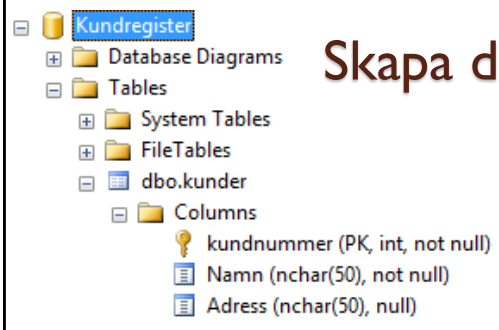
Skapa en applikation mot MS SQL Server 2014

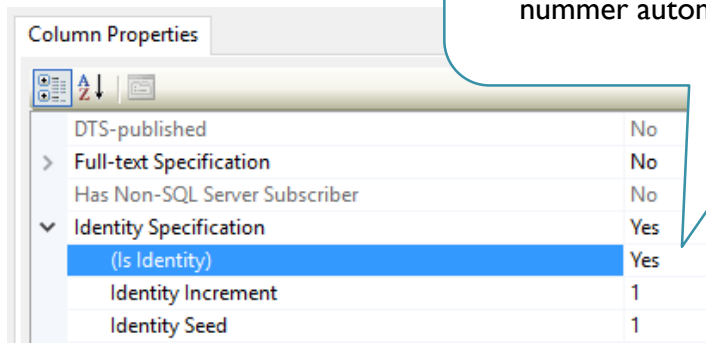
Mahmud Al Hakim
mahmud@webacademy.se
www.webacademy.se

Uppdrag

- Skapa en enkel applikation för att hantera ett kundregister.
- Databasen består av en enda tabell.
  Kunder(kundnummer, namn, adress)
- Applikationen ska ha följande funktionaliteter
  1. Lägg till en kund
  2. Sök efter en kund
  3. Visa en lista över alla kunder
  4. Ta bort en kund
  5. Uppdatera info om en kund

