



teknologi  
informasi  
UNIVERSITAS MUHAMMADIYAH YOGYAKARTA

# Modul Praktikum

# Pengembangan Aplikasi Basisdata

Apriliya Kurnianti S.T., M.Eng



## Daftar Isi

<b>Chart pada Aplikasi Desktop.....</b>	<b>1</b>
Tujuan Praktikum .....	1
1. Menampilkan chart dari database. ....	1
2. Filter data.....	1
Alat dan Bahan .....	1
Langkah-Langkah Praktikum .....	1

## Chart pada Aplikasi Desktop

### Tujuan Praktikum

1. Menampilkan chart dari database.
2. Filter data.

### Alat dan Bahan

- SQL Server (Minimal SQL Server Express)
- SQL Server Management Studio (SSMS)
- Visual Studio (Minimal 2019 dengan .NET Framework)
- C# Windows Forms (WinForms)

### Langkah-Langkah Praktikum

#### 1. Tambahkan Chart di Form

- Buka **Form Designer**.
- Dari Toolbox, tarik **Chart** (ada di kategori *Data*) ke form sehingga tampilan seperti pada gambar.
- Tarik ComboBox dari Toolbox ke Form Anda.
- Ganti namanya menjadi: cmbJenis
- Tambahkan item: "Semua", "Pemasukan", dan "Pengeluaran" Beri nama chart, misalnya chartKeuangan.



## 2. Buat Kode untuk Menampilkan Data

Contoh: Menampilkan jumlah Pemasukan dan Pengeluaran per organisasi dari tabel Keuangan.

```
using System;
using System.Data;
using System.Data.SqlClient;
using System.Windows.Forms;
using System.Windows.Forms.DataVisualization.Charting;

namespace CRUDOrmas
{
    4 references
    public partial class FormKeuangan : Form
    {
        1 reference
        public FormKeuangan()
        {
            InitializeComponent();
        }

        1 reference
        private void FormKeuangan_Load(object sender, EventArgs e)
        {
            // Isi ComboBox
            cmbJenis.Items.AddRange(new string[] { "Semua", "Pemasukan", "Pengeluaran" });
            cmbJenis.SelectedIndex = 0;

            LoadChartData("Semua");

            // Tambahkan event handler jika belum
            cmbJenis.SelectedIndexChanged += cmbJenis_SelectedIndexChanged;
        }

        1 reference
        private void cmbJenis_SelectedIndexChanged(object sender, EventArgs e)
        {
            string selected = cmbJenis.SelectedItem.ToString();
            LoadChartData(selected);
        }

        2 references
        private void LoadChartData(string filter)
        {
            // Bersihkan chart
            chartKeuangan.Series.Clear();
            chartKeuangan.Titles.Clear();
            chartKeuangan.Legends.Clear();
            chartKeuangan.ChartAreas.Clear();

            ChartArea ca = new ChartArea("MainArea");
            ca.AxisX.Title = "Organisasi";
            ca.AxisY.Title = "Jumlah (Rp)";
            ca.AxisX.LabelStyle.Angle = -45;
            ca.BackColor = System.Drawing.Color.LightGoldenrodYellow;
            chartKeuangan.ChartAreas.Add(ca);

            // Koneksi dan query
            string connStr = "Data Source=DESKTOP-RAM20FI\\APRILIYA;Initial Catalog=OrganisasiMahasiswa;Integrated Security=True";
            string query = @"
                SELECT
                    o>NamaOrganisasi,
                    SUM(CASE WHEN k.Jenis = 'Pemasukan' THEN k.Jumlah ELSE 0 END) AS Pemasukan,
                    SUM(CASE WHEN k.Jenis = 'Pengeluaran' THEN k.Jumlah ELSE 0 END) AS Pengeluaran
                FROM Organisasi o
                LEFT JOIN Keuangan k ON o.ID_Organisasi = k.ID_Organisasi
                GROUP BY o>NamaOrganisasi";
        }
    }
}
```

```

        DataTable dt = new DataTable();
        using (SqlConnection conn = new SqlConnection(connStr))
        {
            SqlDataAdapter da = new SqlDataAdapter(query, conn);
            da.Fill(dt);
        }

        if (filter == "Semua" || filter == "Pemasukan")
        {
            Series sPemasukan = new Series("Pemasukan")
            {
                ChartType = SeriesChartType.Column,
                Color = System.Drawing.Color.ForestGreen,
                IsValueShownAsLabel = true
            };

            foreach (DataRow row in dt.Rows)
            {
                decimal jumlah = Convert.ToDecimal(row["Pemasukan"]);
                sPemasukan.Points.AddXY(row["NamaOrganisasi"].ToString(), jumlah);
            }

            chartKeuangan.Series.Add(sPemasukan);
        }

        if (filter == "Semua" || filter == "Pengeluaran")
        {
            Series sPengeluaran = new Series("Pengeluaran")
            {
                ChartType = SeriesChartType.Column,
                Color = System.Drawing.Color.Firebrick,
                IsValueShownAsLabel = true
            };

            foreach (DataRow row in dt.Rows)
            {
                decimal jumlah = Convert.ToDecimal(row["Pengeluaran"]);
                sPengeluaran.Points.AddXY(row["NamaOrganisasi"].ToString(), jumlah);
            }

            chartKeuangan.Series.Add(sPengeluaran);
        }

        chartKeuangan.Titles.Add("Grafik Keuangan Organisasi");
        chartKeuangan.Legends.Add(new Legend("Legenda"));
    }
}

