
Microsoft® Virtual Labs
Installation and the New Modular Architecture
Microsoft

Table of Contents

Installation and the New Modular Architecture

Objectives

Microsoft® Windows Server® 2008 installation technology integrates with IIS 7 modularity to provide granular control, allowing you to install the precise functionality you want on your Web server. By installing only the features you require, you increase performance, reliability and security while reducing the memory footprint of your Web applications.

A Web hosting company will usually install IIS 7 with the desired role services as part of the server deployment. There are multiple technologies for creating unattended installations which often involve calling command line arguments to install specific roles and services. For Windows Server 2008, these command line utilities are ServerManagerCMD.exe and pkgmgr.exe, which are part of the installation scripts. In the interest of time, Windows Server 2008 Web Edition with IIS 7 has been preinstalled for you. You will use the Server Manager application to inspect and modify the installation, and ServerManagerCMD.exe to install additional roles services.

In this lab, you will:

- Inspect an IIS 7 server with role services installed as suggested by the preliminary Shared Hosting Guidelines. Then, you will examine the contents and memory footprint of a worker process using tasklist.exe.
- Compare the previous installation to a default installation of IIS 7.
- Use ServerManagerCMD.exe to install role services on the default installation to match the installation guidance for shared Web hosting using ServerManagerCMD.exe.
- Optionally install IIS 7 on a Server Core install with pkgmgr.exe.

Scenario

Prerequisites

Estimated Time to Complete This Lab

45 Minutes

Computers used in this Lab

 ContosoWeb1

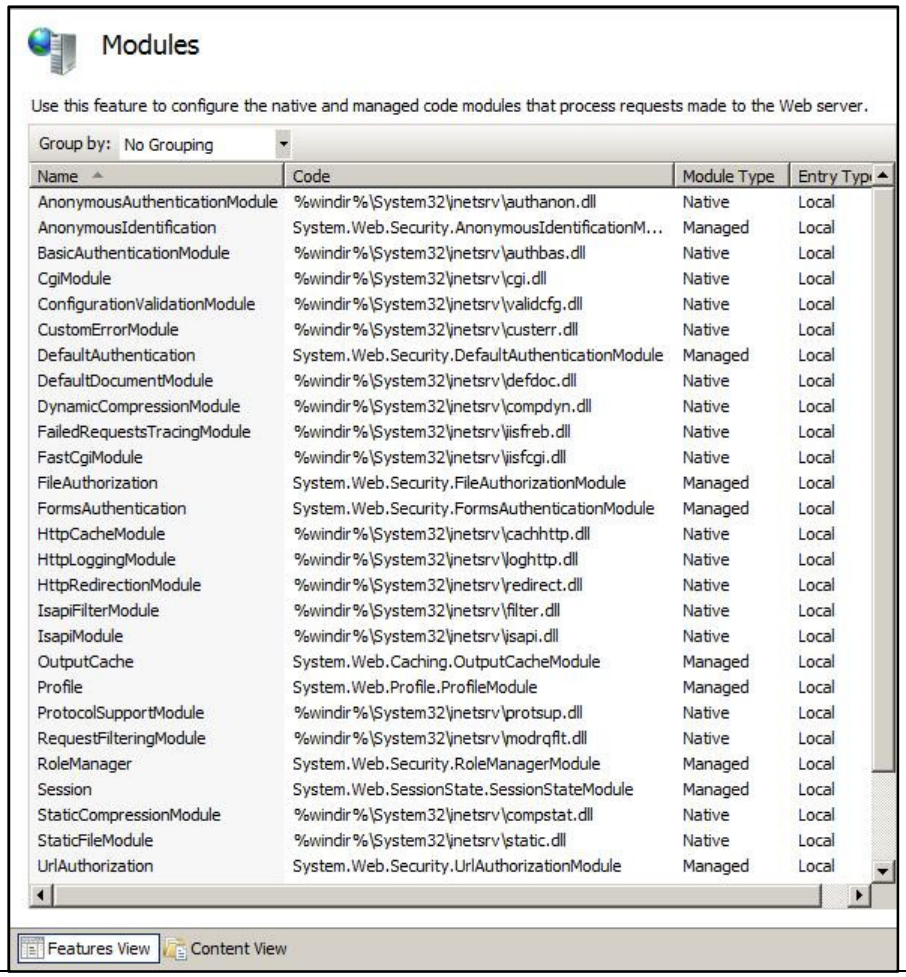
The password for the Administrator account on all computers in this lab is: P@ssword.

