# How to program an application simple

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*Today let us talk about how to program an application **simple** for control our system (**S-BUS System**), I will give three examples (**VB6.0** and **Delphi7** and **C#.NET**), that you can choose any platform which you like*

## 1. Download and install the library

1> Download link as below:
2> Install the library step by step:
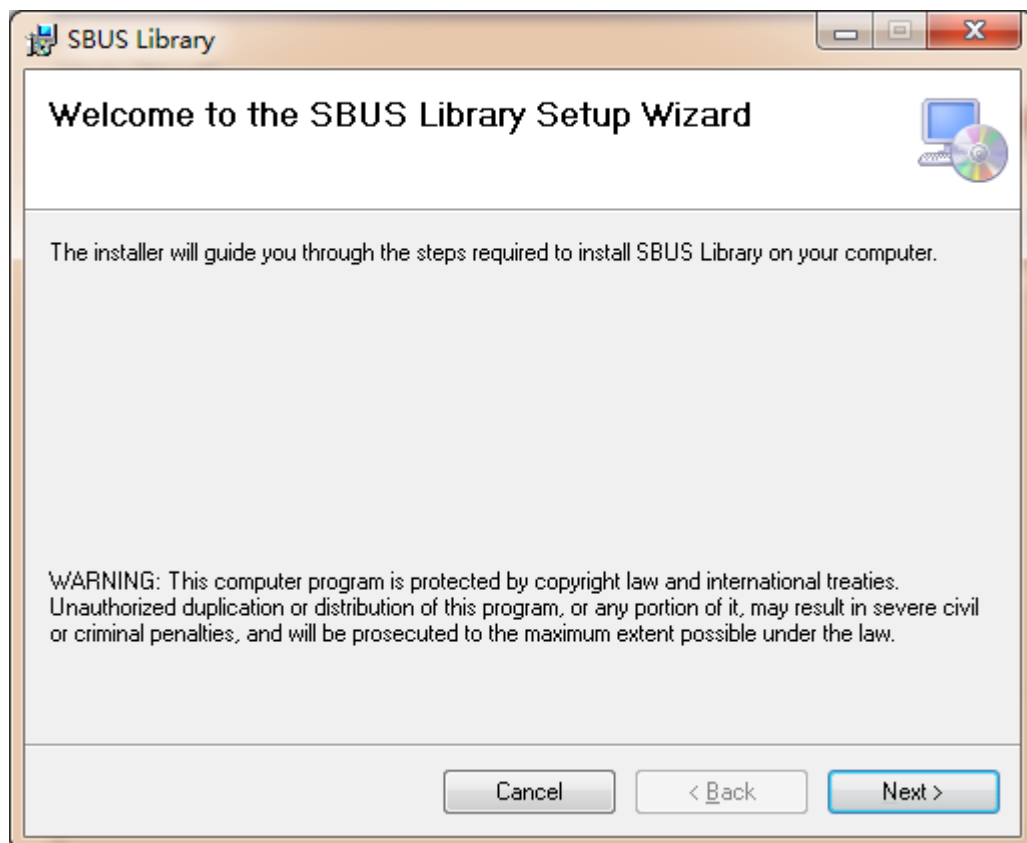Click the "Setup.msi" to install the library

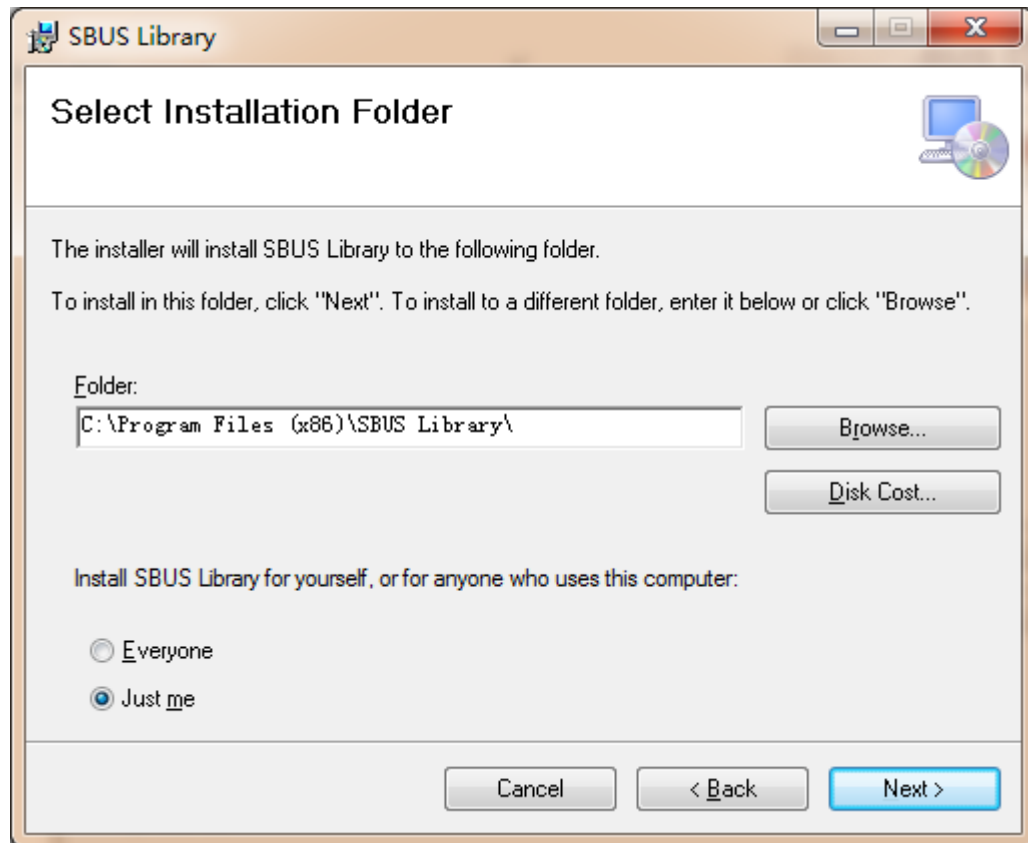| | | | |
|---|---|---|---|
| 📁 DotNetFX40Client | 2014/7/3 10:44 | 文件夹 | |
| 📄 SBUS Library.msi | 2014/7/3 10:44 | Windows Install… | 457 KB |

Notice:
If it appear the warning as below, please click "No" and install the "dotNetFx40_Client_x86_x64.exe", it is under the "DotNetFX40Client\" folder
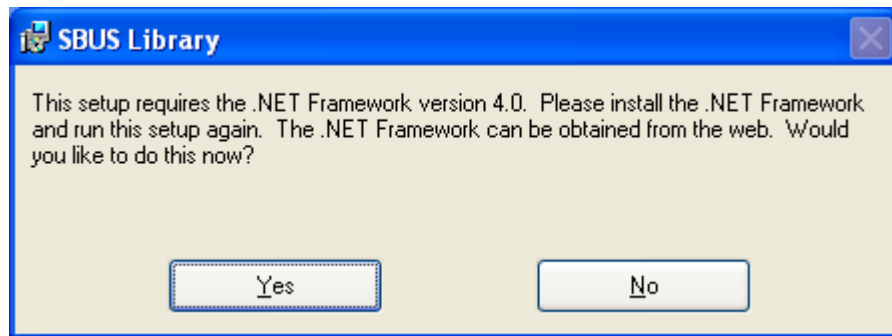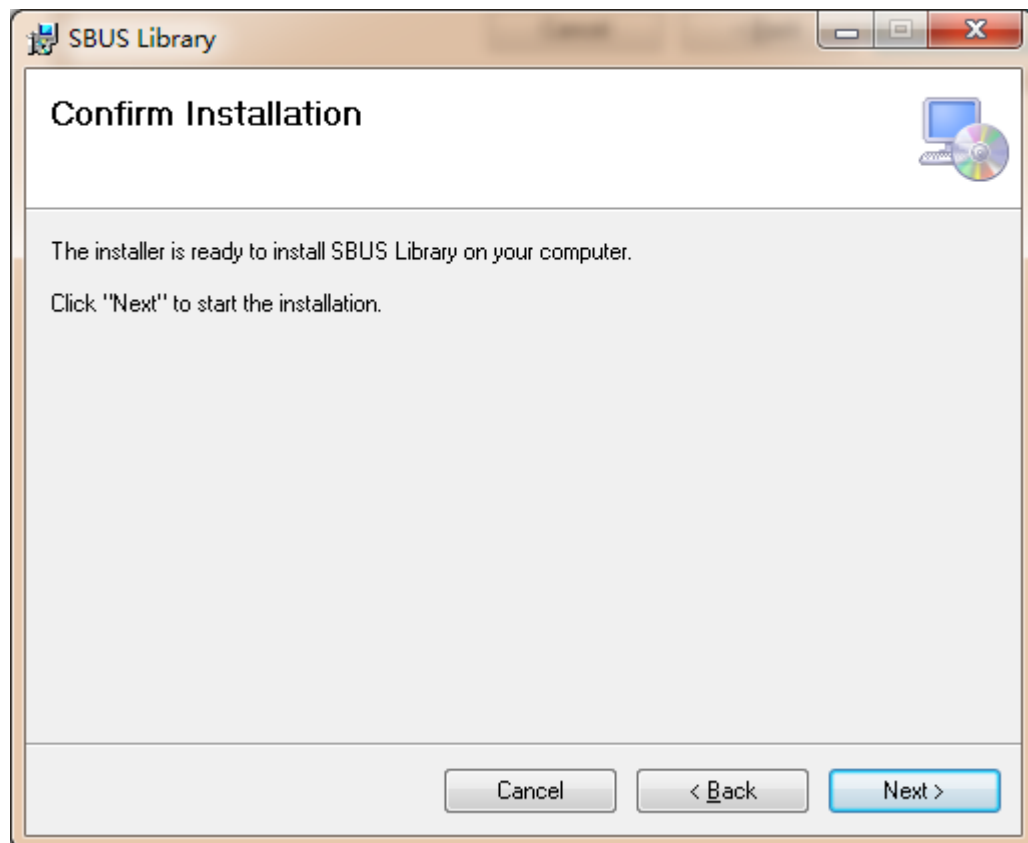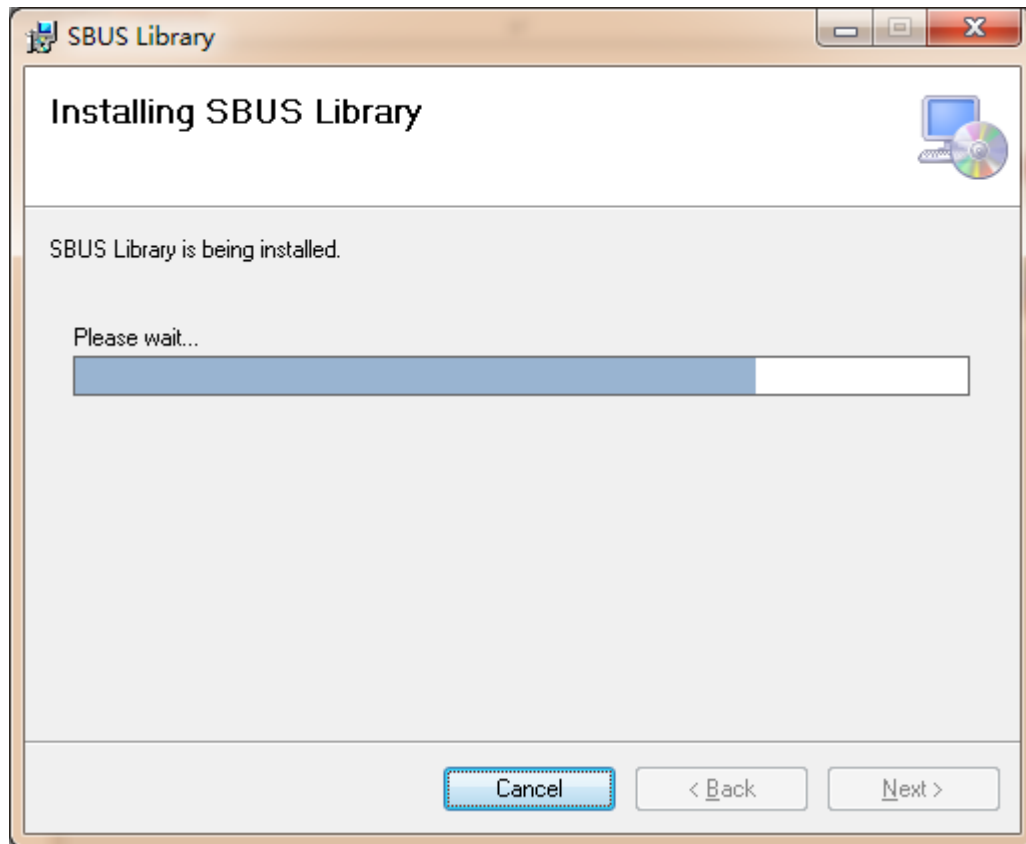
Click "Next"



