

JURNAL
KONSTRUKSI PERANGKAT LUNAK
MODUL 15



Oleh :

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2211104019
SE0601

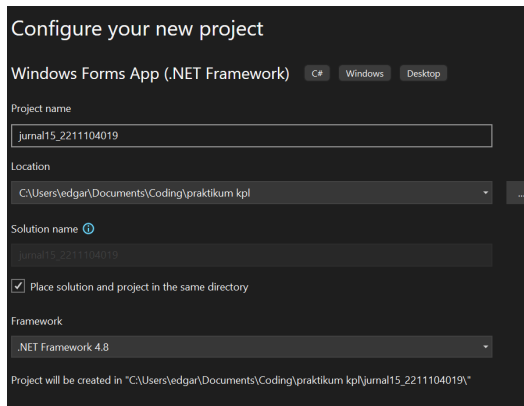
PROGRAM STUDI S1 SOFTWARE ENGINEERING

FAKULTAS INFORMATIKA

TELKOM UNIVERSITY PURWOKERTO

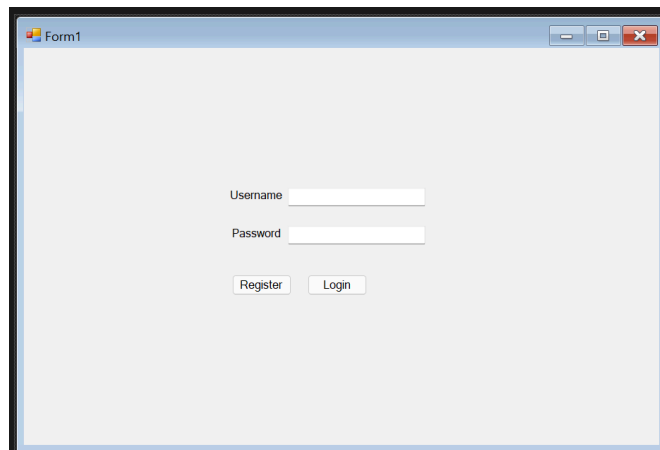
2025

1. Membuat project baru
Jurnal15_2211104015



2. Membuat fitur
 - a. Registrasi user

GUI :



Code :

```

namespace modul15_2211104019
{
    4 references
    partial class RegisterForm
    {
        /// <summary>
        /// Required designer variable.
        /// </summary>
        private System.ComponentModel.IContainer components = null;

        /// <summary>
        /// Clean up any resources being used.
        /// </summary>
        /// <param name="disposing">true if managed resources should be disposed; otherwise, false.</param>
        protected override void Dispose(bool disposing)
        {
            if (disposing && (components != null))
            {
                components.Dispose();
            }
            base.Dispose(disposing);
        }

        #region Windows Form Designer generated code

        /// <summary>
        /// Required method for Designer support - do not modify
        /// the contents of this method with the code editor.
        /// </summary>
        private void InitializeComponent()
        {
            this.btnRegister = new System.Windows.Forms.Button();
            this.btnToLogin = new System.Windows.Forms.Button();
            this.txtUsernameReg = new System.Windows.Forms.TextBox();
            this.txtPasswordReg = new System.Windows.Forms.TextBox();
            this.label1 = new System.Windows.Forms.Label();
            this.label2 = new System.Windows.Forms.Label();
            this.SuspendLayout();
        }
    }
}

