

برنامه نویسی پایگاه داده در **.Net**.

معرفی اشیای اصلی برای کار با DB

- **SqlConnection**: برای ارتباط بین محیط برنامه نویسی و DB

- **SqlDataAdapter**: اجرای یک Query (Select)

- **DataTable**: دربرگیرنده نتیجه اجرای یک Select (در حافظه است و قابل مشاهده نیست)

- **DataGrid**: نمایش محتویات یک DataTable

- **SqlCommand**: اجرای یک دستور insert ، Delete یا Update

- New
- Open
- Close
- Close Solution
- Save Selected Items Ctrl+S
- Save Selected Items As...
- Save All Ctrl+Shift+S
- Export Template...
- Page Setup...
- Print... Ctrl+P
- Recent Files
- Recent Projects
- Exit

Project... Ctrl+Shift+N

Web Site...

File... Ctrl+N

Project From Existing Code...

Studio 2005

Visual Studio Developer News

The current news channel might not be valid or your Internet connection might be unavailable. To change the news channel, on the Tools menu click Options, then expand Environment and click Startup.

Open: Project... | Web Site...
 Create: Project... | Web Site...

Getting Started

- What's new in C# 2005?
- Create Your First Application
- Use a Starter Kit
- How Do I ... ?
- Learn Visual C#
- Connect With the Community
- Download Additional Content

Visual Studio Headlines

Thank you for using Visual Studio

Solution Explorer



Start Page

Microsoft Visual Studio

Recent Projects

- WebSite1
- WindowsApplicat
- WebControlLibra

Open: Project
Create: Project

Getting Started

- What's new in C# 20
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Visual Studio Headlines

Thank you for using Visual Studio

New Project

Project types:

- Visual C#
 - Windows
 - Smart Device
 - Database
 - Starter Kits
- Other Languages
- Other Project Types

Templates:

Visual Studio installed templates

- Windows Application
- Windows Control Library
- Crystal Reports Application
- Class Library
- Console Application
- Device Application

My Templates

- Search Online Templates...

A project for creating an application with a Windows user interface

Name:

Location:

Solution Name: Create directory for solution

Toolbox

- Janus Controls v2
- Data
- Components
- Windows Forms
 - Pointer
 - Button
 - CheckBox
 - CheckedListBox
 - ColorDialog
 - ComboBox
 - ContextMenu
 - CrystalReportViewer
 - DataGrid
 - DateTimePicker
 - DomainUpDown
 - ErrorProvider
 - FolderBrowserDialog
 - FontDialog
 - GroupBox
 - HelpProvider
 - HScrollBar
 - ImageList
 - Label
 - LinkLabel
 - ListBox
 - ListView
 - MainMenu
 - MonthCalendar
- Clipboard Ring
- General

Form1

linkLabel1

linkLabel2

linkLabel3

linkLabel4

linkLabel5

Solution Explorer

Properties

مشاهده لیست

جستجو

ورود دانشجوی جدید

حذف دانشجو

برایش اطلاعات دانشجو

linkLabel5 System.Windows.Forms	
BorderStyle	None
CausesValidation	True
ContextMenu	(none)
Cursor	Default
DisabledLinkColor	143; 140; 12
Dock	None
Enabled	True
FlatStyle	Standard
Font	Tahoma; 8.25pt
ForeColor	ControlText
Image	(none)
ImageAlign	MiddleCenter
ImageIndex	(none)
ImageList	(none)
LinkArea	0; 5
LinkBehavior	SystemDefault
LinkColor	0; 0; 255
LinkVisited	False
Location	312; 84
Locked	False
Modifiers	Private
RightToLeft	Yes
Size	136; 23
TabIndex	4
Tag	
Text	جستجو
TextAlign	TopLeft

Text
The text contained in the control.

Toolbox

Janus Controls v2

Data

- Pointer
- DataSet
- OleDbDataAdapter
- OleDbConnection
- OleDbCommand
- SqlDataAdapter
- SqlConnection
- SqlCommand
- OdbcDataAdapter
- OdbcConnection
- OdbcCommand
- OracleDataAdapter
- OracleConnection
- OracleCommand
- DataView

Components

Windows Forms

General

Form1

مشاهده لیست

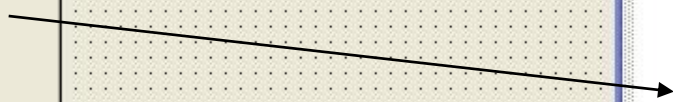
جستجو

ورود دانشجوی جدید

حذف دانشجو

برایش اطلاعات دانشجو

اگر عنصر مورد نظر ما در لیست Toolbox پیدا نشد، روی همین لیست کلیک راست کرده و از طریق گزینه **Choose Items** آنرا به لیست اضافه می کنیم.