Select installation folder and click "Next"

Click "Next" to start the installation

Installing the library



Installation complete, click "Close" to exit
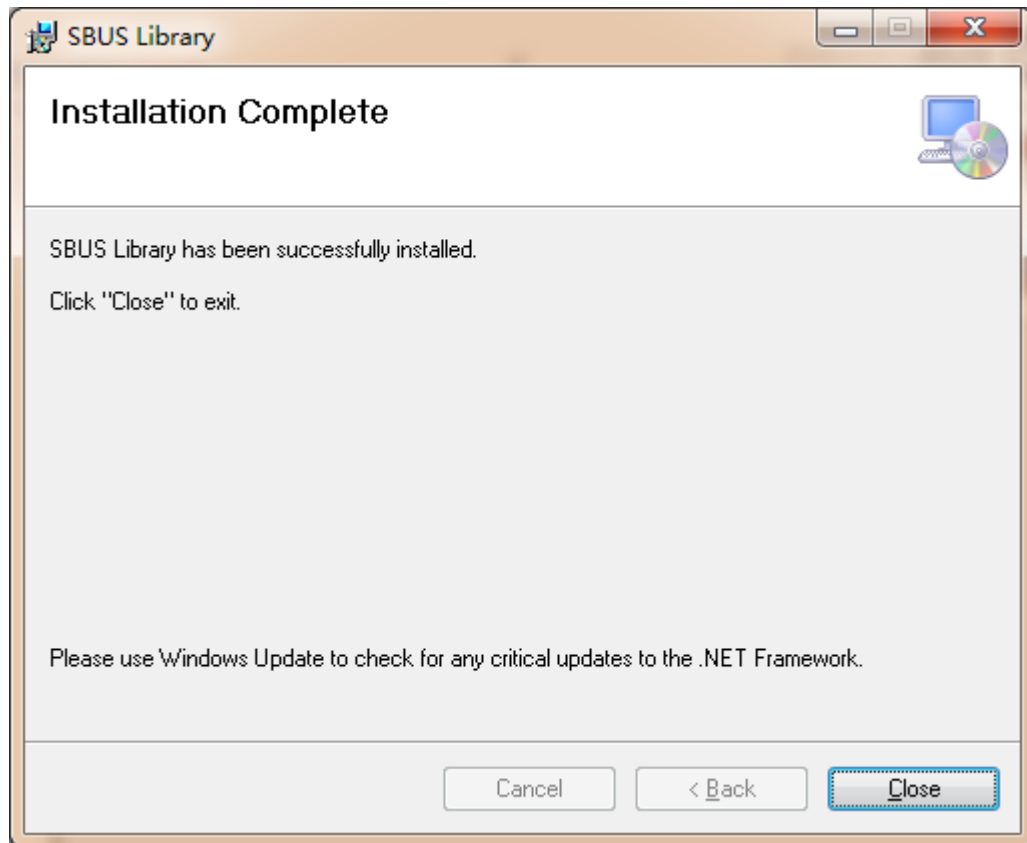
Well, you can see the two files under the folder



Notice:
"SBUS.dll": It is for .NET platform
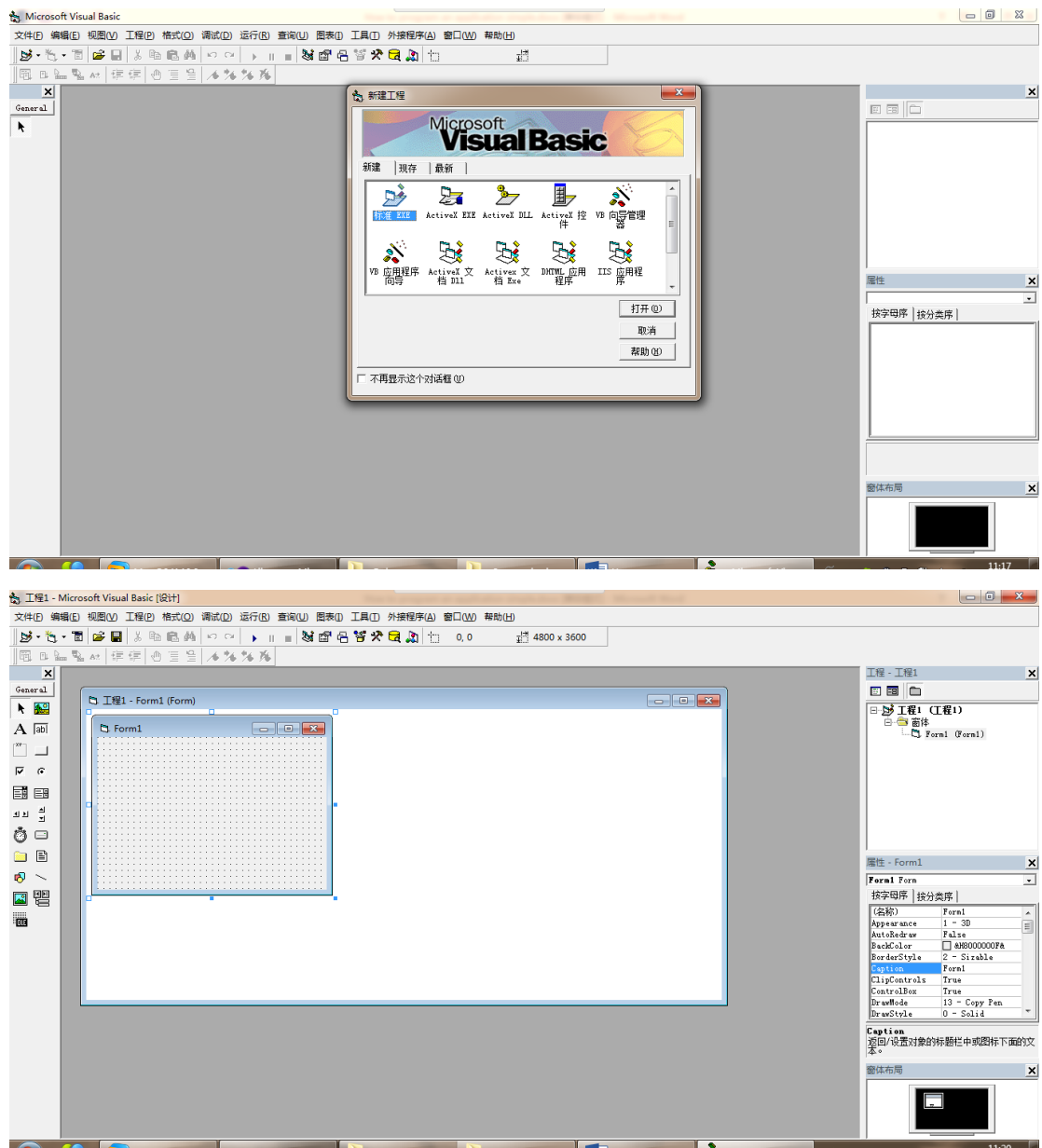"SBUS.tlb": It is for VB6.0 and Delphi7 platform, it just like the "COM" as you know

## 2. How to use the library in your project

1> VB6.0
<i> How to reference the library
Start "Visual Basic" and create a new "Standard EXE" project

