

TUGAS JURNAL
KONSTRUKSI PERANGKAT LUNAK
MODUL XV



Disusun Oleh:
Maria Nathasya Desfera Pangestu
2211104008
SE0601

Dosen Pengampu:
Yudha Islami Sulistya, S.Kom., M.Cs.

PROGRAM STUDI S1 REKAYASA PERANGKAT LUNAK
FAKULTAS INFORMATIKA
TELKOM UNIVERSITY PURWOKERTO
2025

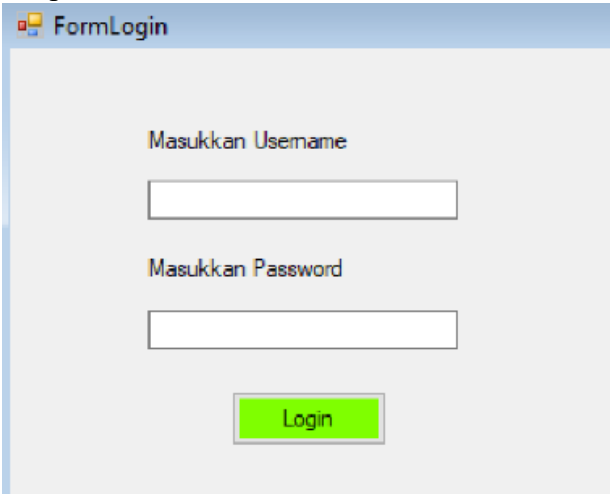
Tugas Jurnal

1. Source code

FormLogin.cs

```
1  using System;
2  using System.Collections.Generic;
3  using System.ComponentModel;
4  using System.Data;
5  using System.Drawing;
6  using System.Linq;
7  using System.Text;
8  using System.Threading.Tasks;
9  using System.Windows.Forms;
10
11
12  1 reference
13  public partial class FormLogin: Form
14  {
15      0 references
16      public FormLogin()
17      {
18          InitializeComponent();
19
20      0 references
21      private void btnLogin_Click(object sender, EventArgs e)
22      {
23          string username = txtUsernameLogin.Text;
24          string password = txtPasswordLogin.Text;
25
26          if (AuthHelper.CheckLogin(username, password))
27          {
28              MessageBox.Show("Login berhasil!", "Sukses", MessageBoxButtons.OK, MessageBoxIcon.Information);
29              // TODO: buka form utama aplikasi
30          }
31          else
32          {
33              MessageBox.Show("Username atau password salah!", "Gagal", MessageBoxButtons.OK, MessageBoxIcon.Error);
34          }
35      }
36
37      0 references
38      private void FormLogin_Load(object sender, EventArgs e)
39      {
40      }
41
42      0 references
43      private void label1_Click(object sender, EventArgs e)
44      {
45      }
46
47      0 references
48      private void label1_Click_1(object sender, EventArgs e)
49      {
50      }
51  }
```

