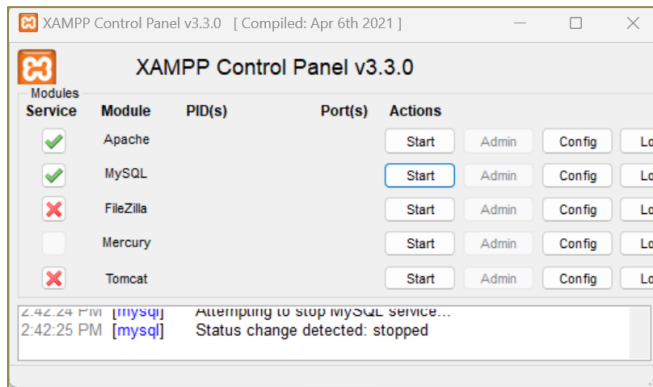
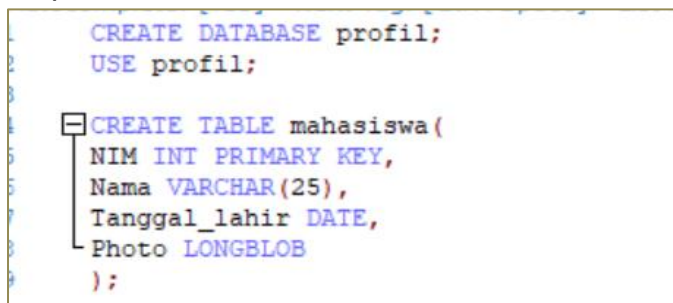


Image and Date – Database

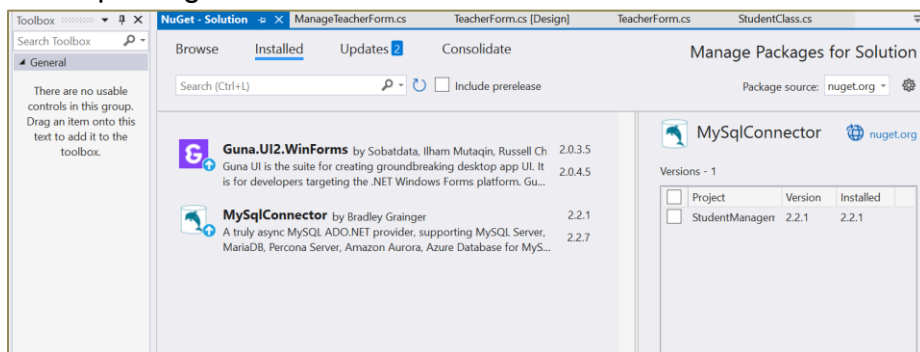
1. Siapkan Xampp



2. Siapkan database



3. Install package



- Guna.UI2.WinForms
Berguna untuk membuat tampilan lebih bagus dengan menerapkan nya di setiap komponen.
- MySQLConnector
Berguna untuk mengatur lalu lintas database(koneksi database).

4. Disini kita menerapkan konsep MVC(Model View Controller)

a. Model

class Koneksi

```
using MySqlConnector;
using System;
using System.Data;
using System.Windows.Forms;

namespace FormLatihanSebelumNgajar.Model
{
    0 references
    internal class Koneksi
    {
        public MySqlCommand cmd;
        public DataSet ds;
        public MySqlDataAdapter da;

        0 references
        public MySqlConnection GetConnection()
        {
            MySqlConnection conn = new MySqlConnection();
            conn.ConnectionString = "server=localhost;user=root;database=profil";
            try
            {
                conn.Open();
            }
            catch (Exception ex)
            {
                MessageBox.Show("Koneksi berhasil" + ex.Message);
            }
            return conn;
        }
    }
}
```

b. View

The screenshot shows a Windows Form titled "Pendaftaran Mahasiswa". The form has a light gray background and a white border. At the top, there is a title bar with the text "Form6" and standard Windows window controls (minimize, maximize, close). Below the title bar, the form content is organized into a grid. On the left side, there are three labels: "NIM", "Nama", and "Tanggal Lahir". To the right of each label is a corresponding input field: a text box for NIM, a text box for Nama, and a date picker for Tanggal Lahir (showing "Monday, November 6, 2023"). On the right side of the form, there is a large white rectangular area, likely a placeholder for a profile picture. Below the input fields, there are four buttons: "Upload" (blue), "Bersihkan" (yellow), "Hapus" (red), and "Simpan" (green). The buttons are arranged in a horizontal row at the bottom of the form.