In proper order click "Project" -> "Reference"
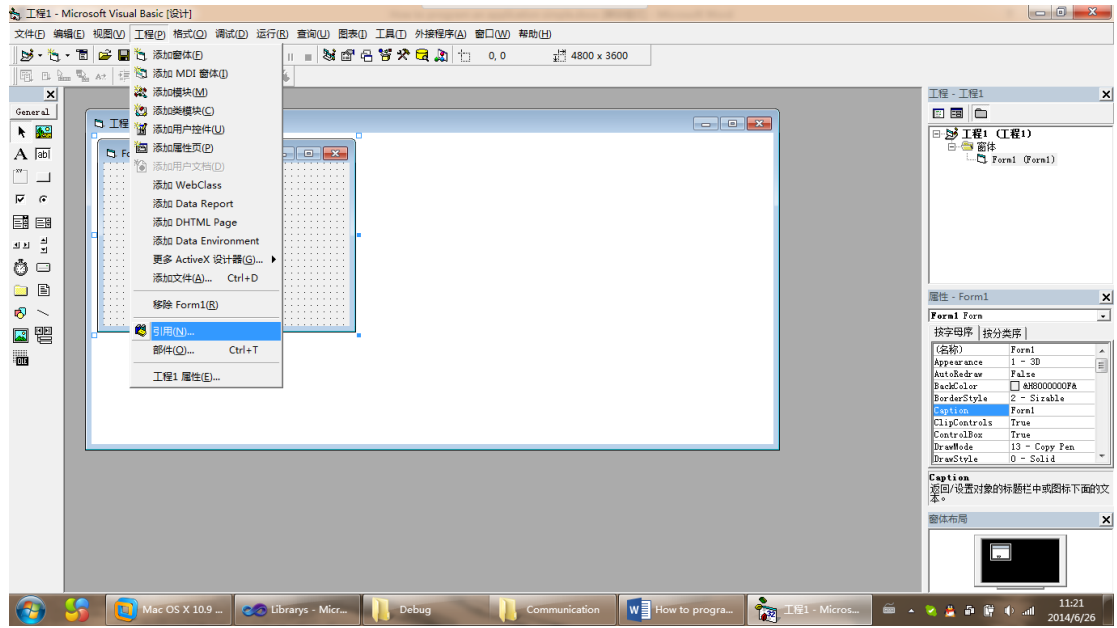
Click "Browse"
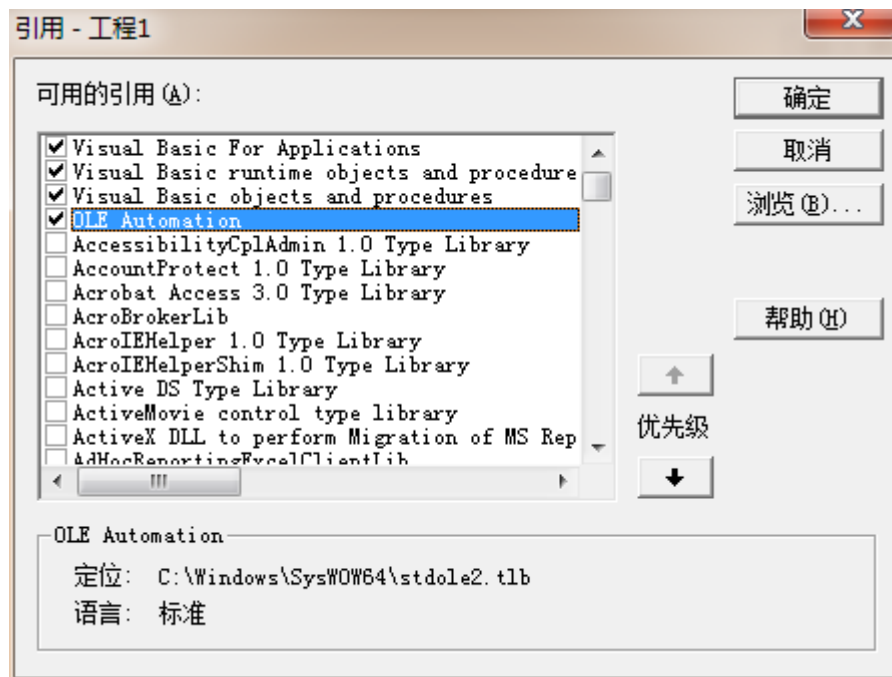


Browse your library's installation path, choose "SBUS.tlb" and click "Open"
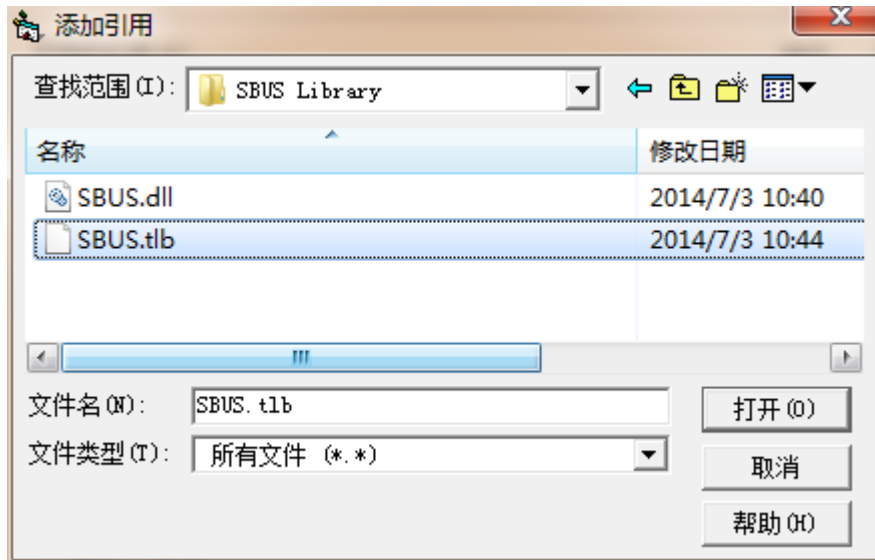
Notice:
Change the "File Type" to "All files (*.*)", then you can see the "SBUS.tlb" file

Then you can see a reference named "SBUS" in your project, click "OK"
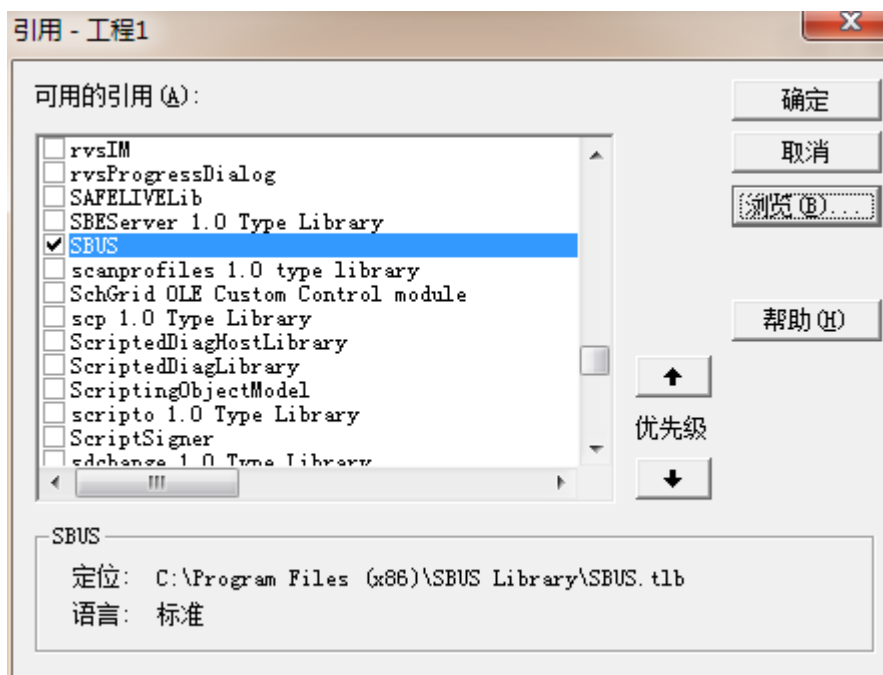


<ii> Program yourself application
Double click anywhere on the from, and write some code as below

```
Dim com As New Dimmer

Dim WithEvents com_Event As Dimmer

Private Sub Form_Load()
    Dim localIPAddress() As String

    localIPAddress = com.GetLocalIPAddressList

    com.localIPAddress = localIPAddress(0)

    com.InitSocket SBUS.PortType_PT_LAN

    Set com_Event = com
End Sub

Private Sub com_Event_DataArrival(ByVal subnetID As Byte, _
                                  ByVal deviceID As Byte, _
                                  ByVal deviceType As Long, _
                                  ByVal ocr As SBUS.OperateCodeResponse, _
                                  ByVal lengthOfAddtional As Long, _
                                  ByRef addtional() As Byte)
    Select Case ocr
        Case SBUS.OperateCodeResponse_OCR_SINGLE_LIGHT_CONTROL
            MsgBox subnetID & ", " & deviceID
    End Select
End Sub
```
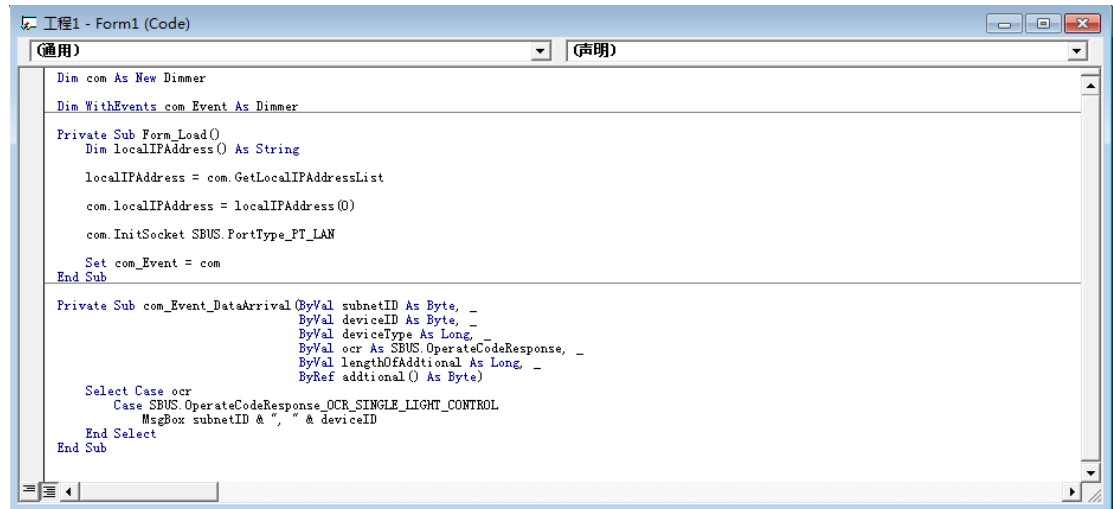
*********************************************************************************************

'Define a variable for the type of "Dimmer"
Dim com As New Dimmer

'Define an event to catch the feedback
Dim WithEvents com_Event As Dimmer

'Form load event
Private Sub Form_Load()
    'Define local IP address array
    Dim localIPAddress() As String

    'Get local IP address from the "com"
    localIPAddress = com.GetLocalIPAddressList

    'Set the "com"'s "localIPAddress" property, if you have more than one network card, you can choose one from the list which is current you need
    com.localIPAddress = localIPAddress(0)

