



Microsoft® Virtual Labs

Using APPCMD with IIS 7

Microsoft®

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Using APPCMD with IIS 7

Objectives

IIS 7 includes a rich suite of command-line capabilities that allow you to automate server configuration and management. AppCmd.exe (app command) is a general purpose utility that you will find useful in day-to-day management of IIS 7. As a command line utility, no programming skills are required. For those who know how to script, WMI has been revised to include a more complete and consistent namespace for managing IIS 7. Also, there is a new API in .NET, Microsoft.Web.Administration, that allows a developer to easily write applications or command line utilities to control application Web server configuration and management. Of course, Powershell can also be used with WMI or Microsoft.Web.Administration. Finally, IIS 7 is compatible with IIS 6's ADSI scripting.

In this hands-on lab you will learn how to install IIS 6 scripting compatibility and how to use APPCMD to manage the server.

Estimated Time to Complete This Lab

30 Minutes

Computers used in this Lab



ContosoWeb3

The password for the Administrator account on all computers in this lab is: P@ssword.


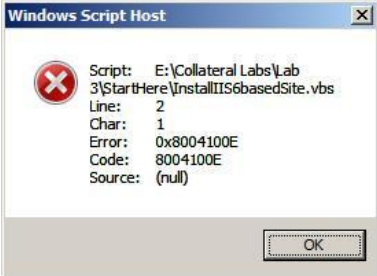
Exercise 1

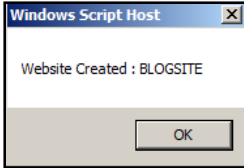
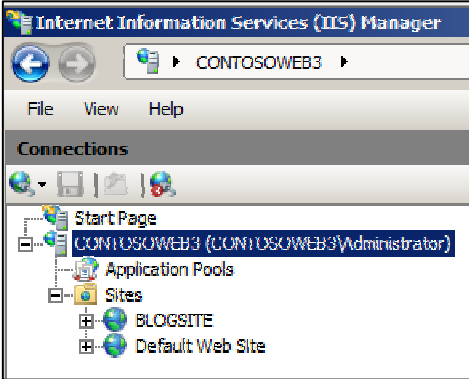
Enabling IIS 6 Administrative Scripting Compatibility

Scenario

In this exercise, you will attempt to deploy a Web site, create an application pool, and deploy content using a script for IIS 6. Initially the script will fail since IIS 6 Metabase Compatibility is not installed by default.

To fix the IIS 6 setup installation script you use the ServerManagerCmd command to install the modules, providing backwards compatibility for IIS 6 administrative scripting.

Tasks	Detailed Steps
<p>Complete the following tasks on:</p>  ContosoWeb3 <p>1. Start the Virtual PC lab image</p>	<ol style="list-style-type: none"> If the ContosoWeb3 virtual machine is not already running, start it using Virtual PC on the physical host computer. Press RIGHT ALT+DELETE to launch the Logon dialog box. Log on to the ContosoWeb3 Virtual PC with the following credentials: User name: Administrator Password: pass@word1 Click OK. <p><i>Note: You may enter full-screen mode by pressing RIGHT ALT+ENTER. You may exit full-screen mode at any point by pressing the key combination again.</i></p>
<p>2. Run an IIS 6 deployment script that creates a Web site</p>	<ol style="list-style-type: none"> Click Run on the Start menu and type E:\Lab Files\Collateral\Lab 7\StartHere to navigate to the Lab Folder. Right-click to Edit the InstallIIS6basedSite.vbs file in Notepad and review the contents of the file. You can tell this is a WMI script from the 2nd line which starts with Set objWMIService. WMI is often used on IIS 6 servers as it provides a way to manage IIS 6 and other server components. In addition, this script uses ADSI, another common IIS 6 scripting interface. Close Notepad without saving any changes. Double-click the InstallIIS6basedSite.vbs file to start the script. The script will fail.  <ol style="list-style-type: none"> Click OK on the Message dialog box. <p><i>Note: This error occurs because IIS 6 Metabase compatibility and WMI scripting compatibility are not installed on IIS 7 by default. You will need to install these components for the script to run. Also available are the IIS 6 scripting tools (Adsutil.vbs) and the IIS 6 Management console which is used to manage IIS 6 FTP and SMTP.</i></p>