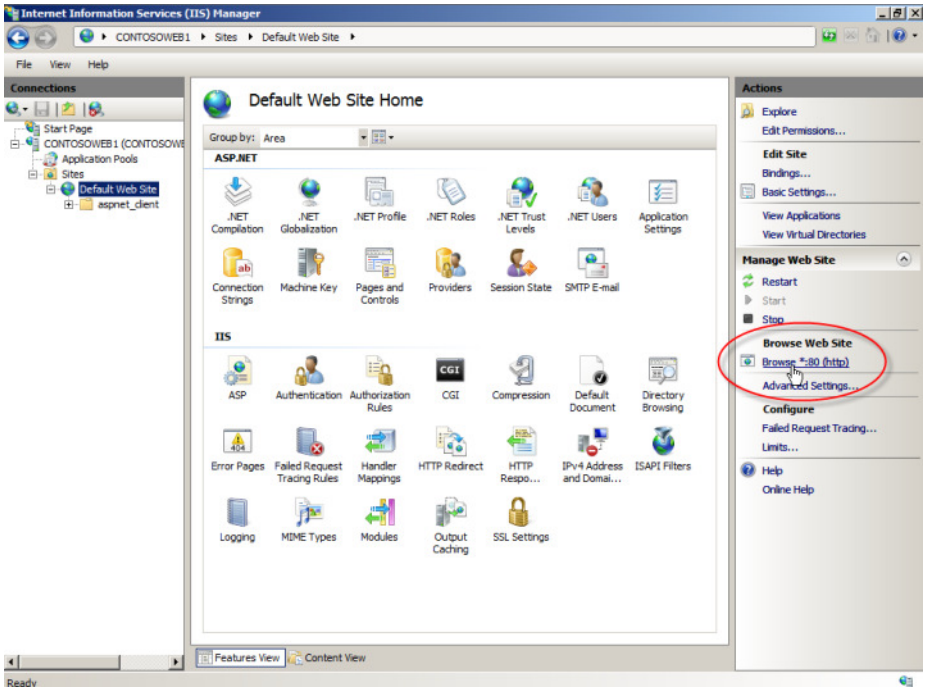
Exercise 1
Examining an IIS 7 Installation with Shared Hosting Guidelines Roles Services Installed

Scenario

By default, IIS 7 is installed as a static Web server with a limited feature set. In this exercise you will examine an IIS 7 Web server that is pre-installed with the role services recommended by the preliminary shared hosting guidelines on iis.net.

Tasks	Detailed Steps
1. Examine the installation using Server Manager	**a.** Select **ContosoWeb1** from the My Machines. **b.** On the **Start** menu, click **Server Manager**. **c.** In the **Server Manager** Console click **Roles** in the Console Tree. There will be a slight delay while the server is collecting data for the roles. **d.** Review the details shown in the **Roles** pane. Note that the **Web Server (IIS)** role is installed. **e.** Scroll down to see the approximately 28 role services running. **Note:** You may need to expand the Status column to view the status. **f.** Review the Role Services. **g.** Close Server Manager.
2. Examine the installed modules in Internet Information Services Manager	**h.** Click **Start | Internet Information Services (IIS) Manager**. **i.** Double-click **CONTOSOWEB1** in the tree view. **j.** Double-click **Modules** in the IIS Area of the **Features View** pane to review what modules have been installed. ***Note:*** *The IIS modules listed will appear as in Figure 1. There should be approximately 30 modules installed on an IIS 7 web server with options selected according to the preliminary hosting guidelines.*