Skapa databasen via SSMS

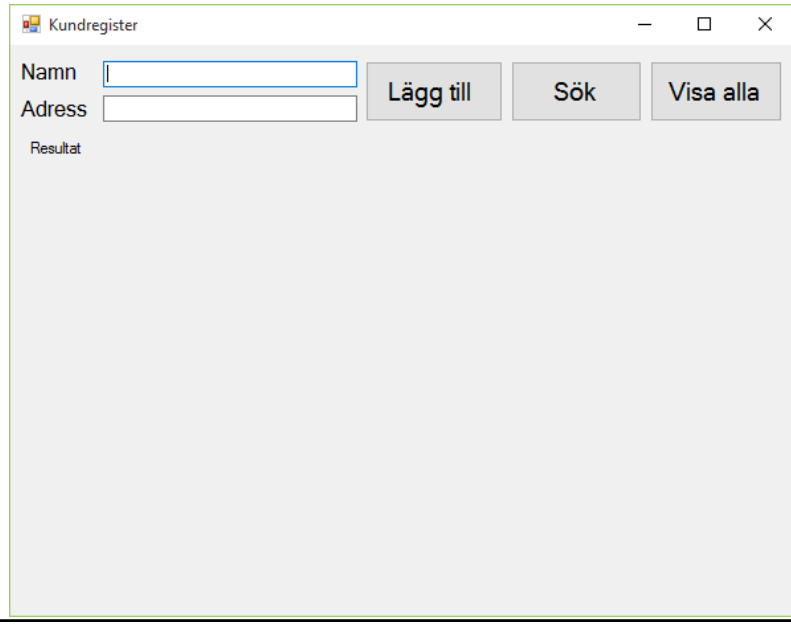




Tips!
Lägg ”Identity Increment” på kundnummer för att få ett nummer automatiskt

3

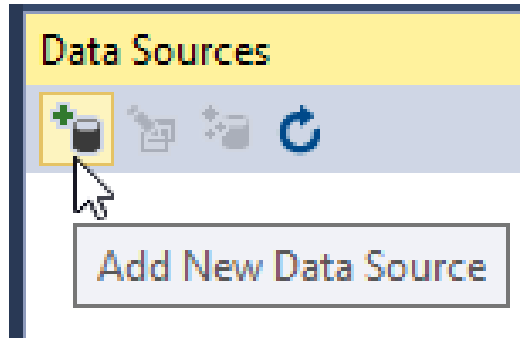
Skapa ett nytt Windows Forms-projekt



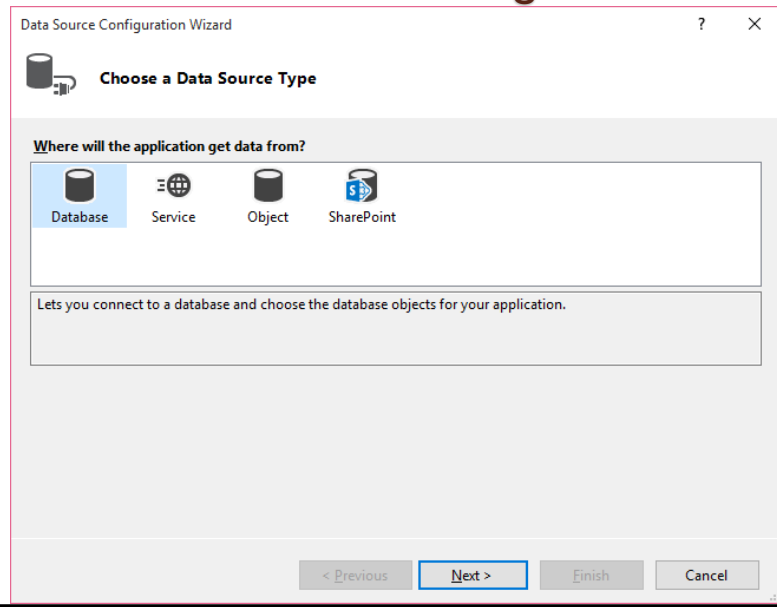
4

Skapa en ny datakälla (Data Source)

- Visa panelen ”Data Sources”
  Finns under View → Other Windows →
- Klicka på knappen ”Add New Data Source”