```

```

private void InitializeComponent()
{
    this.btnRegister = new System.Windows.Forms.Button();
    this.btnToLogin = new System.Windows.Forms.Button();
    this.txtUsernameReg = new System.Windows.Forms.TextBox();
    this.txtPasswordReg = new System.Windows.Forms.TextBox();
    this.label1 = new System.Windows.Forms.Label();
    this.label2 = new System.Windows.Forms.Label();
    this.SuspendLayout();
    //
    // btnRegister
    //
    this.btnRegister.Location = new System.Drawing.Point(295, 321);
    this.btnRegister.Margin = new System.Windows.Forms.Padding(3, 4, 3, 4);
    this.btnRegister.Name = "btnRegister";
    this.btnRegister.Size = new System.Drawing.Size(84, 29);
    this.btnRegister.TabIndex = 0;
    this.btnRegister.Text = "Register";
    this.btnRegister.UseVisualStyleBackColor = true;
    this.btnRegister.Click += new System.EventHandler(this.btnRegister_Click);
    //
    // btnToLogin
    //
    this.btnToLogin.Location = new System.Drawing.Point(402, 321);
    this.btnToLogin.Margin = new System.Windows.Forms.Padding(3, 4, 3, 4);
    this.btnToLogin.Name = "btnToLogin";
    this.btnToLogin.Size = new System.Drawing.Size(84, 29);
    this.btnToLogin.TabIndex = 1;
    this.btnToLogin.Text = "Login";
    this.btnToLogin.UseVisualStyleBackColor = true;
    this.btnToLogin.Click += new System.EventHandler(this.btnToLogin_Click);
    //
    // txtUsernameReg
    //
    this.txtUsernameReg.Location = new System.Drawing.Point(374, 198);
    this.txtUsernameReg.Margin = new System.Windows.Forms.Padding(3, 4, 3, 4);
    this.txtUsernameReg.Name = "txtUsernameReg";
    this.txtUsernameReg.Size = new System.Drawing.Size(195, 26);
    this.txtUsernameReg.TabIndex = 2;
    //

```

```

    // txtPasswordReg
    //
    this.txtPasswordReg.Location = new System.Drawing.Point(374, 252);
    this.txtPasswordReg.Margin = new System.Windows.Forms.Padding(3, 4, 3, 4);
    this.txtPasswordReg.Name = "txtPasswordReg";
    this.txtPasswordReg.PasswordChar = '*';
    this.txtPasswordReg.Size = new System.Drawing.Size(195, 26);
    this.txtPasswordReg.TabIndex = 3;
    //
    // label1
    //
    this.label1.AutoSize = true;
    this.label1.Location = new System.Drawing.Point(288, 198);
    this.label1.Name = "label1";
    this.label1.Size = new System.Drawing.Size(83, 20);
    this.label1.TabIndex = 4;
    this.label1.Text = "Username";
    //
    // label2
    //
    this.label2.AutoSize = true;
    this.label2.Location = new System.Drawing.Point(291, 252);
    this.label2.Name = "label2";
    this.label2.Size = new System.Drawing.Size(78, 20);
    this.label2.TabIndex = 5;
    this.label2.Text = "Password";
    //
    // RegisterForm
    //