```

### 3. FormKeuangan.Designer.cs

```

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

        /// <summary>
        /// Clean up any resources being used.
        /// </summary>
        0 references
        protected override void Dispose(bool disposing)
        {
            if (disposing && (components != null))
            {
                components.Dispose();
            }
            base.Dispose(disposing);
        }
    }
}

```

1 reference

```
private void InitializeComponent()
{
    System.Windows.Forms.DataVisualization.Charting.ChartArea chartArea2 = new System.Windows.Forms.DataVisualization.Charting.ChartArea();
    System.Windows.Forms.DataVisualization.Charting.Legend legend2 = new System.Windows.Forms.DataVisualization.Charting.Legend();
    System.Windows.Forms.DataVisualization.Charting.Series series3 = new System.Windows.Forms.DataVisualization.Charting.Series();
    System.Windows.Forms.DataVisualization.Charting.Series series4 = new System.Windows.Forms.DataVisualization.Charting.Series();
    System.Windows.Forms.DataVisualization.Charting.Title title2 = new System.Windows.Forms.DataVisualization.Charting.Title();
    this.Label1 = new System.Windows.Forms.Label();
    this.chartKeuangan = new System.Windows.Forms.DataVisualization.Charting.Chart();
    this.cmbJenis = new System.Windows.Forms.ComboBox();
    this.Label2 = new System.Windows.Forms.Label();
    ((System.ComponentModel.ISupportInitialize)(this.chartKeuangan)).BeginInit();
    this.SuspendLayout();
    //
    // Label1
    //
    this.Label1.AutoSize = true;
    this.Label1.Font = new System.Drawing.Font("Segoe UI", 18F, System.Drawing.FontStyle.Bold, System.Drawing.GraphicsUnit.Point, ((byte)0));
    this.Label1.ForeColor = System.Drawing.SystemColors.ButtonHighlight;
    this.Label1.Location = new System.Drawing.Point(180, 30);
    this.Label1.Name = "Label1";
    this.Label1.Size = new System.Drawing.Size(560, 48);
    this.Label1.TabIndex = 1;
    this.Label1.Text = "Dashboard Keuangan ORMAWA";

    //
    // chartKeuangan
    //
    chartArea2.AxisX.Interval = 1D;
    chartArea2.AxisX.LabelStyle.Angle = -45;
    chartArea2.AxisX.LabelStyle.Font = new System.Drawing.Font("Segoe UI", 9F);
    chartArea2.AxisX.Title = "Organisasi";
    chartArea2.AxisY.LabelStyle.Format = "Rp#,0";
    chartArea2.AxisY.Title = "Jumlah (Rp)";
    chartArea2.Name = "ChartArea1";
    this.chartKeuangan.ChartAreas.Add(chartArea2);
    legend2.Font = new System.Drawing.Font("Segoe UI", 9F, System.Drawing.FontStyle.Bold);
    legend2.IsTextAutoFit = false;
    legend2.Name = "Legend1";
    this.chartKeuangan.Legends.Add(legend2);
    this.chartKeuangan.Location = new System.Drawing.Point(40, 156);