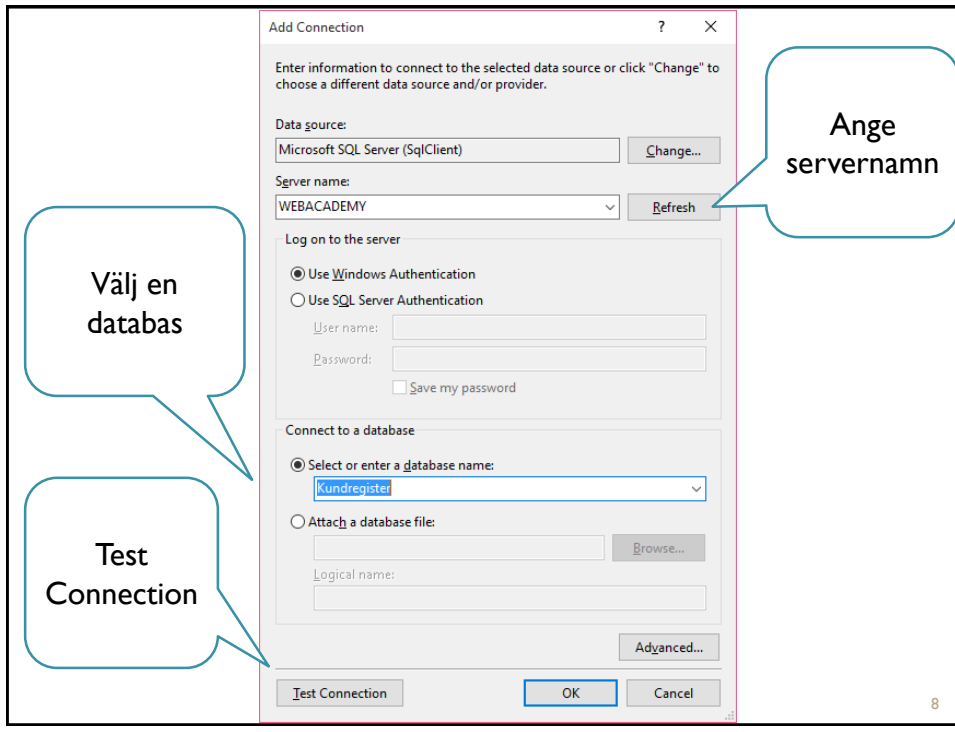


Guiden - ”Data Source Configuration Wizard”

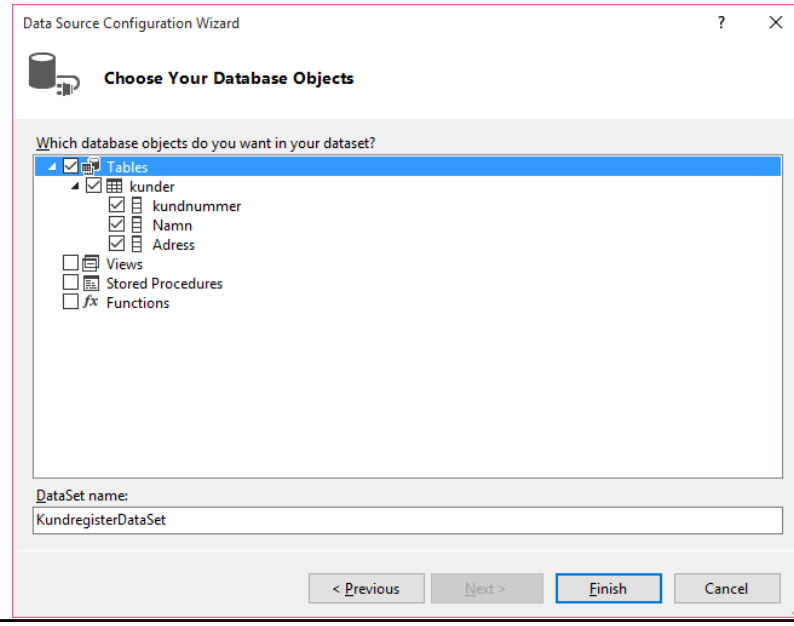


Skapa en ny ”Data Connection”

- Välj först Database och sedan Dataset
- I steg 3 klicka på ”New Connection”
- Skriv ”Server name” (samma namn som du använder för att koppla upp mot SSMS.
- Test uppkoppling genom att klicka på knappen ”Test Connction”.
- Välj en databas från listan ”Select or enter a database namn”.
- (Se nästa bild)

