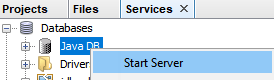
Objectives:

* Designing a Login form that authenticates to a database called Derby
* Importing Derby Drivers
* Creating Derby Databases & Tables
* Writing code for: Select, Insert, Update and Delete Statements
* Creating the JTable and Importing the JTable Driver

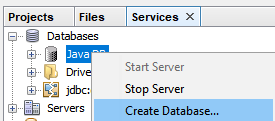
1. Launch Net Beans
2. Click on the File Menu >> New Project >> Chose default and click on next
3. Name the project to >> **Week 14** **Database Info**
   1. Click on the browse button and place it in the folder desired
4. To access the database, click on the services tab



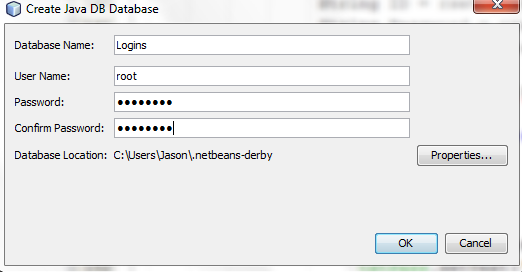
1. To start the database right click on the JAVA DB and click on start



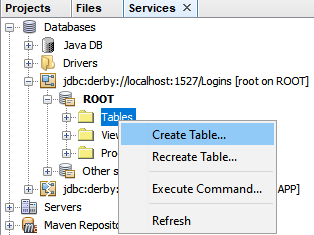
1. To create a new database right click on the JAVA DB again, and click on Create New Database



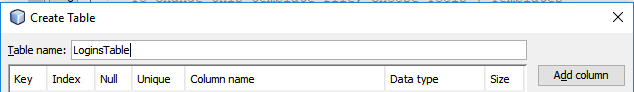
1. Enter the following: the password enter sac123



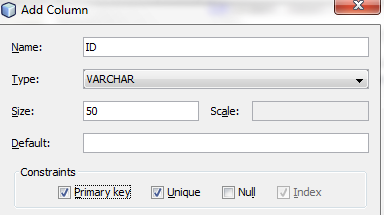
1. You should see the new driver as highlighted below
2. Right click on the new Driver and click on connect
   1. Expand the driver and under ROOT, right click on the tables icon and choose Create Table



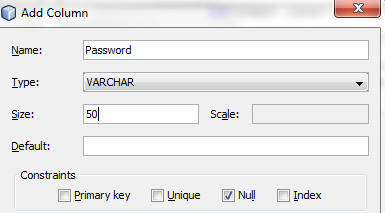
* 1. Type in LoginsTable as the table name



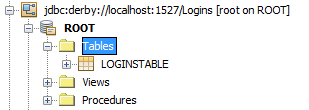
* 1. Then click on the Add column and enter the following information:



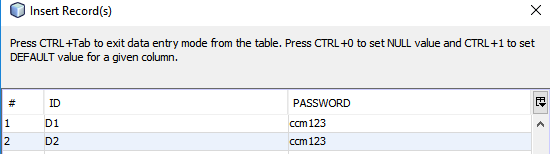
1. Add a 2nd column and type Password as shown below:



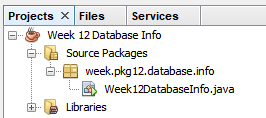
1. When completed you should see the new Table



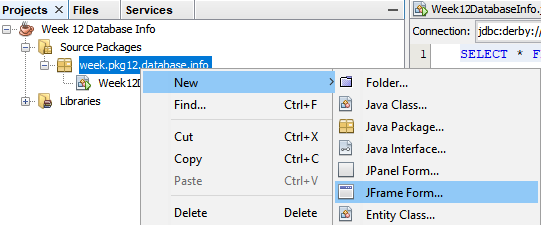
1. To enter data right click on the table >>>> View Data >>>> Click on ICONto insert new records
2. Insert the following records below and when completed click OK.



