

## 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 .



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Here is the design of the form:

/isa Resource USB0::0x09C4::0x0400::	DG1D132003434::INSTR -
Open	Close
Command Window	
*IDN?	
Write	
Bead	
11000	

## 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

benwritte – writes to instrument

btnRead - Reads from instrument

Qty 2 Text box

txtWrite- Textbox to hold command to write
txtRead- Textbox to show read data



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## 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.
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// This app utilizes .NET Framework 4.0 and the associated National Instruments VISA
//Common and VISANS
// references.
11
// 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
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11
// This application is provided as-is. No support or warranty is expressed or implied.
11
// 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();
        }
```



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



```
Beyond Measure
      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);
          }
     }
 }
```

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Figure 1: Project properties and references.



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