dbUsername = "root";

String dbPassword = "Root1234";

//This line establishes a connection to the MySQL database using DriverManager.getConnection().

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

{

String sql = "INSERT INTO lab9 (username, password) VALUES (?, ?)";

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

stmt.setString(1, username);

stmt.setString(2, password);

int rowsInserted = stmt.executeUpdate();

if (rowsInserted > 0) {

JOptionPane.showMessageDialog(this, "User registered successfully!");

clearFields();

} else {

JOptionPane.showMessageDialog(this, "Failed to register user.");

}

}

} catch (SQLException ex) {

ex.printStackTrace();

JOptionPane.showMessageDialog(this, "Error: " + ex.getMessage());

}

}

private void clearFields() {

textFieldUsername.setText("");

passwordField.setText("");

}

public static void main(String[] args) {

new MysqlCon();

}

}

**Task 1:**

**Now create a login page with a login and signup button. Your goal is to successfully login only those users whose data matches with the data in your database. Your database will contain entries for registered users only that you would do using above code.**

**Task 2:**

**Make database connection and do validation and authorization for your project’s login and register page.**