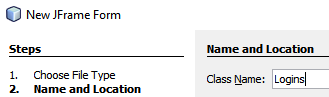
1. Switch to the Projects TAB



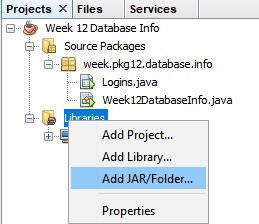
1. Right click on the package and choose JFrame Form



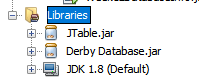
1. Type in Logins for the name of the form



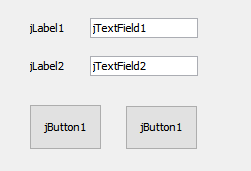
1. Download the Derby & JTable drivers from Black Board
2. Import the drivers by right clicking on the Libraries Folder >>>> Add Jar >>>> Locate where you downloaded the file and add it



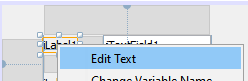
When completed it should look like this below



1. Now, it’s time to design the form, click and drag two labels, text fields and buttons as shown below.



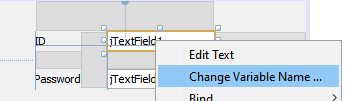
1. Edit the labels by right clicking and edit text.



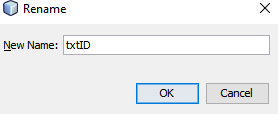
1. Edit the text fields by right clicking and edit text and delete the text



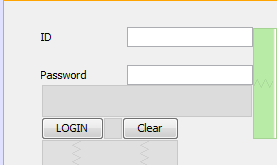
1. To rename a new variable for the text fields, right click on the text field and click on Change Variable Name



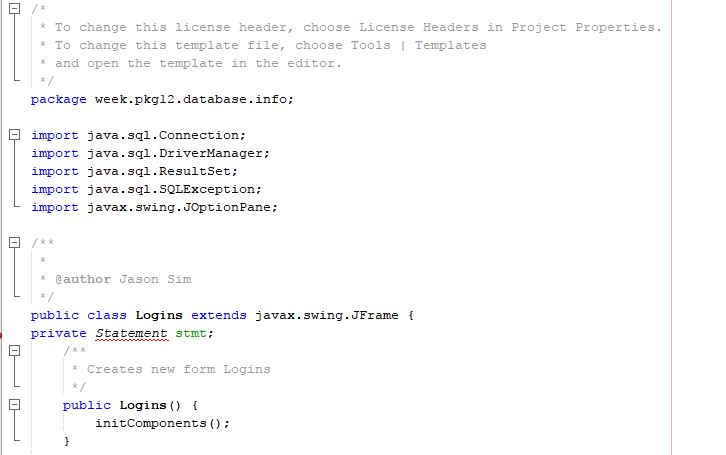
1. Change the variable name for the text field to >> txtID



1. Change the 2nd text field to >> txtPass
2. Edit the text for the buttons as shown below:

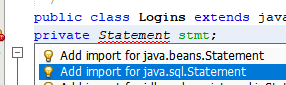


## Double click on the Login button and scroll to the top and under the bottom of the class type the following (See arrow)



\*\*\*The Statement class will allow us to write SQL Statements\*\*\*

1. Import the Statement class for SQL & NOT beans

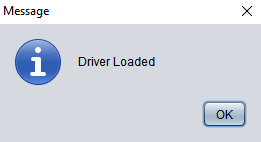


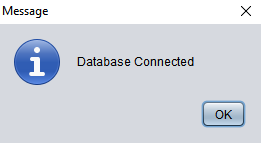
1. Under the button control type the following:

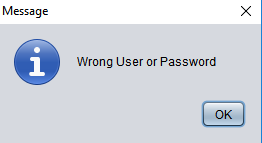




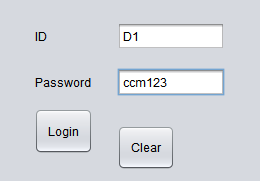
1. Create a second JFrame by right clicking on the package >>> New >>>>JFrame Form. Name it >>>> **NewJFrame1**
2. Before proceeding, test the application & click on the login button

