
# Back End Development 1
# sesi 7

# OOP's Programming

# Case Study : Login Register C#

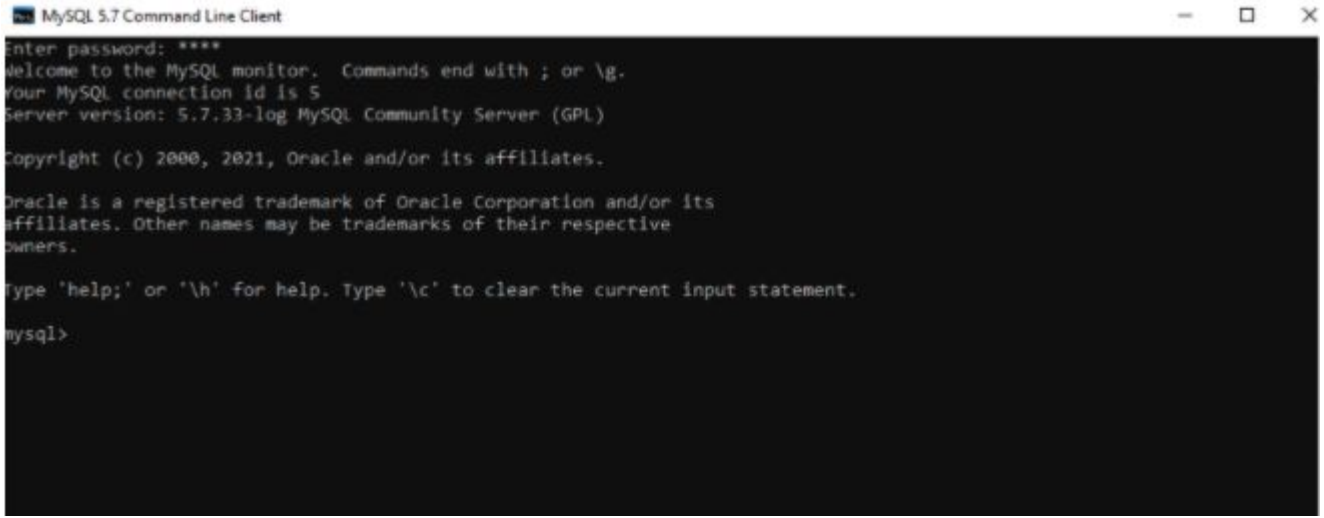
Pada sesi kali ini kita akan membuat login register dengan implementasi Winform dan database MySQL sederhana sekaligus menguji Paradigma OOP yang sudah kita pelajari di sesi sebelumnya.

Tentu sebagai tahap persiapan :