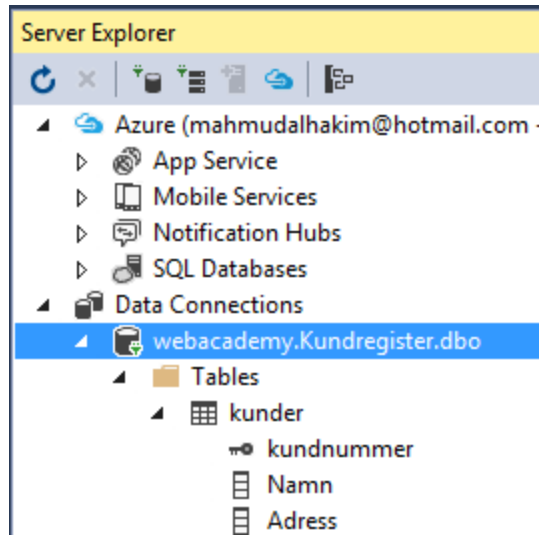


Välj tabellen



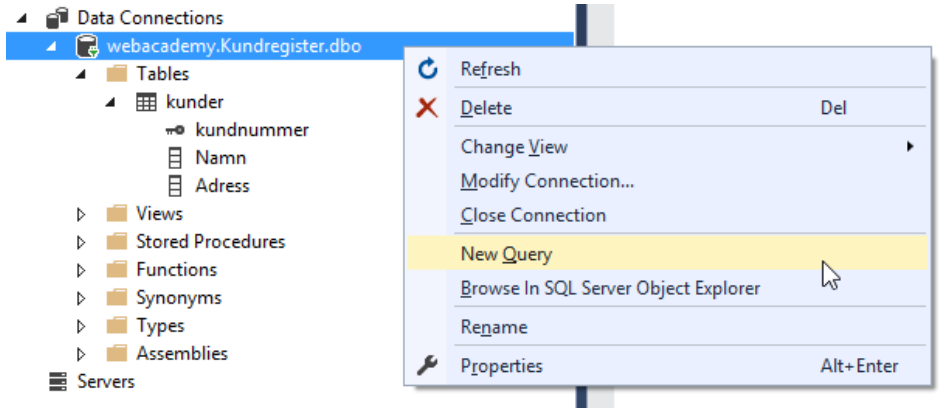
9

Panelen ”Server Explorer”

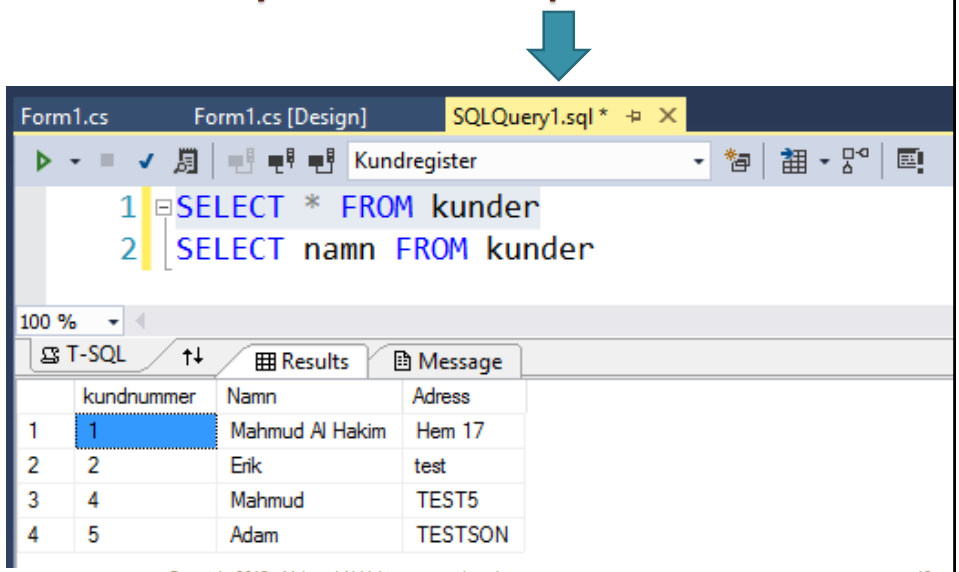


10

Tips! SQL i Visual Studio

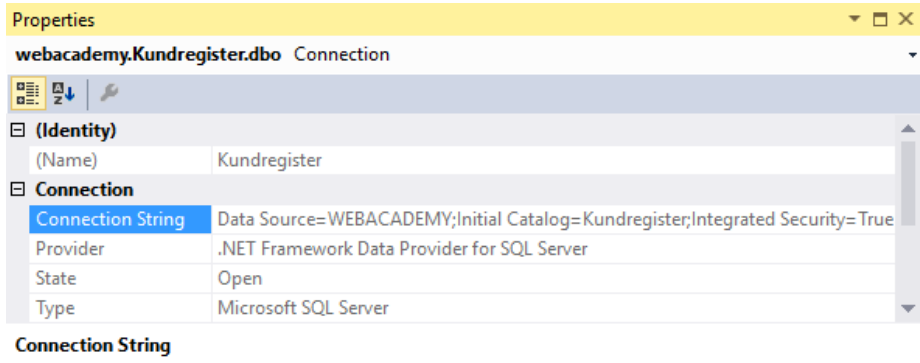


En ny SQL-fil skapas



Hämta en ”Connection String” (egenskap)

