

## Login.java

```
2  * To change this license header, choose License Headers in Project Properties.
6 package chatclient;
7
8 import com.nxkundu.client.service.ClientService;
9 import com.nxkundu.server.bo.Client;
10 import com.nxkundu.server.bo.DataPacket;
11
12 /**
13  *
14  * @author nxkundu
15  *
16  * @email nxk161830@utdallas.edu
17  * @name Nirmallya Kundu
18  *
19  * LOGIN/SIGNUP SCREEN UI
20  *
21  * This class contains the main LOGIN/SIGNUP screen
22  * WHERE the First time user can SIGNUP
23  * AND Returning user can LOGIN
24  */
25 public class Login extends javax.swing.JFrame {
26
27     private static Login loginScreen;
28     /**
29      * Creates new form Login
30      */
31     private Login() {
32         initComponents();
33         loginEmail.grabFocus();
34     }
35
36     public static Login getInstance() {
37         if(loginScreen == null) {
38             loginScreen = new Login();
39         }
40         return loginScreen;
41     }
}
```

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```
42
43 /**
44  * This method is called from within the constructor to initialize the form.
45  * WARNING: Do NOT modify this code. The content of this method is always
46  * regenerated by the Form Editor.
47  */
48 @SuppressWarnings("unchecked")
49 // <editor-fold defaultstate="collapsed" desc="Generated Code"> // GEN-BEGIN: initComponents
50 private void initComponents() {
51
52     jPanel1 = new javax.swing.JPanel();
53     jLabel6 = new javax.swing.JLabel();
54     jPanel2 = new javax.swing.JPanel();
55     btnSignup = new javax.swing.JButton();
56     jLabel3 = new javax.swing.JLabel();
57     jLabel4 = new javax.swing.JLabel();
58     signupEmail = new javax.swing.JTextField();
59     signupPassword = new javax.swing.JPasswordField();
60     jLabel5 = new javax.swing.JLabel();
61     signupName = new javax.swing.JTextField();
62     signupErrorLabel = new javax.swing.JLabel();
63     jPanel3 = new javax.swing.JPanel();
64     jLabel1 = new javax.swing.JLabel();
65     loginEmail = new javax.swing.JTextField();
66     jLabel2 = new javax.swing.JLabel();
67     loginPassword = new javax.swing.JPasswordField();
68     buttonLogin = new javax.swing.JButton();
69     loginErrorLabel = new javax.swing.JLabel();
70
71     setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
72
73     jPanel1.setBorder(javax.swing.BorderFactory.createTitledBorder(""));
74
75     jLabel6.setFont(new java.awt.Font("Lucida Grande", 1, 24)); // NOI18N
76     jLabel6.setIcon(new javax.swing.ImageIcon(getClass().getResource("/img/icon1.png"))); // NOI18N
77     jLabel6.setText("    Chat Application");
78
```

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```
79  javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
80  jPanel1.setLayout(jPanel1Layout);
81  jPanel1Layout.setHorizontalGroup(
82      jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
83      .addGroup(jPanel1Layout.createSequentialGroup()
84          .addContainerGap()
85          .addComponent(jLabel6, javax.swing.GroupLayout.PREFERRED_SIZE, 486, javax.swing.GroupLayout.PREFERRED_SIZE)
86          .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
87      );
88  jPanel1Layout.setVerticalGroup(
89      jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
90      .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel1Layout.createSequentialGroup()
91          .addContainerGap()
92          .addComponent(jLabel6, javax.swing.GroupLayout.PREFERRED_SIZE, 96, Short.MAX_VALUE))
93      );
94
95  jPanel2.setBorder(javax.swing.BorderFactory.createTitledBorder(""));
96
97  btnSignup.setText("Signup");
98  btnSignup.addMouseListener(new java.awt.event.MouseAdapter() {
99      public void mouseClicked(java.awt.event.MouseEvent evt) {
100         btnSignupMouseClicked(evt);
101     }
102 });
103
104  jLabel3.setText("Password");
105
106  jLabel4.setText("Email");
107
108  signupEmail.addActionListener(new java.awt.event.ActionListener() {
109      public void actionPerformed(java.awt.event.ActionEvent evt) {
110         signupEmailActionPerformed(evt);
111     }
112 });
113
114  jLabel5.setText("Name");
115
```

```