```

```

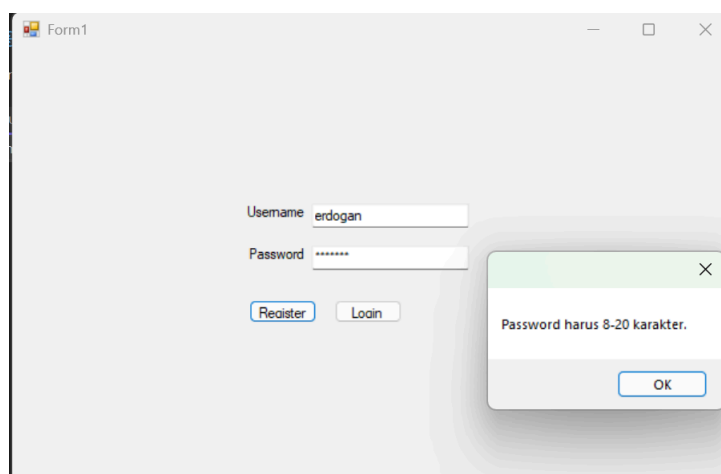
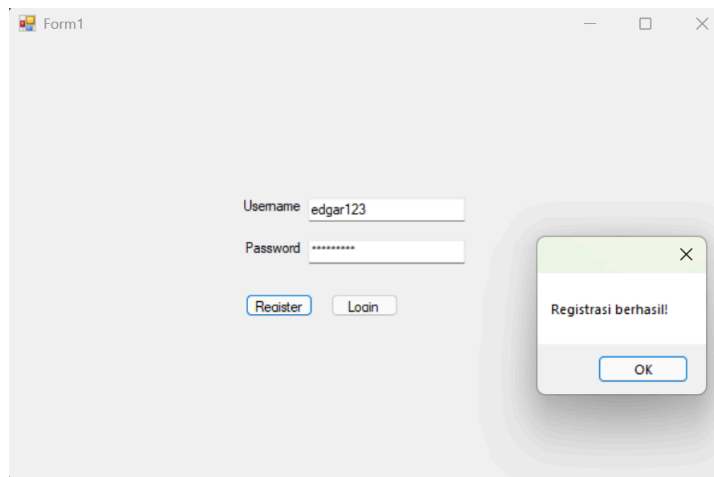
        this.Label2.Text = Password;
        //
        // RegisterForm
        //
        this.AutoScaleMode = new System.Drawing.SizeF(9F, 20F);
        this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;
        this.ClientSize = new System.Drawing.Size(900, 562);
        this.Controls.Add(this.Label2);
        this.Controls.Add(this.Label1);
        this.Controls.Add(this.txtPasswordReg);
        this.Controls.Add(this.txtUsernameReg);
        this.Controls.Add(this.btnToLogin);
        this.Controls.Add(this.btnRegister);
        this.Margin = new System.Windows.Forms.Padding(3, 4, 3, 4);
        this.Name = "RegisterForm";
        this.Text = "Form1";
        this.ResumeLayout(false);
        this.PerformLayout();
    }

    #endregion

    private System.Windows.Forms.Button btnRegister;
    private System.Windows.Forms.Button btnToLogin;
    private System.Windows.Forms.TextBox txtUsernameReg;
    private System.Windows.Forms.TextBox txtPasswordReg;
    private System.Windows.Forms.Label label1;
    private System.Windows.Forms.Label label2;
}

```

Hasil run
jika berhasil



b. Login

Form1

Username

Password

Register

```

modul15_2211104019
namespace modul15_2211104019
{
    5 references
    partial class LoginForm
    {
        /// <summary>
        /// Required designer variable.
        /// </summary>
        private System.ComponentModel.IContainer components = null;

        /// <summary>
        /// Clean up any resources being used.
        /// </summary>
        /// <param name="disposing">true if managed resources should be disposed; otherwise, false.</param>
        0 references
        protected override void Dispose(bool disposing)
        {
            if (disposing && (components != null))
            {
                components.Dispose();
            }
            base.Dispose(disposing);
        }

        #region Windows Form Designer generated code
        /// <summary>
        /// Required method for Designer support - do not modify
        /// the contents of this method with the code editor.
        /// </summary>
        1 reference
        private void InitializeComponent()
        {
            this.txtUsernameLogin = new System.Windows.Forms.TextBox();
            this.txtPasswordLogin = new System.Windows.Forms.TextBox();
            this.btnLogin = new System.Windows.Forms.Button();
            this.lblUsername = new System.Windows.Forms.Label();
            this.lblPassword = new System.Windows.Forms.Label();
            this.btnToRegister = new System.Windows.Forms.Button();
            this.SuspendLayout();
            //
            // txtUsernameLogin
            //
            this.txtUsernameLogin.Location = new System.Drawing.Point(356, 162);
            this.txtUsernameLogin.Margin = new System.Windows.Forms.Padding(3, 4, 3, 4);
            this.txtUsernameLogin.Name = "txtUsernameLogin";
            this.txtUsernameLogin.Size = new System.Drawing.Size(182, 26);
            this.txtUsernameLogin.TabIndex = 0;
            //
            // txtPasswordLogin
            //
            this.txtPasswordLogin.Location = new
            this.txtPasswordLogin.Margin = new S (field) System.Windows.Forms.Label LoginForm.lblUsername
            this.txtPasswordLogin.Name = "txtPasswordLogin";
            this.txtPasswordLogin.PasswordChar = '*';
            this.txtPasswordLogin.Size = new System.Drawing.Size(190, 26);
            this.txtPasswordLogin.TabIndex = 1;
            //
            // btnLogin
            //
        }
    }
}

