



WSH VBScript WMI FSO
ADSI CDO HTA CGI Perl

300165

Systems Administration Programming

```
set objWMI = GetObject("winmgmts:\\.\\root\cimv2")  
set fso = CreateObject("Scripting.FileSystemObject")
```

Lecture 3 Logon Scripts

[Print page](#)

From language point of view, VBScript is not a difficult programming language. Indeed, it is much less complicated than those popular general purpose programming languages, such as C, C++, and Java. However, use of the language requires knowledge of the operating system.

From this lecture we start to learn Windows scripting techniques by performing a set of administrative tasks. The first task we are going to do today is to write a logon script to allocate network resources to users when they login.

Key words

WSH Object, WScript.Network, Network User, Network Drive, User Group, WMI

Reference to textbook chapters

The material covers the textbook chapters 3, 4 and part of chapters 11 and 27. (Don Jones, VBScript, WMI and ADSI unleashed : using VBScript, WMI, and ADSI to automate Windows administration [eBook: Chapter 3. The Components of a Script; Chapter 4. Designing a Script](#)).

Chapter 3. The Components of a Script

A Typical VBScript

Functions

Subroutines

Main Script

Using Custom Functions and Subroutines

Using Intrinsic Functions and Statements

Making Decisions in a Script

Comments and Documentation

Summary

Chapter 4. Designing a Script

Creating a Task List

Selecting the Appropriate Tools

Displaying a Message

Mapping a Drive

WSH objects

Download the script [userName.vbs](#) and run it.

The main part of the code is:

```
Dim objNetwork  
Set objNetwork = WScript.CreateObject("WScript.Network")  
  
Dim strComputer, strDomain, strUser  
strComputer = objNetwork.ComputerName  
strDomain = objNetwork.UserDomain  
strUser = objNetwork.UserName
```

The first statement declares a variable `objNetwork`. The second statement assigns an object to the variable.

Microsoft operating system, more accurately the WSH (Windows Script Host), provides a few objects for typical scripting purposes of performing administrative tasks. `WScript.Network` is one of most useful WSH Objects (also

called WScript Objects). The following is the hierarchy of WSH objects:



Learn more about WSH Objects and Associated Tasks from [Microsoft website](#).

The Network object

WScript.Network is an object that provides network information, such as computer name, domain name and username, as well as the functions of mapping drives and printers. We use the following statement to create an instance of the object:

```
WScript.CreateObject("WScript.Network")
```

WScript.Network has a set of properties and methods (See [msdn online documents](#) or textbook page 174-179):

- ComputerName Property
- UserDomain Property
- UserName Property
- AddPrinterConnection Method
- AddWindowsPrinterConnection Method
- EnumNetworkDrives Method
- EnumPrinterConnections Method
- MapNetworkDrive Method
- RemoveNetworkDrive Method
- RemovePrinterConnection Method
- SetDefaultPrinter Method

Using these properties or methods is not hard. For instance, suppose you assign the object WScript.Network to variable objNetwork, i.e.,

```
objNetwork = WScript.CreateObject("WScript.Network")
```

Please note that the real name which corresponds to the WScript.WshNetwork object is "WScript.Network". There is no a property of the WScript object that we can use to return the WScript.WshNetwork object, but using CreateObject("WScript.Network").

To get the computer name you are using, you can simply write

```
WScript.echo objNetwork.ComputerName
```

or assign objNetwork.ComputerName to a variable as we did in [userName.vbs](#).

Map a network drive

Whenever you login to a lab computer, you automatically get a U: drive. Obviously it is not a local drive. In fact it is a network drive that is mapped to a file folder located on a remote computer to which you have access. As a network user, you might not know which file folder is available to you. However, if you are an administrator, you have control over your network storage.

Suppose that you are an administrator, and jamie is one of the network users. You have allocated a network folder to jamie as follows:

```
\\server\users\jamie
```

Now, you want to map X: drive of the machine to the network folder above so that whenever jamie logs on to one of the computers in the network he can access the network folder through X: drive. You can use the following script for the job:

```
Dim objNetwork
Set objNetwork = WScript.CreateObject("WScript.Network")
objNetwork.MapNetworkDrive "X:", "\\server\user\jamie"
```

Of course you can't test the above code on your computer unless you have a network folder "\\server\user\jamie". If you want to test the program now on your computer, follow the instructions [here](#) to find a shared network folder provided that your computer is connected to a network (you can do this in a SCM lab).

To disconnect a network drive, use the following code:

```
Dim objNetwork
Set objNetwork = WScript.CreateObject("WScript.Network")
objNetwork.RemoveNetworkDrive "X:"
```

See [msdn online documents](#) for more details of the task.

To check the information about all connected network drives, use the following code:

```
Dim objNetwork
Set objNetwork = WScript.CreateObject("WScript.Network")
Set objDrives = objNetwork.EnumNetworkDrives
For i = 0 to objDrives.count - 1 Step 2
    WScript.echo objDrives.Item(i) & ":" & objDrives.Item(i+1)
Next
```

Map a network printer

Assume that you have two networked computers at home but have only one network-ready printer. If you want to share the printer between the two computers, the following script can help you to do this job:

```
Dim objNetwork
Set objNetwork = WScript.CreateObject("WScript.Network")
objNetwork.AddWindowsPrinterConnection "\\server\printerName"
```

Similarly, you can remove a network printer connection and list the information of all connected printers.

Get user's groups

Gaining group information is a bit harder because the same user can belong to different groups. The following code, [GetGroup.vbs](#), can list all the groups a user belongs to:

```
Set oNetwork = CreateObject("WScript.Network")
sDomain = oNetwork.UserDomain
sUser = oNetwork.UserName

Set oUser = GetObject("WinNT://" & sDomain & "/" & sUser & ",user")
For Each oGroup In oUser.Groups
    MsgBox oGroup.Name
Next
```

GetObject is a built-in method of VBScript, which returns user a reference to an object, given the user domain and user name. The property Groups of the object contains all the roles of the user.

Get IP address

The following script can get IP address:

```
Set oWMI = GetObject("winmgmts:" & "\\.\root\cimv2")

Set resultObj = oWMI.ExecQuery("select IPAddress from " &
"Win32_NetworkAdapterConfiguration" & " where IPEnabled = TRUE")

For Each IPAddress in resultObj
    If IPAddress.IPAddress(0) <> "0.0.0.0" Then
        myIP = IPAddress.IPAddress(0)
        Exit For
    End If
Next

MsgBox myIP
```

Note that we have used a WMI query to get the IP address (see Chapter 18). We will learn more about it later. The information we have collected is now enough for writing a simple logon script. Try to write your logon script now. Don't be shy away from searching on the Web.

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