Tasks	Detailed Steps
<p>3. Install IIS 6 Metabase and WMI Compatibility using ServerManagerCmd</p>	<p>a. Click Start Command Prompt to open a Command Prompt window.</p> <p>b. Type ServerManagerCMD -install Web-Metabase Web-WMI and press Enter. The installation will take several minutes.</p> <p><i>Note: You have choices about how to install additional components. You can install the components using Server Manager UI, ServerManagerCMD.exe or Pkgmgr.exe. For a Microsoft® Windows Server® 2008 Core server installation, you would need to run Pkgmgr.exe to install additional options.</i></p>
<p>4. Rerun the IIS 6 Script</p>	<p>a. Close the Command Prompt window. Double-Click the InstallIIS6basedsite.vbs file to run the script that initially failed. Click OK in the Windows Script Host box.</p> 
<p>5. Start Internet Information Services (IIS) Manager and verify that the script completed successfully</p>	<p>a. Click Start Administrative Tools Internet Information Services (IIS) Manager.</p> <p>b. Expand the CONTOSOWEB3 (CONTOSOWEB3\Administrator) server object then expand the Sites object to see the new BLOGSITE Web site.</p> 

Exercise 2

Introduction to AppCmd.exe

Scenario

In this exercise you will learn how to use the AppCmd to administer Web servers. AppCmd can be used to create and modify Web sites, control the state of pools and sites, view and change configuration files, and delete various elements or objects in IIS 7. Once you have completed this exercise you will know how to create sites, application pools, and how to assign applications to pools. In addition, you will learn to use the powerful list function and how to change the properties of some settings using the SET verb. In the end you will have a solid overview of the basics of using Appcmd.

Tasks	Detailed Steps
<p>1. Using APPCMD Help</p>	<p>a. Click Start Command Prompt to open a Command Prompt window.</p> <p>b. Type AppCmd.exe /?</p> <p><i>Note: This general help screen shows the objects supported by the tool, as well as generally applicable tool parameters.</i></p> <p>c. Type APPCMD site /? to display Help for the site object.</p> <p>This object help screen shows the commands supported by a specific object. To display object Help, the syntax is: APPCMD <OBJECT> /? where <OBJECT> is one of the supported object types.</p> <p>d. Type APPCMD list app /?</p> <p><i>Note: This command help screen describes the syntax for a specific command and object, including the parameters it supports and examples of common tasks. To display command help, the syntax is: APPCMD <COMMAND> <OBJECT> /? where <OBJECT> is one of the supported object types and <COMMAND> is an associated command.</i></p>
<p>2. Use AppCmd.exe to complete backups and restore a Web server</p>	<p><i>Note: AppCmd allows you to create and restore backups of the global server configuration. You can use this to recover from unwanted changes to server configuration and return to a known-good server state. It is a good idea to create a backup before changing the server configuration or installing a component that changes it. Each backup contains the copy of the current applicationHost.config root configuration file, as well as other related server-wide state including FTP configuration and the IIS Administration Tool configuration.</i></p> <p>a. To create a backup, use the ADD command of the Backup object. Enter the following at the Command Prompt:</p> <p>APPCMD add backup</p> <p><i>Note: You will receive a response similar to:</i></p> <p><i>BACKUP object "20070906T181213" added</i></p> <p><i>This created a backup with an auto-generated name that represents the date and time of backup.</i></p> <p>b. A specific name for the backup can also be specified like this:</p> <p>APPCMD add backup BeforeStartingLab7</p> <p><i>Note: Expected output:</i></p> <p><i>BACKUP object "BeforeStartingLab7" added</i></p> <p>c. Display a list of available backups using the LIST command of the Backup object</p>