Properties

sqlConnection1 System.Data.SqlC

(DynamicProperti

(Name) sqlConnection1

ConnectionString

ROSE-1452043075.Trar

<New Connection...>

ConnectionTim

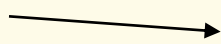
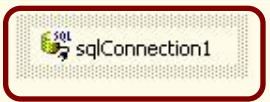
Database

DataSource

Modifiers

PacketSize

WorkstationId



وسيله اتصال Form1 به DB

Output

Rational XDE

Task List Output

ConnectionString

Information used to connect to a DataSource, such as 'Data Source=x ...

Data Link Properties

Provider Connection Advanced All

Specify the following to connect to SQL Server data:

1. Select or enter a server name:
ROSE-1452043075 Refresh
2. Enter information to log on to the server:
 Use Windows NT Integrated security
 Use a specific user name and password:
User name: _____
Password: _____
 Blank password Allow saving password
3. Select the database on the server:
University
 Attach a database file as a database name:
Using the filename: _____

Test Connection

OK Cancel Help

نام کامپیوتر Server

نام DB

sqlConnection1 System.Data.SqlClient

(DynamicProperty)	
(Name)	sqlConnection1
ConnectionString	
ConnectionTimeout	15
Database	
DataSource	
Modifiers	Private
PacketSize	8192
WorkstationId	ROSE-1452043075

ConnectionString
Information used to connect to a DataSource, such as 'Data Source=x ...

Form1

مشاهده لیست

جستجو

فرود دانشجوی جدید

حذف دانشجو

مراجعه، اطلاعات دانشجو

می خواهیم برای هر یک از این گزینه ها یک فرم جدید در پروژه ساخته شود

- Add New Item...
- Add Existing Item...
- New Folder
- Add Windows Form...
- Add Inherited Form...
- Add User Control...
- Add Inherited Control...
- Add Component...
- Add Class...
- Add Existing Model

Solution Explorer - WindowsAp...

Solution 'WindowsApplication2' (1 pro

WindowsApplication2

- Build
- Rebuild
- Add
- Add Reference...
- Add Web Reference...
- Synchronize
- Reverse Engineer
- Browse Model
- Set as StartUp Project
- Debug
- Save WindowsApplication2
- Paste
- Remove
- Rename
- Properties

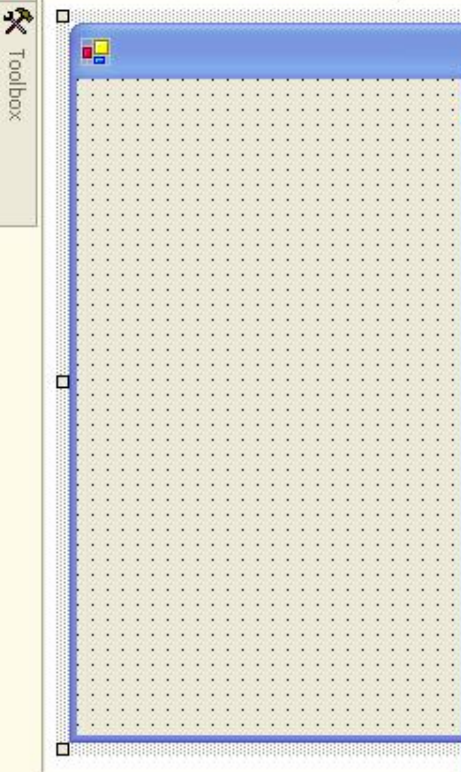
Output

Rational XDE

Task List Output



Start Page Form1.cs [Design]*



Add New Item - WindowsApplication2

Categories:

- + Local Project Items
- + Rational XDE
- Rational XDE User Defined

Templates:

Windows Form	Class	Component Class
User Control	Data Form Wizard	Data Set
XML File	XML Schema	Code File

A form for Windows Applications

Name:

Solution Explorer - WindowsAp...



Output

Rational XDE

Task List Output

Janus Controls v2

Data

Components

Windows Fo...

- Pointer
- Button
- CheckBox
- CheckedLis...
- ColorDialog
- ComboBox
- ContextMenu
- CrystalRep...
- DataGrid
- DateTimePi...
- DomainUpD...
- ErrorProvider
- FolderBrow...
- FontDialog
- GroupBox
- HelpProvider
- HScrollBar
- ImageList
- Label
- LinkLabel
- ListBox
- ListView
- MainMenu
- MonthCale...

