

7,678,260 members and growing! (29,970 online)

lubita7052 273 Sign out



Google Data Provider: DataBind to Google Apps!

ADO.NET access to: Gmail, Google Docs, Search, Google Calendar, Adwords, Google Talk, and more.

DOWNLOAD FREE TRIAL: www.rssbus.com/ado

rssbus

[Home](#) [Articles](#) [Questions & Answers](#) [Learning Zones](#) [Features](#) [Help!](#) [The Lounge](#)
[Home](#) » [Platforms, Frameworks & Libraries](#) » [COM / COM+](#) » [Automation](#)


Adding VBScript and JScript support in your C++ applications

By [Ernest Laurentin](#) | 14 Jul 2002
[VC6](#) [Win2K](#) [WinXP](#) [Visual-Studio](#) [MFC](#) [Dev](#) [COM](#) [Intermediate](#)

 Licence [CPOL](#)
 First Posted **4 Jul 2002**
 Views **223,080**
 Downloads **1,618**
 Bookmarked **107 times**

See Also

- [More like this](#)
- [More by this author](#)

Introduce to MSSCRIPT.OCX and calling JScript and VBScript in your C++ Application

[Article](#) [Browse Code](#) [Stats](#) [Revisions](#)


4.68 (34 votes)



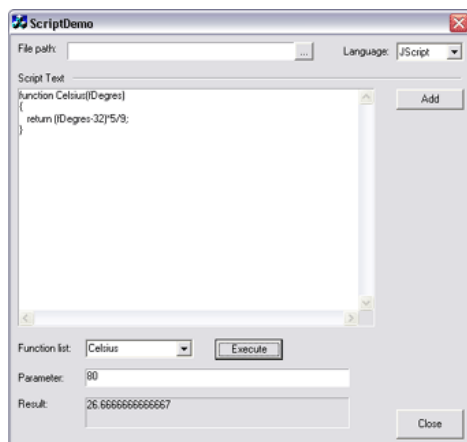
Sponsored Links



Is your email address OK? You are signed up for our newsletters but your email address is either unconfirmed, or has not been reconfirmed in a long time. Please click [here](#) to have a confirmation email sent so we can confirm your email address and start sending you newsletters again. Alternatively, you can [update your subscriptions](#).

[Download ScriptDemo Demo Project - 31 Kb](#)

ScreenShots



Introduction

I am always amazed to see how the script control (msscript.ocx) is fun to use and at the same time how C++ developers reacted when it's time to use. Maybe the extension (.ocx) make them feel, it's visual basic! In this article, I would like to remove those frontiers and give some new reasons for C++ developers to use it.

Description

To use either VBScript or JScript is fairly simple in a VB and C++ Application thanks to Microsoft's development efforts to create Windows Scripting technology. A developer only needs to know how to use the Microsoft Scripting ActiveX control (msscript.ocx) and how to pass value to a script method. For this reason, the first wrapper class that I want to identify is the `CScriptObject`. This wrapper is very simple to use and it provides most of the functionality that you will want to use in your application. It has a function to load script (text data) from a file or resource, get a list of methods name, selecting script language and to the execute function and statement. This class has no dependencies on MFC and can also be used in a console application.

First of all to call a script it is important to know that VBScript and JScript deal only with **VARIANT** parameters. This is the reason I created the `CSafeArrayHelper` class. The `CSafeArray` helper wrapper class allows you to create parameters that you will pass to your script function.

[Collapse](#) | [Copy Code](#)

```

class CSafeArrayHelper
{
public:
    CSafeArrayHelper();
    ~CSafeArrayHelper();

    bool Create(VARTYPE vt, UINT cDims, UINT lBound, UINT cCount);
    bool Destroy();
    UINT GetDimension();

    bool Attach(LPSAFEARRAY psa);
    bool AttachFromVariant(VARIANT* pVariant);
    LPSAFEARRAY Detach();
    LPSAFEARRAY GetArray();
    bool AccessData(void FAR* pvData);
    bool UnaccessData();
    bool Lock();
    bool Unlock();
    bool PutElement(long lIndices, void FAR* vData);
    bool GetElement(long lIndices, void FAR* vData);
    VARIANT GetAsVariant();

protected:
    LPSAFEARRAY m_pSA;

private:
};

```

It provides the exact same features that you will want to use with **SAFEARRAY** object but its usage may be simpler for some of us (like me!). The function **GetAsVariant** may be useful in case when you want to view the type of data that was encapsulated in your **SAFEARRAY**. This function could not provide ways to read all data types since the **SAFEARRAY** Data type (**fFeatures**) didn't implement it. Nonetheless to say, this function do a guess on the data types.

