

FINAL PROJECT REPORT

CCDS-222 DATABASE II

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TABLE OF CONTENT

03

TEAM INFORMATION

STEPS

04

WHAT DID WE LEARN FROM THIS
PROJECT?

05

OBSTACLES FACED DURING THE
PROJECT

06

RESOURCES THAT USED DURING
THE IMPLEMENTATION

TEAM RULES

07

OUTLINES

TEAM INFORMATION

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STEPS

- 1-Load the data we wish to use
- 2-Creating GUI using Java
- 3-Creating user information table
- 4-Creating login class
- 5-Creating HomePage class
- 6-Creating the main class
- 7-Interacting with SQL to make a connection
- 8-After completing the connection we coded the desired statement we wanted to use like “Searching” and “Inserting” Data

WHAT DID WE LEARN FROM THIS PROJECT?

***First,** we learned how to make connections between SQL and any programming language*

***Second,** how to use GUI appropriately*

***Third,** how to write searching records code*



OBSTACLES FACED DURING THE PROJECT:

The first problem we faced was a connection issue between MySQL and Java, which was eventually resolved after many attempts and searches.

The second challenge we faced was the operation of the 'search' and 'insert' codes as we solved this by searching and trying in the code and organizing the logic of the code sequence.

Third, team members had a hard time collaborating on a single device. Therefore, we met in a cafe to finish the work together on a single laptop instead of working online on several devices, which helped us to standardize and smooth out the work.



RESOURCES THAT USED DURING THE IMPLEMENTATION

- Database management system: MySQL for creating and accessing the database
- Integrated development environment: NetBeans for creating the GUI (login and home page)
- Other resources used for the search operation:

<https://www.csharpcorner.com/UploadFile/fd0172/search-records-from-database-using-swing-gui-in-java/>