Output



FormLogin.Designer.cs

```

1  partial class FormLogin
2  {
3      /// <summary>
4      /// Required designer variable.
5      /// </summary>
6      2 references
7      private System.ComponentModel.IContainer components = null;
8
9      /// <summary>
10     /// Clean up any resources being used.
11     /// </summary>
12     /// <param name="disposing">true if managed resources should be disposed; otherwise, false.</param>
13     0 references
14     protected override void Dispose(bool disposing)
15     {
16         if (disposing && (components != null))
17         {
18             components.Dispose();
19         }
20         base.Dispose(disposing);
21     }
22
23     #region Windows Form Designer generated code
24
25     /// <summary>
26     /// Required method for Designer support - do not modify
27     /// the contents of this method with the code editor.
28     /// </summary>
29     0 references
30     private void InitializeComponent()
31     {
32         this.txtUsernameLogin = new System.Windows.Forms.TextBox();
33         this.txtPasswordLogin = new System.Windows.Forms.TextBox();
34         this.btnLogin = new System.Windows.Forms.Button();
35         this.label1 = new System.Windows.Forms.Label();
36         this.label2 = new System.Windows.Forms.Label();
37         this.SuspendLayout();
38         //
39         // txtUsernameLogin
40         //
41         this.txtUsernameLogin.Location = new System.Drawing.Point(70, 67);
42         this.txtUsernameLogin.Name = "txtUsernameLogin";
43         this.txtUsernameLogin.Size = new System.Drawing.Size(157, 20);
44         this.txtUsernameLogin.TabIndex = 0;
45         //
46         // txtPasswordLogin
47         //
48         this.txtPasswordLogin.Location = new System.Drawing.Point(70, 133);
49         this.txtPasswordLogin.Name = "txtPasswordLogin";
50         this.txtPasswordLogin.Size = new System.Drawing.Size(157, 20);
51         this.txtPasswordLogin.TabIndex = 1;
52         this.txtPasswordLogin.UseSystemPasswordChar = true;
53         //
54         // btnLogin
55         //
56         this.btnLogin.BackColor = System.Drawing.Color.Chartreuse;
57         this.btnLogin.Location = new System.Drawing.Point(112, 174);
58         this.btnLogin.Name = "btnLogin";
59         this.btnLogin.Size = new System.Drawing.Size(79, 28);
60         this.btnLogin.TabIndex = 2;
61         this.btnLogin.Text = "Login";
62         this.btnLogin.UseVisualStyleBackColor = false;
63         this.btnLogin.Click += new System.EventHandler(this.btnLogin_Click);
64         //

```

```

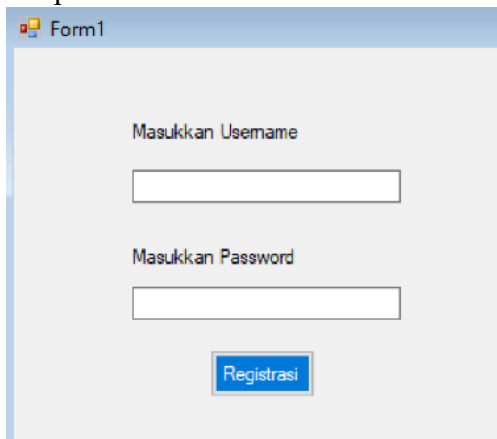
62 // label1
63 //
64 this.label1.AutoSize = true;
65 this.label1.Location = new System.Drawing.Point(67, 40);
66 this.label1.Name = "label1";
67 this.label1.Size = new System.Drawing.Size(108, 13);
68 this.label1.TabIndex = 3;
69 this.label1.Text = "Masukkan Username";
70 this.label1.Click += new System.EventHandler(this.label1_Click_1);
71 //
72 // label2
73 //
74 this.label2.AutoSize = true;
75 this.label2.Location = new System.Drawing.Point(67, 105);
76 this.label2.Name = "label2";
77 this.label2.Size = new System.Drawing.Size(106, 13);
78 this.label2.TabIndex = 4;
79 this.label2.Text = "Masukkan Password";
80 //
81 // FormLogin
82 //
83 this.AutoScaleDimensions = new System.Drawing.SizeF(6F, 13F);
84 this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;
85 this.ClientSize = new System.Drawing.Size(800, 450);
86 this.Controls.Add(this.label2);
87 this.Controls.Add(this.label1);
88 this.Controls.Add(this.btnLogin);
89 this.Controls.Add(this.txtPasswordLogin);
90 this.Controls.Add(this.txtUsernameLogin);
91 this.Name = "FormLogin";
92 this.Text = "FormLogin";
93 this.Load += new System.EventHandler(this.FormLogin_Load);
94 this.ResumeLayout(false);
95 this.PerformLayout();
96
97 }
98
99 #endregion
100
101 6 references
102 private System.Windows.Forms.TextBox txtUsernameLogin;
103 7 references
104 private System.Windows.Forms.TextBox txtPasswordLogin;
105 10 references
106 private System.Windows.Forms.Button btnLogin;
107 9 references
108 private System.Windows.Forms.Label label1;
109 8 references
110 private System.Windows.Forms.Label label2;