General

Output

Solution Explorer

Properties



```
using System;
using System.Drawing;
using System.Collections;
using System.ComponentModel;
using System.Windows.Forms;

using System.Data ;
using System.Data.SqlClient ;

namespace WindowsApplication2
{
    /// <summary>
    /// Summary description for Form_ShowAllStudents.
    /// </summary>
    public class Form_ShowAllStudents : System.Windows.Forms.Form
    {
        private System.Windows.Forms.DataGrid dataGrid1;

        public SqlConnection cnn ;
        /// <summary>
        /// Required designer variable.
        /// </summary>
        private System.ComponentModel.Container components = null;

        public Form_ShowAllStudents()
        {
            //
            // Required for Windows Form Designer support
            //
            InitializeComponent();
        }
    }
}
```

وسيله اتصال فرم دوم به DB



Start Page | Form1.cs [Design] | Form_ShowAllStudents.cs [Design]* | dbo.Estates : Ta...52043075.Agency | Form_ShowAllStudents.cs* | Form1.cs

WindowsApplication2.Form1 | linkLabel1_LinkClicked(object sender, System.Windows.Forms.LinkLabelLinkClickedEventArgs e)

```
    }
    }
    base.Dispose( disposing );
}

Windows Form Designer generated code

/// <summary>
/// The main entry point for the application.
/// </summary>
[STAThread]
static void Main()
{
    Application.Run(new Form1());
}

private void Form1_Load(object sender, System.EventArgs e)
{
}

private void linkLabel1_LinkClicked(object sender, System.Windows.Forms.LinkLabelLinkClickedEventArgs e)
{
    Form_ShowAllStudents f = new Form_ShowAllStudents() ;
    f.cnn = sqlConnection1 ;
    f.ShowDialog() ;
}
}
```

با کلیک شدن لینک اول در فرم1 باید این دستورات اجرا شوند

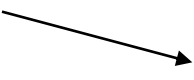
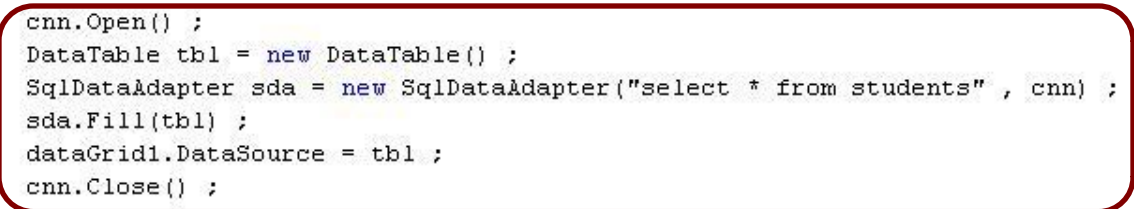
```

    {
        if(components != null)
        {
            components.Dispose();
        }
        base.Dispose( disposing );
    }

    Windows Form Designer generated code

    private void Form_ShowAllStudents_Load(object sender, System.EventArgs e)
    {
        cnn.Open() ;
        DataTable tbl = new DataTable() ;
        SqlDataAdapter sda = new SqlDataAdapter("select * from students" , cnn) ;
        sda.Fill(tbl) ;
        dataGrid1.DataSource = tbl ;
        cnn.Close() ;
    }
}

```



بمحض ظاهر شدن (load شدن) فرم دوم باید این دستورات اجرا شوند

Solution Explorer - WindowsApplica...

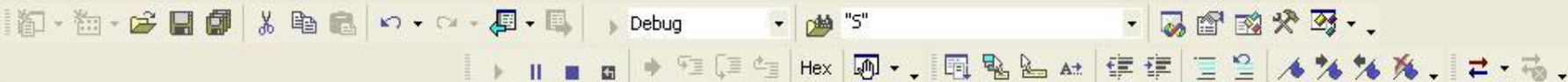
- Solution 'WindowsApplication2' (1 project)
 - WindowsApplication2
 - References
 - App.ico
 - AssemblyInfo.cs
 - Form_ShowAllStudents.cs
 - Form1.cs

Watch 1

Name	Value	Type

Call Stack

Name	Langr



```

    {
        if(components != null)
        {
            components.Dispose();
        }
    }
    base.Dispose( disposing );
}

```

Windows Form Designer generated code

```

private void Form_ShowAllStudents_Load(object sender, System.EventArgs e)
{
    cnn.Open(); → به DB وصل می شود
    DataTable tbl = new DataTable();
    SqlDataAdapter sda = new SqlDataAdapter("select * from students", cnn);
    sda.Fill(tbl); → دستور select تعیین شده را اجرا و حاصل را در tbl میریزد
    dataGridView1.DataSource = tbl; → Datagrid را به tbl وصل می کند تا محتویات آنرا نمایش دهد
    cnn.Close(); → اتصال به DB را قطع می کند
}

```



Name	Value	Type

Name	Langr

WindowsApplication2.Form_ShowAllStudents

Form_ShowAllStudents_Load(object sender, System.EventArgs e)

(

Form1

مشاهده ليست

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مرايش , اطلاعات دانشجو

Form_ShowAllStudents

	SId	Sname	Sfamily	Field	Gender
▶	84110	Ali	Ahmadi	Computer	M
	84120	Reza	Rezaei	Math	M
	84130	Zahra	Hamidi	Computer	F
*					

Solution Explorer - WindowsApplica...

