
Deployment in a Microsoft Windows Server 2003, 2008, and 2012 Environment

<https://campus.barracuda.com/doc/3538986/>

Prepare Microsoft Windows Server 2003, 2008, and 2012 for DSR

To make servers that are running Microsoft Windows Server 2003, 2008, and 2012 ready for Direct Server Return (DSR), you must complete the following steps on each server:

Step 1. Disable the Windows Firewall

To enable traffic to the loopback adapter:

- For Microsoft Windows Server 2003, 2008, and 2012, you need to disable the built in firewall or manually change the rules to enable traffic to and from the loopback adapter. By default, the Windows firewall blocks all connections to the loopback adapter.

Step 2. Install the Loopback Adapter

Windows Server 2003

To install the Microsoft Loopback Adapter, refer to [How to install the Microsoft Loopback Adapter in Microsoft Windows Server 2003](#).

Windows Server 2008 and 2012

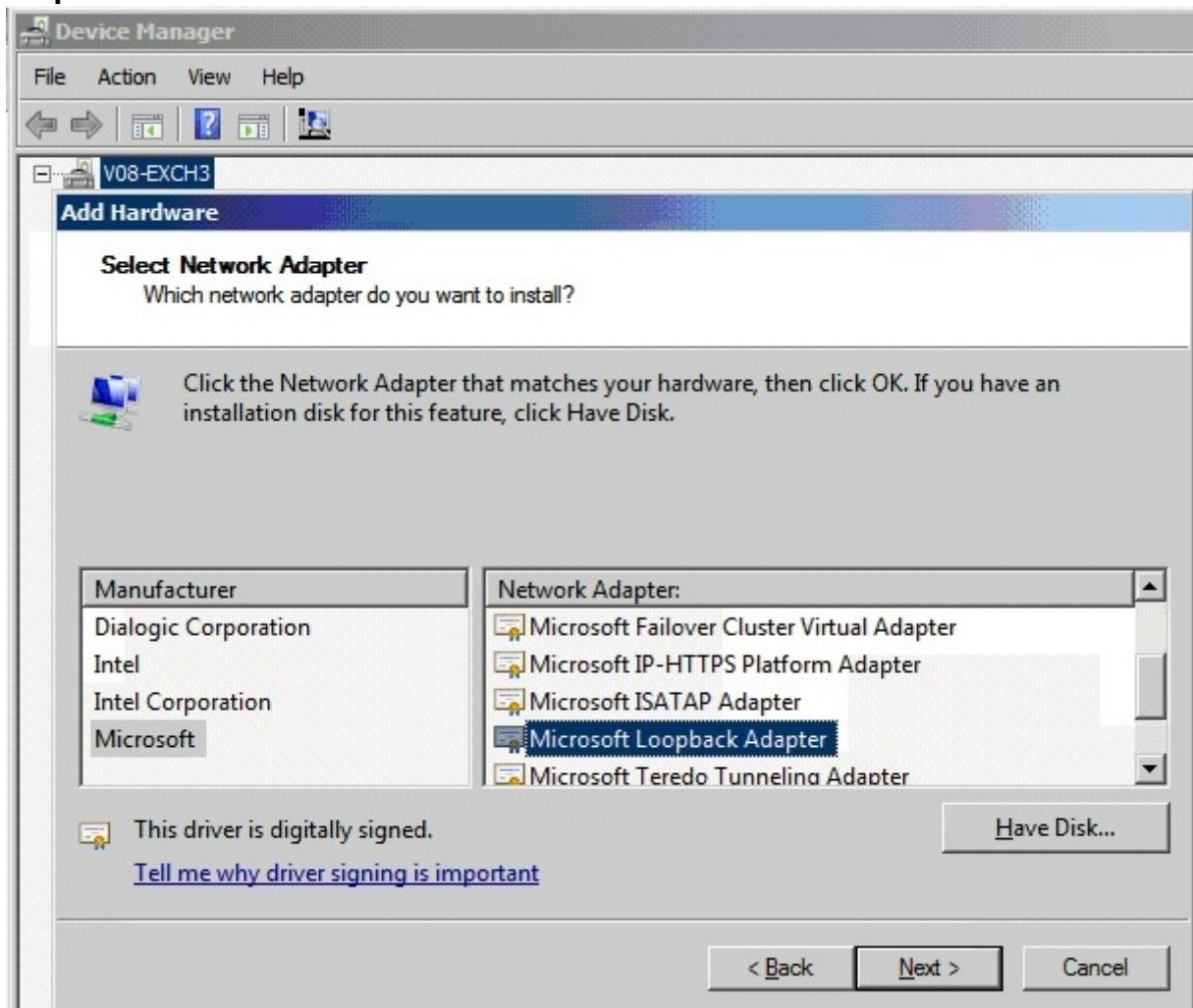
To install the Microsoft KM-TEST Loopback Adapter, refer to [Installing the Microsoft Loopback Adapter in Windows 8 and Windows Server 2012](#).