Semua komponen menggunakan package **Guna.UI2.WinForms**, kecuali label.

c. Controller

class MahasiswaController

```
namespace FormLatihanSebelumNgajar.Controller
{
    0 references
    internal class MahasiswaController : Model.Koneksi
    {
        // Function Untuk menampilkan data yang ada di tabel mahasiswa
        0 references
        public DataTable selectStudent(MySqlCommand command)
        {
            DataTable date = new DataTable();
            try
            {
                string show = "SELECT * FROM mahasiswa";
                da = new MySqlConnection.MySqlDataAdapter(show, GetConnection());
                da.Fill(date);
            }
            catch (Exception ex)
            {
                MessageBox.Show(ex.Message);
            }
            return date;
        }
    }
}
```

```
public void insertStudent(string nim, string name, DateTime tanggalLahir, byte[] photo)
{
    string add = "INSERT INTO mahasiswa VALUES (" + "@NIM,@Nama,@Tanggal_lahir,@Photo)";
    try
    {
        cmd = new MySqlConnection.MySqlCommand(add, GetConnection());
        cmd.Parameters.Add("@NIM", MySqlConnection.MySqlDbType.VarChar).Value = nim;
        cmd.Parameters.Add("@Nama", MySqlConnection.MySqlDbType.VarChar).Value = name;
        cmd.Parameters.Add("@Tanggal_lahir", MySqlConnection.MySqlDbType.Date).Value = tanggalLahir;
        cmd.Parameters.Add("@Photo", MySqlConnection.MySqlDbType.Blob).Value = photo;
        cmd.ExecuteNonQuery();
    }
    catch (Exception ex)
    {
        MessageBox.Show("Add Date Failed!! " + ex.Message);
    }
}
```

```
// Function untuk menghapus data berdasarkan NIM di tabel mahasiswa
0 references
public void deleteStudent(string NIM)
{
    string delete = "DELETE FROM mahasiswa WHERE NIM=" + NIM;

    try
    {
        cmd = new MySqlConnection.MySqlCommand(delete, GetConnection());
        cmd.Parameters.Add("@NIS", MySqlConnection.MySqlDbType.VarChar).Value = NIM;
        cmd.ExecuteNonQuery();
    }
    catch (Exception ex)
    {
        MessageBox.Show("Delete failed!!" + ex.Message);
    }
}
```

d. Resources

Folder untuk menyimpan photo-photo atau file yang kita gunakan nanti di dalam project

e. Database

Folder untuk menyimpan query Sql database.

5. Codingan yang ada di dalam Form

a. Membuat object dari **MahasiswaController**

```
private MahasiswaController mahasiswaController =
new MahasiswaController();

public FormMahasiswa()
{
    InitializeComponent()
}
```

b. Membuat function yang berfungsi untuk menampilkan data-data yang ada didalam tabel mahasiswa

2 references

```
bool showStudent()
{
    DataGridView_mahasiswa.DataSource = mahasiswaController.selectStudent
        (new MySqlCommand("SELECT * FROM mahasiswa"));
    DataGridView_mahasiswa.RowTemplate.Height = 80;
    DataGridViewImageColumn imageColumn = new DataGridViewImageColumn();
    imageColumn = (DataGridViewImageColumn)DataGridView_mahasiswa.Columns[3];
    imageColumn.ImageLayout = DataGridViewImageCellLayout.Zoom;
    return true;
}
```

1 reference

- c. Membuat function yang berguna untuk memvalidasi inputan agar tidak kosong

1 reference

```
bool verify()
{
    if ((txt_nim.Text == "") || (txt_nama.Text == "") || (PictureBox_mahasiswa.Image == null))
    {
        return false;
    }
    else
    {
        return true;
    }
}
```