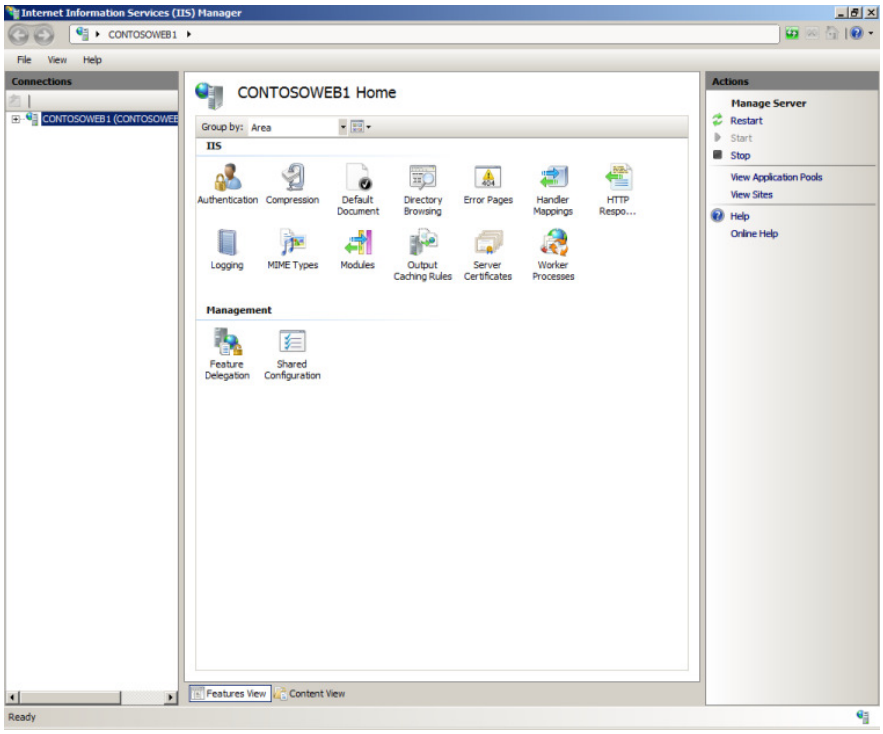
Tasks	Detailed Steps
	

Tasks	Detailed Steps
3. Launch the Default Web Site to start a worker process	**a.** Expand **Sites** in the left pane and then click on **Default Web Site**. **b.** In the **Actions** pane, under **Manage Web Site**, click **Browse *:80 (http)**, as shown in Figure 2.  Figure 1 - Selecting the Browse link in the Actions Pane **c.** The default Web sites' IIS 7 page should be displayed. Launching the Web site causes a worker process to start that delivers the content. **k.** Internet Expolorer click **Refresh** to ensure the worker process has started. **l.** Minimize the **IIS Manager** and close **Internet Explorer**.
4. List the worker processes contents and memory footprint with tasklist	**a.** Click **Start** and then **Command Prompt**. **b.** To see a list of all the DLLs loaded in the worker process, at the command prompt, enter: tasklist /fi "imagename eq w3wp.exe" /M ***Note:*** *This command can be useful for toubleshooting scenarios where you want to identify if a particular IIS 7 module is present in the worker process.* **c.** Press the **UP ARROW** key, remove the **/M** and press **ENTER** (the command should appear as **tasklist /fi "imagename eq w3wp.exe"**). ***Note:*** *This will report on the memory used by the worker process to deliver the page. Make a note of the amount of memory consumed. The memory value used by tasklist is Committed Bytes.* **d.** Close the **Command Prompt** window.

Exercise 2
Examining Default IIS 7 Options

Scenario

In this exercise you will examine a default installation of IIS 7 and verify that a static IIS Web Server is installed. In addition, you will look at the contents of the worker process launched by IIS 7 and compare the memory footprint of the reduced installation set to that of the more complete installation in Exercise 1.