Tasks	Detailed Steps
	<p>by entering the following command:</p> <p>APPCMD list backups</p> <p><i>Note:</i> You will receive a response similar to:</p> <pre>BACKUP "20070906T181213" BACKUP "BeforeStartingLab7" BACKUP "CFGHISTORY_0000000001" BACKUP "CFGHISTORY_0000000002" BACKUP "CFGHISTORY_0000000003"...</pre> <p><i>Note:</i> IIS 7 automatically creates backups on a periodic basis.</p>
<p>3. Find objects with the LIST command</p>	<p><i>Note:</i> The LIST command is versatile and is supported by all objects. The purpose of this command is to find instances of the object based on the criteria you specify. The output of this command is a list of object instances, which you can inspect by viewing their properties, export for future re-creation on another machine, or use together with another command to perform actions on them.</p> <p>The simplest way to use the LIST command is with no parameters, which simply lists all known instances of the object: <code>APPCMD list <OBJECT></code></p> <p>a. At the command line type:</p> <p>APPCMD list sites</p> <p><i>Note:</i> The output will be similar to:</p> <pre>SITE "Default Web Site" (id:1,bindings:http/*:80:,state:Started) SITE "BLOGSITE" (id:679391242,bindings:http/127.0.0.1:8002:,state:Started)</pre> <p>By default, each object is shown on a single line, specifying its object-specific identifier (such as "Default Web Site") and one or more important properties (such as id, bindings, and state).</p> <p>The LIST command can be used to find an instance of a specific, named object by using a command line in this form: <code>APPCMD list <OBJECT> <ID></code></p> <p>For example, use this command line to find the site with a unique id of "Default Web Site".</p> <p>b. At the command line type:</p> <p>APPCMD list site "Default Web Site"</p> <p><i>Note:</i> The following output will be displayed:</p> <pre>SITE "Default Web Site" (id:1,bindings:http/*:80:,state:Started)</pre> <p>To find all object instances that match particular criteria, specify one or more parameters that indicate property values of the objects to match. For example, use this command line to find all sites that are stopped.</p> <p>c. At the command line type:</p> <p>APPCMD list sites /state:Started</p> <p>Review the output.</p> <p><i>Note:</i> You can list other objects such as Pools, Apps, and Vdirs. You can also combine listings with other commands such as Findstr. For example: <code>APPCMD list sites \Findstr "Any host header name"</code> will locate a site that has the designated host header name in the binding.</p>
<p>4. Change an existing object</p>	<p><i>Note:</i> The SET command sets one or more properties on a specified object instance. This command requires the object-specific identifier to be specified.</p>

Tasks	Detailed Steps
	<p>a. Enter the following at the Command Prompt:</p> <p>APPCMD set site "Default Web Site" /id:200</p> <p><i>Note: The following output will be displayed:</i></p> <p><i>SITE object "Default Web Site" changed</i></p>
<p>5. Stop and start the BLOGSITE virtual site</p>	<p>a. To stop a virtual site, at the Command Prompt type:</p> <p>APPCMD stop site "BLOGSITE"</p> <p><i>Note: Expected output:</i></p> <p><i>"BLOGSITE" successfully stopped</i></p> <p>b. To start a virtual site, at the Command Prompt type:</p> <p>APPCMD start site "BLOGSITE"</p> <p><i>Note: Expected output:</i></p> <p><i>"BLOGSITE" successfully started</i></p>
<p>6. Delete an existing object</p>	<p><i>Note: The DELETE command deletes an instance of an object. Like SET, this command also requires the object-specific identifier to be specified. For example, use this command line to delete the site named "BLOGSITE":</i></p> <p>a. Enter the following at the Command Prompt:</p> <p>APPCMD delete site "BLOGSITE"</p> <p><i>Note: The following output will be displayed:</i></p> <p><i>SITE object "BLOGSITE" deleted</i></p>
<p>7. Use the ADD command to create new instances of objects</p>	<p>a. At the command line type:</p> <p>MD c:\inetpub\webroot\mynewsite\app1</p> <p>b. At the command line type:</p> <p>APPCMD add site /name:MyNewSite /id:20000 /bindings:"http/*:81:" /physicalPath:"C:\inetpub\webroot\MyNewSite"</p> <p><i>Note: The following output will be displayed:</i></p> <p><i>SITE object "MyNewSite" added</i></p> <p><i>APP object "MyNewSite/" added</i></p> <p><i>VDIR object "MyNewSite/" added</i></p> <p><i>Note: Depending on the object, some parameters will be required in order to set required properties on the new instance, and other properties may be optional. An error will be returned if a required parameter is not specified.</i></p>
<p>8. Create the new application pool, MyAppPool</p>	<p>a. At the Command Prompt enter the following command:</p> <p>AppCmd Add AppPool /name:MyAppPool</p> <p><i>Note: If successful, the following response will display:</i></p> <p><i>APPPool object "MyAppPool" added</i></p>
<p>9. Assign MyNewSite to run in MyAppPool</p>	<p>a. At the Command Prompt enter the following command:</p> <p>AppCmd set app MyNewSite/ /applicationPool:MyAppPool</p> <p><i>Note: If successful the following response will display:</i></p> <p><i>APP object "MyNewSite/" changed</i></p>