116     signupErrorLabel.setText("New User PleaseSignup!");
117
118     javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
119     jPanel2.setLayout(jPanel2Layout);
120     jPanel2Layout.setHorizontalGroup(
121         jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
122             .addGroup(jPanel2Layout.createSequentialGroup()
123                 .addGap()
124                 .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
125                     .addComponent(btnSignup, javax.swing.GroupLayout.DEFAULT_SIZE, 224, Short.MAX_VALUE)
126                     .addGroup(jPanel2Layout.createSequentialGroup()
127                         .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
128                             .addComponent(jLabel3)
129                             .addComponent(jLabel5)
130                             .addComponent(jLabel4))
131                         .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
132                         .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
133                             .addComponent(signupEmail)
134                             .addComponent(signupPassword)
135                             .addComponent(signupName)))
136                     .addGroup(jPanel2Layout.createSequentialGroup()
137                         .addComponent(signupErrorLabel)
138                         .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
139                         .addGap(0, 0, Short.MAX_VALUE)))
140                 .addGap())
141             .addGroup(jPanel2Layout.createSequentialGroup()
142                 .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
143                     .addGroup(jPanel2Layout.createSequentialGroup()
144                         .addGap(37, 37, 37)
145                         .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
146                             .addComponent(jLabel4)
147                             .addComponent(signupEmail, javax.swing.GroupLayout.PREFERRED_SIZE, 32, javax.swing.GroupLayout.PREFERRED_SIZE))
148                         .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
149                         .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
150                             .addComponent(jLabel3)
151                             .addComponent(signupPassword, javax.swing.GroupLayout.PREFERRED_SIZE, 32, javax.swing.GroupLayout.PREFERRED_SIZE)))

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```
152         .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
153         .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
154             .addComponent(jLabel5)
155             .addComponent(signupName, javax.swing.GroupLayout.PREFERRED_SIZE, 32, javax.swing.GroupLayout.PREFERRED_SIZE))
156         .addGap(11, 11, 11)
157         .addComponent(signupErrorLabel)
158         .addGap(18, 18, 18)
159         .addComponent(btnSignup, javax.swing.GroupLayout.PREFERRED_SIZE, 35, javax.swing.GroupLayout.PREFERRED_SIZE)
160         .addContainerGap()
161     );
162
163     btnSignup.setAccessibleContext().setAccessibleName("signupButton");
164     signupEmail.setAccessibleContext().setAccessibleName("signupEmail");
165     signupPassword.setAccessibleContext().setAccessibleName("signupPassword");
166     signupName.setAccessibleContext().setAccessibleName("signupName");
167
168     jPanel3.setBorder(javax.swing.BorderFactory.createTitledBorder(""));
169     jPanel3.setPreferredSize(new java.awt.Dimension(225, 239));
170
171     jLabel1.setText("Email");
172
173     loginEmail.addActionListener(new java.awt.event.ActionListener() {
174         public void actionPerformed(java.awt.event.ActionEvent evt) {
175             loginEmailActionPerformed(evt);
176         }
177     });
178
179     jLabel2.setText("Password");
180
181     loginPassword.addActionListener(new java.awt.event.ActionListener() {
182         public void actionPerformed(java.awt.event.ActionEvent evt) {
183             loginPasswordActionPerformed(evt);
184         }
185     });
186
187     buttonLogin.setText("Login");
188     buttonLogin.addMouseListener(new java.awt.event.MouseAdapter() {
```