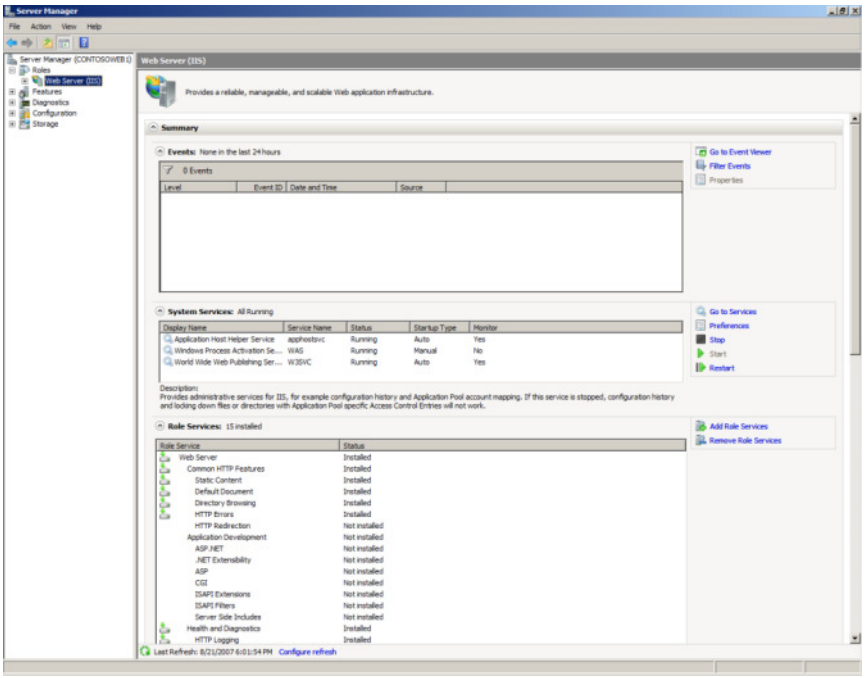
Tasks	Detailed Steps
1. Verify the installed modules in Internet Information Services Manager	**a.** Swtich to **ContosoWeb2**. **b.** Click **Start**	**Internet Information Services (IIS) Manager**. **c.** Click **CONTOSOWEB3** in the left pane. **d.** The **IIS Management** console will appear as displayed in Figure 3.  Figure 2 - The Internet Information Services (IIS) Manager Console
2. Review the installed modules and launch the Default Web Site to start a worker process	**a.** Double-click the **Modules** icon in the features pane to review which modules have been installed. The following modules should appear in the list: *AnonymousAuthenticationModule* *CustomErrorModule* *DefaultDocumentModule* *HttpCacheModule* *HttpLoggingModule* *ProtocolSupportModule* *RequestFilteringModule*

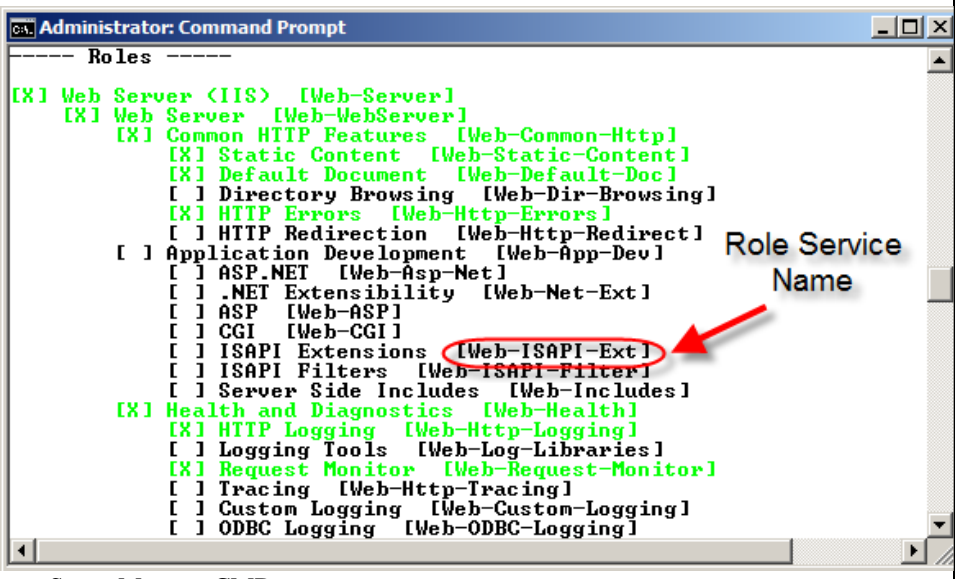
Tasks	Detailed Steps
	StaticCompressionModule *StaticFileModule* **b.** Expand **CONTOSOWEB3** and **Sites**, then click **Default Web Site** in the left pane. **c.** In the **Actions** pane, click **Browse *:80 (http)**. **d.** The default web site's IIS7 page should be displayed. **e.** Close **Internet Explorer** and **IIS Manager**.
3. List the worker processes contents and memory footprint with tasklist	**a.** Click **Start** and then **Command Prompt**. **b.** To see a list of all the DLLs loaded in the worker process, at the command prompt, enter: tasklist /fi "imagename eq w3wp.exe" /M ***Note:*** *there are fewer components in this listing than in the previous exercise.* **c.** Press the **UP ARROW** key, remove the **/M** and press **ENTER** (**tasklist /fi "imagename eq w3wp.exe"**). ***Note:*** *This will report on the memory used by the worker process to deliver the page. Make a note of the amount of memory consumed. The memory value used by tasklist is Committed Bytes.* **d.** Close the **Command Prompt** window.