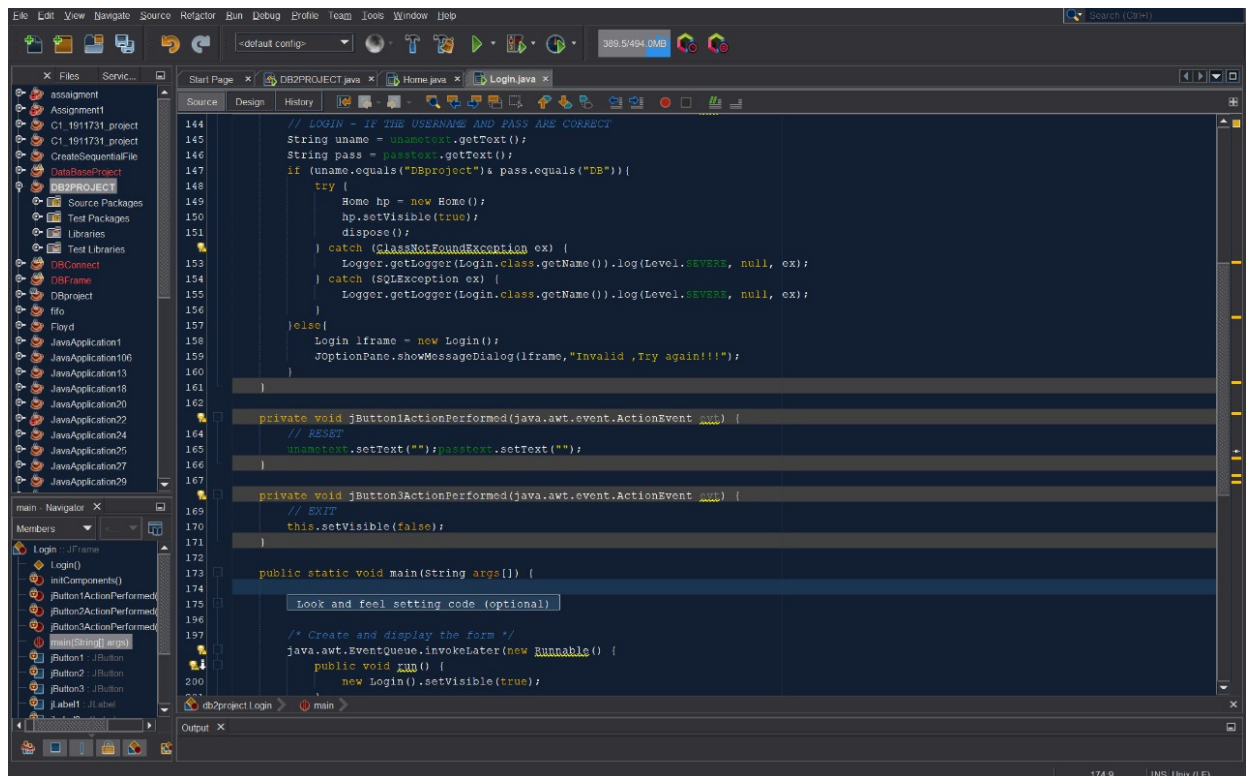
TEAM RULES

- Refan : Programming supervision
- Alaa : SQL + report
- Alanoud : gathered resources + report
- Raneem : Search + report
- Atheer : Search + report

07

66 OUTLINES

LOGIN CODE



The screenshot shows an IDE with the following components:

- Files Explorer:** Shows a project structure with folders like 'assignment', 'DB2PROJECT', and 'DBFrame'.
- Source Editor:** Displays the code for 'Login.java'. The code includes:
 - Imports: `import javax.swing.*;`, `import java.awt.event.*;`
 - Class Definition: `public class Login extends JFrame`
 - Constructor: `public Login() { ... }` where it sets the title to 'Login Here', sets the layout to 'FlowLayout', and adds components like 'unameText', 'passText', 'loginButton', 'resetButton', and 'exitButton'.
 - Methods: `private void jButton1ActionPerformed` (handles login logic with database connection), `private void jButton2ActionPerformed` (handles reset), and `private void jButton3ActionPerformed` (handles exit).
 - Main Method: `public static void main(String args[]) { ... }` which creates a new `Login` object and makes it visible.
- Output Console:** Shows the execution output, including the message 'Look and feel setting code (optional)'.

LOGIN THEME



08

OUTLINES

INSERT BUTTON

```

260
261
262 private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
263     String ssn=ssntext.getText();
264     String fname=fnameText.getText();
265     String lname=lnameText.getText();
266     String salary=salaryText.getText();
267     int essnint=Integer.parseInt(ssn);
268     int salaryint=Integer.parseInt(salary);
269     String data[] = {ssntext.getText(),fnameText.getText(),lnameText.getText(),salaryText.getText()};
270     try {
271         // TODO add your handling code here:
272         Class.forName("com.mysql.cj.jdbc.Driver");
273         Connection con=DriverManager.getConnection(
274             "jdbc:mysql://localhost:3306/db2project?useTimezone=true&serverTimezone=UTC","root","PASS");
275         String sql = " insert into emp values (?, ?, ?, ?)";
276
277         PreparedStatement preparedStmt = con.prepareStatement(sql);
278         preparedStmt.setInt(1, essnint);
279         preparedStmt.setString (2, fname);
280         preparedStmt.setString (3, lname);
281         preparedStmt.setInt (4, salaryint);
282         preparedStmt.execute();
283
284         DefaultTableModel tbmodel= (DefaultTableModel) jTable1.getModel();
285         tbmodel.addRow(data);
286         JOptionPane.showMessageDialog(null, "inserted");
287     } catch (ClassNotFoundException ex) {
288         Logger.getLogger(Home.class.getName()).log(Level.SEVERE, null, ex);
289     } catch (SQLException ex) {
290         Logger.getLogger(Home.class.getName()).log(Level.SEVERE, null, ex);
291     }
292 }
293
294
295