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189     public void mouseClicked(java.awt.event.MouseEvent evt) {
190         buttonLoginMouseClicked(evt);
191     }
192 });
193 buttonLogin.addActionListener(new java.awt.event.ActionListener() {
194     public void actionPerformed(java.awt.event.ActionEvent evt) {
195         buttonLoginActionPerformed(evt);
196     }
197 });
198
199 loginErrorLabel.setText("Returning User Please Login!");
200
201 javax.swing.GroupLayout jPanel3Layout = new javax.swing.GroupLayout(jPanel3);
202 jPanel3.setLayout(jPanel3Layout);
203 jPanel3Layout.setHorizontalGroup(
204     jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
205         .addGroup(jPanel3Layout.createSequentialGroup()
206             .add(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
207                 .add(jPanel3Layout.createSequentialGroup()
208                     .add(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
209                         .add(jPanel3Layout.createSequentialGroup()
210                             .add(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
211                                 .add(jPanel3Layout.createSequentialGroup()
212                                     .add(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
213                                         .add(jPanel3Layout.createSequentialGroup()
214                                             .add(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
215                                                 .add(jPanel3Layout.createSequentialGroup()
216                                                     .add(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
217                                                         .add(jPanel3Layout.createSequentialGroup()
218                                                             .add(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
219                                                                 .add(jPanel3Layout.createSequentialGroup()
220                                                                     .add(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
221                                                                         .add(jPanel3Layout.createSequentialGroup()
222                                                                             .add(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
223                                     .add(jPanel3Layout.createSequentialGroup()

```

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```
224 jPanel3Layout.setVerticalGroup(
225     jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
226     .addGroup(jPanel3Layout.createSequentialGroup())
227         .addGap(57, 57, 57)
228         .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
229             .addComponent(jLabel1)
230             .addComponent(loginEmail, javax.swing.GroupLayout.PREFERRED_SIZE, 32, javax.swing.GroupLayout.PREFERRED_SIZE))
231         .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
232         .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
233             .addComponent(jLabel2)
234             .addComponent(loginPassword, javax.swing.GroupLayout.PREFERRED_SIZE, 32, javax.swing.GroupLayout.PREFERRED_SIZE))
235         .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
236         .addComponent(loginErrorLabel)
237         .addGap(18, 18, 18)
238         .addComponent(buttonLogin, javax.swing.GroupLayout.PREFERRED_SIZE, 35, javax.swing.GroupLayout.PREFERRED_SIZE)
239         .addContainerGap())
240 );
241
242 loginEmail.getAccessibleContext().setAccessibleName("loginEmail");
243 loginPassword.getAccessibleContext().setAccessibleName("loginPassword");
244 buttonLogin.getAccessibleContext().setAccessibleName("loginButton");
245
246 javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
247 getContentPane().setLayout(layout);
248 layout.setHorizontalGroup(
249     layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
250     .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createSequentialGroup())
251         .addGap(12, 12, 12)
252         .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
253             .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE, 501, Short.MAX_VALUE)
254             .addGroup(layout.createSequentialGroup()
255                 .addComponent(jPanel2, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
256                 .addGap(18, 18, 18)
257                 .addComponent(jPanel3, javax.swing.GroupLayout.DEFAULT_SIZE, 243, Short.MAX_VALUE)))
258         .addGap(14, 14, 14))
```

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```
259     );
260     layout.setVerticalGroup(
261         layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
262         .addGroup(layout.createSequentialGroup())
263             .addGap(12, 12, 12)
264             .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
265             .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
266             .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
267                 .addComponent(jPanel2, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
268                 .addComponent(jPanel3, javax.swing.GroupLayout.DEFAULT_SIZE, 235, Short.MAX_VALUE))
269             .addContainerGap())
270     );
271
272     pack();
273 }// </editor-fold>//GEN-END:initComponents
274
275 private void loginPasswordActionPerformed(java.awt.event.ActionEvent evt) { //GEN-FIRST:event_loginPasswordActionPerformed
276     // TODO add your handling code here:
277 }//GEN-LAST:event_loginPasswordActionPerformed
278
279 private void buttonLoginActionPerformed(java.awt.event.ActionEvent evt) { //GEN-FIRST:event_buttonLoginActionPerformed
280     // TODO add your handling code here:
281 }//GEN-LAST:event_buttonLoginActionPerformed
282
283 private void loginEmailActionPerformed(java.awt.event.ActionEvent evt) { //GEN-FIRST:event_loginEmailActionPerformed
284     // TODO add your handling code here:
285 }//GEN-LAST:event_loginEmailActionPerformed
286
287 private void signupEmailActionPerformed(java.awt.event.ActionEvent evt) { //GEN-FIRST:event_signupEmailActionPerformed
288     // TODO add your handling code here:
289 }//GEN-LAST:event_signupEmailActionPerformed
290
291 /**
292  * buttonLoginMouseClicked()
293  * This method handles when the User Login
294  * @param evt
```



## Login.java