How to use

First to use this control, I will recommend you to take a look at the documentation for VBScript and JScript to know all you can do within your script function.

Writing a Script function

Let's say we want to create a simple function to convert temperature from Fahrenheit to Celsius.

In VBScript write:

[Collapse](#) | [Copy Code](#)

```

Function Celsius(fDegrees)
    Celsius = (fDegrees - 32) * 5 / 9
End Function

```

or in JScript write:

[Collapse](#) | [Copy Code](#)

```

function Celsius(fDegrees)
{
    return (fDegrees-32)*5/9;
}

```

To call this function, one only needs to store each parameter into **VARIANT**. Since your function (method) can have more than one parameter, a **SAFEARRAY** is needed to encapsulated them. In that latter case, you may want to view the parameter count for the array passed to your function by checking the **.length** property for string function or by some other means.

[Collapse](#) | [Copy Code](#)

```

function CountParam(aParam)
{
    var strPresent = "Parameter is : " + (aParam.length>0 ? "Present": "Not present");
    return strPresent;
}

```

The same technique may be used in VBScript. This allows you to detect variable length argument at run time. To call a function without argument, a **SAFEARRAY** is created but without parameter.

Calling a Script function

Your code can be as easy as this:

[Collapse](#) | [Copy Code](#)

```

void CScriptDemoDlg::OnBtnExecute()
{
    CString strParam, strProc;
    m_ctlParameter.GetWindowText( strParam );
    m_ctlFunctions.GetWindowText( strProc );

    CSafeArrayHelper sfHelper;
    try{
        _variant_t var;
        if (strProc.IsEmpty())
            sfHelper.Create(VT_VARIANT, 1, 0, 0);    // (void) parameter
        else
        {
            sfHelper.Create(VT_VARIANT, 1, 0, 1);    // 1 parameter
            var = _bstr_t(strParam);
        }
        sfHelper.PutElement(0, (void*)&var);    // parameter1 -> index 0
        LPSAFEARRAY sa = sfHelper.GetArray();
        _variant_t varRet;
        if (m_ScriptObj.RunProcedure(strProc, &sa, &varRet))
            m_ctlResult.SetWindowText( (LPCTSTR)(_bstr_t(varRet)) );
        else
        {
            CString strError = m_ScriptObj.GetErrorString();
            m_ctlResult.SetWindowText( strError );
        }
    }
    catch(...)
    {
        CString strError = m_ScriptObj.GetErrorString();
        m_ctlResult.SetWindowText( strError );
    }
}

```

Some Ideas

Some of the ideas that you may want to try.

1. You may want to have your script acts like a plugin, one suggestion is to have a resource script into a DLL and loads it at runtime (you may also have it part of your application). In that case, you will want to have specific module-related function, like: `InitModule`, `ReleaseModule`, `btnOK_Click`, `btnCancel_Click`, `LoadUserData(strUsername)`, `SaveUserData(strUserData)`, etc... and each of your DLL will have to implement them.
2. You may have your script to do a complete task and you will load the script file based on the task (the `CScriptObject` class can load a script file for you!).

Example: This script starts the "Calculator" program.

[Collapse](#) | [Copy Code](#)

```

function StartCalc()
{
    var WshShell = new ActiveXObject("WScript.Shell");
    var oExec = WshShell.Exec("calc");
    WshShell = null;
}

```

3. You may want to create ActiveX object that lives longer than for a function call:

[Collapse](#) | [Copy Code](#)

```

var XML_Obj;
function StartModule()
{
    XML_Obj = new ActiveXObject("Msxml.DOMDocument");
    XML_Obj.async = false;
}
function StopModule()
{
    XML_Obj = null;
}
function LoadSettings(strFilename)
{
    XML_Obj.load(strFilename);
}

```

4. There are cases that you may want to execute the script code directly, just add the code, do not create a function...try it for fun!

References

[Microsoft Windows Script Control](#)
[VBScript Documentation](#)
[JScript Documentation](#)

History

15 July 2002 - updated demo fixed VC6 and VC7 issues

License

This article, along with any associated source code and files, is licensed under [The Code Project Open License \(CPOL\)](#)

About the Author

Ernest Laurentin

Software Developer
(Senior)

 United States

Member

Ernest is a multi-discipline software engineer. Skilled at software design and development for all Windows platforms (starting Windows 3.11), Windows CE and cross-platform UI development.

