



**C#.NET 2010 example: VISABasic**

*Date:*09/12/2011

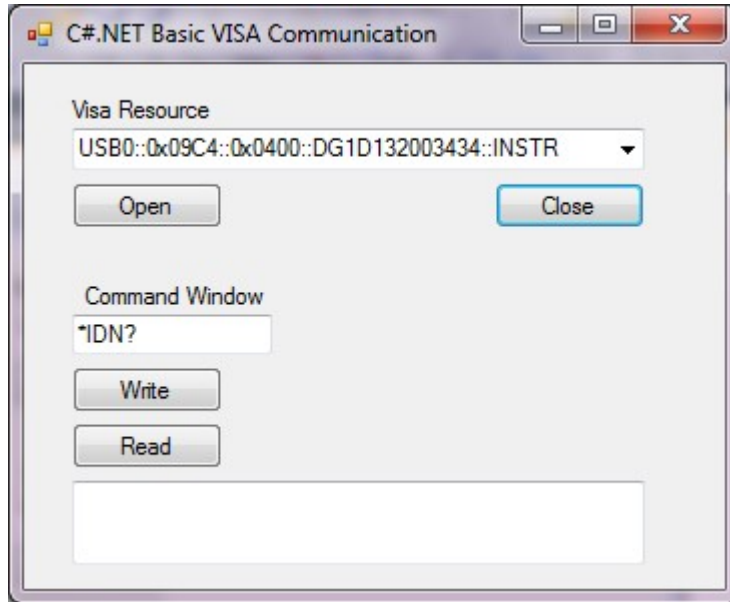
*Solution:* We have created a small example to show how to remotely connect to an instrument using NI VISA.

This example allows you to establish a message-based VISA session with the instrument, send commands, and receive data from an instrument.

It utilizes .NET framework 4.0 and National Instruments VISA .



Here is the design of the form:



### Added Controls

Qty 1 Combo box:

*cboVISARsrc* - Holds instrument VISA resource ID.

Qty 4 Buttons:

*btnOpen* - Opens VISA session

*btnClose* - Close VISA session

*btnWrite* - Writes to instrument

*btnRead* - Reads from instrument

Qty 2 Text box

*txtWrite*- Textbox to hold command to write

*txtRead*- Textbox to show read data



**Code:**

```
using System;
using System.Collections;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Windows.Forms;
using NationalInstruments.VisaNS;

// VISABasic is a small application created to give
// users an example of VISA based instrument communications.
//
// This app utilizes .NET Framework 4.0 and the associated National Instruments VISA
//Common and VISANS
// references.
//
// 1) Enter VISA resource ID
// 2) Press Open button to created new message based VISA session
// 3) Enter instrument specific command in Command Window
// 4) Press Send Button
// 5) If the command is a query (terminating in a '?'), press Read to return
//     instrument response
//
// This application is provided as-is. No support or warranty is expressed or implied.
//
// Author: JC
// Company: Rigol Technologies, North America
// Date: 09.09.2011

namespace WindowsFormsApplication1
{
    public partial class Form1 : Form
    {
        private MessageBasedSession mbSession; //Create Message based session

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

```
private void btnOpen_Click(object sender, EventArgs e) //Open a VISA Session
{
    string strVISARsrc = cboVISARsrc.Text; //Get VISA resource ID from combobox

    try
    {
        mbSession = (MessageBasedSession)ResourceManager.GetLocalManager().Open(strVISARsrc);
        //Instantiate and open a Message Based VISA Session
    }
    catch(InvalidCastException)
    {
        MessageBox.Show("Resource selected must be a message-based session");
    }
    catch(Exception exp)
    {
        MessageBox.Show(exp.Message);
    }
}

private void btnClose_Click(object sender, EventArgs e) //Close VISA session
{
    try
    {
        mbSession.Dispose(); //
    }
    catch (Exception exp)
    {
        MessageBox.Show(exp.Message);
    }
}

private void btnWrite_Click(object sender, EventArgs e)
//Write command to VISA resource
{
    string strWrite = txtWrite.Text; //Get command from text box

    try
    {
        mbSession.Write(strWrite); //Send Write command to VISA resource
    }
    catch (Exception exp)
    {
        MessageBox.Show(exp.Message);
    }
}
```



```
private void btnRead_Click(object sender, EventArgs e)
//Read command from VISA resource
{
    string strRead = null;

    try
    {
        strRead = mbSession.ReadString(); //Read string from VISA resource
        txtRead.Text = strRead;
    }
    catch (Exception exp)
    {
        MessageBox.Show(exp.Message);
    }
}
}
```

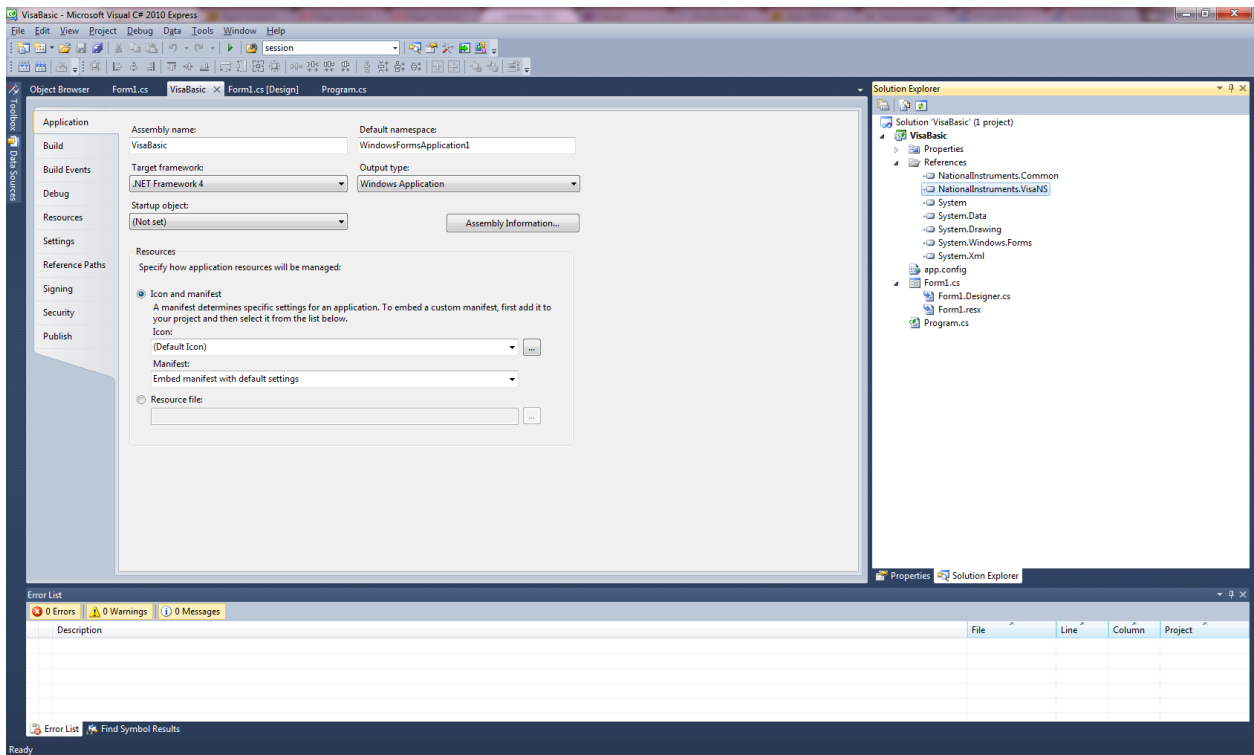


Figure 1: Project properties and references.