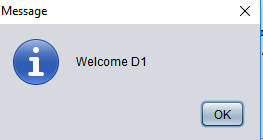




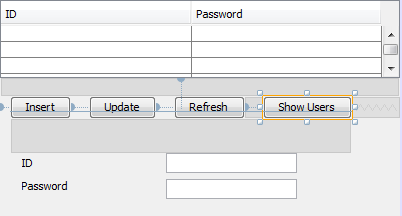


1. Now, type in the correct ID with password

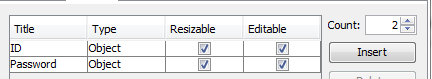




1. Comment out all the message boxes EXCEPT the ones in the IF statement
2. Run the program again
3. On the 2nd Frame design as shown below:
   1. 1 Table
   2. 4 Buttons
   3. 2 Labels
   4. 2 Text Fields >>> change the variable for the ID text field to >>>> txtID & Password field to >>>> txtPass



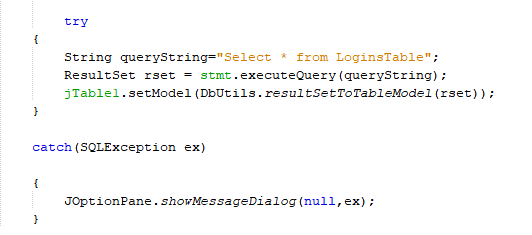
1. Click and Drag a table from the tools, and for the table, right click on the table >>>> Table Contents >>>> Columns >>>> Create the two columns and delete the last two columns



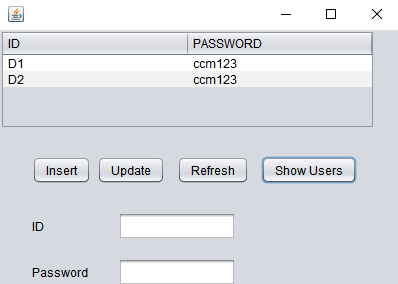
1. Double click on the Insert button and copy and paste the following connection code (**this is the same connection code from the Login form**) under the InitComponents() which will automatically execute the code



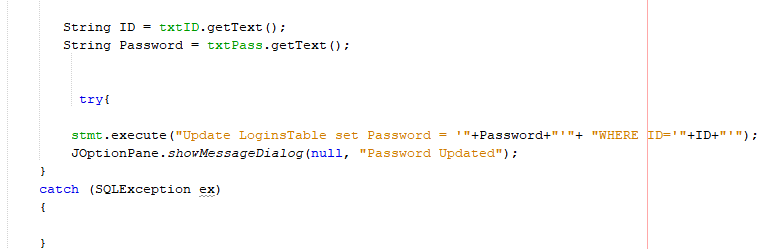
1. Double click on the Show Users button and type the following to extract from the database to the JTable



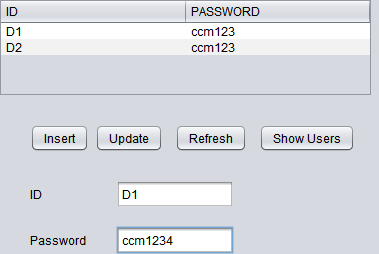
1. Run the app and you will see the following:



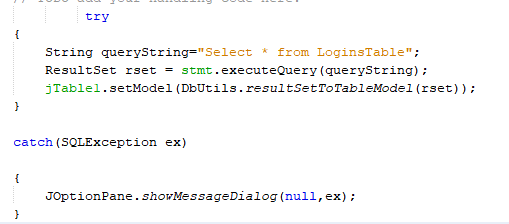
1. To update the table



Execute the app and type in the following into the text fields



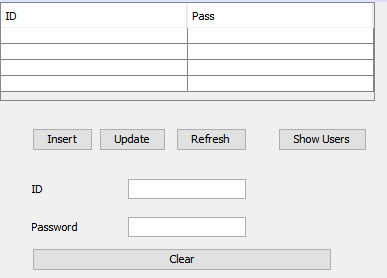
1. Double click on the Refresh button

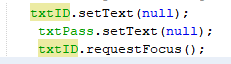


1. Double click on the Insert button and copy and paste the following code:



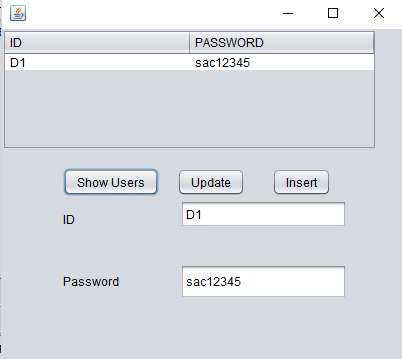
1. Now finally, double click on the clear button