MCSD (C#, .NET)
Interests: User Interface, GDI/GDI+, Scripting, Windows CE .NET.
Programming Skills: C/C++, C#, Java, VB and ASP.NET.

I hope you will enjoy my contributions.



[\\$4.95/month ASP.NET Web Hosting - Click Here](#)

WinHost is a Microsoft-web based hosting...

www.winhost.com

[Spread for ASP.NET](#)

FarPoint Spread for ASP.NET 5 by GrapeCity is...

www.gcpowertools.com

[Resco MobileForms Toolkit](#)

The richest, most complete and award winning...

www.resco.net

See Also...

[JavaScript call from C++](#)

A class for easy implementation of JavaScript...

[Adding Macro Scripting language support to existing MFC Application](#)

Introduction to Microsoft Script Hosting and...

[Adding Macro Scripting language support to existing ATL/WTL Application](#)

Shows how to use Microsoft Script Hosting...

[Embeddable script editor for MFC applications](#)

A library that allows you to embed scripting...

[Adding scripting support to your Application using minimalistic approach](#)

One very simple way to add scripting support...

Announcements

The Daily Insider

30 free programming books
Daily News: [Signup now.](#)



Double,
Double.

Article Top

Rate this article for us! Poor ☐ ☐ ☐ ☐ ☐ Excellent



Rational Team Concert 3.0
The ultimate agile development solution from IBM.


























[DOWNLOAD FREE EDITION NOW](#)

Comments and Discussions

[FAQ](#)

Noise Tolerance Layout Per page

[New Message](#)
Msgs 1 to 25 of 84 (Total in Forum: 84) (Refresh)
[First](#) [Prev](#) [Next](#)

Visual Basic App	 malfaro	18:09 25 Feb '11
An error happened when the application existed	 shengberlin	5:53 24 Sep '09
Destroying the SAFEARRAY after an error	 Ralf Patzig	1:08 2 Jul '08
Re: Destroying the SAFEARRAY after an error	 Ernest Laurentin	7:02 2 Jul '08
Script Time Out	 ynotyon	10:44 25 Jun '08
LoadScript problem in a visual C++ thread	 victor domingo reguant	9:06 15 Oct '07
LoadScript problem in VC++ thread	 victor domingo reguant	9:03 15 Oct '07
MSScript reset trouble.	 k01dunn	7:33 29 Aug '07
2 Parameters Again	 Peter Weyzen	12:52 28 Apr '07
Re: 2 Parameters Again	 Ernest Laurentin	14:12 28 Apr '07
Re: 2 Parameters Again	 Peter Weyzen	14:38 30 Apr '07
How can I use AddObject and use it.	 coronys	7:38 13 Dec '06
Determine function parameters	 coronys	2:09 7 Dec '06
Re: Determine function parameters	 Ernest Laurentin	18:12 7 Dec '06
Re: Determine function parameters	 coronys	22:01 7 Dec '06
Get the source line number	 AKSIVAKUMAR	0:08 17 Oct '06
Re: Get the source line number	 AKSIVAKUMAR	2:49 18 Oct '06
Problems with msscript.tlh	 xricon	13:00 21 Oct '05
Re: Problems with msscript.tlh	 Anonymous	16:45 21 Oct '05
Re: Problems with msscript.tlh	 Anonymous	7:13 24 Oct '05
Passing "binary" data to script...	 SonicMouser	6:22 11 Oct '05
Re: Passing "binary" data to script...	 SonicMouser	20:06 11 Oct '05
call application method?	 yanba	19:53 4 Oct '05
Re: call application method?	 cederron	15:50 1 Mar '07
Parameter names	 duronebis	10:59 29 Sep '05

Last Visit: 6:28 28 Mar '11
Last Update: 7:29 3 Apr '11
1 2 3 4 Next >>

[General](#)
[News](#)
[Question](#)
[Answer](#)
[Joke](#)
[Rant](#)
[Admin](#)

Use Ctrl+Left/Right to switch messages, Ctrl+Up/Down to switch threads, Ctrl+PgUp/PgDown to switch pages.

[link](#) | [Privacy](#) | [Terms of Use](#) | [Mobile](#)

Last Updated: 14 Jul 2002

Copyright 2002 by Ernest Laurentin
Everything else Copyright © CodeProject, 1999-2011
Web21 | [Advertise on the Code Project](#)