    this.chartKeuangan.Name = "chartKeuangan";
    series3.ChartArea = "ChartArea1";
    series3.Color = System.Drawing.Color.ForestGreen;
    series3.Legend = "Legend1";
    series3.Name = "Pemasukan";
    series4.ChartArea = "ChartArea1";
    series4.Color = System.Drawing.Color.Firebrick;
    series4.Legend = "Legend1";
    series4.Name = "Pengeluaran";
    this.chartKeuangan.Series.Add(series3);
    this.chartKeuangan.Series.Add(series4);
    this.chartKeuangan.Size = new System.Drawing.Size(884, 454);
    this.chartKeuangan.TabIndex = 2;
    this.chartKeuangan.Text = "chart1";
    title2.Name = "Title1";
    title2.Text = "Grafik Keuangan Organisasi";
    this.chartKeuangan.Titles.Add(title2);

    //
    // cmbJenis
    //
    this.cmbJenis.FormattingEnabled = true;
    this.cmbJenis.Location = new System.Drawing.Point(280, 100);
    this.cmbJenis.Name = "cmbJenis";
    this.cmbJenis.Size = new System.Drawing.Size(380, 28);
    this.cmbJenis.TabIndex = 3;
    //
    // Label2
    //
    this.Label2.AutoSize = true;
    this.Label2.ForeColor = System.Drawing.SystemColors.ButtonHighlight;
    this.Label2.Location = new System.Drawing.Point(180, 105);
    this.Label2.Name = "Label2";
    this.Label2.Size = new System.Drawing.Size(93, 20);
    this.Label2.TabIndex = 4;
    this.Label2.Text = "Filter Jenis :";
}
```

```

//
// FormKeuangan
//
this.AutoScaleMode = new System.Drawing.Size(9F, 20F);
this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;
this.BackColor = System.Drawing.Color.ForestGreen;
this.ClientSize = new System.Drawing.Size(975, 644);
this.Controls.Add(this.label2);
this.Controls.Add(this.cmbJenis);
this.Controls.Add(this.chartKeuangan);
this.Controls.Add(this.label1);
this.Name = "FormKeuangan";
this.Text = "Dashboard Keuangan ORMAWA";
this.WindowState = System.Windows.Forms.FormWindowState.Maximized;
this.Load += new System.EventHandler(this.FormKeuangan_Load);
((System.ComponentModel.ISupportInitialize)(this.chartKeuangan)).EndInit();
// Membuat form terbuka penuh layar
this.WindowState = System.Windows.Forms.FormWindowState.Maximized;

// Responsive layout
this.chartKeuangan.Anchor = ((System.Windows.Forms.AnchorStyles.Top | System.Windows.Forms.AnchorStyles.Left) |
System.Windows.Forms.AnchorStyles.Right | System.Windows.Forms.AnchorStyles.Bottom);
this.cmbJenis.Anchor = System.Windows.Forms.AnchorStyles.Top;
this.label1.Anchor = System.Windows.Forms.AnchorStyles.Top;
this.label2.Anchor = System.Windows.Forms.AnchorStyles.Top;
this.ResumeLayout(false);
this.PerformLayout();
}

private System.Windows.Forms.Label label1;
private System.Windows.Forms.DataVisualization.Charting.Chart chartKeuangan;
private System.Windows.Forms.ComboBox cmbJenis;
private System.Windows.Forms.Label label2;
}
}

```