    'Initialise the socket module for lan
    com.InitSocket SBUS.PortType_PT_LAN

    'Set the event for com
    Set com_Event = com
End Sub

'When you receive feedback from the "Single Light Control" function, this event will be trigger
Private Sub com_Event_DataArrival(ByVal subnetID As Byte, _
                                  ByVal deviceID As Byte, _
                                  ByVal deviceType As Long, _

```
                                        ByVal            ocr              As
SBUS.OperateCodeResponse, _
                                        ByVal lengthOfAddtional As Long, _
                                        ByRef addtional() As Byte)
        Select Case ocr
            Case
SBUS.OperateCodeResponse_OCR_SINGLE_LIGHT_CONTROL
                MsgBox subnetID & ", " & deviceID
        End Select
End Sub
```
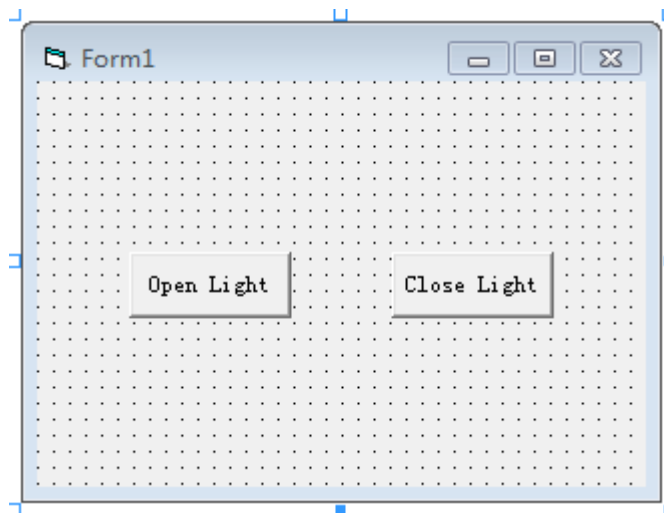
****************************************************************************************************

Add two "CommandButton" into the form, then change their "Caption" property like "Open Light" and "Close Light"



Double click the "Open Light" button and "Close Light" button, and write some code as below

```
Private Sub Command1_Click()
    com.Single_Light_Control 1, 75, 255, 100
End Sub

Private Sub Command2_Click()
    com.Single_Light_Control 1, 75, 255, 0
End Sub
```

****************************************************************************************************

'Open Light event
Private Sub Command1_Click()
    'Calll "Single_Light_Control" method
    'Single_Light_Control subnetID, deviceID, channelNo, brightnessLevel
    com.Single_Light_Control 1, 75, 255, 100
End Sub

```
'Close Light event
Private Sub Command2_Click()
    'Calll "Single_Light_Control" method
    'Single_Light_Control subnetID, deviceID, channelNo, brightnessLevel
    com.Single_Light_Control 1, 75, 255, 0
End Sub
```
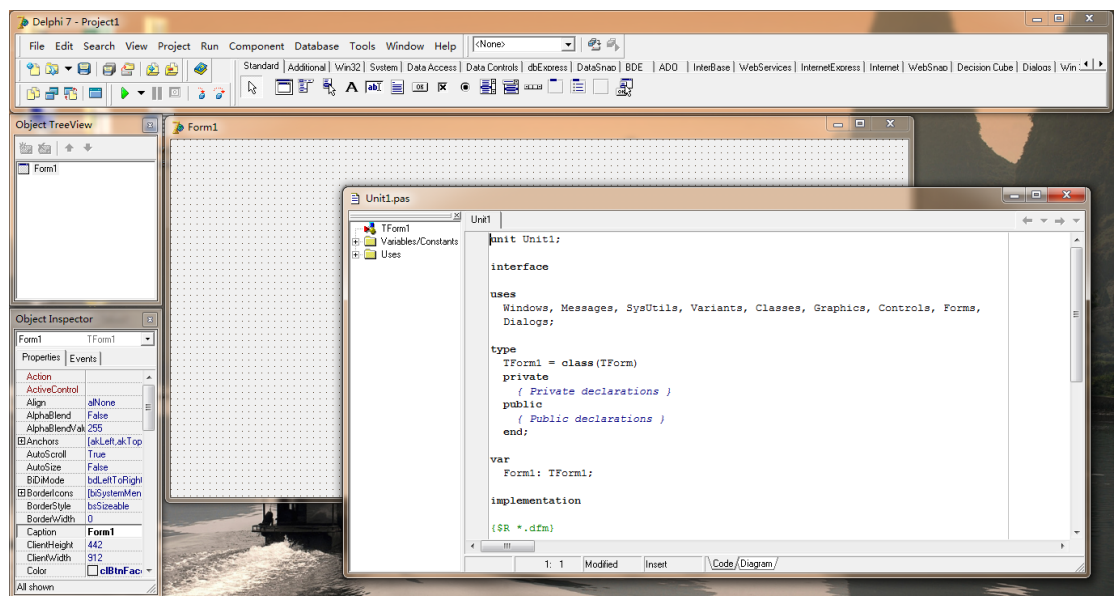*******************************************************************************************

Also, you can use the same way to develop yourself application with the VBA platform in Microsoft Office

2> Delphi7

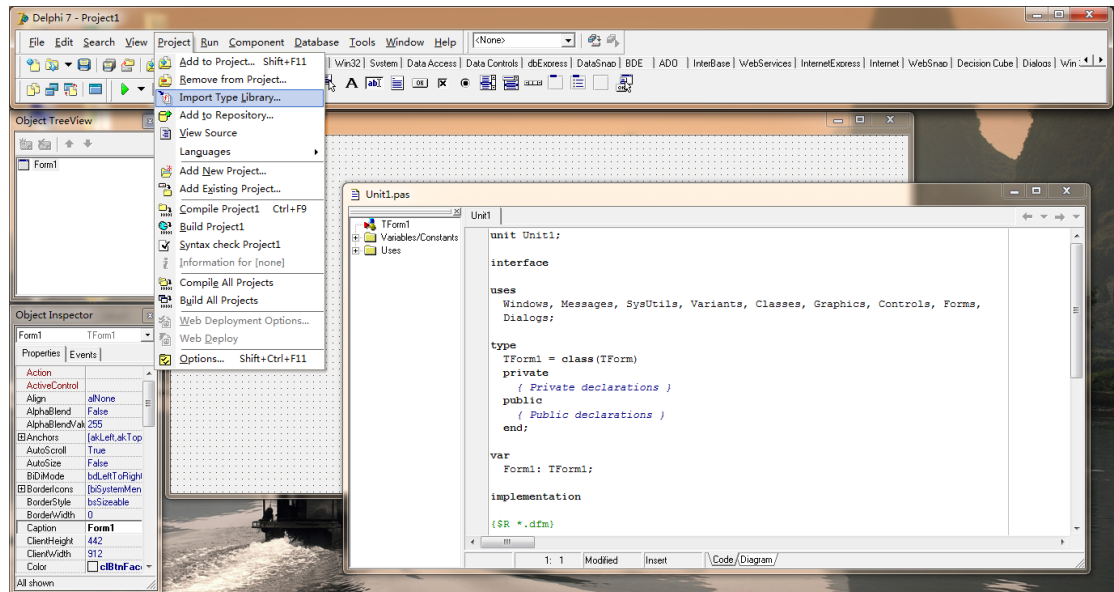&lt;i&gt; How to reference the library
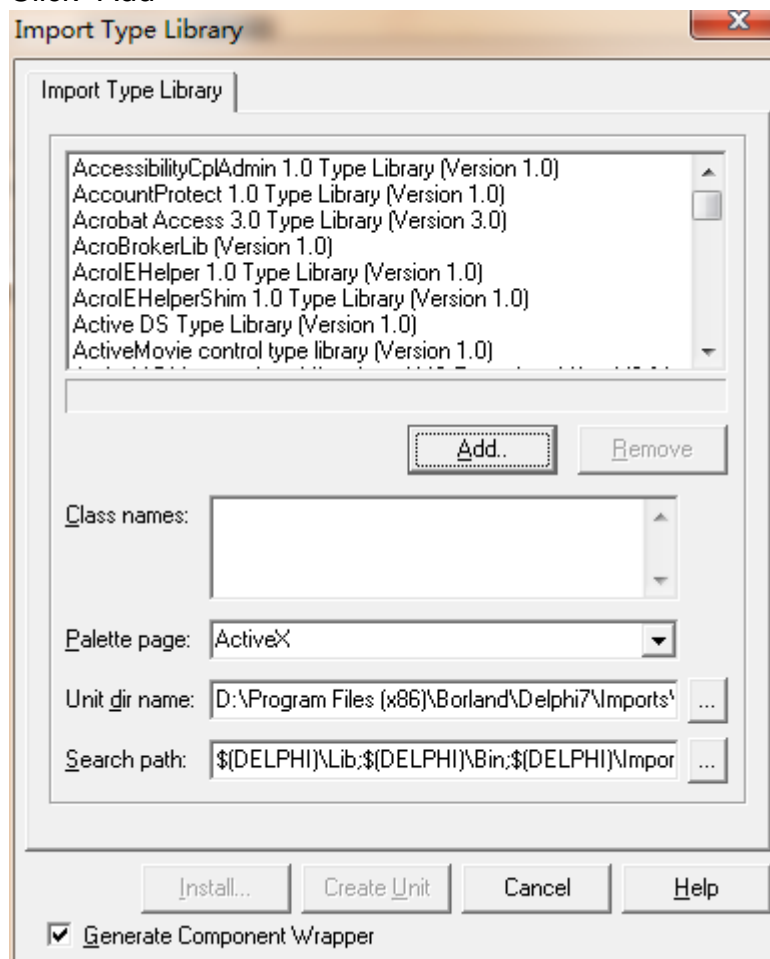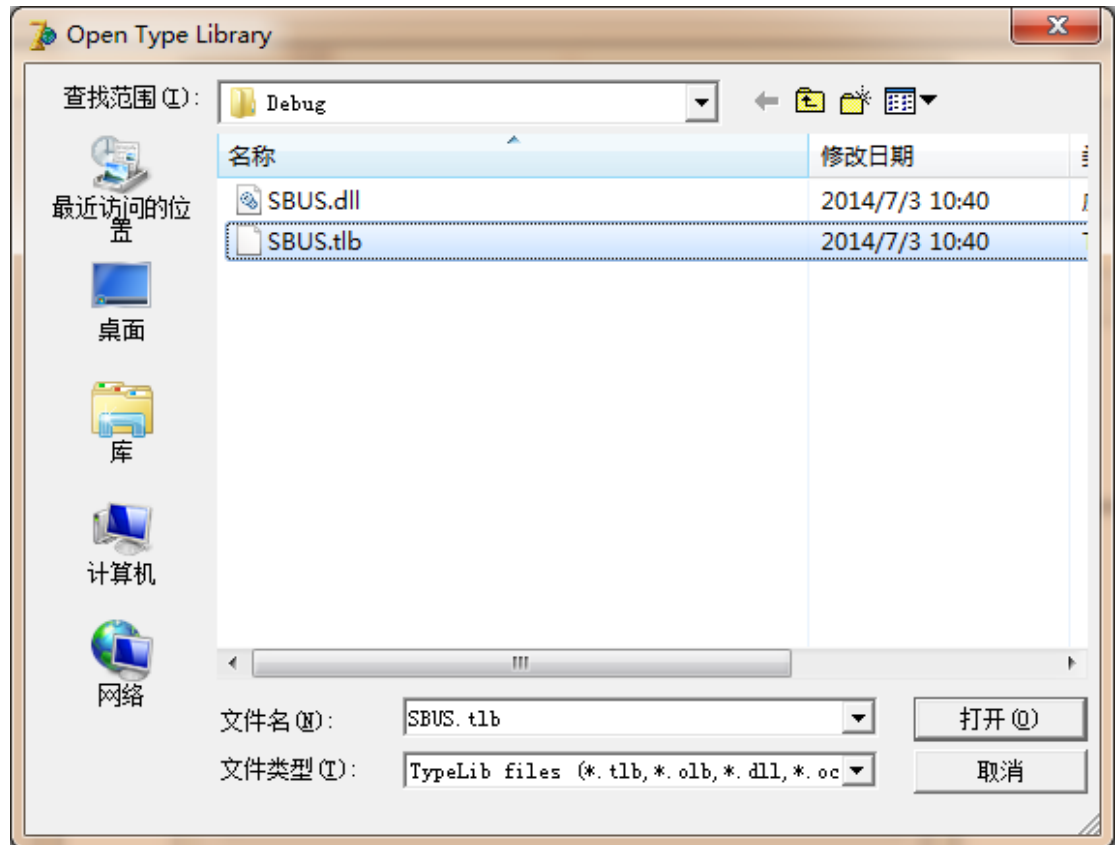
Start "Delphi 7"