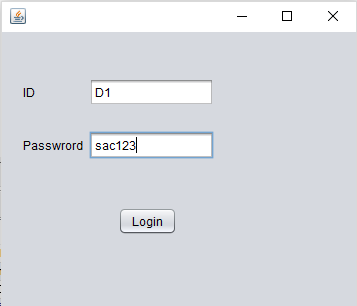
1. Test all button controls

#1 Print screen the running application below here (75%)



1. Create a 3rd Form and create a JTable and extract the Customers Table

#2 print screen the Customers Table below here (25%)



import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.ResultSet;

import java.sql.SQLException;

import java.sql.Statement;

import java.util.logging.Level;

import java.util.logging.Logger;

import javax.swing.JOptionPane;

public class Logins extends javax.swing.JFrame {

// Statement class will allow for SQL injections

private Statement stmt;

/\*\*

\* Creates new form Logins

\*/

public Logins() {

initComponents();

// Load event

JOptionPane.showMessageDialog(null, "Welcome to the Login APP");

}

/\*\*

\* This method is called from within the constructor to initialize the form.

\* WARNING: Do NOT modify this code. The content of this method is always

\* regenerated by the Form Editor.

\*/

@SuppressWarnings("unchecked")

// <editor-fold defaultstate="collapsed" desc="Generated Code">

private void initComponents() {

jLabel1 = new javax.swing.JLabel();

jLabel2 = new javax.swing.JLabel();

txtID = new javax.swing.JTextField();

txtPassword = new javax.swing.JTextField();

Login = new javax.swing.JButton();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT\_ON\_CLOSE);

jLabel1.setText("ID");

jLabel2.setText("Passwrord");

txtPassword.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

txtPasswordActionPerformed(evt);

}

});

Login.setText("Login");

Login.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

LoginActionPerformed(evt);

}

});

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());

getContentPane().setLayout(layout);

layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addGap(21, 21, 21)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(jLabel2)

.addComponent(jLabel1))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

.addComponent(txtID, javax.swing.GroupLayout.DEFAULT\_SIZE, 125, Short.MAX\_VALUE)

.addComponent(txtPassword)))

.addGroup(layout.createSequentialGroup()

.addGap(116, 116, 116)

.addComponent(Login)))

.addContainerGap(142, Short.MAX\_VALUE))

);

layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addGap(46, 46, 46)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

.addComponent(jLabel1)

.addComponent(txtID, javax.swing.GroupLayout.PREFERRED\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addGap(25, 25, 25)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

.addComponent(jLabel2)

.addComponent(txtPassword, javax.swing.GroupLayout.PREFERRED\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addGap(48, 48, 48)

.addComponent(Login)

.addContainerGap(72, Short.MAX\_VALUE))

);

pack();

}// </editor-fold>

private void txtPasswordActionPerformed(java.awt.event.ActionEvent evt) {

// TODO add your handling code here:

}

private void LoginActionPerformed(java.awt.event.ActionEvent evt) {

// TODO add your handling code here:

// connect to the database

try{

Class.forName("org.apache.derby.jdbc.ClientDriver").newInstance();

JOptionPane.showMessageDialog(null, "Driver Connected");

String url = "jdbc:derby://localhost:1527/LoginsNew;create=true;user=root;password=sac123";

JOptionPane.showMessageDialog(null, "Database Connected");

Connection connection = DriverManager.getConnection(url);

stmt = connection.createStatement();

}

catch(Exception ex)

