

## Managing Downlevel Windows-based Servers from Server Manager in Windows Server 2012



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The multi-server-managing Server Manager that ships in Windows Server 2012 (and in its corresponding [Remote Server Administration Tools for Windows 8](#) package) can be used to manage remote, downlevel servers that are running the following operating systems:

- Windows Server 2008 R2 SP1 (either full server or the Server Core installation options)
- Windows Server 2008 SP2 (full server only)

To manage these servers from Server Manager in Windows Server 2012, you need to install [Windows Management Framework 3.0](#) (WMF 3.0) and its prerequisites on the managed servers (remote servers that are running the downlevel operating systems). No configuration is required on the client (the computer on which you're running Server Manager).

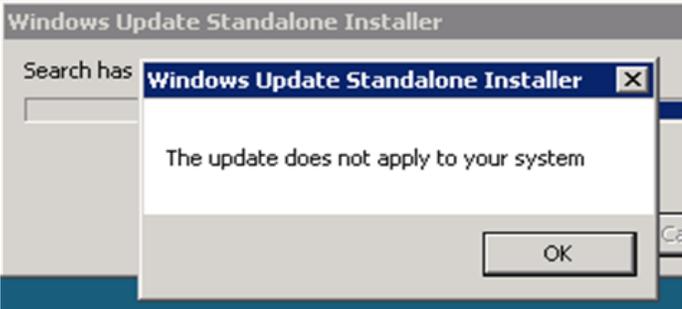
Suppose you want to manage two downlevel servers in Server Manager, and these servers do not have WMF 3.0 and its prerequisites. On the first server, the installed operating system is Windows Server 2008 R2 SP1, while on the second server, the installed operating system is Windows Server 2008 SP2. Both servers are in the same domain as the client (the computer on which you're running Server Manager).

The following table is a step-by-step guideline to ensure that downlevel servers are manageable from Server Manager. I will discuss both installation options of downlevel servers, full server and Server Core.

### Managing downlevel servers that are running the full server installation option

Step	Action	Operating System-Specific Details		Comments
		WS08 R2	WS08	
1	I added my existing WS08 R2 & WS08 SP2 servers to Server Manager and received a	The manageability status in Server Manager: <i>"Online – Verify WinRM 3.0 service is</i>	The manageability status in Server Manager: <i>"Target server not accessible"</i>	When you added the downlevel servers, Server Manager attempted to connect to the Windows Remote Management (WinRM) port (if that fails, then the DCOM port) of the target server. If either the WinRM or DCOM connection is successful (depending on firewall settings, and whether WinRM is installed), Server Manager checks whether <a href="#">WMF 3.0</a> is installed on the target server. On the Windows Server 2008 R2 SP1 server, the

	manageability status alert.	<i>installed, running, and required firewall ports are open"</i>		<p>WinRM connection attempt failed because either the WinRM service was not running, or WinRM inbound firewall rules were not enabled. The DCOM connection was successful, and Server Manager determined that WMF 3.0 is not installed on that server. So Server Manager displayed the manageability status of that server as "Online – Verify WinRM 3.0 service is installed, running, and required firewall ports are open."</p> <p>On the Windows Server 2008 SP2 server, the connection attempt to both WinRM and DCOM ports failed (due to firewall restrictions, or no earlier WinRM version was installed), so Server Manager was unable to connect and retrieve data from the target server, and displayed manageability status as "Target server not accessible."</p>
2	Ensure the most current service pack for each operating system is installed.	WS08 R2 Service Pack 1 (or newer)	WS08 Service Pack 2 (or newer)	<p>To get the major version of an installed service pack, open Command Prompt on the downlevel server, and run the following command:</p> <pre>wmic OS Get ServicePackMajorVersion</pre>
3	Ensure .NET Framework 4 (or newer) is installed.	<p>For servers that are running the full installation option of Windows Server 2008 R2 SP1, see <a href="#">Microsoft .NET Framework 4 (Standalone Installer)</a>.</p> <p>For Server Core, use <a href="#">Microsoft</a></p>	<p>For servers that are running the full installation option of Windows Server 2008 SP2, see <a href="#">Microsoft .NET Framework 4 (Standalone Installer)</a>.</p> <p>For Server Core, use <a href="#">Microsoft</a></p>	<p>You can use <a href="#">Knowledge base article 318785</a> to find out which version of .NET Framework is currently installed.</p>

