

TUGAS JURNAL
KONSTRUKSI PERANGKAT LUNAK
MODUL XV



Disusun Oleh:

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2211104009

SE0601

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PROGRAM STUDI S1 REKAYASA PERANGKAT LUNAK
FAKULTAS INFORMATIKA
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Source Code frmlogin.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 namespace modul15_2211104009
12 {
13     public partial class FrmLogin: Form
14     {
15         public FrmLogin()
16         {
17             InitializeComponent();
18         }
19
20         private void btnLogin_Click(object sender, EventArgs e)
21         {
22             string username = txtUsernameLogin.Text;
23             string password = txtPasswordLogin.Text;
24
25             if (AuthHelper.CheckLogin(username, password))
26             {
27                 MessageBox.Show("Login berhasil!", "Sukses", MessageBoxButtons.OK, MessageBoxIcon.Information);
28                 // TODO: buka form utama aplikasi
29             }
30             else
31             {
32                 MessageBox.Show("Username atau password salah!", "Gagal", MessageBoxButtons.OK, MessageBoxIcon.Error);
33             }
34         }
35
36         private void FrmLogin_Load(object sender, EventArgs e)
37         {
38         }
39
40         private void label1_Click(object sender, EventArgs e)
41         {
42         }
43
44         private void label1_Click_1(object sender, EventArgs e)
45         {
46         }
47     }
48 }
49
50
51 }
```

Source Code frmlogin.designer.cs

```
1 namespace modul15_2211104009
2 {
3     partial class FrmLogin
4     {
5         /// <summary>
6         /// Required designer variable.
7         /// </summary>
8         private System.ComponentModel.IContainer components = null;
9
10        /// <summary>
11        /// Clean up any resources being used.
12        /// </summary>
13        /// <param name="disposing">true if managed resources should be disposed; otherwise, false.</param>
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        private void InitializeComponent()
30        {
31            this.txtUsernameLogin = new System.Windows.Forms.TextBox();
32            this.txtPasswordLogin = new System.Windows.Forms.TextBox();
33            this.btnLogin = new System.Windows.Forms.Button();
34            this.label1 = new System.Windows.Forms.Label();
35            this.label2 = new System.Windows.Forms.Label();
36            this.SuspendLayout();
37            //
38            // txtUsernameLogin
39            //
40            this.txtUsernameLogin.Location = new System.Drawing.Point(70, 67);
41            this.txtUsernameLogin.Name = "txtUsernameLogin";
42            this.txtUsernameLogin.Size = new System.Drawing.Size(157, 20);
43            this.txtUsernameLogin.TabIndex = 0;
44            //
45            // txtPasswordLogin
46            //
47            this.txtPasswordLogin.Location = new System.Drawing.Point(70, 133);
48            this.txtPasswordLogin.Name = "txtPasswordLogin";
49            this.txtPasswordLogin.Size = new System.Drawing.Size(157, 20);
50            this.txtPasswordLogin.TabIndex = 1;
51            this.txtPasswordLogin.UseSystemPasswordChar = true;
52            //
53            // btnLogin
54            //
55            this.btnLogin.BackColor = System.Drawing.Color.Chartreuse;
56            this.btnLogin.Location = new System.Drawing.Point(112, 174);
57            this.btnLogin.Name = "btnLogin";
58            this.btnLogin.Size = new System.Drawing.Size(79, 20);
59            this.btnLogin.TabIndex = 2;
60            this.btnLogin.Text = "Login";
61            this.btnLogin.UseVisualStyleBackColor = false;
62            this.btnLogin.Click += new System.EventHandler(this.btnLogin_Click);
63            //
64            // label1
65            //
66            this.label1.AutoSize = true;
67            this.label1.Location = new System.Drawing.Point(67, 40);
68            this.label1.Name = "label1";
69            this.label1.Size = new System.Drawing.Size(108, 13);
70            this.label1.TabIndex = 3;
71            this.label1.Text = "Masukkan Username";
72            this.label1.Click += new System.EventHandler(this.label1_Click_1);
73            //
74            // label2
75            //
76            this.label2.AutoSize = true;
77            this.label2.Location = new System.Drawing.Point(67, 105);
78            this.label2.Name = "label2";
79            this.label2.Size = new System.Drawing.Size(106, 13);
80            this.label2.TabIndex = 4;
81            this.label2.Text = "Masukkan Password";
82            //
83            // FrmLogin
84            //
85            this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.None;
86            this.AutoScaleDimensions = new System.Drawing.SizeF(6F, 13F);
87            this.ClientSize = new System.Drawing.Size(800, 450);
88            this.Controls.Add(this.label2);
89            this.Controls.Add(this.label1);
90            this.Controls.Add(this.btnLogin);
91            this.Controls.Add(this.txtPasswordLogin);
92            this.Controls.Add(this.txtUsernameLogin);
93            this.Name = "FrmLogin";
94            this.Text = "FrmLogin";
95            this.Load += new System.EventHandler(this.FrmLogin_Load);
96            this.ResumeLayout(false);
97            this.PerformLayout();
98        }
99
100        #endregion
101
102        private System.Windows.Forms.TextBox txtUsernameLogin;
103        private System.Windows.Forms.TextBox txtPasswordLogin;
104        private System.Windows.Forms.Button btnLogin;
105        private System.Windows.Forms.Label label1;
106        private System.Windows.Forms.Label label2;
107    }
108 }
109 }
```

Source Code frmregister.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 namespace modul15_2211104009
12 {
13     public partial class FrmRegister: Form
14     {
15         public FrmRegister()
16         {
17             InitializeComponent();
18         }
19
20         private void FrmRegister_Load(object sender, EventArgs e)
21         {
22
23         }
24
25         private void btnRegister_Click(object sender, EventArgs e)
26         {
27             string username = txtUsername.Text;
28             string password = txtPassword.Text;
29
30             if (!AuthHelper.IsValidInput(username, password, out string error))
31             {
32                 MessageBox.Show(error, "Error", MessageBoxButtons.OK, MessageBoxIcon.Error);
33                 return;
34             }
35
36             string hashed = AuthHelper.HashPassword(password);
37             AuthHelper.SaveUser(new User { Username = username, PasswordHash = hashed });
38
39             MessageBox.Show("Registrasi berhasil!", "Info", MessageBoxButtons.OK, MessageBoxIcon.Information);
40             this.Hide();
41             FormLogin loginForm = new FormLogin();
42             loginForm.Show();
43         }
44
45         private void label1_Click(object sender, EventArgs e)
46         {
47
48         }
49     }
50 }
```