1. Visual Studio Community
2. Sql Server

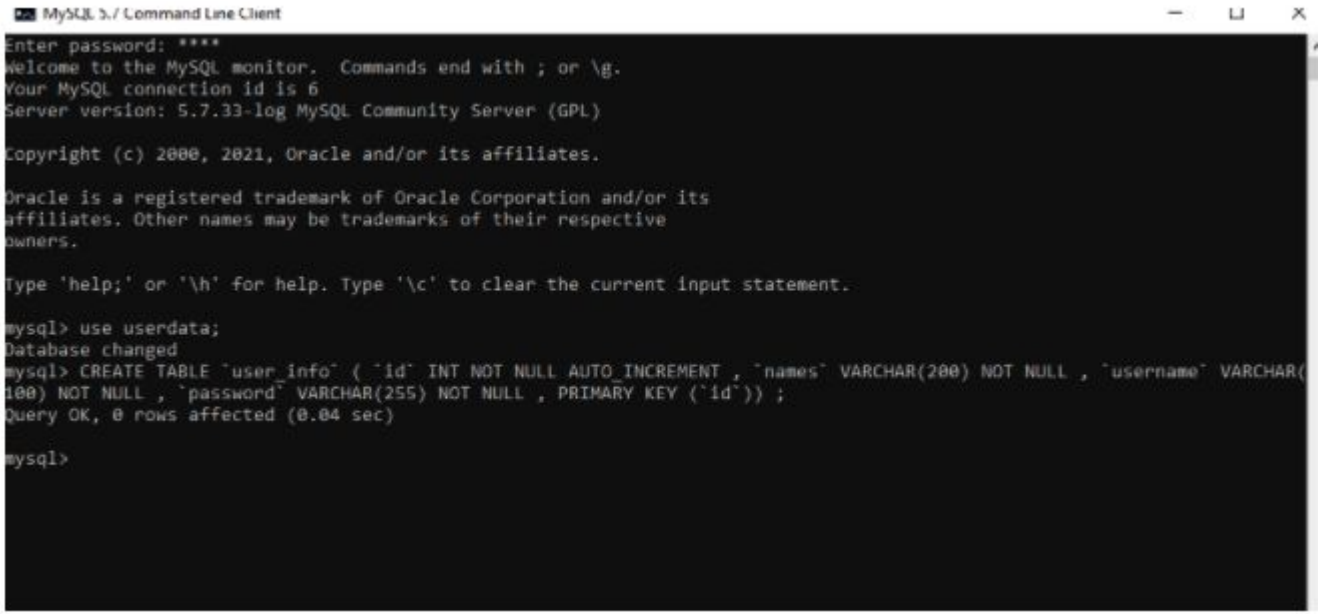
1) Buat Database dengan praktik Query

```
Create database userdata;
```



2) Buat Tabel Query

```
CREATE TABLE `user_info` ( `id` INT NOT NULL AUTO_INCREMENT ,
```

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3) Buat Projects

Buka Visual Studio project : `File -> New -> Project` , lalu pilih Visual C#.

Dari window, pilih Windows Forms App(.Net Framework).

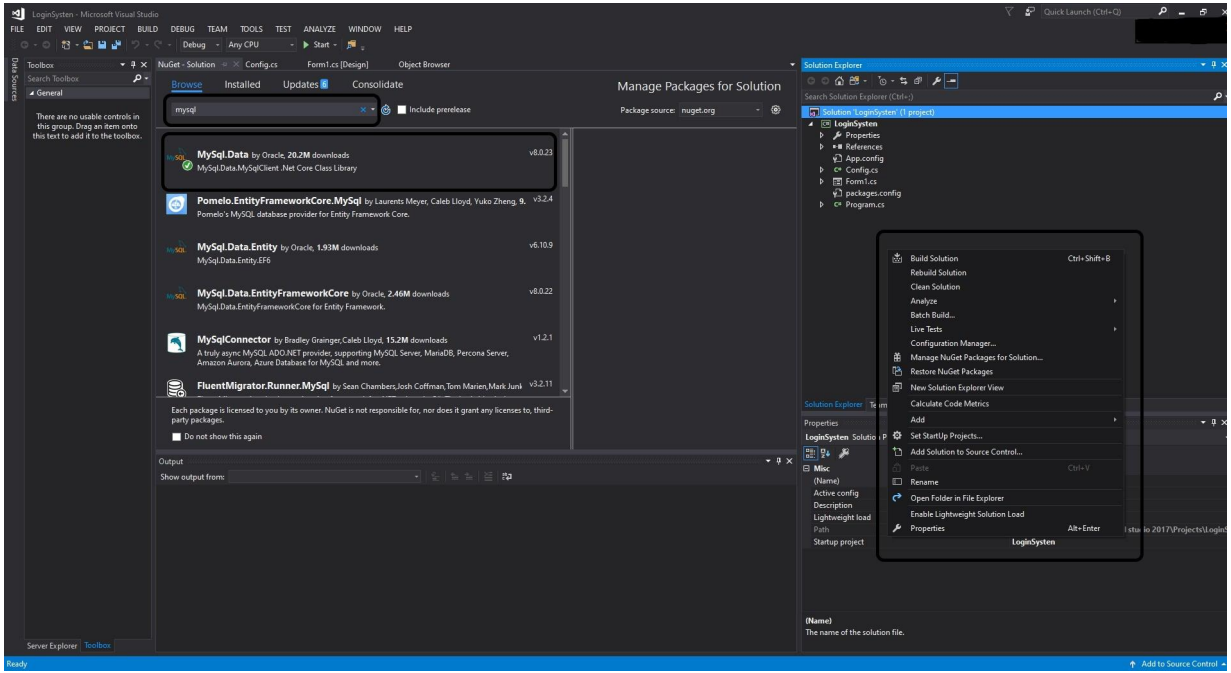
Beri nama pada aplikasi lalu pilih ok.

