

Visual Basic .NET

Chapter 8 Samples

Due to popular demand, we have put together Visual Basic .NET versions of the source code in Chapter 8. All the information in Chapter 8 in “Developing WMI Solutions” is relevant to Visual Basic .NET. Where you see major discussions in C#, substitute the code fragments below to understand the System.Management namespace using Visual Basic .NET.

Page 349 – Management object retrieved implicitly

```
Dim mo As New ManagementObject("Win32_Share.Name=" & "C$" & "")

Console.WriteLine("Win32_Share.Name=" & "C$" & " path is {0}", mo("Path"))
```

Page 349 – Management object retrieved explicitly

```
Dim mo As New ManagementObject("Win32_Share.Name=" & "C$" & "")

mo.Get() 'Explicit

Console.WriteLine("Win32_Share.Name=" & "C$" & " path is {0}", mo("Path"))
```

Page 352 – Management object retrieved from specific machine

```
Dim path As New ManagementPath
path.Path = "Win32_Share.Name=" & "C$" & ""
path.Server = "LISA"
path.NamespacePath = "root\CIMV2"

Dim mo As New ManagementObject(path)

Console.WriteLine("Win32_Share.Name=" & "C$" & " path is {0}", mo("Path"))
```

Page 353 – SetAsClass example

```
Dim path As New ManagementPath
path.Path = "Win32_Share.Name=" & "C$" & ""

path.SetAsClass()

Console.WriteLine("Path is {0}", path.ToString())
```

Page 353 – SetAsSingleton example

```
Dim singleton As New ManagementPath("__SystemSecurity")

singleton.SetAsSingleton()

Console.WriteLine("Path is {0}", singleton.ToString())
```

Page 354 – UseAmendedQualifiers example

```
Dim options As New ObjectGetOptions
options.UseAmendedQualifiers = True

Dim mc As New ManagementClass("Win32_Share", options)

Console.WriteLine("Win32_Share description is '{0}'",
    mc.GetQualifierValue("Description"))
```

Page 356 – Enumeration example

```
Dim mc As New ManagementClass("Win32_Share")

Dim mcCollection As ManagementObjectCollection = mc.GetInstances()
Dim mo As ManagementObject

For Each mo In mcCollection
    Console.WriteLine("`{0}' path is '{1}'", mo("__RELPATH"), mo("Path"))
Next mo
```

Page 357 – Deep enumeration example

```
Dim mc As New ManagementClass("Win32_Account")

Dim options As New EnumerationOptions
options.EnumerateDeep = True

Dim mcCollection As ManagementObjectCollection = mc.GetInstances(options)
Dim mo As ManagementObject

For Each mo In mcCollection
    Console.WriteLine("Account '{0}' is '{1}'", mo("__RELPATH"), mo("Status"))
Next mo
```

Page 361 – Create management object example

```
Dim path As New ManagementPath
path.ClassName = "Sample_OriginalBook"
path.NamespacePath = "root\WMIBook"

Dim mc As New ManagementClass(path)

Dim mo As ManagementObject = mc.CreateInstance()

mo("BookTitle") = "Developing WMI Solutions"
mo("AuthorName") = "Craig Tunstall & Gwyn Cole"
mo("Summary") = "A cool book on Windows Management Instrumentation"
mo("NumberOfChapters") = 11

mo.Put()
```

Page 363 – Updating management object example

```
Dim path As New ManagementPath
path.Path = "Sample_OriginalBook.BookTitle=" & "Developing WMI
  Solutions" & ",AuthorName=" & "Craig Tunstall & Gwyn Cole" & ""
path.NamespacePath = "root\WMIBook"

Dim mo As New ManagementObject(path)

mo("NumberOfChapters") = 12

Dim options As New PutOptions
options.Type = PutType.UpdateOnly

mo.Put(options)
```

Page 365 – Delete management object example

```
Dim path As New ManagementPath
path.Path = "Sample_Book.BookTitle=" & "Developing WMI Solutions" & ",AuthorName=" & "Craig
  Tunstall & Gwyn Cole" & ""
path.NamespacePath = "root\WMIBook"

Dim mo As New ManagementObject(path)
mo.Delete()
```

Page 367 – Management query example

```
Dim query As New ManagementObjectSearcher("SELECT * FROM Win32_Service WHERE
    Started=true")

Dim queryCollection As ManagementObjectCollection = query.Get()
Dim mo As ManagementObject

For Each mo In queryCollection
    Console.WriteLine("Service: '{0}'", mo("DisplayName"))
Next mo
```

Page 375 – Management method example

```
Dim mc As New ManagementClass("Win32_Share")
Dim inParams As ManagementBaseObject = mc.GetMethodParameters("Create")

inParams("Name") = "temp"
inParams("Path") = "C:\temp"
inParams("Type") = 0

Dim outParams As ManagementBaseObject = mc.InvokeMethod("Create", inParams, Nothing)

Dim retVal As Integer = Convert.ToInt32(outParams("ReturnValue"))
```

Page 379 – Management class property flavours example

```
Dim mc As New ManagementClass("Win32_Share")

Dim props As PropertyDataCollection = mc.Properties
Dim pd As PropertyData

For Each pd In props
    If (pd.IsLocal) Then
        Console.WriteLine(" {0} is Local", pd.Name)
    ElseIf (pd.IsLocal = False) Then
        Console.WriteLine(" {0} is Inherited", pd.Name)
    End If
Next pd
```