```

```

// lblUsername
//
this.lblUsername.AutoSize = true;
this.lblUsername.Location = new System.Drawing.Point(259, 162);
this.lblUsername.Name = "lblUsername";
this.lblUsername.Size = new System.Drawing.Size(83, 28);
this.lblUsername.TabIndex = 3;
this.lblUsername.Text = "Username";
//
// lblPassword
//
this.lblPassword.AutoSize = true;
this.lblPassword.Location = new System.Drawing.Point(264, 289);
this.lblPassword.Name = "lblPassword";
this.lblPassword.Size = new System.Drawing.Size(78, 28);
this.lblPassword.TabIndex = 4;
this.lblPassword.Text = "Password";
//
// btnToRegister
//
this.btnToRegister.Location = new System.Drawing.Point(356, 267);
this.btnToRegister.Margin = new System.Windows.Forms.Padding(3, 4, 3, 4);
this.btnToRegister.Name = "btnToRegister";
this.btnToRegister.Size = new System.Drawing.Size(84, 29);
this.btnToRegister.TabIndex = 5;
this.btnToRegister.Text = "Register";
this.btnToRegister.UseVisualStyleBackColor = true;
this.btnToRegister.Click += new System.EventHandler(this.btnToRegister_Click);
//
// LoginForm
//
this.AutoScaleDimensions = new System.Drawing.SizeF(9F, 28F);
this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;
this.ClientSize = new System.Drawing.Size(400, 362);
this.Controls.Add(this.btnToRegister);
this.Controls.Add(this.lblPassword);
this.Controls.Add(this.lblUsername);
this.Controls.Add(this.btnLogin);
this.Controls.Add(this.txtPasswordLogin);
this.Controls.Add(this.txtUsernameLogin);
this.Margin = new System.Windows.Forms.Padding(3, 4, 3, 4);
this.Name = "LoginForm";
this.Text = "Form1";
this.ResizeLayout(false);
this.PerformLayout();
}

#endregion

private System.Windows.Forms.TextBox txtUsernameLogin;
private System.Windows.Forms.TextBox txtPasswordLogin;
private System.Windows.Forms.Button btnLogin;
private System.Windows.Forms.Label lblUsername;
private System.Windows.Forms.Label lblPassword;
private System.Windows.Forms.Button btnToRegister;
}

```

```

// btnLogin
//
this.btnLogin.Location = new System.Drawing.Point(258, 287);
this.btnLogin.Margin = new System.Windows.Forms.Padding(3, 4, 3, 4);
this.btnLogin.Name = "btnLogin";
this.btnLogin.Size = new System.Drawing.Size(84, 29);
this.btnLogin.TabIndex = 2;
this.btnLogin.Text = "Login";
this.btnLogin.UseVisualStyleBackColor = true;
this.btnLogin.Click += new System.EventHandler(this.btnLogin_Click);
//
// lblUsername
//
this.lblUsername.AutoSize = true;
this.lblUsername.Location = new System.Drawing.Point(259, 162);
this.lblUsername.Name = "lblUsername";
this.lblUsername.Size = new System.Drawing.Size(83, 28);
this.lblUsername.TabIndex = 3;
this.lblUsername.Text = "Username";
//
// lblPassword
//
this.lblPassword.AutoSize = true;
this.lblPassword.Location = new System.Drawing.Point(264, 289);
this.lblPassword.Name = "lblPassword";
this.lblPassword.Size = new System.Drawing.Size(78, 28);
this.lblPassword.TabIndex = 4;
this.lblPassword.Text = "Password";
//
// btnToRegister
//
this.btnToRegister.Location = new System.Drawing.Point(356, 267);
this.btnToRegister.Margin = new System.Windows.Forms.Padding(3, 4, 3, 4);
this.btnToRegister.Name = "btnToRegister";
this.btnToRegister.Size = new System.Drawing.Size(84, 29);
this.btnToRegister.TabIndex = 5;
this.btnToRegister.Text = "Register";
this.btnToRegister.UseVisualStyleBackColor = true;
this.btnToRegister.Click += new System.EventHandler(this.btnToRegister_Click);
//
// LoginForm
//