Project Form secara default akan bernama Form 1

4) Buat Class Config lalu execute queries MySQL

Klik Kanan pada  Solution Explorer lalu pilih add -> new item -> Class
Beri nama class = config.cs lalu klik tombol add

- Tambahkan Data library MySQL dengan klik-kanan di solution explorer lalu Manage Nuget Packages dan lakukan pencarian MySQL.Data Library dan pilih install

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4) Buat Class Config lalu execute queries MySQL

Klik Kanan pada  Solution Explorer lalu pilih add -> new item -> Class
Beri nama class = config.cs lalu klik tombol add

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using MySql.Data.MySqlClient;
//add this for MessageBox
using System.Windows.Forms;

// add data function classes
using System.Data;

namespace LoginSysten
{
    public class Config
    {
        string ConectionString = "";  // save connection string
        public MySqlConnection connection = null;
        public string server = "127.0.0.1";// MySQL host / ip of the computer
        public string user = "root";// MySQL user
        public string password = "manu";// MySQL password
        DataSet ds;
        DataTable dt;
        public string Table = "user_info"; // initialize db table
        public string ConnectionType = "";
        string RecordSource = "";

        DataGridView tempdata;

        public Config()
        {

        }
```

```
35      // function to connect to the database
36      public void Connect(string database_name)
37      {
38          try
39          {
40
41              ConectionString = "SERVER=" + server + ";" + "DATABASE=" + database_name + ";" + "UID=" + user + ";" + "PASSWORD=" + password + ";";
42
43              connection = new MySqlConnection(ConectionString);
44          }
45          catch (Exception E)
46          {
47              MessageBox.Show(E.Message);
48          }
49      }
50
51      // Function to execute select statements
52      public void ExecuteSql(string Sql_command)
53      {
54
55          nowquiee(Sql_command);
56
57      }
```

```
59          // creates connection to MySQL before execution
60          public void nowquiee(string sql_comm)
61          {
62              try
63              {
64                  MySqlConnection cs = new MySqlConnection(ConectionString);
65                  cs.Open();
66                  MySqlCommand myc = new MySqlCommand(sql_comm, cs);
67                  myc.ExecuteNonQuery();
68
69                  cs.Close();
70
71
72              }
73              catch (Exception err)
74              {
75
76                  MessageBox.Show(err.Message);
77              }
78          }
```

```
80          // function to execute delete , insert and update
81          public void Execute(string Sql_command)
82          {
83              RecordSource = Sql_command;
84              ConnectionType = Table;
85              dt = new DataTable(ConnectionType);
86              try
87              {
88                  string command = RecordSource.ToUpper();
89
90                  //======================if sql contains select=============================================
91                  MySqlDataAdapter da2 = new MySqlDataAdapter(RecordSource, connection);
92
93                  DataSet tempds = new DataSet();
94                  da2.Fill(tempds, ConnectionType);
95                  da2.Fill(tempds);
96
97                  //=================================================================================================
98
99
100             }
101             catch (Exception err) { MessageBox.Show(err.Message); }
102         }
103
104         // function to bring selected results based on column name and row index
105         public string Results(int ROW, string COLUMN_NAME)
106         {
107             try
108             {
109                 return dt.Rows[ROW][COLUMN_NAME].ToString();
110             }
111             catch (Exception err)
112             {
113                 MessageBox.Show(err.Message);
114                 return "";
115
116             }
117         }
```