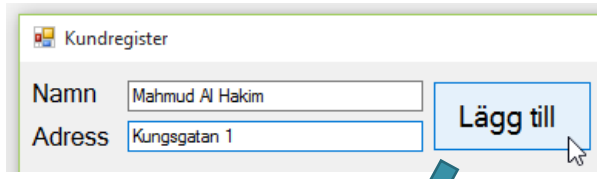
- Visa egenskaperna för din ”Connection”
- Kopiera ”Connection String”



Skapa en connectionString (variabel)

```
public partial class Form1 : Form
{
    string connectionString =
        @"Data Source=WEBACADEMY;Initial Catalog=Kundregister;Integrated Security=True";

    public Form1()
    {
        InitializeComponent();
    }
```


Skapa en händelsehanterare till knappen ”Lägg till”




```
public partial class Form1 : Form
{
    string connectionString =
        @"Data Source=WEBACADEMY;Initi    Catalog=Kundregister;Integrated Security=True";

    public Form1()
    {
        InitializeComponent();
    }

    private void btnAddKund_Click(object sender, EventArgs e)
    {

    }
}
```


Skapa en SQL-Sats

```
private void btnAddKund_Click(object sender, EventArgs e)
{
    string sqlSats =
        "INSERT INTO kunder(Namn, Adress) VALUES(@param1,@param2)";
}
```

Vi behöver skapa två parametrar

Skapa en SqlConnection

```
private void btnAddKund_Click(object sender, EventArgs e)
{
    string sqlSats =
        "INSERT INTO kunder(Namn, Adress) VALUES(@param1,@param2)";

    using (SqlConnection connection = new SqlConnection(connectionString))
    {

    }
}
```

OBS! Klassen SqlConnection finns i namnrymden System.Data.SqlClient (lägg till using System.Data.SqlClient)

class System.Data.SqlClient.SqlConnection
Represents an open connection to a SQL Server database. This class cannot be inherited.

Skapa en SqlCommand

```
using (SqlConnection connection = new SqlConnection(connectionString))
{
    try
    {
        connection.Open();
        SqlCommand sqlComm = new SqlCommand(sqlSats, connection);

    }
    catch (Exception ex)
    {
        Console.WriteLine(ex.Message);
    }
}
```

class System.Data.SqlClient.SqlCommand
Represents a Transact-SQL statement or stored procedure to execute against a SQL Server database. This class cannot be inherited.

Skapa värden till dina parametrar och kör SQL-kommandot

```
try
{
    connection.Open();
    SqlCommand sqlComm = new SqlCommand(sqlSats, connection);
    sqlComm.Parameters.AddWithValue("@param1", textBoxNamn.Text.Trim());
    sqlComm.Parameters.AddWithValue("@param2", textBoxAdress.Text.Trim());
    sqlComm.ExecuteNonQuery();
}
```