Page 382 – Array property example

```
Dim mc As New ManagementClass("Win32_PhysicalMemory")

Dim classes() As String = mc.GetPropertyValues("__DERIVATION")

Dim classname As String
For Each classname In classes
    Console.WriteLine(" {0}", classname)
Next classname
```

Page 382 – Derivation property example

```
Dim mc As New ManagementClass("Win32_PhysicalMemory")
Dim classname As String

For Each classname In mc.Derivation
    Console.WriteLine(" {0}", classname)
Next classname
```

Page 384 – Property object example

```
Dim path As New ManagementPath
path.Path = "Sample_Book.BookTitle=""Developing WMI Solutions"",AuthorName=""Craig
    Tunstall & Gwyn Cole""
path.NamespacePath = "root\WMIBook"

Dim mo As New ManagementObject(path)

Dim mp As ManagementBaseObject = CType(mo.GetProperty("Summary"),
    ManagementBaseObject)

Console.WriteLine("BookSummary is {0}", mp("BookSummary"))
```

Page 384 – Create management object and property object example

```
Dim path As New ManagementPath
path.ClassName = "Sample_Book"
path.NamespacePath = "root\WMIBook"

Dim mc As New ManagementClass(path)
Dim mo As ManagementObject = mc.CreateInstance()

mo("BookTitle") = "Developing WMI Solutions"
mo("AuthorName") = "Craig Tusntall & Gwyn Cole"
mo("NumberOfChapters") = 11

Dim proppath As New ManagementPath
proppath.ClassName = "Sample_BookSummary"
proppath.NamespacePath = "root\WMIBook"

Dim propmc As New ManagementClass(proppath)
Dim propmo As ManagementObject = propmc.CreateInstance()

propmo("BookSummary") = "A cool book on Windows Management Instrumentation"

mo("Summary") = propmo

mo.Put()
```

Page 386 – Part 1: Asynchronous management query example

```
Dim query As New ManagementObjectSearcher("SELECT * FROM Win32_Service WHERE
    Started=true")

Dim handler As New MyQueryObjectAsyncHandler
Dim moo As New ManagementOperationObserver
AddHandler moo.ObjectReady, AddressOf handler.WMIObject
AddHandler moo.Completed, AddressOf handler.Done

query.Get(moo)

While (handler.Completed = False)
    Console.WriteLine(" Waiting 10ms...")
    System.Threading.Thread.Sleep(10)
End While
```

Page 387 – Part 2: Asynchronous management query example

```
Class MyQueryObjectAsyncHandler
    Private isCompleted As Boolean = False

    Public Sub Done(ByVal sender As Object, ByVal e As CompletedEventArgs)
        isCompleted = True
        Console.WriteLine("QueryObjectsAsync has completed!")
        Console.WriteLine("CompletedEventArgs.Status is {0}", e.Status)
    End Sub

    Public Sub WMIObject(ByVal sender As Object, ByVal e As ObjectReadyEventArgs)
        Console.WriteLine("{0}", e.NewObject("__RELPATH"))
    End Sub

    Public ReadOnly Property Completed() As Boolean
        Get
            Return isCompleted
        End Get
    End Property
End Class
```

Page 393 – Part 1: Management event query example

```
Dim eventquery As String = "SELECT * FROM __InstanceModificationEvent WITHIN 3 WHERE  
    TargetInstance ISA ""Win32_CDROMDrive""  
  
Dim handler As New MyEventAsyncHandler  
Dim watcher As New ManagementEventWatcher(eventquery)  
AddHandler watcher.EventArrived, AddressOf handler.EventArrived  
AddHandler watcher.Stopped, AddressOf handler.StoppedEvent  
  
watcher.Start()  
  
System.Threading.Thread.Sleep(30000)  
  
watcher.Stop()
```

Page 393 – Part 2: Management event query example

```
Class MyEventAsyncHandler  
    Public Sub EventArrived(ByVal sender As Object, ByVal e As EventArrivedEventArgs)  
        Dim TargetInstance As ManagementBaseObject = e.NewEvent("TargetInstance")  
  
        Console.WriteLine("Received a {0} event of type {1}", e.NewEvent("__CLASS"),  
            TargetInstance("__CLASS"))  
    End Sub  
  
    Public Sub StoppedEvent(ByVal sender As Object, ByVal e As StoppedEventArgs)  
        Console.WriteLine("StoppedEventArgs.Status is {0}", e.Status)  
    End Sub  
End Class
```

Page 397 – Management connection example

```
Dim options As New ConnectionOptions
options.Authentication = AuthenticationLevel.Call
options.Impersonation = ImpersonationLevel.Impersonate
options.EnablePrivileges = True
options.Locale = "MS_409"
options.Username = "MYDOMAIN\gwyncole"
options.Password = "happymonday"

Dim ms As New ManagementScope("\\LISA\root\CIMV2", options)

' Explicit connection to WMI namespace
ms.Connect()

Dim mo As New ManagementObject("Win32_Share.Name=""C$""")

' Reuse existing connection for this ManagementObject retrieval
mo.Scope = ms

' Connection scope used when object is retrieved here
mo.Get()

Console.WriteLine("Win32_Share.Name=""C$"" path is {0}", mo("Path"))
```