"Microsoft Loopback Adapter" is renamed as "Microsoft KM-TEST Loopback Adapter" in Windows 2008 and Windows Server 2012.

Windows Server 2008 or Windows Server 2008 R2

1. Open Device Manager. On the **Start** menu, click **Run** and type `devmgmt*.msc` at the prompt.
2. Right-click on the server name and click **Add legacy hardware**.
3. When prompted by the wizard, choose to **Install the hardware that I manually select from a list (Advanced)**.
4. Find **Network Adapter** in the list, and click **Next**.
5. From the listed manufacturers select **Microsoft**, and then select **Microsoft Loopback Adapter**.

Adapter:



This adds a new network interface to your server.

Step 3. Make the Windows Networking Stack Use the Weak Host Model

This step is required to allow the modified packet to be accepted by Windows Server 2008 servers.

If you are using Windows Server 2003, you can skip to [Step 4 Add the Loopback Adapter to your Site Bindings](#). If you are using Windows Server 2008 or Windows Server 2008 R2, use the steps in

this section to make the Windows networking stack use the weak host model (which is the same model used in Windows Server 2003).

DSR works by modifying the destination MAC address of the incoming traffic to one of the Real Servers behind your VIP. In versions of Windows prior to 2008, the Windows networking stack used a weak host model which allowed the host to receive packets on an interface not assigned as the destination IP address of the packet being received. With Windows Server 2008, Microsoft has implemented a strong host model which breaks the method that DSR uses.

1. Open a command prompt with elevated permissions. To determine the interface ID for both the loopback adapter and the main NIC on the server, type:
`netsh interface ipv4 show interface`
2. Note the IDX for both the main network interface and the loopback adapter you created. If you have not changed the interface names for this server then usually the main NIC displays as Local Area Connection, and the loopback adapter is named Local Area Connection 2.
3. An entry displays that includes the IDX numbers for both your loopback adapter and your Internet facing NIC. For each of these adapters enter the following commands:
`netsh interface ipv4 set interface <IDX number for Server NIC> weakhostreceive=enabled`
`netsh interface ipv4 set interface <IDX number for loopback> weakhostsend=enabled`
`netsh interface ipv4 set interface <IDX number for loopback> weakhostreceive=enabled`

For example:

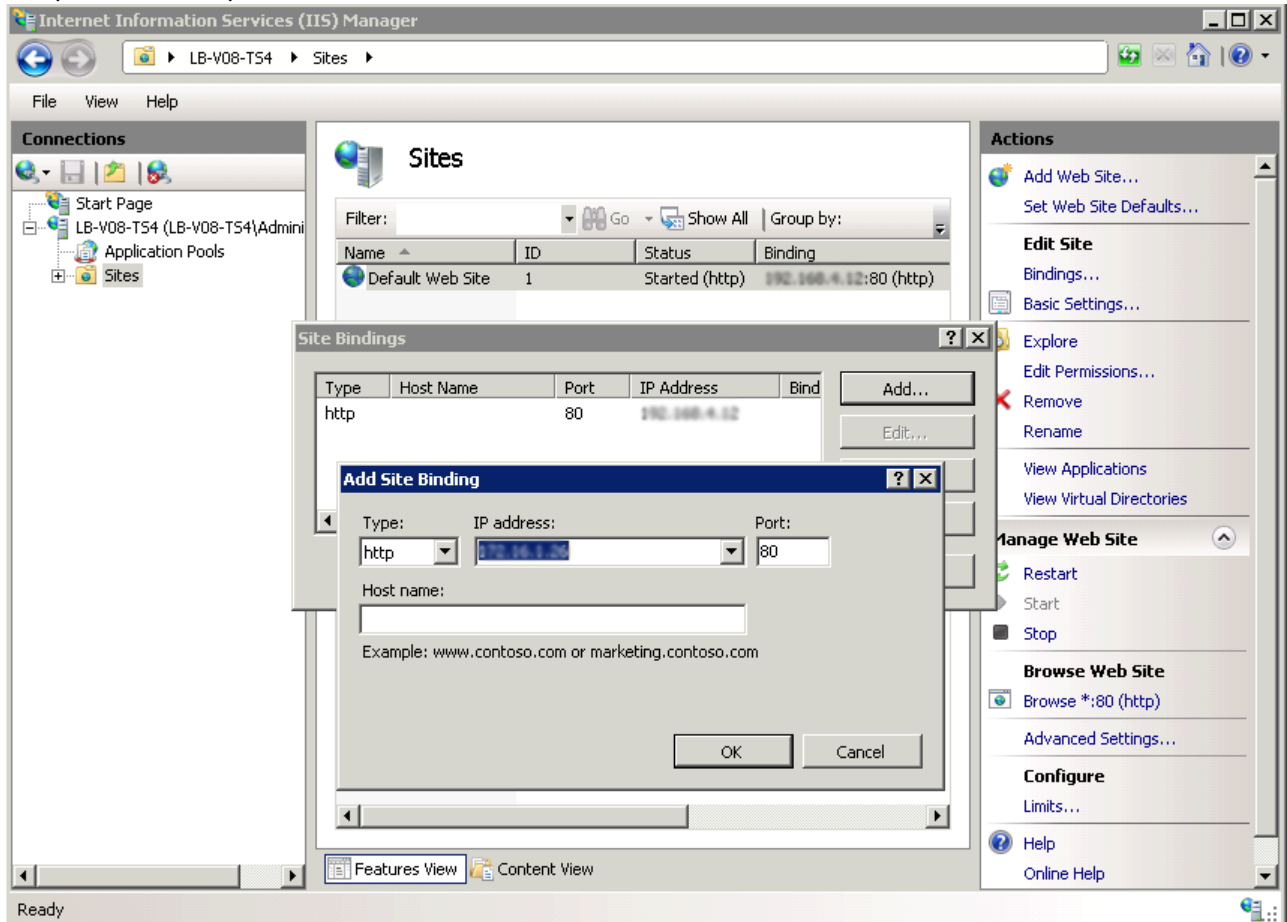
```
netsh interface ipv4 set interface 23 weakhostreceive=enabled
netsh interface ipv4 set interface 24 weakhostsend=enabled
netsh interface ipv4 set interface 24 weakhostreceive=enabled
```

Step 4. Add the Loopback Adapter to your Site Bindings (IIS only)