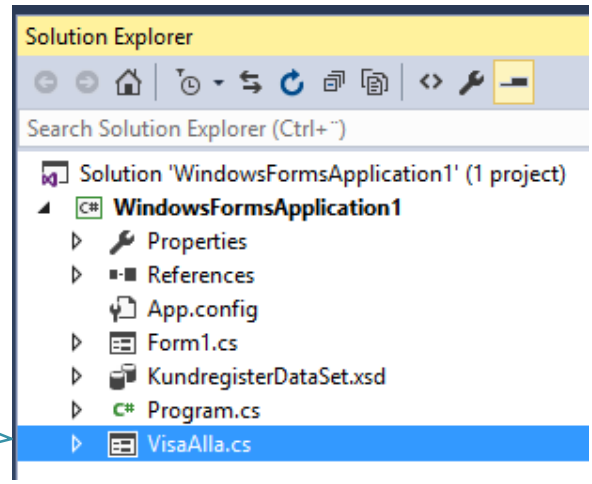

Visa ett meddelande och rensa textboxarna!

```
using (SqlConnection connection = new SqlConnection(connectionString))
{
    try
    {
        connection.Open();
        SqlCommand sqlComm = new SqlCommand(sqlSats, connection);
        sqlComm.Parameters.AddWithValue("@param1", textBoxNamn.Text.Trim());
        sqlComm.Parameters.AddWithValue("@param2", textBoxAdress.Text.Trim());
        sqlComm.ExecuteNonQuery();

        lblResultat.Text = $"Kunden {textBoxNamn.Text } har sparats i databasen";
        textBoxNamn.Text = textBoxAdress.Text = string.Empty;
    }
    catch (Exception ex)
    {
        Console.WriteLine(ex.Message);
    }
}
```

Programmera Sök-knappen

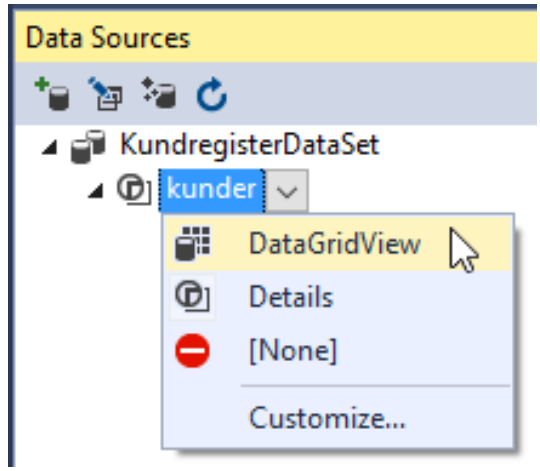
```
private void btnSok_Click(object sender, EventArgs e)
{
    string sqlSats = "SELECT * FROM Kunder WHERE Namn LIKE '%" + textBoxNamn.Text.Trim() + "%'";
    using (SqlConnection connection = new SqlConnection(connectionString))
    {
        try
        {
            connection.Open();
            SqlCommand sqlComm = new SqlCommand(sqlSats, connection);

            using (SqlDataReader reader = sqlComm.ExecuteReader())
            {
                lblResultat.Text = "Sökresultat\n";
                while (reader.Read())
                {
                    lblResultat.Text += reader[0] + "\t" + reader[1] + "\t" + reader[2] + "\n";
                }
            }
        }
        catch (Exception ex)  {   Console.WriteLine(ex.Message);    }
    }
}
```