Source code frmregister,designer.cs

```
1 namespace modul15_2211104009
2 {
3     partial class FrmRegister
4     {
5         /// <summary>
6         /// Required designer variable.
7         /// </summary>
8         private System.ComponentModel.IContainer components = null;
9
10        /// <summary>
11        /// Clean up any resources being used.
12        /// </summary>
13        /// <param name="disposing">true if managed resources should be disposed; otherwise, false.</param>
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        private void InitializeComponent()
30        {
31            this.txtUsername = new System.Windows.Forms.TextBox();
32            this.txtPassword = new System.Windows.Forms.TextBox();
33            this.btnRegister = new System.Windows.Forms.Button();
34            this.label1 = new System.Windows.Forms.Label();
35            this.label2 = new System.Windows.Forms.Label();
36            this.SuspendLayout();
37            //
38            // txtUsername
39            //
40            this.txtUsername.Location = new System.Drawing.Point(72, 74);
41            this.txtUsername.Name = "txtUsername";
42            this.txtUsername.Size = new System.Drawing.Size(163, 20);
43            this.txtUsername.TabIndex = 0;
44            //
45            // txtPassword
46            //
47            this.txtPassword.Location = new System.Drawing.Point(72, 145);
48            this.txtPassword.Name = "txtPassword";
49            this.txtPassword.Size = new System.Drawing.Size(163, 20);
50            this.txtPassword.TabIndex = 1;
51            this.txtPassword.UseSystemPasswordChar = true;
52            //
53            // btnRegister
54            //
55            this.btnRegister.BackColor = System.Drawing.SystemColors.Highlight;
56            this.btnRegister.ForeColor = System.Drawing.SystemColors.ButtonHighlight;
57            this.btnRegister.Location = new System.Drawing.Point(119, 183);
58            this.btnRegister.Name = "btnRegister";
59            this.btnRegister.Size = new System.Drawing.Size(64, 29);
60            this.btnRegister.TabIndex = 2;
61            this.btnRegister.Text = "Registrasi!";
62            this.btnRegister.UseVisualStyleBackColor = false;
63            this.btnRegister.Click += new System.EventHandler(this.btnRegister_Click);
64            //
65            // label1
66            //
67            this.label1.AutoSize = true;
68            this.label1.Location = new System.Drawing.Point(69, 120);
69            this.label1.Name = "label1";
70            this.label1.Size = new System.Drawing.Size(106, 13);
71            this.label1.TabIndex = 3;
72            this.label1.Text = "Masukkan Password";
73            this.label1.Click += new System.EventHandler(this.label1_Click);
74            //
75            // label2
76            //
77            this.label2.AutoSize = true;
78            this.label2.Location = new System.Drawing.Point(69, 44);
79            this.label2.Name = "label2";
80            this.label2.Size = new System.Drawing.Size(108, 13);
81            this.label2.TabIndex = 4;
82            this.label2.Text = "Masukkan Username";
83            //
84            // FrmRegister
85            //
86            this.AutoScaleDimensions = new System.Drawing.SizeF(6F, 13F);
87            this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;
88            this.ClientSize = new System.Drawing.Size(800, 450);
89            this.Controls.Add(this.label2);
90            this.Controls.Add(this.label1);
91            this.Controls.Add(this.btnRegister);
92            this.Controls.Add(this.txtPassword);
93            this.Controls.Add(this.txtUsername);
94            this.Name = "FrmRegister";
95            this.Text = "Form1";
96            this.Load += new System.EventHandler(this.FrmRegister_Load);
97            this.ResumeLayout(false);
98            this.PerformLayout();
99
100    }
101
102    #endregion
103
104    private System.Windows.Forms.TextBox txtUsername;
105    private System.Windows.Forms.TextBox txtPassword;
106    private System.Windows.Forms.Button btnRegister;
107    private System.Windows.Forms.Label label1;
108    private System.Windows.Forms.Label label2;
109 }
110 ;
```