```
119         // function to bring selected results based on column index and row index
120         public string Results(int ROW, int COLUMN_NAME)
121         {
122             try
123             {
124                 return dt.Rows[ROW][COLUMN_NAME].ToString();
125             }
126             catch (Exception err)
127             {
128                 MessageBox.Show(err.Message);
129                 return dt.Rows[ROW][COLUMN_NAME].ToString();
130 
131             }
132         }
133 
134         // Execute select statement
135         public void ExecuteSelect(string Sql_command)
136         {
137             RecordSource = Sql_command;
138             ConnectionType = Table;
139 
140             dt = new DataTable(ConnectionType);
141             try
142             {
143                 string command = RecordSource.ToUpper();
144                 MySqlDataAdapter da = new MySqlDataAdapter(RecordSource, connection);
145                 ds = new DataSet();
146                 da.Fill(ds, ConnectionType);
147                 da.Fill(dt);
148                 tempdata = new DataGridView();
149             }
150             catch (Exception err)
151             {
152                 MessageBox.Show(err.Message);
153             }
154 
155 
156         }
```

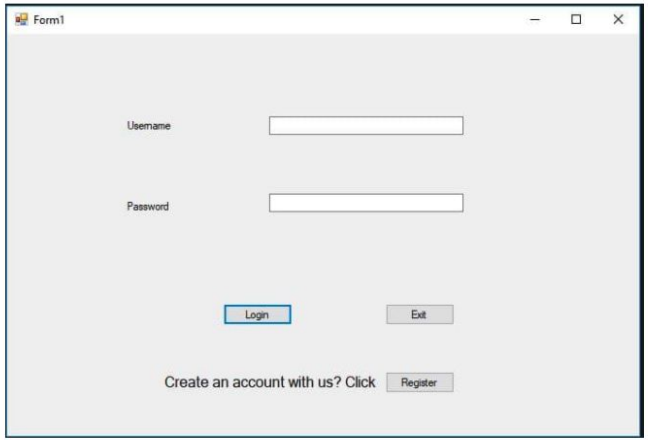
```
158         // count Number of rows after selecy
159         public int Count()