Exercise 3
Adding Role Services Recommended by Shared Hosting Guidance

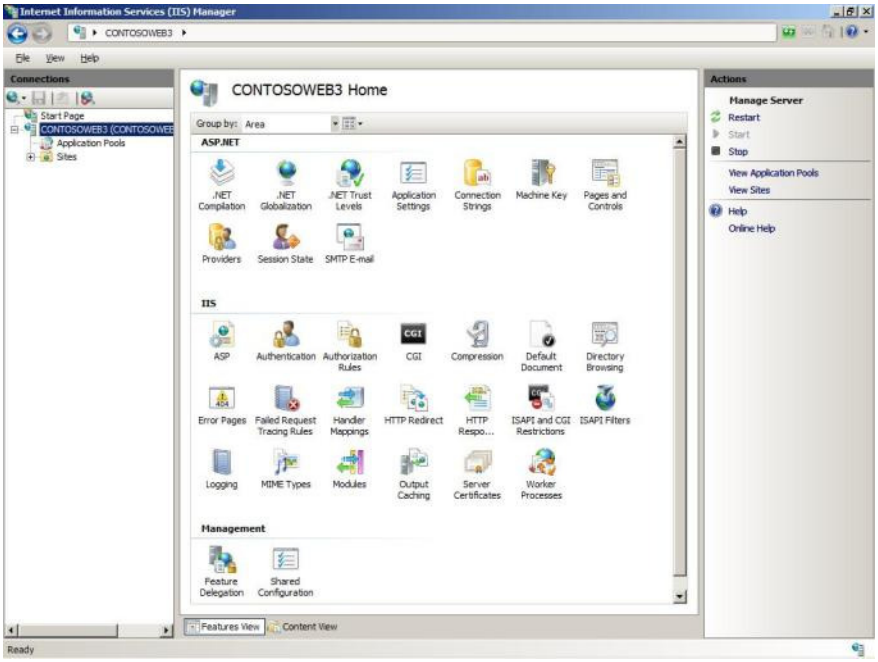
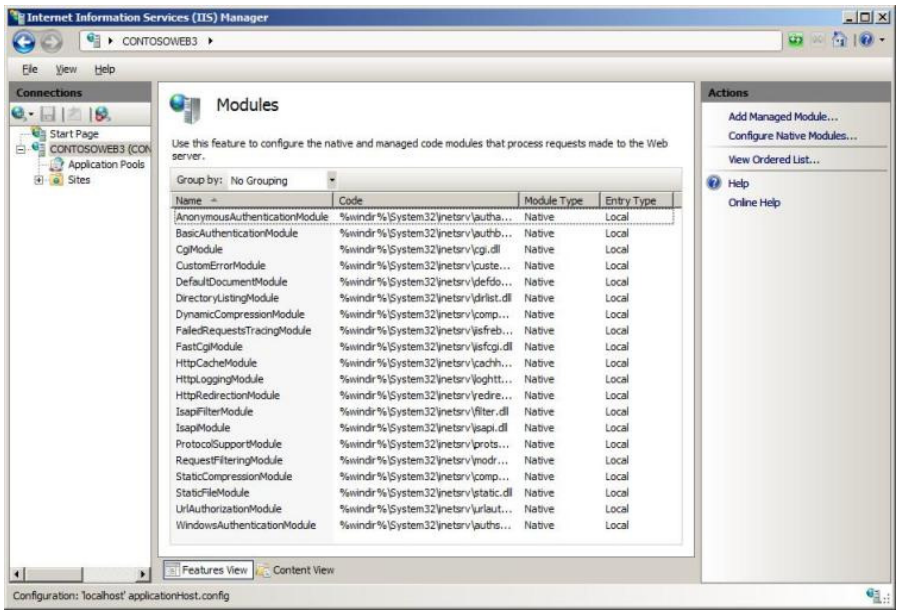
Scenario

In this exercise you will identify which role services need to be added and install those services using the command line tool ServerManagerCMD.exe. You will then review the additional services in the IIS Manager.