Tasks	Detailed Steps
<p>10. Add another application to the Web site, MyNewSite</p>	<p>a. At the Command Prompt enter the following command line syntax as one line: AppCmd Add App /site.name:MyNewSite /path:/App1 /physicalPath:"C:\inetpub\wwwroot\mynewsite\App1"</p> <p><i>Note: If successful, you will receive the following response:</i> APP object "MyNewSite/App1" added VDIR object "MyNewSite/App1" added</p> <p><i>This created a new application with virtual path "/App1" belonging to the site, "MyNewSite", created in Task 7, with a root virtual directory pointing to "C:\inetpub\wwwroot\mynewsite\App1".</i></p>
<p>11. Create an application pool that uses classic mode, view existing application pools</p>	<p>a. At the Command Prompt enter the following command line syntax as one line: AppCmd Add AppPool /name:ClassicASPApp /managedRuntimeVersion: /managedPipelineMode:Classic</p> <p><i>Note: /managedRuntimeVersion: is followed by a blank space. This configures the application pool so that will not run ASP.NET. You could also assign the pool to run a designated .NET framework version.</i></p> <p><i>If successful, the following response will display:</i> APPPOOL object "ClassicASPApp" added</p> <p>b. Type AppCmd LIST AppPool at the Command Prompt.</p> <p><i>Note: You should see output similar to this:</i> APPPOOL "DefaultAppPool" (MgdVersion:v2.0,MgdMode:Integrated,state:Started) APPPOOL "MyAppPool" (MgdVersion:v2.0,MgdMode:Integrated,state:Started) APPPOOL "ClassicASPApp" (MgdVersion:.,MgdMode:Classic,state:Started)</p>
<p>12. Assign App1 to run in the Classic application pool</p>	<p>a. At the Command Prompt enter the following command: AppCmd set app MyNewSite/App1 /applicationPool:ClassicASPApp</p>
<p>13. Inspect the configuration changes in IIS Manager</p>	<p>a. Click Start and launch IIS Manager.</p> <p>b. View the Application Pools under CONTOSO\WEB3 to see the ClassicASPApp pool and MyAppPool.</p> <p>c. Click the ClassicASPApp pool and then click View Applications in the Actions pane. You should see that it is assigned to the /App1 application in c:\inetpub\wwwroot\mynewsite\App1</p>
<p>14. Create another backup of the Web server after adding sites, virtual directories, and application pools</p>	<p>a. Type Appcmd add backup AfterNewObjectsCreated at the Command Prompt.</p> <p>Expected output: BACKUP object "AfterNewObjectsCreated" added</p>
<p>15. Restore Web server to original state</p>	<p>a. Type Appcmd restore backup BeforeStartingLab7 at the Command Prompt.</p> <p>Expected output: Restored configuration from backup "BeforeStartingLab7"</p> <p><i>Note: Restoring a backup stops the server and restores global configuration to its</i></p>

Tasks	Detailed Steps
	<i>state at the time the backup was created.</i>