```

```
//
this.lblPassword.AutoSize = true;
this.lblPassword.Location = new System.Drawing.Point(264, 289);
this.lblPassword.Name = "lblPassword";
this.lblPassword.Size = new System.Drawing.Size(78, 29);
this.lblPassword.TabIndex = 4;
this.lblPassword.Text = "Password";
//
// btnToRegister
//
this.btnToRegister.Location = new System.Drawing.Point(356, 287);
this.btnToRegister.Margin = new System.Windows.Forms.Padding(3, 4, 3, 4);
this.btnToRegister.Name = "btnToRegister";
this.btnToRegister.Size = new System.Drawing.Size(84, 29);
this.btnToRegister.TabIndex = 5;
this.btnToRegister.Text = "Register";
this.btnToRegister.UseVisualStyleBackColor = true;
this.btnToRegister.Click += new System.EventHandler(this.btnToRegister_Click);
//
// LoginForm
//
this.AutoScaleDimensions = new System.Drawing.SizeF(9F, 28F);
this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;
this.ClientSize = new System.Drawing.Size(900, 562);
this.Controls.Add(this.btnToRegister);
this.Controls.Add(this.lblPassword);
this.Controls.Add(this.txtUsername);
this.Controls.Add(this.txtPassword);
this.Controls.Add(this.txtUsernameLogin);
this.Controls.Add(this.txtPasswordLogin);
this.Margin = new System.Windows.Forms.Padding(3, 4, 3, 4);
this.Name = "LoginForm";
this.Text = "Form1";
this.ResumeLayout(false);
this.PerformLayout();
}







#endregion

private System.Windows.Forms.TextBox txtUsernameLogin;
private System.Windows.Forms.TextBox txtPasswordLogin;
private System.Windows.Forms.Button btnLogin;
private System.Windows.Forms.Label lblUsername;
private System.Windows.Forms.Label lblPassword;
private System.Windows.Forms.Button btnToRegister;
```

Penjelasan singkat :

Kode di atas merupakan desain antarmuka dari form login pada aplikasi Windows Forms C#. Form ini terdiri dari dua TextBox untuk input username dan password, dua Label sebagai keterangan, serta dua Button yaitu untuk login dan pindah ke form registrasi. Tombol-tombol tersebut memiliki event handler (btnLogin_Click dan btnToRegister_Click) yang nantinya akan diisi logika pemrosesan. Seluruh komponen diatur posisinya menggunakan properti seperti Location dan Size, dan form memiliki ukuran default 900x562 piksel.

- c. Membuat file json untuk menyimpan user bernama users.json

	modul15_2211104019.exe	6/12/2025 11:38 PM	Application	15 KB
	modul15_2211104019.exe.config	6/12/2025 6:51 PM	CONFIG File	1 KB
	modul15_2211104019.pdb	6/12/2025 11:38 PM	Program Debug Data...	58 KB
	Newtonsoft.Json.dll	6/12/2025 6:51 PM	Application extension	696 KB
	Newtonsoft.Json.xml	6/12/2025 6:51 PM	Microsoft Edge HTM...	697 KB
	users.json	6/12/2025 11:41 PM	JSON File	1 KB

3. Penerapan secure

Melakukan hash pada password yang akan disimpan di json

```
public static class SecurityHelper
{
    0 references
    public static string HashPassword(string password)
    {
        using (SHA256 sha256 = SHA256.Create())
        {
            byte[] input = Encoding.UTF8.GetBytes(password);
            byte[] hash = sha256.ComputeHash(input);
            return Convert.ToBase64String(hash);
        }
    }
}
```