Tasks	Detailed Steps
1. Identify Role Services that need to be added	**a.** Ensure you are working on the **ContosoWeb3** Virtual PC machine. **b.** Click **Start	Server Manager**. **c.** On the **Server Manager** console expand **Roles** and then click **Web Server (IIS)** in the Console Tree. **d.** The Server Manager window will look similar to the screenshot below.  Figure 3 - The Web Server Snap-in in Server Manager **e.** Scroll down, if necessary, to view the **Role Services** section. You can see that the default installation of IIS 7 installs a minimal set of IIS role services. As configured, IIS 7 will deliver anonymous, static content. **f.** Refer to the appendix of this lab. Identify the role services that need to be added according the Shared Hosting guidelines. These services are in bold font in the appendix. To install these services using ServerManagerCMD.exe, you need to to know the role service names used by ServerManagerCMD. **g.** Close **Server Manager**.

Tasks	Detailed Steps
2. Use ServerManagerCMD to identify	**a.** Click **Start	Command Prompt**. **b.** To see the help listing enter: ServerManagerCMD /? ***Note:*** *The help listing shows the syntax for useful features of ServerManagerCMD, including installing and removing remote roles and role services as well as rebooting the computer. See the online help in the ServerManager application for details about these and other ServerManagerCMD* options. **c.** To see a text listing of installed roles and role services enter:  ServerManagerCMD –query ***Note:*** *The listing shows the feature name and role service name. You use the role service name when referencing the feature with ServerMangerCMD. For example, you can install IIS 7 with the default installation options using the command: ServermanagerCMD.exe –install Web-Server* ***Note:*** *Installing a role service will install any other required role services. For example, installing ASP.net will also install ISAPI Extensions, ISAPI Filters, and .NET Extensibility.* Figure 4 – ServerManagerCMD –query listing

Tasks	Detailed Steps
3. Run ServerMangerCMD to install the required additional role services.	**a.** In Command Prompt window, enter **E:** **b.** Enter **cd Lab Files\Lab 1** **c.** You would now craft a ServerManagerCMD to install the required role services. For your convenience, a batch file (installserverroles.bat) has been provided with the proper command. To view the contents of the installserverroles.bat in Notepad, enter the following command: **notepad installserverroles.bat** **d.** In the Notepad window, you will see the ServerManagerCMD command as shown: ServerManagerCMD -install Web-Http-Redirect Web-ASP-Net Web-Net-Ext Web-ASP Web-CGI Web-ISAPI-Ext Web-ISAPI-Filter Web-Http-Tracing Web-Basic-Auth Web-URL-Auth Web-Dyn-Compression Web-Scripting-Tools Web-Mgmt-Service ***Note:*** *If you had not already installed IIS on the server, you could add Web-Server to the above command to install IIS 7 in addition to the other roles in the batch file.* **e.** Close **Notepad**. **f.** Run **installserverroles.bat** to add the additional server roles. This will take a few minutes. ***Note:*** *ServerManagerCMD will not run on Server Core as it is a .NET application. See Exercise 4 for instructions on using pkgmgr.exe to install components on a Server Core installation.* **g.** Close the **Command Prompt** window.
4. Verify the installed modules in Internet Information Services Manager	**a.** Click **Start	Internet Information Services (IIS) Manager**. **b.** Click on **CONTOSOWEB3** in the left pane. **c.** The **IIS Management** console will appear as in Figure 6 below:

Tasks	Detailed Steps
	 Figure 6- IIS Manager Console after installing additional role services
5. Review the installed modules and worker process footprint	**a.** Double-click **Modules** to review the modules that have been installed. **b.** You will notice that a significant number of additional modules have been installed. The IIS modules listed will appear as in Figure 7.  Figure 5 - IIS Manager - Module Listing **c.** Click **CONTOSOWEB3** to return to the features view. **d.** Locate the **ASP** feature in the **Feature** pane.

Tasks	Detailed Steps
	Note: *This indicates that ASP was installed.* **e.** Double-click **Handler Mappings** in the **Features View** pane and locate the **ASP.net** (.apsx) and **ASP** (*.asp) mappings. **f.** Expand **Sites** and click on **Default Web Site**. **g.** In the **Actions** pane, click **Browse *:80 (http)**. **h.** The default Web site's IIS 7 page will display. **i.** Close **Internet Explorer**. **j.** Close the **IIS Manager** console. ***Note:*** *Do not close the* ***ContosoWeb3*** *virtual server. You will use it again in later labs.*

Exercise 4
Installing IIS 7 with ASP and FastCGI on Server Core

Scenario

In this exercise you will install IIS 7 with ASP and FastCGI onto a Windows Server 2008 Core installation. Server Core installations are managed entirely from a command prompt and without .NET. PkgMgr.exe is the command line utility that allows you to install IIS functionality at a very granular level. This can result in verbose command lines. PkgMgr also has pre-defined role-based packages that can simplify command line construction.