Source code program.cs

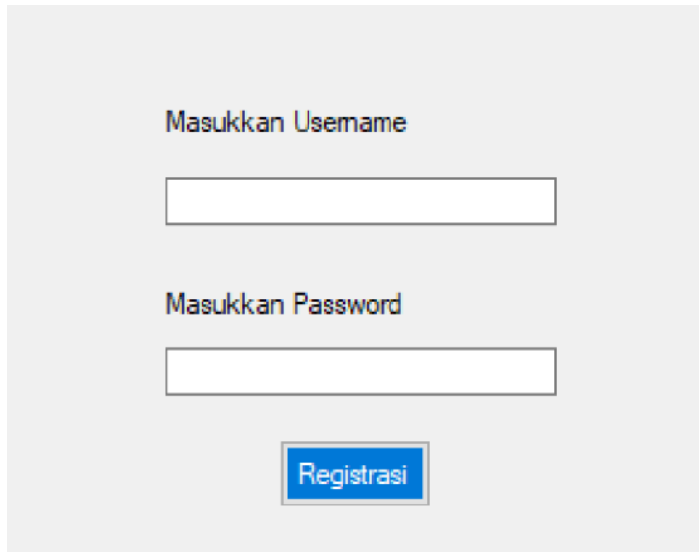
```
15_Review_Tugas_Besar > JURNAL > Program.cs
1  using System;
2  using System.Collections.Generic;
3  using System.Linq;
4  using System.Threading.Tasks;
5  using System.Windows.Forms;
6
7  namespace modul15_2211104009
8  {
9      static class Program
10     {
11         /// <summary>
12         /// The main entry point for the application.
13         /// </summary>
14         [STAThread]
15         static void Main()
16         {
17             Application.EnableVisualStyles();
18             Application.SetCompatibleTextRenderingDefault(false);
19             Application.Run(new FrmRegister());
20         }
21     }
22 }
```

Source Code user.cs

```
15_Review_Tugas_Besar > JURNAL > user.cs
1  namespace modul15_2211104009
2  {
3      public class User
4      {
5          public string Username { get; set; }
6          public string PasswordHash { get; set; }
7      }
8  }
```