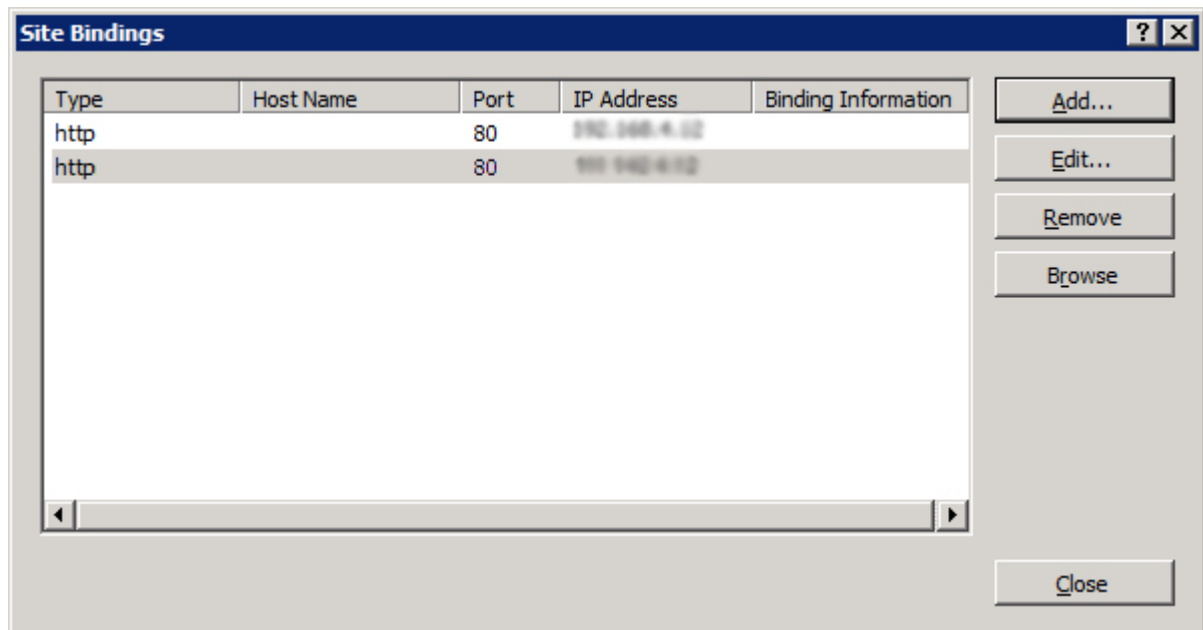
By default, IIS includes all interfaces, however, if you have configured a site to be bound to an individual IP address, you need to ensure that the IP address for the loopback adapter (your VIP address) is also included in the site bindings in IIS.

Use the following steps to bind the loopback adapter.

1. Open the Internet Information Services (IIS) Manager, and expand the **Sites** folder.
2. Click **Default Web Site** or click the name of the site you are modifying.
3. Click **Bindings** on the Actions panel.
4. Click **Add** and click HTTP or HTTPS in the Type list. Enter the IP address of your loopback adapter and the port:



5. Click **OK** to add the Site Binding:



6. On the Actions panel, click **Restart** under **Manage Web Site** to ensure the new binding takes effect.

Step 5. Verify Direct Server Return Deployment

When you are done adding the loopback adapters, try to ping the Real Servers and the VIP, and telnet to the Real Servers. If the ping doesn't work or if in response to the telnet you get a connection refused from the VIP, then the loopback adapter has not been configured correctly.

Try to verify that the loopback adapters are non-ARPing. On either Linux or Windows systems, use the `arp -a` command. Also, check the systems event logs to check for IP address conflicts.

If, later, once the Service is set up, the client tries to connect but is unable to access the application, then the IIS (Windows) or application has not been associated with the real IP address and the VIP.

Figures

1. screenshot01.jpg
2. Screen shot IIS.png
3. site bindings2.jpg

© Barracuda Networks Inc., 2024 The information contained within this document is confidential and proprietary to Barracuda Networks Inc. No portion of this document may be copied, distributed, publicized or used for other than internal documentary purposes without the written consent of an official representative of Barracuda Networks Inc. All specifications are subject to change without notice. Barracuda Networks Inc. assumes no responsibility for any inaccuracies in this document. Barracuda Networks Inc. reserves the right to change, modify, transfer, or otherwise revise this publication without notice.