Tasks	Detailed Steps
1. Configure the web server role using Server Manager	**a.** Switch to **ContosoWeb2** **b.** Press the **RIGHT ALT+DELETE** keys on the keyboard to launch the logon dialog box. **c.** Log on to the **ContosoWeb2** Virtual PC with the following credentials: • User name: **Administrator** • Password: **pass@word1** **d.** Click **OK**. **e.** At the command prompt enter: **PKGMGR** ***Note:*** *You'll see the Windows Package Manager command line help contents.* **f.** Click **OK** to close the Windows Package Manager window. **g.** Display the content of the batch file that performs the Package Manager installation by entering: **type C:\labfiles\Install-IIS7.bat** ***Note****: the TYPE keyword is used to display the content on the file, rather than executing the batch file.* *The content of the file will display as below:* *Start /w pkgmgr /iu:IIS-WebServerRole;IIS-WebServer;IIS-CommonHttpFeatures;IIS-StaticContent;IIS-DefaultDocument;IIS-DirectoryBrowsing;IIS-HttpErrors;IIS-ASP;IIS-ISAPIExtensions;IIS-ApplicationDevelopment;IIS-CGI;IIS-HealthAndDiagnostics;IIS-HttpLogging;IIS-LoggingLibraries;IIS-RequestMonitor;IIS-Security;IIS-RequestFiltering;IIS-HttpCompressionStatic;IIS-WebServerManagementTools;WAS-WindowsActivationService;WAS-ProcessModel* **h.** Run the batch file and install IIS7 by entering: **C:\labfiles\Install-iis7.bat**
2. Verify IIS7 is running using the Wfetch utility.	***Note:*** *As there is no browser application installed in the Windows Server 2008 Core, you will use the Wfetch utility from the IIS 6 Resource Kit to show that the default IIS 7 Web site is running on http://CONTOSOWEB2:80.*

Tasks	Detailed Steps
	a. Run Wfetch to connect to the local Web server by entering: **C:\labfiles\wfetch.exe** **b.** Click **Go!** In the Wfetch window to start the Web site.

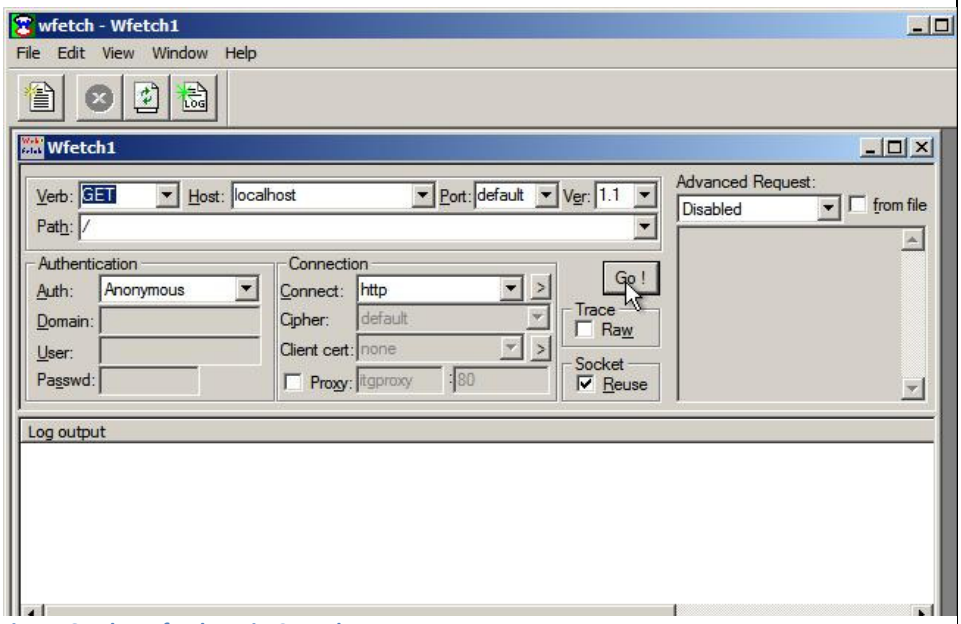


Figure 6 - The Wfetch Main Console

c. The Log Output pane will display the HTML of the default IE7 page.