160         {
161             return dt.Rows.Count;
162         }
163     }
164 }
165
```

5) Buat Register windows form,

Di Microsoft Visual Studio, buat project baru,
Pilih project -> Add Windows Form dari file submenu di sebelah kiri dan beri naama form = register lalu klik add.

Sekarang kita punya 2 Form yaitu
- Form1.cs dan Register.cs

Lalu Lanjutkan untuk design tampilan login dan register



Login Form

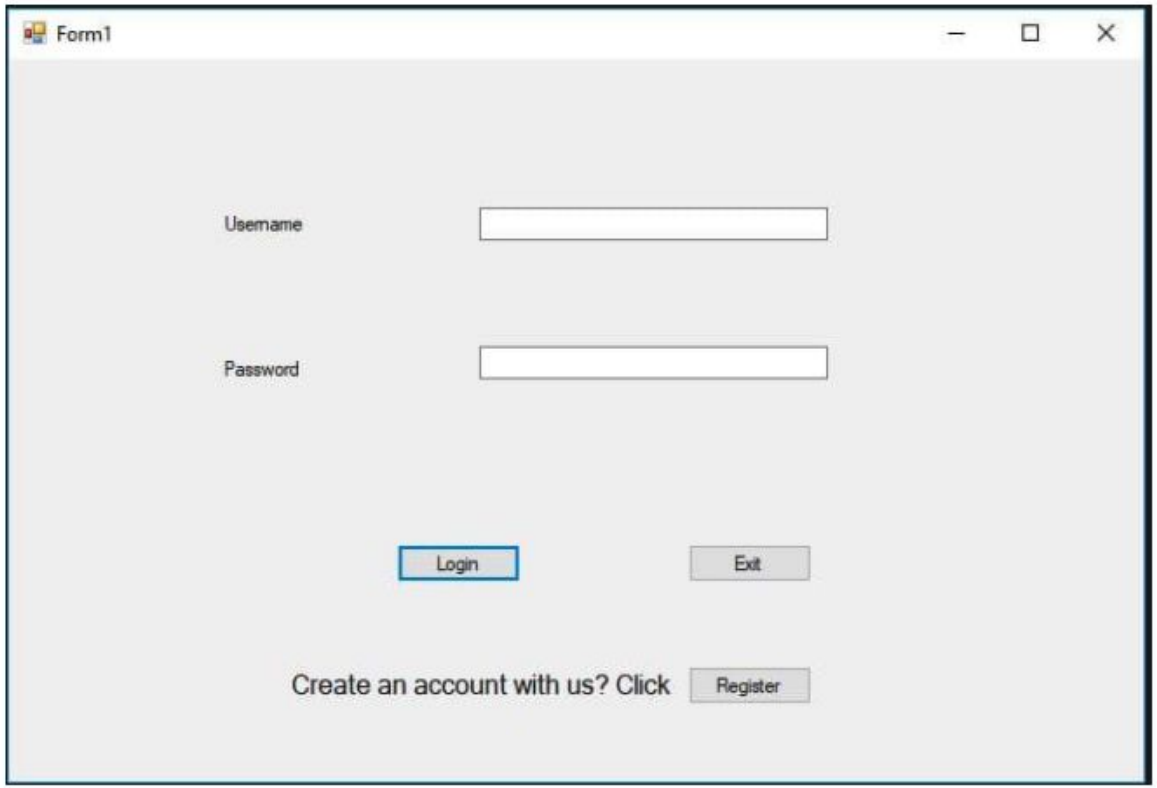
Klik pada Form1.cs di Solution Explorer dan pada form yang tertampil ada 3 tombol, 2 textboxes dan 2 label.

Tombol 1 menjadi register form yang akan menampilkan Form Register.
Tombol 2 menjadi login form

Ketika tombol ke 2 di klik akan menjalankan query yang kita buat dan eksekusi langsung ke MySQL .

Tombol 3 berfungsi untuk menutup application.

Tombol Pertama /login

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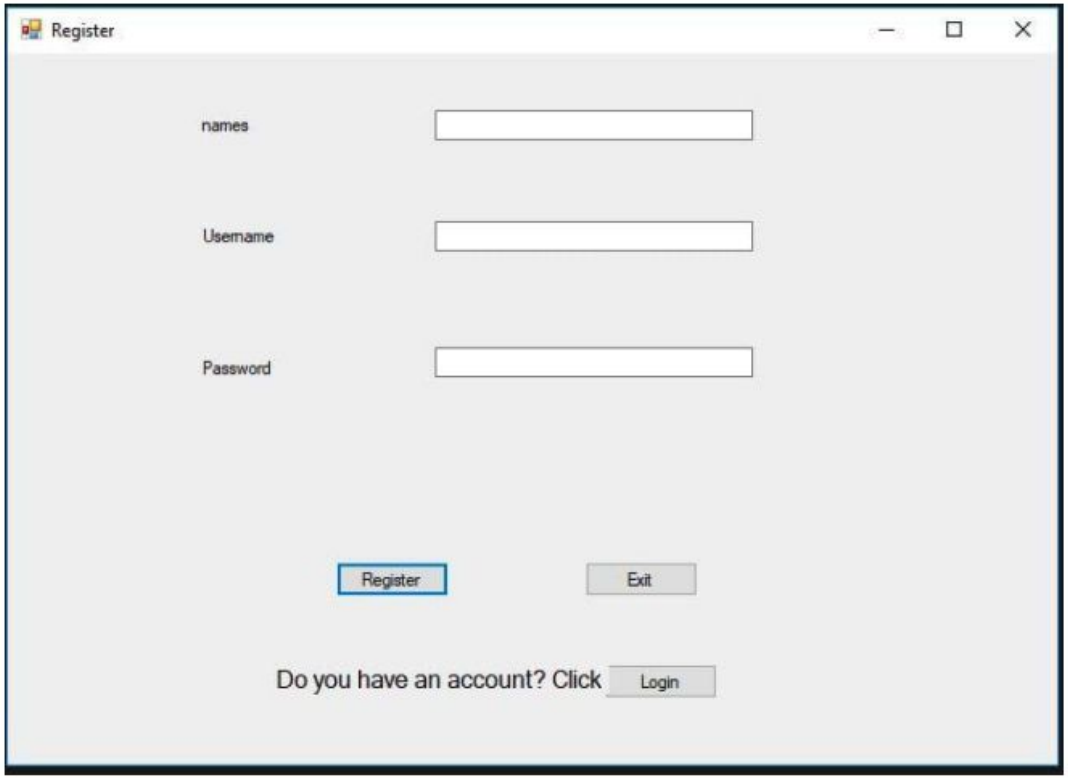
TextBox 1 akan mengijinkan user untuk input username Login, begitu juga Textbox ke 2 akan meng-enable input password oleh user .

Perlu diketahui 2 inputan ini akan di cek dari SQL kita.

Register Form




First Button akan mengarah ke tombol daftar untu menyimpan user input dan satu lagi adalah tombol untuk menutup aplikasi register Form.

HACKTIV8

6) Login Logic

Inisiasi Config File di Form1.cs untuk mengizinkan kita mengakses database dengan mudah