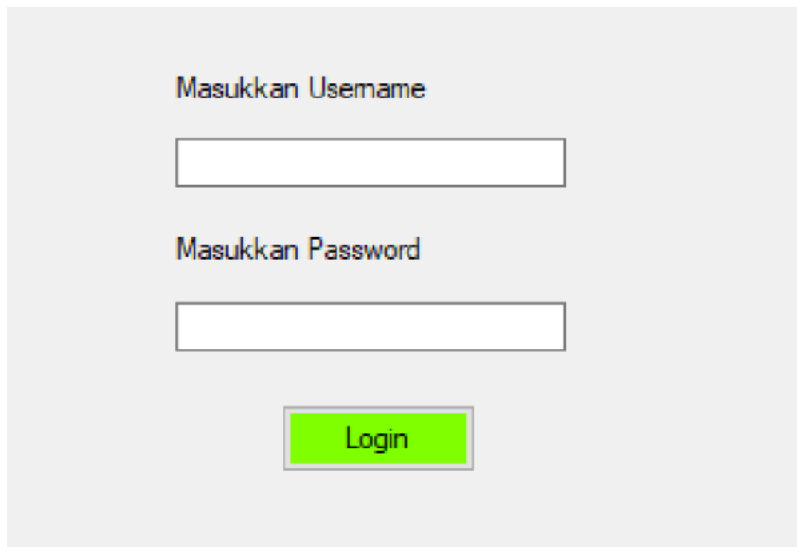
Hasil output

Frmregister



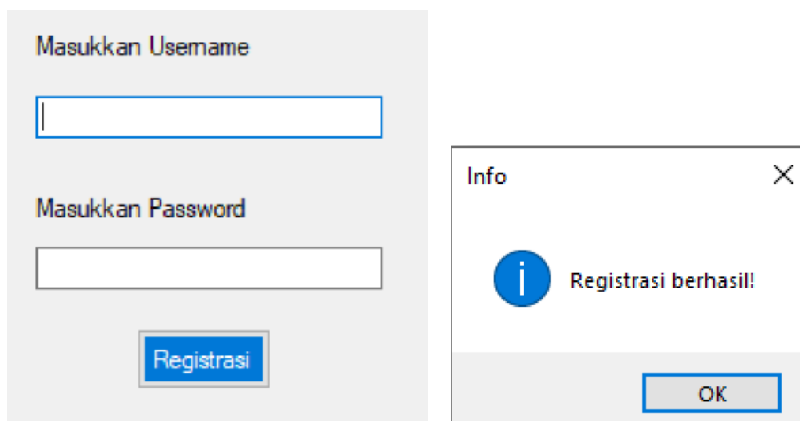
A screenshot of a registration form titled 'Frmregister'. It features a light gray background. At the top, the text 'Masukkan Uername' is displayed above a white text input field. Below this, the text 'Masukkan Password' is displayed above another white text input field. At the bottom center, there is a blue button with the text 'Registrasi' in white.

Frmlogin



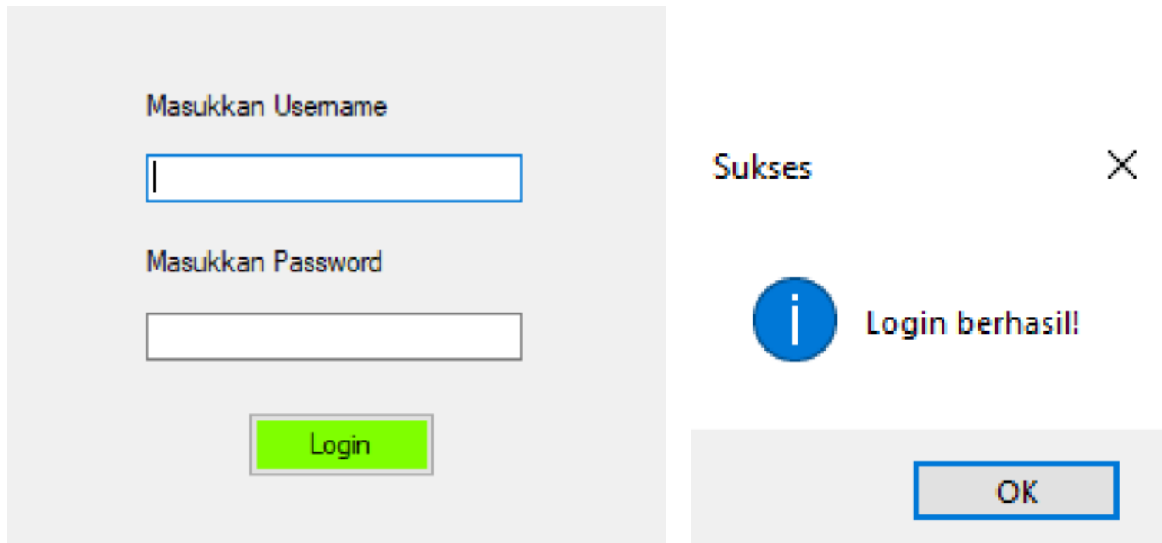
A screenshot of a login form titled 'Frmlogin'. It features a light gray background. At the top, the text 'Masukkan Uername' is displayed above a white text input field. Below this, the text 'Masukkan Password' is displayed above another white text input field. At the bottom center, there is a green button with the text 'Login' in black.