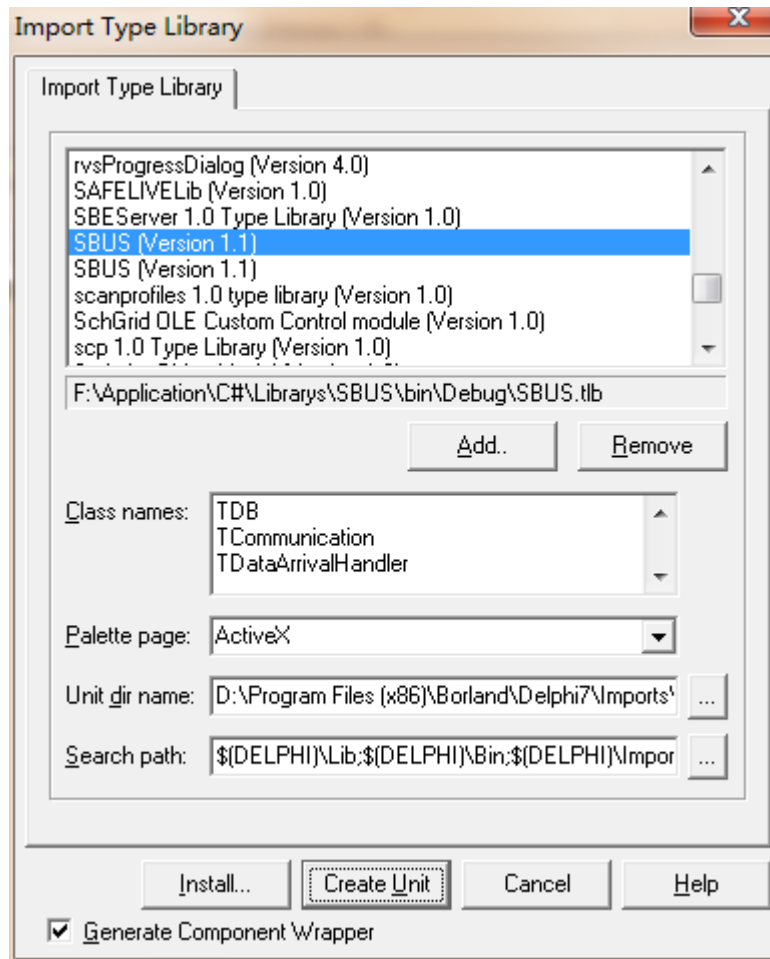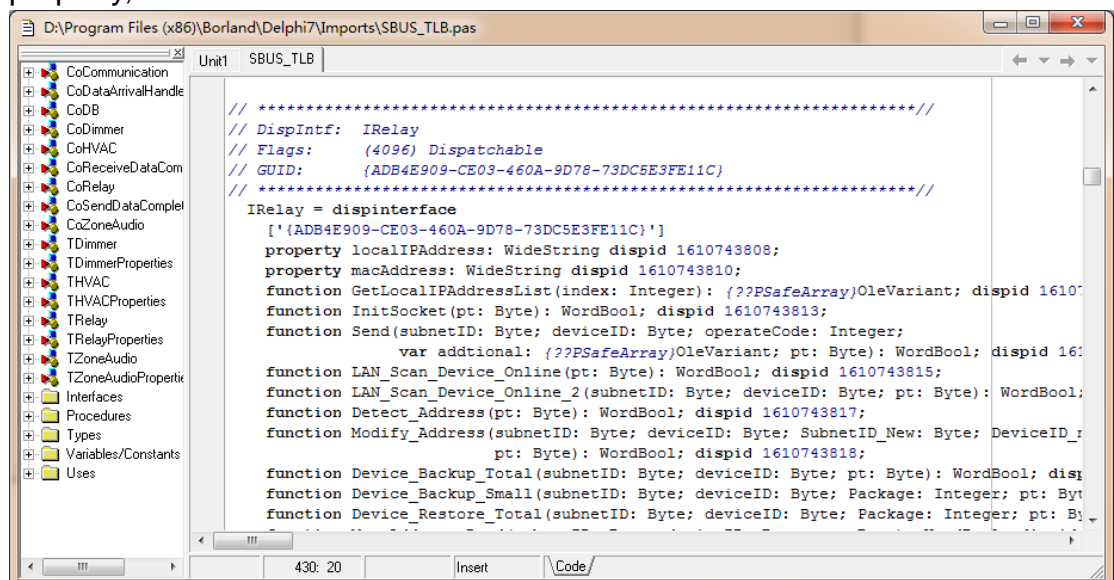In proper order click "Project" -> "Import Type Library…"

Click "Add"



Browse your library's installation path, choose "SBUS.tlb" and click "Open"

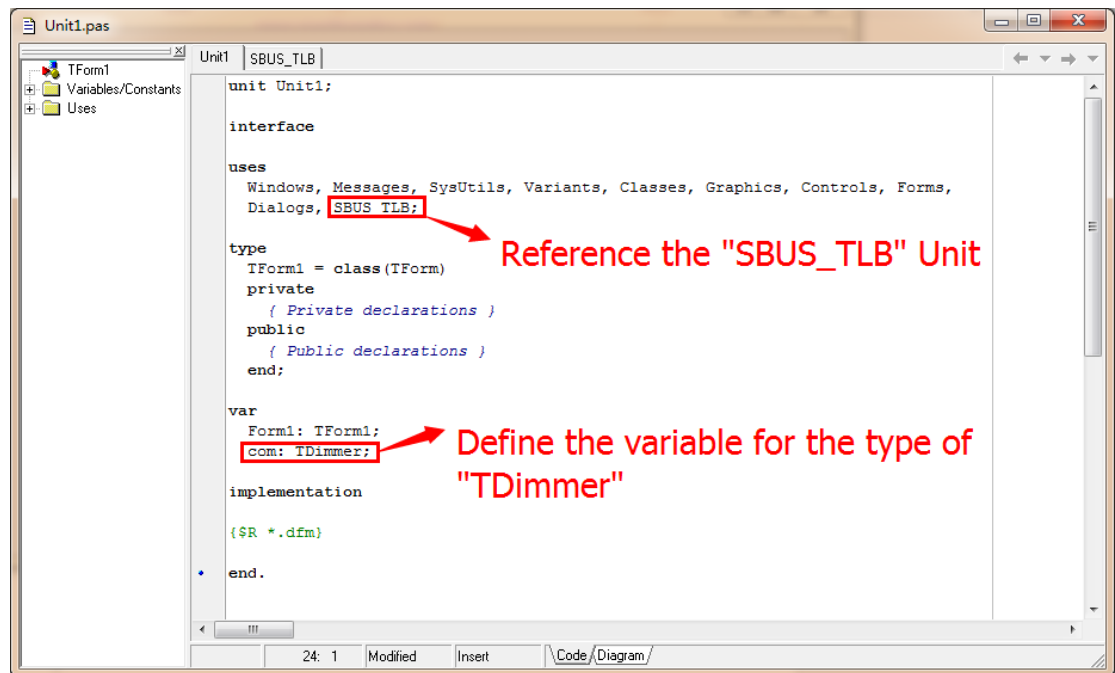Then you can see a reference named "SBUS (Version 1.1)" in your project, click "Create Unit"

Then the "SBUS_TLB" is added in your project, you can view its property, function or event and so on



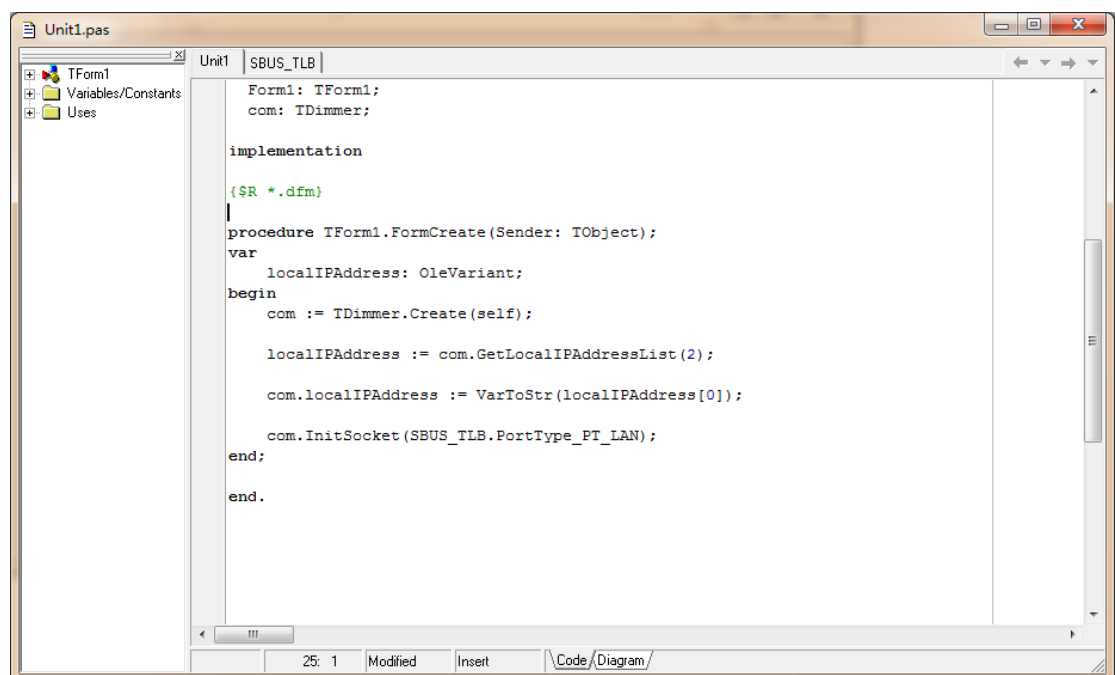<ii> Program yourself application

Reference unit and define variable

Double click anywhere on the from, and write some code as below



*****************************************************************************************

**procedure** TForm1.FormCreate(Sender: TObject);

**var**

　　localIPAddress: OleVariant;