```
295  */
296  private void buttonLoginMouseClicked(java.awt.event.MouseEvent evt) {GEN-FIRST:event_buttonLoginMouseClicked
297      // TODO add your handling code here:
298
299      String email = loginEmail.getText();
300      String password = String.valueOf(loginPassword.getPassword());
301      System.out.println(email + " " + password);
302
303      if(email.isEmpty() || password.length() == 0) {
304
305          if(email.isEmpty()) {
306              loginErrorLabel.setText("Please Enter Email to login");
307          }
308          else if(password.length() == 0) {
309              loginErrorLabel.setText("Please Enter Password to login");
310          }
311          return;
312      }
313      else {
314
315          loginErrorLabel.setText("Login In !");
316      }
317
318      ClientService clientService = ClientService.getInstance();
319      clientService.login(email, password);
320
321      Thread threadLogin = new Thread("LoginThread") {
322
323          @Override
324          public void run() {
325
326              int retry = 0;
327
328              while(true) {
329
330                  retry += 1;
331
```

## Login.java

```
332     if(clientService.getqSignupLoginLogoutDataPacket().size() > 0) {
333         DataPacket loginACKDataPacket = clientService.getqSignupLoginLogoutDataPacket().poll();
334         System.out.println("Received Packet = " + loginACKDataPacket);
335         clientService.getClient().setPassword("");
336         switch (loginACKDataPacket.getAction()) {
337
338             case DataPacket.ACTION_TYPE_LOGIN_SUCCESS:
339                 System.out.println("Login Success!");
340                 loginErrorLabel.setText(loginACKDataPacket.getMessage());
341
342                 Client client = clientService.getClient();
343                 ChatScreen chatScreen = new ChatScreen(client, clientService);
344                 chatScreen.setVisible(true);
345                 Login.getInstance().setVisible(false);
346                 break;
347
348             case DataPacket.ACTION_TYPE_LOGIN_FAILED:
349
350                 System.out.println("Login Failed!");
351                 loginErrorLabel.setText(loginACKDataPacket.getMessage());
352                 break;
353         }
354
355         break;
356     }
357
358     try {
359         Thread.sleep(500);
360     }
361     catch(Exception e) {
362         e.printStackTrace();
363     }
364
365     if(retry % 5 == 0) {
366         clientService.login(email, password);
367     }
368 }
```

```

369         }
370
371     }
372 }
373
374 };
375
376     threadLogin.start();
377 }//GEN-LAST:event_buttonLoginMouseClicked
378
379 /**
380  * btnSignupMouseClicked()
381  * This method handles the User SIGNUP
382  * @param evt
383  */
384 private void btnSignupMouseClicked(java.awt.event.MouseEvent evt) { //GEN-FIRST:event_btnSignupMouseClicked
385     // TODO add your handling code here:
386
387     String email = signupEmail.getText();
388     String password = String.valueOf(signupPassword.getPassword());
389     System.out.println(email + " " + password);
390
391     if(email.isEmpty() || password.length() == 0) {
392
393         if(email.isEmpty()) {
394             signupErrorLabel.setText("Please Enter Email to login");
395         }
396         else if(password.length() == 0) {
397             signupErrorLabel.setText("Please Enter Password to login");
398         }
399         return;
400     }
401     else {
402
403         signupErrorLabel.setText("Signing Up !");
404     }
405 }

```