Regsitrasi



A screenshot showing the registration form and a success message dialog. The registration form on the left has the text 'Masukkan Uername' above a text input field and 'Masukkan Password' above another text input field. A blue button labeled 'Registrasi' is at the bottom. To the right, an 'Info' dialog box is open, displaying a blue information icon and the text 'Registrasi berhasil!'. The dialog has a close button (X) in the top right corner and an 'OK' button at the bottom.

Login



The image shows two windows from a Windows Forms application. The left window is a login form with a light gray background. It contains two text boxes: the top one is labeled 'Masukkan Username' and the bottom one is labeled 'Masukkan Password'. Below the password box is a green button labeled 'Login'. The right window is a smaller dialog box titled 'Sukses' with a close button (X) in the top right corner. It features a blue circular icon with a white 'i' and the text 'Login berhasil!'. At the bottom of the dialog is an 'OK' button.

Penjelasan

Kodenya implementasi aplikasi desktop berbasis Windows Forms (WinForms) dalam bahasa C# yang memiliki fitur registrasi dan login pengguna, menggunakan kelas bantu (AuthHelper) untuk validasi input dan pengelolaan data akun

Kelas FrmRegister menangani proses registrasi pengguna. Ketika pengguna mengisi txtUsername dan txtPassword, lalu mengklik tombol Register, event btnRegister_Click akan dijalankan

Kelas FrmLogin menangani proses login pengguna. Saat pengguna mengisi txtUsernameLogin dan txtPasswordLogin, lalu klik tombol Login, event btnLogin_Click akan dijalankan

Program ini menerapkan form login dan registrasi sederhana, di mana pengguna dapat membuat akun dan masuk ke sistem. Keamanan dasar dijaga dengan penggunaan password hash, dan logika bisnis seperti validasi dan penyimpanan akun dilakukan di kelas terpisah AuthHelper (tidak ditampilkan dalam kode ini).

Penjelasan

Kodenya implementasi Web API sederhana menggunakan ASP.NET Core, yang berfungsi untuk mengelola data mahasiswa. API ini dibuat dalam controller bernama MahasiswaController yang berada dalam namespace modul14_2211104009.Controllers. Controller ini menggunakan atribut [ApiController] dan [Route("api/[controller]")] untuk mengatur rute otomatis ke endpoint api/mahasiswa.

Di dalam controller terdapat kelas model Mahasiswa yang memiliki dua properti: Nama dan Nim. Data mahasiswa disimpan dalam list statis _mahasiswaList, yang sudah diisi secara default dengan beberapa objek mahasiswa, termasuk mahasiswa bernama "Lintang".

Terdapat empat endpoint utama dalam controller ini:

1. GET api/mahasiswa: Mengembalikan seluruh data mahasiswa dalam bentuk list menggunakan method GetAllMahasiswa().
2. GET api/mahasiswa/{id}: Mengambil data mahasiswa berdasarkan index (id). Jika id tidak valid (kurang dari 0 atau melebihi jumlah data), maka akan mengembalikan status *404 Not Found*.
3. POST api/mahasiswa: Menambahkan data mahasiswa baru dari body permintaan menggunakan method AddMahasiswa(). Setelah berhasil, API mengembalikan status *201 Created* beserta data yang ditambahkan.
4. DELETE api/mahasiswa/{id}: Menghapus data mahasiswa berdasarkan index. Jika id valid, data akan dihapus dan mengembalikan *204 No Content*, jika tidak valid maka akan mengembalikan *404 Not Found*.