		<a href="#">.NET Framework 4 (Standalone Installer) for Server Core.</a>	<a href="#">.NET Framework 4 (Standalone Installer) for Server Core.</a>	
4	Install <a href="#">Windows Management Framework 2.0.</a>	Not applicable	Applicable	
5	Install <a href="#">WMF 3.0</a> on downlevel servers.	Applicable	Applicable	<p>Before this step, you'll need to complete the last three prerequisite steps; they must be done in order. If you try to run the WMF 3.0 installer without performing the first three steps, the installation fails with an error message similar to the following:</p> 
6	Install the performance update associated with <a href="#">Knowledge Base article 2682011</a> on downlevel servers.	Applicable	Applicable	To get performance counter data in the Server Manager console for servers running previous versions of Windows Server, you need to apply this update.
7	After installing all the prerequisites on a downlevel server,	Applicable	Applicable	This can be easily done by using command <b>winrm qc</b> in a command prompt window (which was run as Administrator on the downlevel server). If the WinRM service is not running on the downlevel server, or if the incoming connection attempts to WinRM service are denied by the firewall, when you add the downlevel server (with prerequisites) to the

	make sure that the WinRM service is running, and that its inbound firewall rules are enabled on each server.			Server Manager server pool, the connection attempt fails as described in step 1 in this table.
8	Enable Windows PowerShell remote management on each server.	Applicable	Applicable	To support Best Practices Analyzer (BPA) operations, Windows PowerShell remoting should also be enabled on the downlevel server. This can be done by running the command <b>Enable-PSremoting -Force</b> in a Windows PowerShell window (that was opened with administrative rights on the downlevel server). For more information about how to enable Windows PowerShell remote management on downlevel servers, see <a href="#">Configure Remote Management in Server Manager</a> , or download the <a href="#">Server Manager Quick Reference Guide</a> .

## Managing downlevel servers that are running the Server Core installation option

WMF 3.0 can also be installed on the Server Core installation option of Windows Server 2008 R2 SP1. But it cannot be installed on the Server Core installation option of Windows Server 2008 SP2. Downlevel servers that are running the Server Core installation option of Windows Server 2008 R2 SP1 can be managed remotely from the new Server Manager. The installation process of [Windows Management Framework 3.0](#) on Windows Server 2008 R2 SP1 Server Core is exactly the same as that for full server (already described above). However, before going through the aforementioned prerequisites, you must install or enable certain features in Server Core by using Deployment Image Servicing and Management (DISM) commands. The command names for the features are as follows:

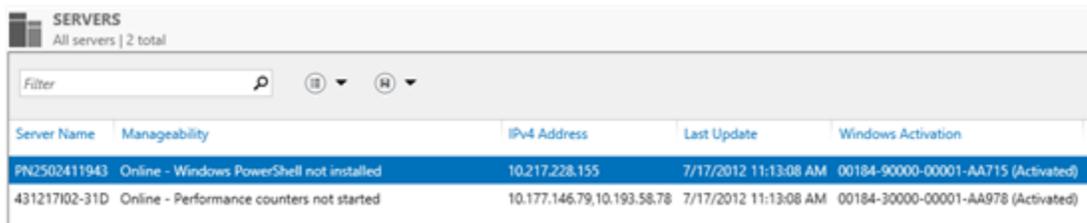
- **MicrosoftWindowsPowerShell**
- **MicrosoftWindowsPowerShell-WOW64**
- **NetFx2-ServerCore**
- **NetFx2-ServerCore-WOW64**

You can enable these features in Server Core by running the following command. Remember, DISM is case-sensitive:

```
Dism /online /enable-feature: <Feature Name>
```

After these features are installed on Windows Server 2008 R2 SP1 Server Core, the installation process of Windows Management Framework 3.0 is same as that for full server (already described above).

For the Server Core installation option of Windows Server 2008 R2 SP1, the system administrator can choose to uninstall Windows PowerShell, if it has been installed. If that's the case, we get a manageability status for the Server Core server (without Windows PowerShell) as follows:



Server Name	Manageability	IPv4 Address	Last Update	Windows Activation
PN2502411943	Online - Windows PowerShell not installed	10.217.228.155	7/17/2012 11:13:08 AM	00184-90000-00001-AA715 (Activated)
431217102-31D	Online - Performance counters not started	10.177.146.79,10.193.58.78	7/17/2012 11:13:08 AM	00184-30000-00001-AA978 (Activated)

After you have the prerequisite packages installed on your downlevel servers, if you haven't already done so, you're ready to add them to the pool of servers that you manage in the new Server Manager console. You can do this by clicking **Add Servers** on the **Manage** menu of the new console. For more information about how to add your servers, now that they're prepped for management with Server Manager, see [Add Servers to Server Manager](#).