```

EXIT BUTTON-RESET BUTTON-SHOW DATA BUTTON

```

298
299 private void jButton4ActionPerformed(java.awt.event.ActionEvent evt) {
300     // TODO add your handling code here:
301     this.setVisible(false);
302     Login lg = new Login();
303     lg.setVisible(true);
304 }
305
306 private void jButton3ActionPerformed(java.awt.event.ActionEvent evt) {
307     // RESET
308     ssntext.setText(""); fnameText.setText(""); lnameText.setText(""); salaryText.setText("");
309 }
310
311 private void jButton5ActionPerformed(java.awt.event.ActionEvent evt) {
312     //to show data from mysql to jTable
313     try {
314         // connect to mysql DB
315         Class.forName("com.mysql.cj.jdbc.Driver");
316         Connection con=DriverManager.getConnection(
317             "jdbc:mysql://localhost:3306/db2project?useTimezone=true&serverTimezone=UTC","root","PASS");
318         String sql = " select * from emp ";
319         PreparedStatement preparedStmt = con.prepareStatement(sql);
320         ResultSet rs= preparedStmt.executeQuery();
321         DefaultTableModel tbmodel= (DefaultTableModel) jTable1.getModel();
322         tbmodel.setRowCount(0);
323         while(rs.next()){
324             tbmodel.addRow(new String[] {rs.getString(1),rs.getString(2),rs.getString(3),rs.getString(4)});
325         }
326     } catch (ClassNotFoundException ex) {
327         Logger.getLogger(Home.class.getName()).log(Level.SEVERE, null, ex);
328     } catch (SQLException ex) {
329         Logger.getLogger(Home.class.getName()).log(Level.SEVERE, null, ex);
330     }
331 }
332
333 private void jButton6ActionPerformed(java.awt.event.ActionEvent evt) {
334     //to add table

```


09

OUTLINES

SEARCH BUTTON

```

328 }
329 }
330
331 private void jButton6ActionPerformed(java.awt.event.ActionEvent evt) {
332     //CLEAR JTABLE
333     DefaultTableModel tbmodel= (DefaultTableModel) jTable.getModel();
334     tbmodel.setRowCount(0);
335     tbmodel.setRowCount(6);
336 }
337
338 private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {
339     // SEARCH
340     try {
341
342         String str = searchText.getText();
343         Class.forName("com.mysql.cj.jdbc.Driver");
344         Connection con=DriverManager.getConnection(
345             "jdbc:mysql://localhost:3306/db2project?userTimezone=true&serverTimezone=UTC","root","PASS");
346         PreparedStatement st = con.prepareStatement("select * from emp where essn=?");
347         st.setString(1, str);
348         //Executing Query
349         ResultSet rs = st.executeQuery();
350         if (rs.next()) {
351             String s = rs.getString(1);String s1 = rs.getString(2);String s2 = rs.getString(3);String s3 = rs.getString(4);
352
353             //Sets Records in TextFields.
354             searchText.setText(s);firstName.setText(s1);lastName.setText(s2);salary.setText(s3);
355             //TO SET THE SEARCH IN THE JTABLE
356             DefaultTableModel tbmodel= (DefaultTableModel) jTable.getModel();
357             String search=searchText.getText();
358             TableRowSorter<DefaultTableModel> tr= new TableRowSorter<DefaultTableModel>(tbmodel);
359             jTable.setRowSorter(tr);
360             tr.setRowFilter(RowFilter.regexFilter(search));
361         } else {
362             JOptionPane.showMessageDialog(null, "Essn not found");
363         }
364     } catch (Exception ex) {
365         //Create Exception Handler
366     }
367 }
  
```

HOME PAGE

Employees information

Essn:

First name:

Last name:

salary:

Buttons: SEARCH, INSERT, RESET, EXIT

Database Table

ESSN	First name	Last name	Salary
1614905	Alex	Yu	50000
101248268	Lisa	House	85000
110110110	Sunil	Gupta	80000
1111111100	Jared	James	85000
1111111101	Jon	Jones	45000
1111111102	Justin	Mark	40000

Buttons: Show Data, Clear