```
// Initialize the connection class
        Config db = new Config();
        public Form1()
        {
            InitializeComponent();
            // pass the database you want to connect to
            db.Connect("userdata");
        }
```

Klik Register Button, lalu tambahkan :

```
// start register window
            Register register = new Register();
            register.Show();
```

Pada Tombol Login, tambahkan :

```
// querry MySQL database for the data passed from textboxes
        db.ExecuteSelect("SELECT * FROM `user_info` where username='" + textBox1.Text+ "' and password ='" + textBox2.Text+"'");

        if (db.Count() == 1)
        {
            MessageBox.Show("Success You will Login as"+db.Results(0, "names"));
        }
        else
        {
            MessageBox.Show("Wrong username and password combination" );
        }
```

On click of the exit button, add the following code.

```
private void button3_Click(object sender, EventArgs e)
        {
            // closes the application
            Environment.Exit(0);
        }
```

Form1.cs

```cs
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;

namespace LoginSysten
{
    public partial class Form1 : Form
    {

        // Initialize the connection class
        Config db = new Config();
        public Form1()
        {
            InitializeComponent();

            // pass the database you want to connect to
            db.Connect("userdata");
        }

        private void button1_Click(object sender, EventArgs e)
        {
            // querry MySQL database for the data passed from textboxes
            db.ExecuteSelect("SELECT * FROM `user_info` where username='" + textBox1.Text+ "' and password ='" + textBox2.Text+"'");

            if (db.Count() == 1)
            {
                MessageBox.Show("Success You will Login as"+db.Results(0, "names"));
            }
            else
            {
                MessageBox.Show("Wrong username and password combination" );
            }

        }
```

```
        private void button2_Click(object sender, EventArgs e)
        {
            // start register window
            Register register = new Register();

            register.Show();
        }

        private void button3_Click(object sender, EventArgs e)
        {

            // closes the application
            Environment.Exit(0);
        }

        private void label3_Click(object sender, EventArgs e)
        {

        }
    }
}

```

7) Register Logic

Inisiasi Config File di Register.cs untuk mengizinkan kita mengakses database dengan mudah

```
Config db = new Config();
      public Register()
      {
          InitializeComponent();
          // pass the database you want to connect to
          db.Connect("userdata");
      }
```

Klik Tombol Exit lalu tambahkan kode berikut :

```
private void button3_Click(object sender, EventArgs e)
        {
            // closses the register window
            this.Close();
        }
```

Pada tombol register akan kita tambahkan beberapa code untuk simpan information input user

```
private void button2_Click(object sender, EventArgs e)
    {
        // saves data in the database
        db.Execute("INSERT INTO `user_info` (`id`, `names`, `username`, `password`) VALUES (NULL, '"+textBox3.Text+"', '"+textBox1.Text+"',

        this.Close()
    }
```

Terakhir tinggal jalankan dan coba lihat ke database