{

JOptionPane.showConfirmDialog(null, ex);

}

String user = txtID.getText();

String pass = txtPassword.getText();

try {

String queryString = "Select \* from LoginsTable where ID = '" +user+"' and " + "Password= '"+pass+"'";

ResultSet rset = stmt.executeQuery(queryString);

// display

if(rset.next() && user.equals(user) && pass.equals(pass))

{

String ID = rset.getString(1);

String Password = rset.getString(2);

JOptionPane.showMessageDialog(null, "Welcome" + ID);

// open a new JFrame of Class

MainFrame frame = new MainFrame();

frame.setVisible(true);

this.setVisible(false);

}

else

{

JOptionPane.showMessageDialog(null, "The user or password is not" + "correct, try again");

}

} catch (SQLException ex) {

Logger.getLogger(Logins.class.getName()).log(Level.SEVERE, null, ex);

}

}

/\*\*

\* @param args the command line arguments

\*/

public static void main(String args[]) {

/\* Set the Nimbus look and feel \*/

//<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">

/\* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.

\* For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html

\*/

try {

for (javax.swing.UIManager.LookAndFeelInfo info : javax.swing.UIManager.getInstalledLookAndFeels()) {

if ("Nimbus".equals(info.getName())) {

javax.swing.UIManager.setLookAndFeel(info.getClassName());

break;

}

}

} catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(Logins.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(Logins.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(Logins.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(Logins.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

}

//</editor-fold>

/\* Create and display the form \*/

java.awt.EventQueue.invokeLater(new Runnable() {

public void run() {

new Logins().setVisible(true);

}

});

}

// Variables declaration - do not modify

private javax.swing.JButton Login;

private javax.swing.JLabel jLabel1;

private javax.swing.JLabel jLabel2;

private javax.swing.JTextField txtID;

private javax.swing.JTextField txtPassword;

// End of variables declaration

}

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.ResultSet;

import java.sql.SQLException;

import java.sql.Statement;

import java.util.logging.Level;

import java.util.logging.Logger;

import javax.swing.JOptionPane;

import net.proteanit.sql.DbUtils;

public class MainFrame extends javax.swing.JFrame {

private Statement stmt;

public MainFrame() {

initComponents();

// load event

try{

Class.forName("org.apache.derby.jdbc.ClientDriver").newInstance();

JOptionPane.showMessageDialog(null, "Driver Connected");

String url = "jdbc:derby://localhost:1527/LoginsNew;create=true;user=root;password=sac123";

JOptionPane.showMessageDialog(null, "Database Connected");

Connection connection = DriverManager.getConnection(url);

stmt = connection.createStatement();

}

catch(Exception ex)

{

JOptionPane.showConfirmDialog(null, ex);

}

// Logger.getLogger(Logins.class.getName()).log(Level.SEVERE, null, ex);

}

@SuppressWarnings("unchecked")

// <editor-fold defaultstate="collapsed" desc="Generated Code">

private void initComponents() {

jButton1 = new javax.swing.JButton();

jScrollPane2 = new javax.swing.JScrollPane();

jTable1 = new javax.swing.JTable();

jButton2 = new javax.swing.JButton();

jButton3 = new javax.swing.JButton();

newPass = new javax.swing.JTextField();

jLabel1 = new javax.swing.JLabel();

newID = new javax.swing.JTextField();

jLabel2 = new javax.swing.JLabel();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT\_ON\_CLOSE);

jButton1.setText("Show Users");

jButton1.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

jButton1ActionPerformed(evt);

}

});

jTable1.setModel(new javax.swing.table.DefaultTableModel(

new Object [][] {

{null, null},

{null, null},

{null, null},

{null, null}

},

new String [] {

"ID", "Password"

}

));

jScrollPane2.setViewportView(jTable1);

jButton2.setText("Update");

jButton2.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

jButton2ActionPerformed(evt);

}

});

jButton3.setText("Insert");

jButton3.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

jButton3ActionPerformed(evt);

}

});

jLabel1.setText("ID");

newID.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

newIDActionPerformed(evt);

}

});

jLabel2.setText("Password");