**begin**

　　com := TDimmer.Create(self);

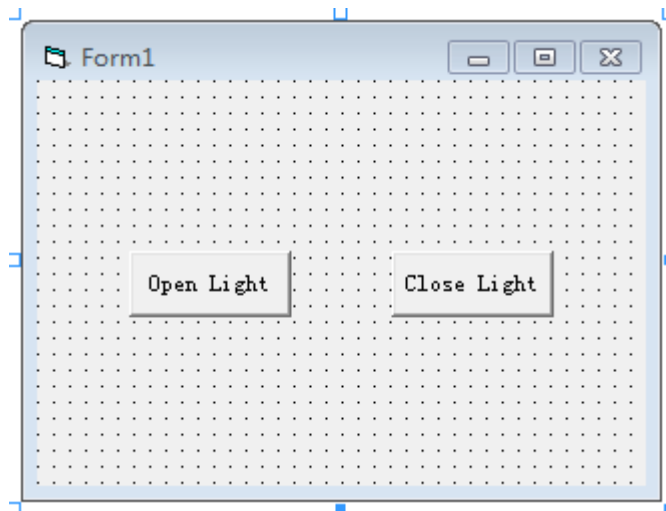　　localIPAddress := com.GetLocalIPAddressList(2);

```
        com.localIPAddress := VarToStr(localIPAddress[0]);


        com.InitSocket(SBUS_TLB.PortType_PT_LAN);
end;
```
********************************************************************************************

Add two "Button" into the form, then change their "Caption" property like "Open Light" and "Close Light"



Double click the "Open Light" button and "Close Light" button, and write some code as below

```
procedure TForm1.Button1Click(Sender: TObject);
begin
    com.Single_Light_Control(1, 75, 255, 100, 0, SBUS_TLB.PortType_PT_LAN);
end;

procedure TForm1.Button2Click(Sender: TObject);
begin
    com.Single_Light_Control(1, 75, 255, 0, 0, SBUS_TLB.PortType_PT_LAN);
end;
```
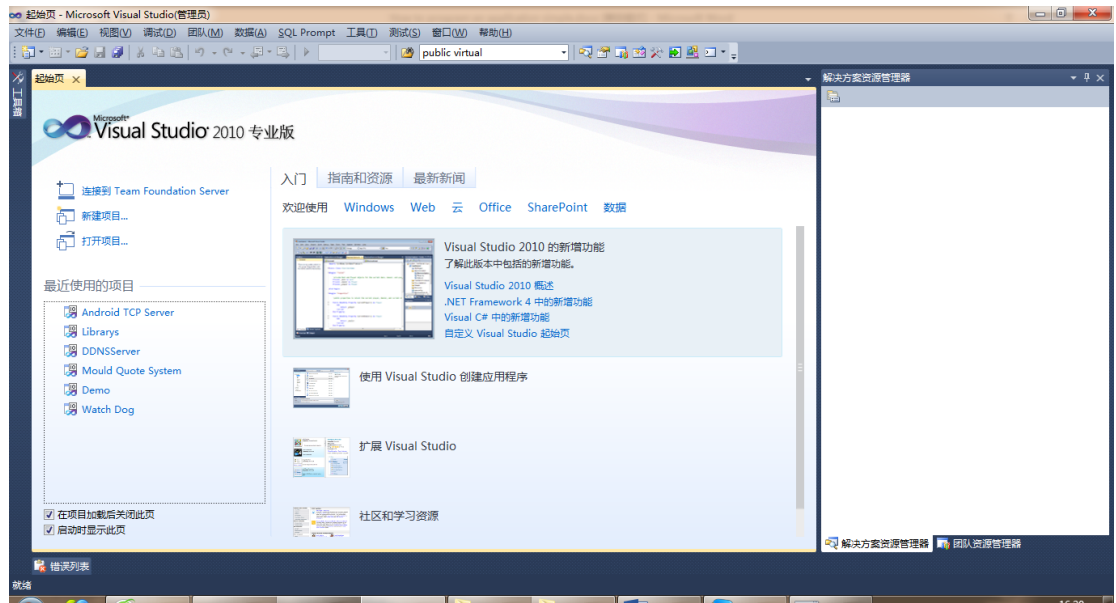********************************************************************************************

**procedure** TForm1.Button1Click(Sender: TObject);
**begin**
        com.Single_Light_Control(1,        75,        255,        100,        0,
SBUS_TLB.PortType_PT_LAN);
**end**;


**procedure** TForm1.Button2Click(Sender: TObject);
**begin**
        com.Single_Light_Control(1, 75, 255, 0, 0, SBUS_TLB.PortType_PT_LAN);
**end**;
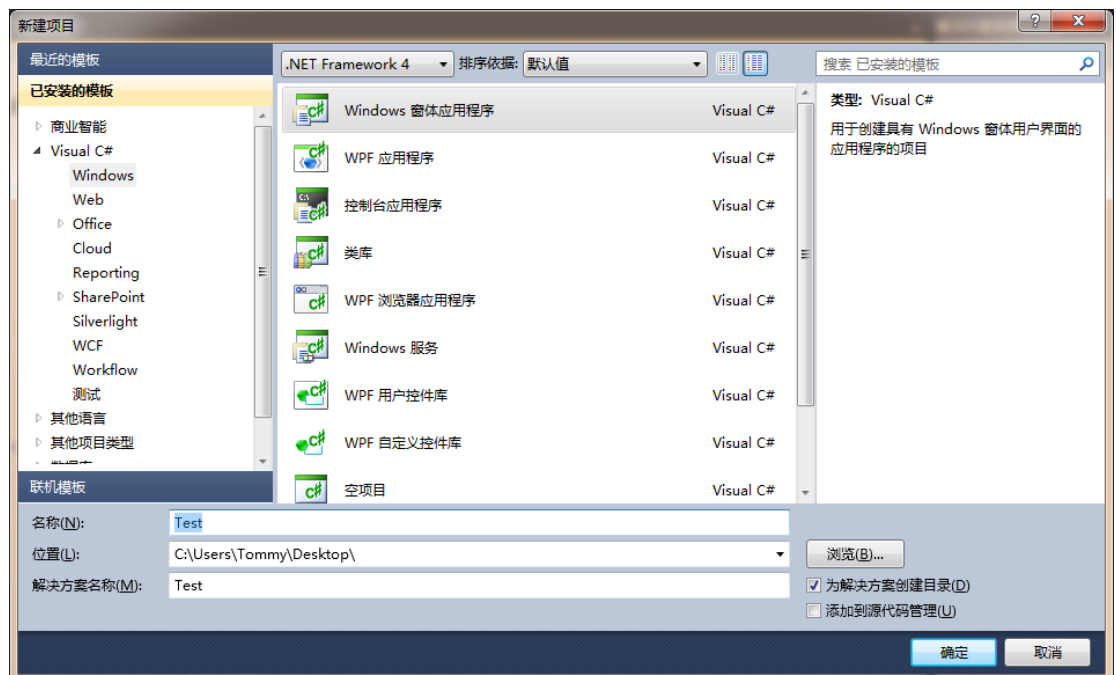********************************************************************************************
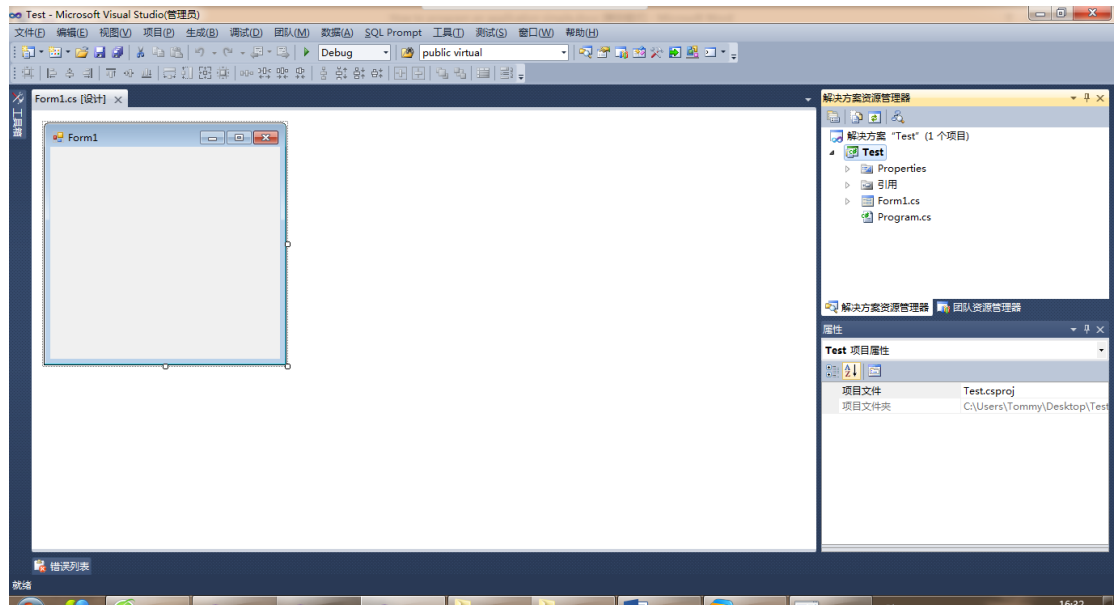
## 3> C#.NET