```

FormRegister.cs

```
1  using System;
2  using System.Collections.Generic;
3  using System.ComponentModel;
4  using System.Data;
5  using System.Drawing;
6  using System.Linq;
7  using System.Text;
8  using System.Threading.Tasks;
9  using System.Windows.Forms;
10
11  1 reference
12  public partial class FormRegister: Form
13  {
14      0 references
15      public FormRegister()
16      {
17          InitializeComponent();
18      }
19
20      0 references
21      private void FormRegister_Load(object sender, EventArgs e)
22      {
23      }
24
25      0 references
26      private void btnRegister_Click(object sender, EventArgs e)
27      {
28          string username = txtUsername.Text;
29          string password = txtPassword.Text;
30
31          if (!AuthHelper.IsValidInput(username, password, out string error))
32          {
33              MessageBox.Show(error, "Error", MessageBoxButtons.OK, MessageBoxIcon.Error);
34              return;
35          }
36
37          string hashed = AuthHelper.HashPassword(password);
38          AuthHelper.SaveUser(new User { Username = username, PasswordHash = hashed });
39
40          MessageBox.Show("Registrasi berhasil!", "Info", MessageBoxButtons.OK, MessageBoxIcon.Information);
41          this.Hide();
42          FormLogin loginForm = new FormLogin();
43          loginForm.Show();
44      }
45
46      0 references
47      private void label1_Click(object sender, EventArgs e)
48      {
49      }
50  }
```

Output



The screenshot shows a Windows application window titled "Form1". Inside the window, there is a registration form. It consists of two text input fields. The first field is labeled "Masukkan Username" and the second field is labeled "Masukkan Password". Below these fields is a blue button with the text "Registrasi".

FormRegister.Designer.cs

```

0 references
1 partial class FormRegister
2 {
3     /// <summary>
4     /// Required designer variable.
5     /// </summary>
6     2 references
7     private System.ComponentModel.IContainer components = null;
8
9     /// <summary>
10    /// Clean up any resources being used.
11    /// </summary>
12    /// <param name="disposing">true if managed resources should be disposed; otherwise, false.</param>
13    0 references
14    protected override void Dispose(bool disposing)
15    {
16        if (disposing && (components != null))
17        {
18            components.Dispose();
19        }
20        base.Dispose(disposing);
21    }
22
23    #region Windows Form Designer generated code
24
25    /// <summary>
26    /// Required method for Designer support - do not modify
27    /// the contents of this method with the code editor.
28    /// </summary>
29    0 references
30    private void InitializeComponent()
31    {
32        this.txtUsername = new System.Windows.Forms.TextBox();
33        this.txtPassword = new System.Windows.Forms.TextBox();
34        this.btnRegister = new System.Windows.Forms.Button();
35        this.label1 = new System.Windows.Forms.Label();
36        this.label2 = new System.Windows.Forms.Label();
37        this.SuspendLayout();
38        //
39        // txtUsername
40        //
41        this.txtUsername.Location = new System.Drawing.Point(72, 74);
42        this.txtUsername.Name = "txtUsername";
43        this.txtUsername.Size = new System.Drawing.Size(163, 20);
44        this.txtUsername.TabIndex = 0;
45        //
46        // txtPassword
47        //
48        this.txtPassword.Location = new System.Drawing.Point(72, 145);
49        this.txtPassword.Name = "txtPassword";
50        this.txtPassword.Size = new System.Drawing.Size(163, 20);
51        this.txtPassword.TabIndex = 1;
52        this.txtPassword.UseSystemPasswordChar = true;
53        //
54        // btnRegister
55        //
56        this.btnRegister.BackColor = System.Drawing.SystemColors.Highlight;
57        this.btnRegister.ForeColor = System.Drawing.SystemColors.ButtonHighlight;
58        this.btnRegister.Location = new System.Drawing.Point(119, 183);
59        this.btnRegister.Name = "btnRegister";
60        this.btnRegister.Size = new System.Drawing.Size(64, 29);
61        this.btnRegister.TabIndex = 2;
62        this.btnRegister.Text = "Registrasi";
63        this.btnRegister.UseVisualStyleBackColor = false;
64        this.btnRegister.Click += new System.EventHandler(this.btnRegister_Click);
65        //

