

Microsoft 2433/2439

Managing a MS Windows Environment Using VB Script, ADSI, & WMI

Length: 5 Days (3 days + 2 days)

Course Description:

2433 - The goal of this course is to teach Microsoft Windows® 2000 operating system administrators how to take advantage of Windows Script Host (WSH) by using the Microsoft Visual Basic® Scripting Edition (VBScript) language. They will be able to develop real world scripts that they can use to manage Windows 2000 networks. This course also provides an overview of other technologies where you can use script, such as Active Server Pages (ASP), Windows Management Instrumentation (WMI), and third-party Component Object Model (COM) components.

2439 - The goal of this course is to teach Microsoft Windows 2000 operating system administrators how to develop Microsoft Visual Basic® Script-based scripts that use the resources of Windows Management Instrumentation (WMI). Administrators will use these scripts to perform a number of common tasks in the Microsoft Windows operating system environment.

Prerequisites: Before attending this course, students must have:

- Practical experience using and administering Windows 2000.
- Practical experience using and administering the Active Directory directory service.
- Practical experience using and administering system security.
- Practical experience using and administering services.
- Practical experience using systems management information.
- Awareness of the potential uses of logon scripts.

MS 2433 Course Outline:

Module 1: Overview of Windows Scripting Technologies

The following topics are covered in this module:

- Introduction to WSH
- Running Scripts
- Working with Scripts
- Comparing VBScript and Visual Basic

After completing this module, students will be able to describe WSH and associated scripting technologies. This includes:

- Using the various technologies associated with running Windows scripts.
- Running scripts.
- Working with scripts.

Module 2: Working with Objects

The following topics are covered in this module:

- Object Terminology
- Creating and Using Objects
- Understanding Object Models
- Common Object Models

After completing this module, students will be able to use objects in code written in Visual Basic Scripting Edition. This includes:

- Understanding how scripts use objects.
- Understanding object terminology.
- Using an object browser.
- Understanding how scripts interact with COM.
- Explaining the uses of various object models.

Module 3: Script Logic

The following topics are covered in this module:

- Fundamental VBScript Rules
- Variables, Constants, and Data Types
- Operators
- Conditions and Loops
- Procedures
- Script Layout

After completing this module, students will be able to master the essentials of the VBScript language. This includes:

- Declaring and using variables, constants, and data types in scripts.
- Using VBScript language operators.
- Constructing conditional code structures.
- Constructing looping structures.
- Declaring and using Sub and Function procedures.
- Determining an effective script layout.

Module 4: Error Handling and Debugging

The following topics are covered in this module:

- Error Handling
- Debugging

After completing this module, students will be able to master debugging and error handling with Visual Basic Scripting Edition. This includes:

- Preempting the types of errors that may be present in code written in VBScript.
- Writing code that handles run-time errors.
- Using the Microsoft Script Debugger to locate and fix logic errors.

Module 5: Understanding ADSI

The following topics are covered in this module:

- ADSI Overview
- Binding with ADSI
- ADSI Objects
- Searching Active Directory
- Creating New ADSI Objects
- Setting Security in Active Directory
- Managing Shares with ADSI
- Controlling Services Using ADSI
- ADSI Resources

At the end of this module, you will be able to use VBScript to interact with ADSI. This includes:

- Binding to ADSI objects.
- Searching Active Directory.
- Creating and modifying objects in Active Directory.
- Managing shares with ADSI.
- Controlling services with ADSI.

Module 6: Creating Logon Scripts

The following topics are covered in this module:

- Verifying the WSH Environment
- Common Logon Script Tasks
- Managing Logon Scripts
- Troubleshooting Logon Scripts
- Best Practices

After completing this module, students will be able to develop logon, logoff, startup, and shutdown scripts. This includes:

- Checking that the correct version of WSH is installed.
- Calling logon scripts from batch files.
- Accomplishing common tasks in logon scripts.
- Assigning logon scripts to users.
- Describing common issues with logon scripts.
- Describing best practices for logon scripts.
- Controlling services with ADSI.

Module 7: Administrative Script

The following topics are covered in this module:

- Script Arguments
- Working with Event Logs
- Generating E-Mail Messages
- Managing the Registry
- Working with Drives, Folders, and Files
- Setting Folder-Level and File-Level Security
- Scheduling Scripts
- Best Practices

After completing this module, students will be able to develop scripts that perform common administrative tasks. This includes:

- Managing arguments in scripts.
- Adding entries to Windows 2000 event logs.
- Using collaborative data objects (CDO) to generate an e-mail message.
- Using script to manage the registry.
- Using script to work with drives, folders, and files.
- Scheduling scripts.

Module 8: Beyond the Basics

The following topics are covered in this module:

- Windows Script Files
- Using COM Components
- WMI

- Scripting Microsoft Office
- ASP Pages

After completing this module, students will be able to identify how you can continue to use Visual Basic Scripting Edition in other scenarios. This includes:

- Windows script (.wsf) files.
- How COM components enhance the power of scripts.
- Windows Management Instrumentation (WMI).
- Scripting applications in Microsoft Office.
- Active Server Pages (ASP).

MS 2439 Course Outline

Module 1: Windows Management Instrumentation (WMI)

The following topics are covered in this module:

- The Enterprise Management Challenge
- WMI Overview
- The Common Information Model
- Accessing WMI

At the end of this module, you will be able to describe Windows Management Instrumentation and the Common Information Model. This includes:

- The WMI Architecture.
- WMI classes.
- Using CIM Studio.
- Accessing WMI data by using Microsoft Excel.

Module 2: Working with WMI Objects

The following topics are covered in this module:

- Connecting to WMI Using Scripts
- Accessing WMI Objects
- Advanced Scripting
- Security Settings

At the end of this module, you will be able to use the WMI Scripting API to develop scripts that access WMI objects. This includes:

- Using properties and methods.
- Using the WinMgmts Moniker.
- Using error handling.
- Installing MSI packages.
- Managing DHCP clients.

Module 3: Querying WMI

The following topics are covered in this module:

- Enumerating Objects
- WMI Query Language
- Data Queries
- Using a Universal Query Script
- Associations and References
- Optimizing Queries
- The View Provider

At the end of this module, you will be able to develop scripts that use the WMI Query Language (WQL) to retrieve management data. This includes:

- Using the WQL syntax.
- Developing a reusable basic script query.
- Using the View Provider.
- Optimizing queries.
- Using the SNMP provider.
- Using the Event Log provider.

Module 4: Working with Events

The following topics are covered in this module:

- The WMI Event Architecture
- Scripting for Events in WMI
- Using Best Practices

At the end of this module, you will be able to implement WMI events. This includes:

- Implementing temporary and permanent event consumers.
- Differentiating between intrinsic and extrinsic events.
- Using the SDK Event Registration and Event Viewer tools.
- Using the Active Script event consumer to launch scripts when events occur.

Module 5: The Future of WMI

The following topics are covered in this module:

- WMI and Microsoft Products
- WMI Enhancements in Microsoft Windows XP
- The Importance of Microsoft .NET
- References

At the end of this module, you will be able to investigate how WMI Scripting API scripts will be used with future applications and operating systems This includes:

- Windows XP.
- .Net.