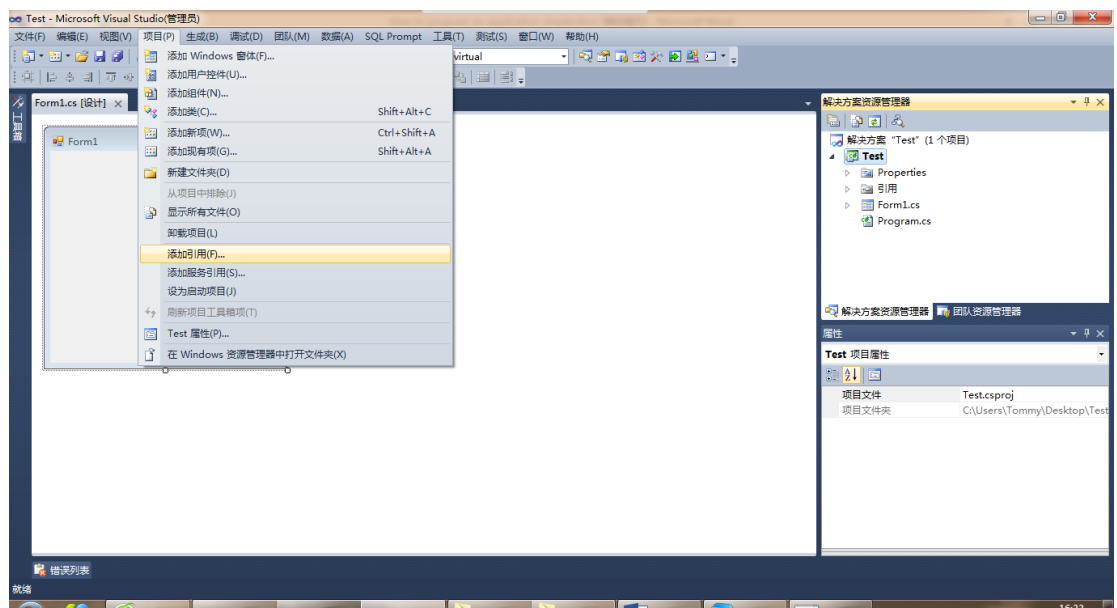### <i> How to reference the library

Start "Microsoft Visual Studio 2010"



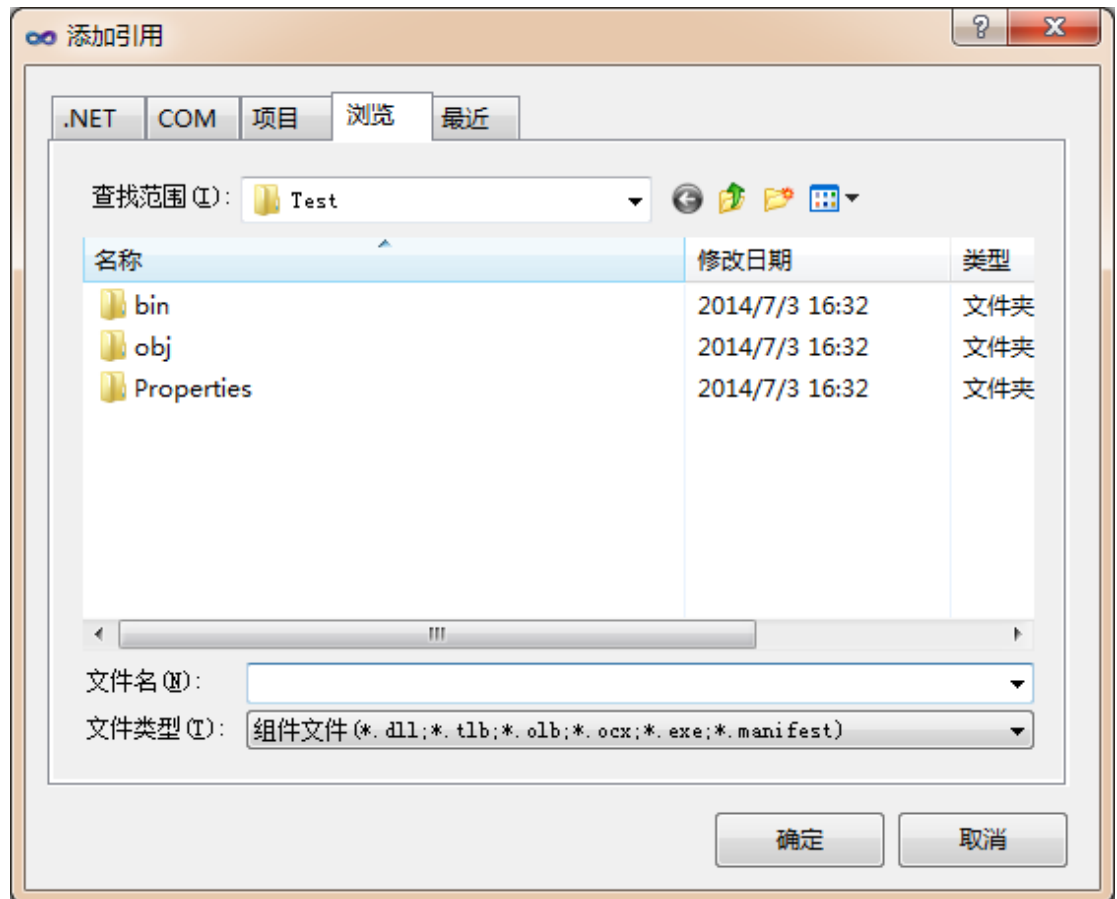Click "New Project…", expand the tree "Visual C#" -> "Windows", select "Windows Form Application" and set your project name "Test", then click "OK"
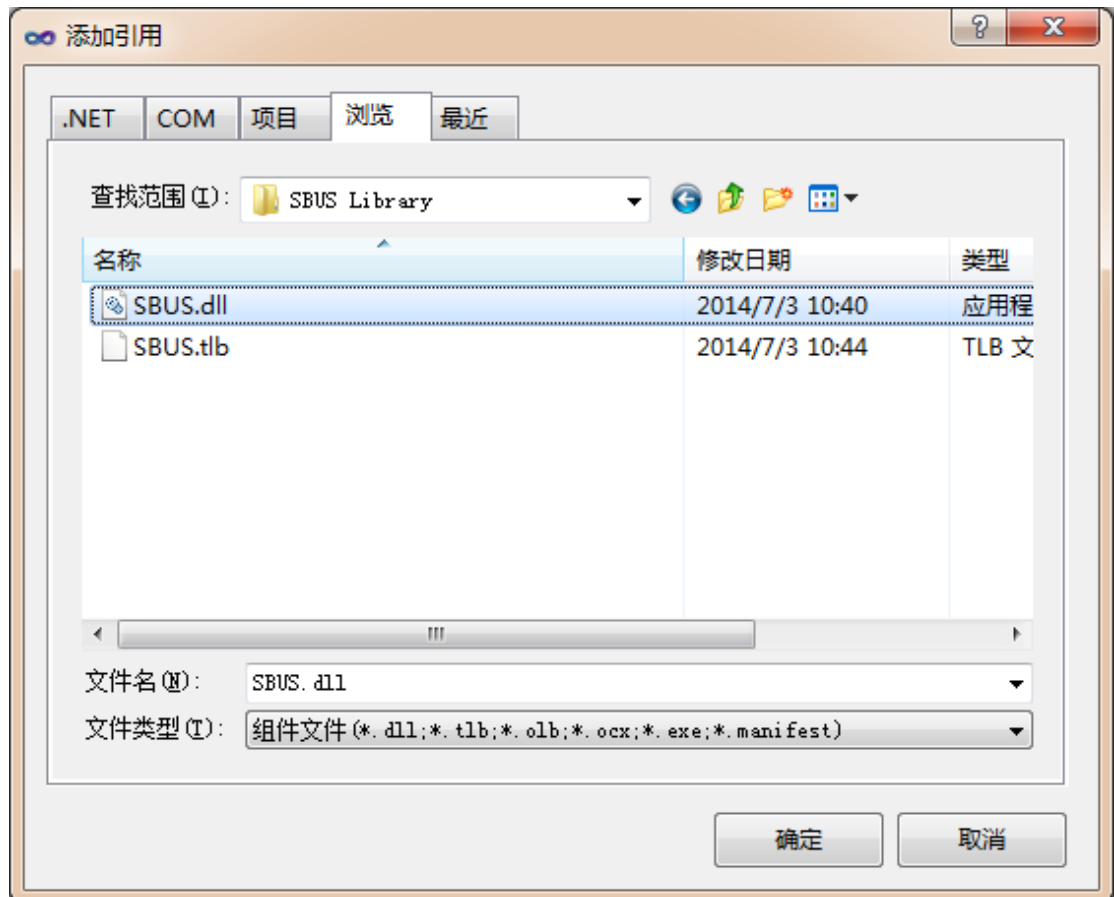
In proper order click "Project" -> "Add Reference…", and change to the "Browse" tab

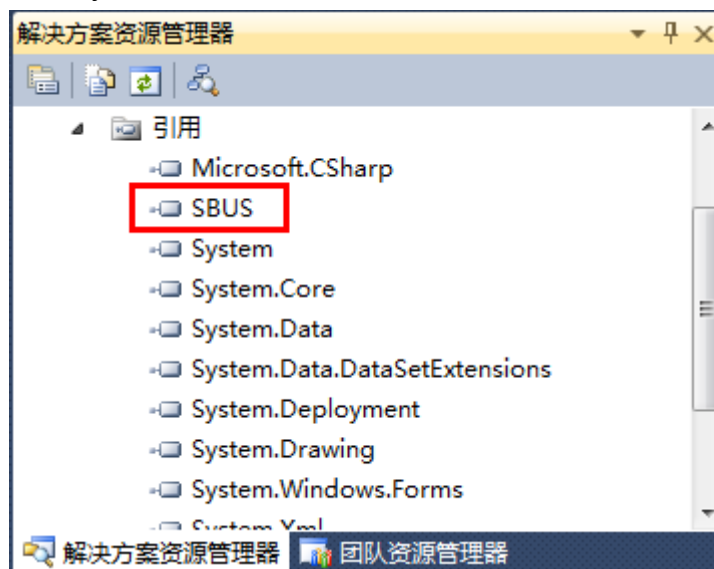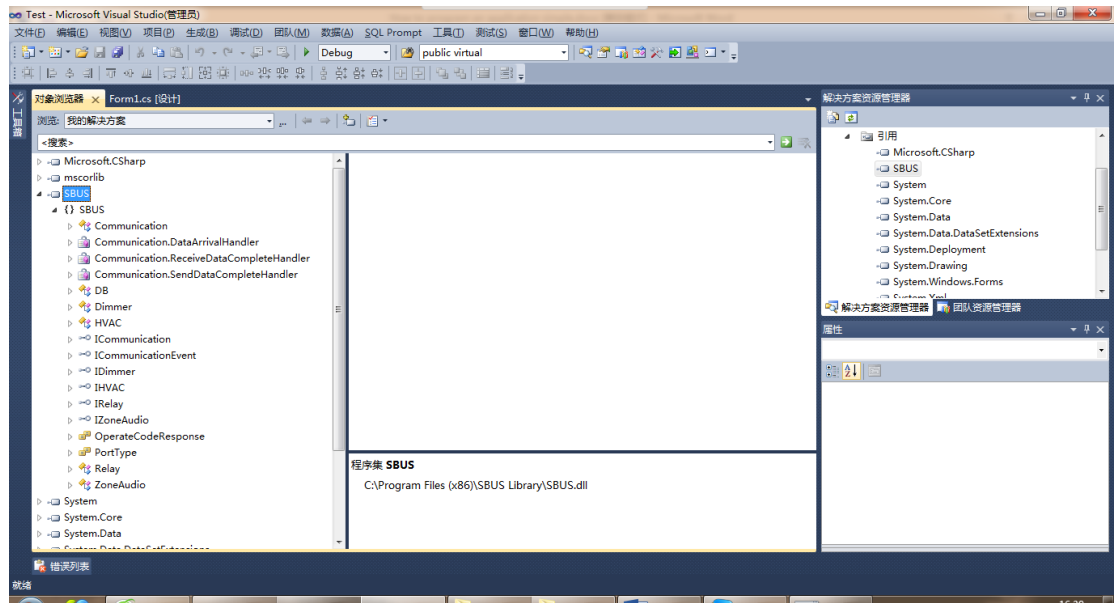Browse your library's installation path, choose "SBUS.dll" and click "OK"