```

```

62 //
63 // label1
64 //
65 this.label1.AutoSize = true;
66 this.label1.Location = new System.Drawing.Point(69, 120);
67 this.label1.Name = "label1";
68 this.label1.Size = new System.Drawing.Size(106, 13);
69 this.label1.TabIndex = 3;
70 this.label1.Text = "Masukkan Password";
71 this.label1.Click += new System.EventHandler(this.label1_Click);
72 //
73 // label2
74 //
75 this.label2.AutoSize = true;
76 this.label2.Location = new System.Drawing.Point(69, 44);
77 this.label2.Name = "label2";
78 this.label2.Size = new System.Drawing.Size(108, 13);
79 this.label2.TabIndex = 4;
80 this.label2.Text = "Masukkan Username";
81 //
82 // FormRegister
83 //
84 this.AutoScaleDimensions = new System.Drawing.SizeF(6F, 13F);
85 this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;
86 this.ClientSize = new System.Drawing.Size(800, 450);
87 this.Controls.Add(this.label2);
88 this.Controls.Add(this.label1);
89 this.Controls.Add(this.btnRegister);
90 this.Controls.Add(this.txtPassword);
91 this.Controls.Add(this.txtUsername);
92 this.Name = "FormRegister";
93 this.Text = "Form1";
94 this.Load += new System.EventHandler(this.FormRegister_Load);
95 this.ResumeLayout(false);
96 this.PerformLayout();
97
98
99
100 #endregion
101
102 6 references
103 private System.Windows.Forms.TextBox txtUsername;
104 7 references
105 private System.Windows.Forms.TextBox txtPassword;
106 11 references
107 private System.Windows.Forms.Button btnRegister;
108 9 references
109 private System.Windows.Forms.Label label1;
110 8 references
111 private System.Windows.Forms.Label label2;
112 }

```

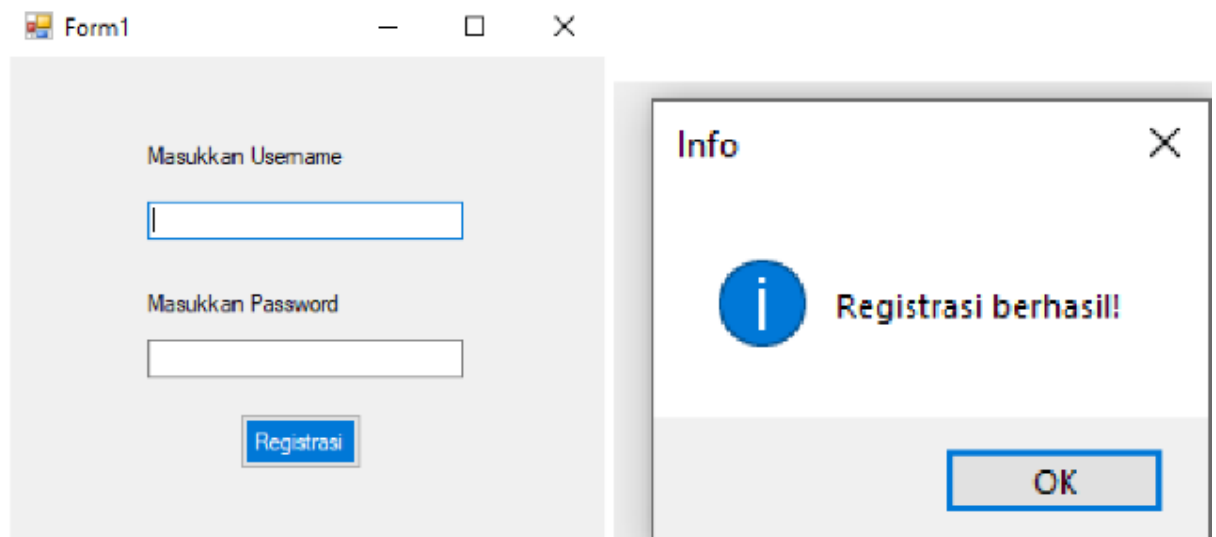
Program.cs

```
1 using System;
2 using System.Collections.Generic;
3 using System.Linq;
4 using System.Threading.Tasks;
5 using System.Windows.Forms;
6
7 0 references
8  static class Program
9  {
10     /// <summary>
11     /// The main entry point for the application.
12     /// </summary>
13     [STAThread]
14     0 references
15     static void Main()
16     {
17         Application.EnableVisualStyles();
18         Application.SetCompatibleTextRenderingDefault(false);
19         Application.Run(new FormRegister());
20     }
21 }
```