- d. Membuat batas inputan di Form_Load

```
private void Form6_Load(object sender, EventArgs e)
{
    txt_nim.MaxLength = 10;
    txt_nama.MaxLength = 25;
    showStudent();
}
```

- e. Button Clear(bersihkan)

1 reference

```
private void btn_bersihkan_Click(object sender, EventArgs e)
{
    txt_nim.Clear();
    txt_nama.Clear();
    DateTimePicker_tanggal_lahir.Value = DateTime.Now;
    PictureBox_mahasiswa.Image = null;
}
```

f. Button Save(simpan)

```
private void btn_simpan_Click(object sender, EventArgs e)
{
    int born_year = DateTimePicker_tanggal_lahir.Value.Year;
    int this_year = DateTime.Now.Year;
    if ((this_year - born_year) <= 17 || (this_year - born_year) >= 25){
        MessageBox.Show("Umur harus diantar 17 s/d 25", "Invalid", MessageBoxButtons.OK, MessageBoxIcon.Error);
    }else if (verify()){
        try{
            MemoryStream memori = new MemoryStream();
            PictureBox_mahasiswa.Image.Save(memori, PictureBox_mahasiswa.Image.RawFormat);
            byte[] img = memori.ToArray();
            mahasiswaController.insertStudent(txt_nim.Text, txt_nama.Text,
                DateTimePicker_tanggal_lahir.Value, img);
            MessageBox.Show("Penambahan data baru berhasil", "Simpan data",
                MessageBoxButtons.OK, MessageBoxIcon.Information);
            showStudent();
            txt_nim.Focus();
        }catch (Exception ex){
            MessageBox.Show(ex.Message, "Error ", MessageBoxButtons.OK, MessageBoxIcon.Error);
        }
    }else{
        MessageBox.Show("Inputan kosong", "Tambah data", MessageBoxButtons.OK, MessageBoxIcon.Warning);
    }
}
```

g. Button Upload

```
private void btn_upload_Click(object sender, EventArgs e)
{
    OpenFileDialog opf = new OpenFileDialog();
    opf.Filter = "select Photo(*.jpg;*.png;*.gif)|*.jpg;*.png;*.gif;";

    if (opf.ShowDialog() == DialogResult.OK)
        PictureBox_mahasiswa.Image = Image.FromFile(opf.FileName);
}
```

h. Hapus Data Mahasiswa

DataGridView_mahasiswa_Click(di event)

```
private void DataGridView_mahasiswa_Click(object sender, EventArgs e)
{
    txt_nim.Text = DataGridView_mahasiswa.CurrentRow.Cells[0].Value.ToString();
    txt_nama.Text = DataGridView_mahasiswa.CurrentRow.Cells[1].Value.ToString();
    DateTimePicker_tanggal_lahir.Value = (DateTime)DataGridView_mahasiswa.CurrentRow.Cells[2].Value;
    byte[] img = (byte[])DataGridView_mahasiswa.CurrentRow.Cells[3].Value;
    MemoryStream gambar = new MemoryStream(img);
    PictureBox_mahasiswa.Image = Image.FromStream(gambar);
}
```

Button Delete(hapus)

```
private void btn_hapus_Click(object sender, EventArgs e)
{
    if (verify()){
        try
        {
            mahasiswaController.deleteStudent(txt_nim.Text);
            showStudent();
            btn_bersihkan.PerformClick();
            MessageBox.Show("Hapus data berhasil", "Hapus data",
                MessageBoxButtons.OK, MessageBoxIcon.Information);
            txt_nim.Focus();
        }
        catch (Exception ex)
        {
            MessageBox.Show(ex.Message, "Error", MessageBoxButtons.OK, MessageBoxIcon.Error);
        }
    }else
    {
        MessageBox.Show("Hapus data error", "Hapus data", MessageBoxButtons.OK, MessageBoxIcon.Warning);
    }
}
```