```

406 ClientService clientService = ClientService.getInstance();
407 clientService.signup(email, password);
408
409 Thread signupThread = new Thread("SignupThread") {
410
411     @Override
412     public void run() {
413
414         int retry = 0;
415
416         while(true) {
417
418             retry += 1;
419
420             if(clientService.getqSignupLoginLogoutDataPacket().size() > 0) {
421                 DataPacket signupACKDataPacket = clientService.getqSignupLoginLogoutDataPacket().poll();
422                 System.out.println("Received Packet = " + signupACKDataPacket);
423                 clientService.getClient().setPassword("");
424                 switch (signupACKDataPacket.getAction()) {
425
426                     case DataPacket.ACTION_TYPE_LOGIN_SUCCESS:
427                         System.out.println("Signup Success!");
428                         signupErrorLabel.setText(signupACKDataPacket.getMessage());
429
430                         Client client = clientService.getClient();
431                         ChatScreen chatScreen = new ChatScreen(client, clientService);
432                         chatScreen.setVisible(true);
433                         Login.getInstance().setVisible(false);
434                         break;
435
436                     case DataPacket.ACTION_TYPE_SIGNUP_FAILED:
437
438                         System.out.println("Signup Failed!");
439                         signupErrorLabel.setText(signupACKDataPacket.getMessage());
440                         break;
441                 }
442

```

```

443         break;
444     }
445
446     try {
447
448         Thread.sleep(500);
449     }
450     catch(Exception e) {
451         e.printStackTrace();
452     }
453
454     if(retry % 5 == 0) {
455
456         clientService.signup(email, password);
457     }
458
459     }
460 }
461
462 };
463
464     signupThread.start();
465 }//GEN-LAST:event_btnSignupMouseClicked
466
467 /**
468  * @param args the command line arguments
469  */
470 public static void main(String args[]) {
471     /* Set the Nimbus look and feel */
472     //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
473     /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
474      * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
475      */
476     try {
477         for (javax.swing.UIManager.LookAndFeelInfo info : javax.swing.UIManager.getInstalledLookAndFeels()) {
478             if ("Nimbus".equals(info.getName())) {
479                 javax.swing.UIManager.setLookAndFeel(info.getClassName());

```

```

480         break;
481     }
482 }
483 } catch (ClassNotFoundException ex) {
484     java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
485 } catch (InstantiationException ex) {
486     java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
487 } catch (IllegalAccessException ex) {
488     java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
489 } catch (javax.swing.UnsupportedLookAndFeelException ex) {
490     java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
491 }
492 //</editor-fold>
493
494 /* Create and display the form */
495 java.awt.EventQueue.invokeLater(new Runnable() {
496     public void run() {
497         new Login().setVisible(true);
498     }
499 });
500 }
501
502 // Variables declaration - do not modify//GEN-BEGIN:variables
503 private javax.swing.JButton btnSignup;
504 private javax.swing.JButton buttonLogin;
505 private javax.swing.JLabel jLabel1;
506 private javax.swing.JLabel jLabel2;
507 private javax.swing.JLabel jLabel3;
508 private javax.swing.JLabel jLabel4;
509 private javax.swing.JLabel jLabel5;
510 private javax.swing.JLabel jLabel6;
511 private javax.swing.JPanel jPanel1;
512 private javax.swing.JPanel jPanel2;
513 private javax.swing.JPanel jPanel3;
514 private javax.swing.JTextField loginEmail;
515 private javax.swing.JLabel loginErrorLabel;
516 private javax.swing.JPasswordField loginPassword;

```

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```
517 private javax.swing.JTextField signupEmail;  
518 private javax.swing.JLabel signupErrorLabel;  
519 private javax.swing.JTextField signupName;  
520 private javax.swing.JPasswordField signupPassword;  
521 // End of variables declaration//GEN-END:variables  
522  
523 }  
524
```