Programmera knappen ”Visa alla” med hjälp av en DataGridView

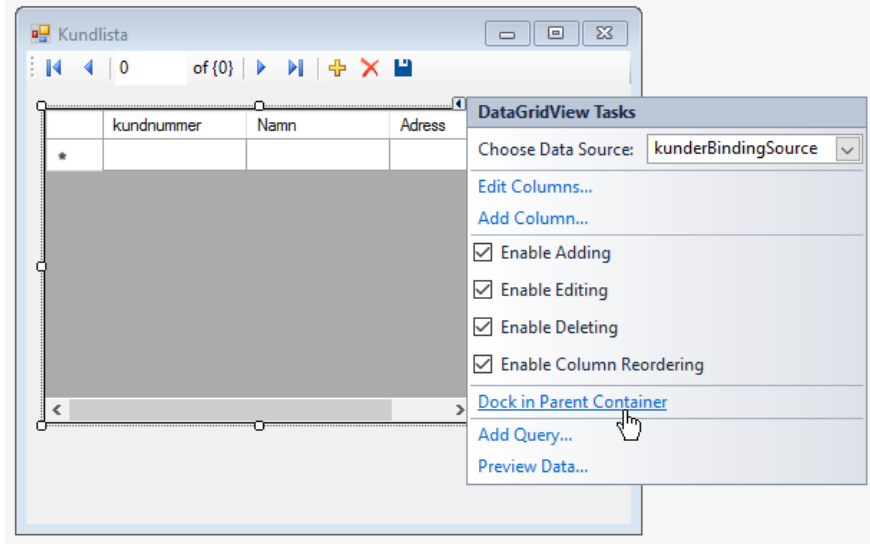


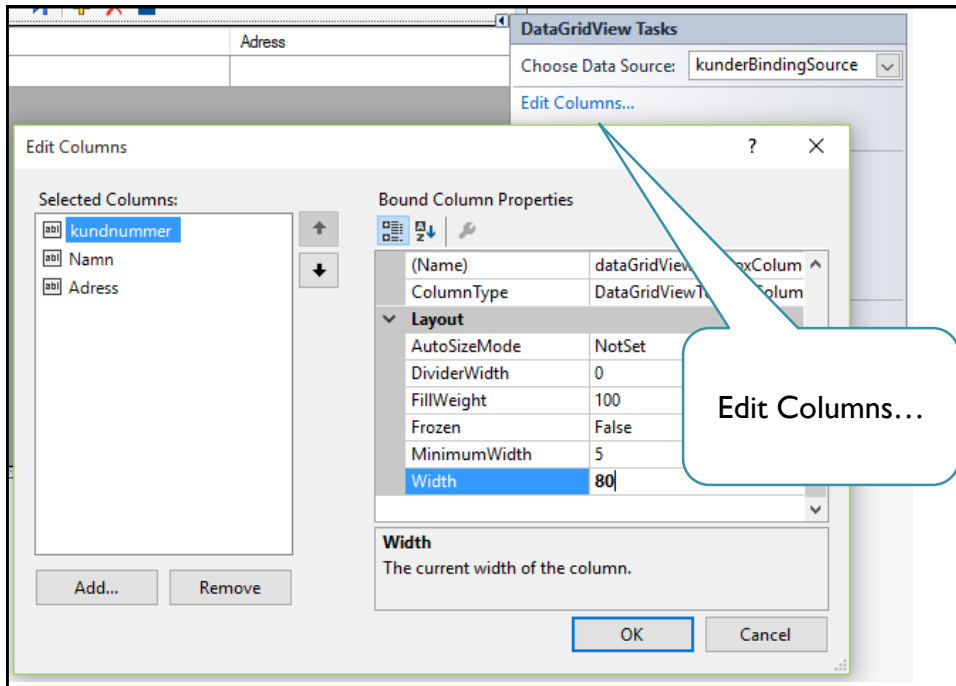
Skapa ett nytt fönster

I panelen ”Data Sources” Markera tabellen och välj DataGridView



Dra tabellen till fönstret och docka





Knappen ”Visa alla”

```
private void btnVisaAlla_Click(object sender, EventArgs e)
{
    VisaAlla f = new VisaAlla();
    f.ShowDialog();
}
```


Tips!
Connect to the Northwind Database

https://msdn.microsoft.com/en-us/library/ms233817.aspx

Topic	Description
Walkthrough: Creating a Local Database File in Visual Studio	Provides step-by-step instructions for creating a local database file that you can use to test data features and build applications.
Walkthrough: Connecting to Data in a Local Database File (Windows Forms)	Provides step-by-step instructions for connecting to a SQL Server Express LocalDB database while you create a simple Windows application.
Walkthrough: Connecting to Data in an Access Database (Windows Forms)	Provides step-by-step instructions for connecting to a Microsoft Access database.
How to: Connect to the Northwind Database	Provides instructions for connecting to the Northwind sample database in SQL Server, SQL Server Compact, SQL Server Express, and Access.