Solution 'WindowsApplication2' (1 project)

- WindowsApplication2
 - References
 - App.ico
 - AssemblyInfo.cs
 - Form_ShowAllStudents.cs
 - Form1.cs

Name	Value	Type

Call Stack

Name	Lang



m_ShowAllStudents.cs [Design] | dbo.Estates : Ta...52043075.Agency) Form_ShowAllStudents.cs | Form1.cs | dbo.Students : T...43075.University) | dbo.sp_RetrieveA...3075.Universit

WindowsApplication2.Form_ShowAllStudents Form_ShowAllStudents_Load(object sender, System.EventArgs e)

```
    }
    }
    base.Dispose( disposing );
}

Windows Form Designer generated code

private void Form_ShowAllStudents_Load(object sender, System.EventArgs e)
{
    cnn.Open() ;
    DataTable tbl = new DataTable() ;
    SqlDataAdapter sda = new SqlDataAdapter("sp_RetrieveAllStudents" , cnn) ;
    sda.SelectCommand.CommandType = CommandType.StoredProcedure ;
    sda.Fill(tbl) ;
    dataGrid1.DataSource = tbl ;
    cnn.Close() ;
}
}
```

روش دوم: صدا زدن Stored procedure که شامل
Query ماست

Output

Debug

```
'WindowsApplication2.exe': Loaded 'c:\windows\assembly\gac\system\1.0.5000.0_b77a5c561934e089\system.dll', No symbols loaded.
'WindowsApplication2.exe': Loaded 'c:\windows\assembly\gac\system.drawing\1.0.5000.0_b03f5f7f11d50a3a\system.drawing.dll', No symbols loaded.
'WindowsApplication2.exe': Loaded 'c:\windows\assembly\gac\system.data\1.0.5000.0_b77a5c561934e089\system.data.dll', No symbols loaded.
'WindowsApplication2.exe': Loaded 'c:\windows\assembly\gac\system.enterpriseservices\1.0.5000.0_b03f5f7f11d50a3a\system.enterpriseservi
'WindowsApplication2.exe': Loaded 'c:\windows\assembly\gac\system.enterpriseservices\1.0.5000.0_b03f5f7f11d50a3a\system.enterpriseservi
'WindowsApplication2.exe': Loaded 'c:\windows\assembly\gac\system.xml\1.0.5000.0_b77a5c561934e089\system.xml.dll', No symbols loaded.
The program '[1416] WindowsApplication2.exe' has exited with code 0 (0x0).
```

Task List



Windows Form Designer generated code

```
private void Form_ShowAllStudents_Load(object sender, System.EventArgs e)
{
    cnn.Open() ;
    DataTable tbl = new DataTable() ;
    try
    {
        SqlDataAdapter sda = new SqlDataAdapter("sp_RetrieveAllStudents" , cnn) ;
        sda.SelectCommand.CommandType = CommandType.StoredProcedure ;
        sda.Fill(tbl) ;
    }
    catch(Exception err)
    {
        MessageBox.Show(err) ;
    }
    dataGrid1.DataSource = tbl ;
    cnn.Close() ;
}
```

استفاده از بلوکهای **try** و **catch** جهت کنترل استثناها (خطاها)

(در صورتیکه دستورات داخل **try** با استثنا مواجه شوند به داخل بلوک **catch**

پرش کرده و دستورات داخل آن اجرا می شوند)

Output

Debug

```
'WindowsApplication2.exe': Loaded 'c:\windows\assembly\gac\system\1.0.5000.0_b77a5c561934e089\system.dll', No symbols loaded.
'WindowsApplication2.exe': Loaded 'c:\windows\assembly\gac\system.drawing\1.0.5000.0_b03f5f7f11d50a3a\system.drawing.dll', No symbols loaded.
'WindowsApplication2.exe': Loaded 'c:\windows\assembly\gac\system.data\1.0.5000.0_b77a5c561934e089\system.data.dll', No symbols loaded.
'WindowsApplication2.exe': Loaded 'c:\windows\assembly\gac\system.enterpriseservices\1.0.5000.0_b03f5f7f11d50a3a\system.enterpriseservi
'WindowsApplication2.exe': Loaded 'c:\windows\assembly\gac\system.enterpriseservices\1.0.5000.0_b03f5f7f11d50a3a\system.enterpriseservi
'WindowsApplication2.exe': Loaded 'c:\windows\assembly\gac\system.xml\1.0.5000.0_b77a5c561934e089\system.xml.dll', No symbols loaded.
The program '[1416] WindowsApplication2.exe' has exited with code 0 (0x0).
```

Task List