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());

getContentPane().setLayout(layout);

layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addComponent(jScrollPane2, javax.swing.GroupLayout.PREFERRED\_SIZE, 375, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addGap(0, 25, Short.MAX\_VALUE))

.addGroup(layout.createSequentialGroup()

.addGap(61, 61, 61)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED\_SIZE, 71, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE)

.addComponent(newPass, javax.swing.GroupLayout.PREFERRED\_SIZE, 167, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addGap(55, 55, 55))

.addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED\_SIZE, 71, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addGroup(layout.createSequentialGroup()

.addComponent(jButton1)

.addGap(18, 18, 18)

.addComponent(jButton2)

.addGap(27, 27, 27)

.addComponent(jButton3)))

.addContainerGap(javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE))))

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addGap(178, 178, 178)

.addComponent(newID)

.addGap(55, 55, 55)))

);

layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addComponent(jScrollPane2, javax.swing.GroupLayout.PREFERRED\_SIZE, 121, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addGap(18, 18, 18)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

.addComponent(jButton1)

.addComponent(jButton2)

.addComponent(jButton3))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED\_SIZE, 35, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addGap(27, 27, 27)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

.addComponent(newPass, javax.swing.GroupLayout.PREFERRED\_SIZE, 35, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED\_SIZE, 35, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addContainerGap(81, Short.MAX\_VALUE))

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addGap(171, 171, 171)

.addComponent(newID, javax.swing.GroupLayout.DEFAULT\_SIZE, 35, Short.MAX\_VALUE)

.addGap(140, 140, 140)))

);

pack();

}// </editor-fold>

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

// TODO add your handling code here:

try {

String queryString = "Select \* from LoginsTable where ID = 'D1'";

ResultSet rset = stmt.executeQuery(queryString);

// show the data from the DB into the JTable

jTable1.setModel (DbUtils.resultSetToTableModel(rset));

}

catch(Exception ex) {

JOptionPane.showMessageDialog(null, ex);

}

}

private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {

// TODO add your handling code here:

String ID = newID.getText();

String newPassword = newPass.getText();

try

{

stmt.execute("Update LoginsTable set Password='"+newPassword+"'" + "Where ID='"+ID+"'");

System.out.println("ID and or Password has been updated");

}

catch(Exception ex)

{

System.out.println(ex);

}

}

private void jButton3ActionPerformed(java.awt.event.ActionEvent evt) {

//TODO add your handling code here:

String ID = newID.getText();

String newPassword = newPass.getText();

try

{

stmt.execute("Insert into LoginsTable " + "Values(null, "+ID+", "+newPassword+")");

System.out.println("Record inserted");

}

catch(Exception ex)

{

System.out.println(ex);

}

}

private void newIDActionPerformed(java.awt.event.ActionEvent evt) {

// TODO add your handling code here:

}

/\*\*

\* @param args the command line arguments

\*/

public static void main(String args[]) {

/\* Set the Nimbus look and feel \*/

//<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">

/\* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.

\* For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html

\*/

try {

for (javax.swing.UIManager.LookAndFeelInfo info : javax.swing.UIManager.getInstalledLookAndFeels()) {

if ("Nimbus".equals(info.getName())) {

javax.swing.UIManager.setLookAndFeel(info.getClassName());

break;

}

}

} catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(MainFrame.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(MainFrame.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(MainFrame.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(MainFrame.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

}

//</editor-fold>

/\* Create and display the form \*/

java.awt.EventQueue.invokeLater(new Runnable() {

public void run() {

new MainFrame().setVisible(true);

}

});

}

// Variables declaration - do not modify

private javax.swing.JButton jButton1;

private javax.swing.JButton jButton2;

private javax.swing.JButton jButton3;

private javax.swing.JLabel jLabel1;

private javax.swing.JLabel jLabel2;

private javax.swing.JScrollPane jScrollPane2;

private javax.swing.JTable jTable1;

private javax.swing.JTextField newID;

private javax.swing.JTextField newPass;

// End of variables declaration

}

Submit this document to week 14 Class Exercise