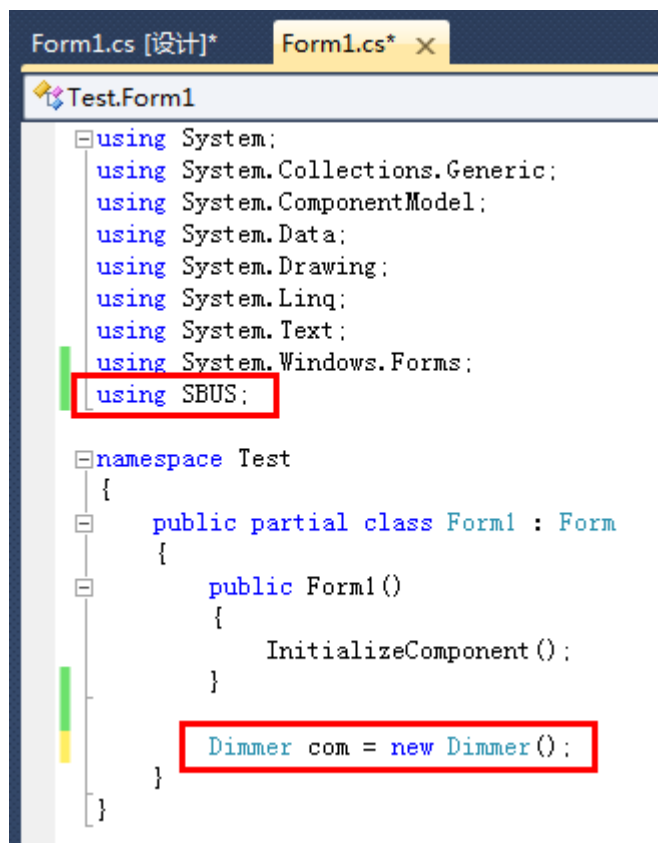Then you can see a reference named "SBUS" in the "Solution Explorer"



Then the "SBUS.dll" is added in your project, you can double click it to view its property, function or event and so on
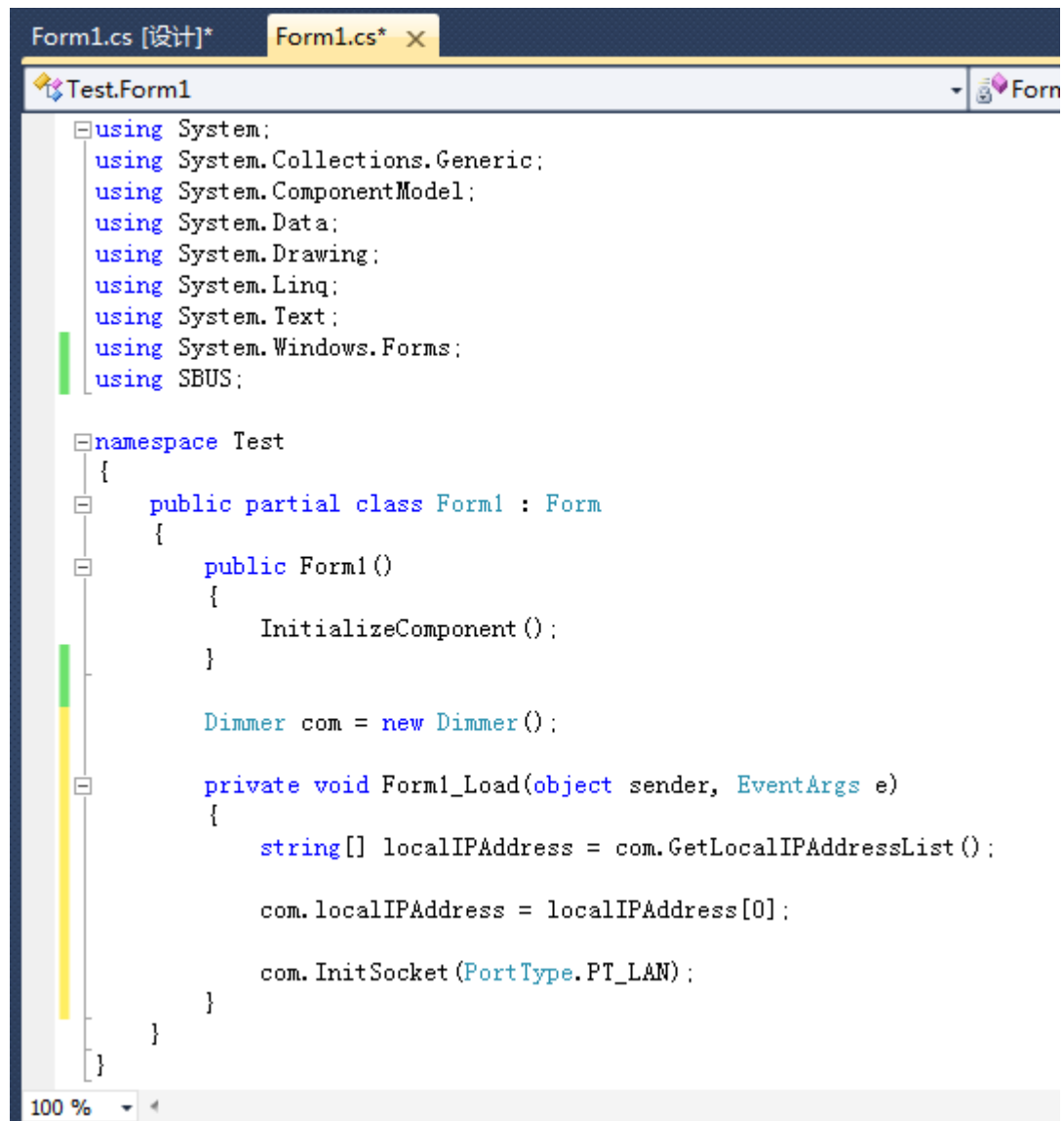
<ii> Program yourself application

Reference dll and define variable



Double click anywhere on the from, and write some code as below

```
Form1.cs [设计]*        Form1.cs* ×

Test.Form1                                              ▼    Form

    using System;
    using System.Collections.Generic;
    using System.ComponentModel;
    using System.Data;
    using System.Drawing;
    using System.Linq;
    using System.Text;
    using System.Windows.Forms;
    using SBUS;

    namespace Test
    {
        public partial class Form1 : Form
        {
            public Form1()
            {
                InitializeComponent();
            }

            Dimmer com = new Dimmer();

            private void Form1_Load(object sender, EventArgs e)
            {
                string[] localIPAddress = com.GetLocalIPAddressList();

                com.localIPAddress = localIPAddress[0];

                com.InitSocket(PortType.PT_LAN);
            }
        }
    }

100 %    ▼  ◄
```

*****************************************************************************************

```csharp
private void Form1_Load(object sender, EventArgs e)
 {
      string[] localIPAddress = com.GetLocalIPAddressList();

      com.localIPAddress = localIPAddress[0];

      com.InitSocket(PortType.PT_LAN);
 }
```
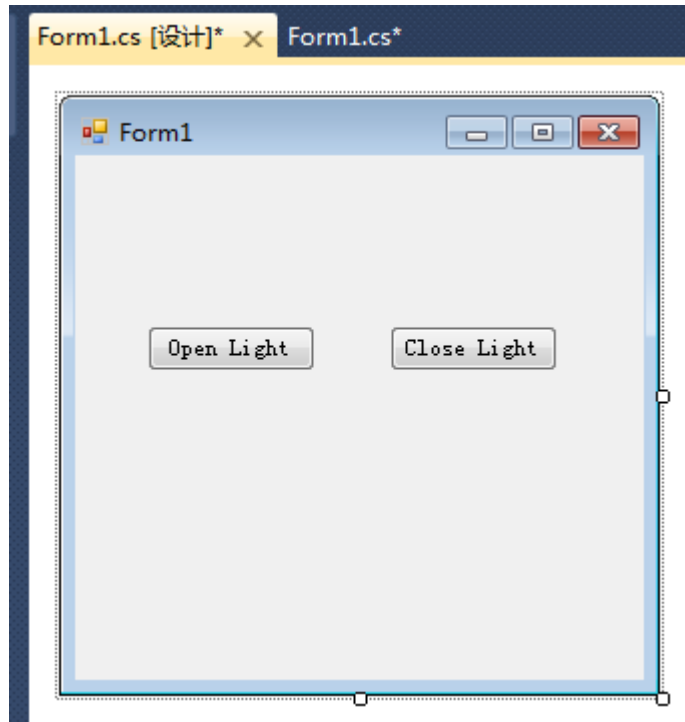*****************************************************************************************


Add two "Button" into the form, then change their "Caption" property like
"Open Light" and "Close Light"

Double click the "Open Light" button and "Close Light" button, and write some code as below

```
private void button1_Click(object sender, EventArgs e)
{
    com.Single_Light_Control(1, 75, 255, 100);
}

private void button2_Click(object sender, EventArgs e)
{
    com.Single_Light_Control(1, 75, 255, 0);
}
```

`
*********************************************************************************************

```
private void button1_Click(object sender, EventArgs e)
 {
     com.Single_Light_Control(1, 75, 255, 100);
 }

 private void button2_Click(object sender, EventArgs e)
 {
     com.Single_Light_Control(1, 75, 255, 0);
 }
```
*********************************************************************************************

*Now, you finish all of the "SBUS Library"'s teaching and*

*studying, you can try to make an application simply by yourself!*