User.cs

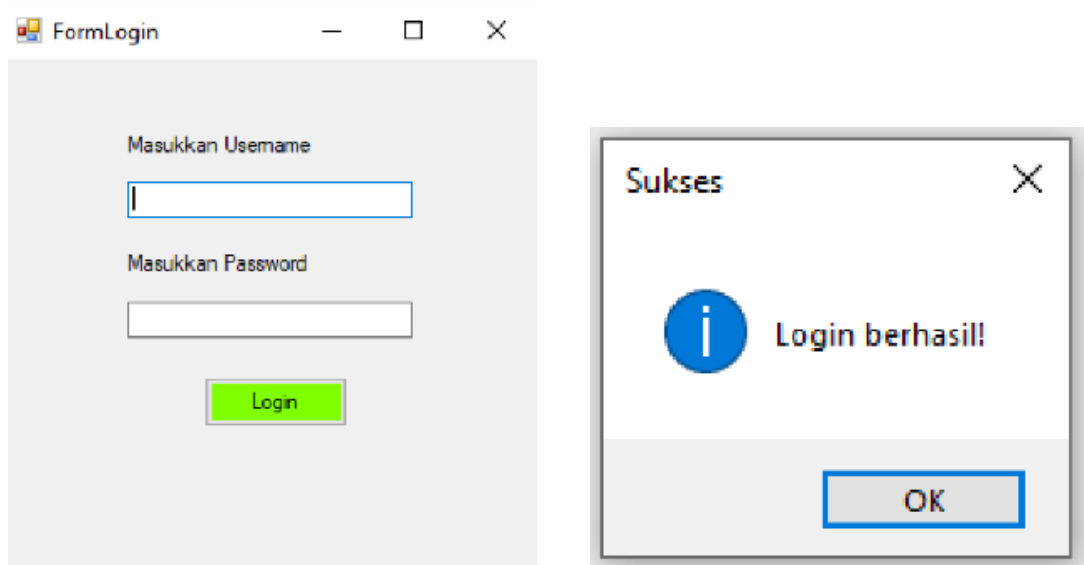
```
1 0 references
2 public class User
3 {
4     0 references
5     public string Username { get; set; }
6     0 references
7     public string PasswordHash { get; set; }
8 }
9
```

2. Output



The screenshot displays two windows from a Windows application. The first window, titled 'Form1', is a registration form with a light gray background. It contains two text input fields: the first is labeled 'Masukkan Username' and the second is labeled 'Masukkan Password'. Below these fields is a blue button with the text 'Registrasi'. The second window, titled 'Info', is a small dialog box with a white background and a gray border. It features a blue information icon (an 'i' inside a circle) on the left and the text 'Registrasi berhasil!' on the right. At the bottom right of the dialog is a button labeled 'OK'.

Ini adalah output form register



Ini output form login

3. Penjelasan

Kode ini merupakan sebuah aplikasi desktop yang dibangun dengan Windows Forms (WinForms) menggunakan bahasa C#. Aplikasi ini menyediakan fitur untuk registrasi dan login pengguna. Kelas FrmRegister bertanggung jawab atas proses pendaftaran; ketika pengguna mengisi kolom txtUsername dan txtPassword, lalu mengklik tombol Register, event btnRegister_Click akan diaktifkan. Di sisi lain, kelas FrmLogin mengelola proses masuk; ketika pengguna mengisi kolom txtUsernameLogin dan txtPasswordLogin, dan mengklik tombol Login, event btnLogin_Click akan dijalankan. Aplikasi ini memungkinkan pengguna untuk membuat akun dan mengakses sistem dengan tingkat keamanan dasar melalui penggunaan hashing password. Logika bisnis, termasuk validasi dan penyimpanan akun, ditangani oleh kelas terpisah yang bernama AuthHelper.