Microsoft® Hyper-V™ Server 2008

Hyper-V Server 2008 Getting Started Guide

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Abstract

This guide helps you become familiar with Microsoft® Hyper-V™ Server 2008 by providing instructions for creating a virtual machine and configuring virtual networks. For more information about Hyper-V Server 2008, see the Microsoft Web site (http://go.microsoft.com/fwlink/?LinkId=129170).

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Microsoft® Hyper-V™ Server 2008 is a stand-alone product that enables you to provide a virtualized server computing environment. This guide introduces Hyper-V by providing instructions for creating and configuring a virtual machine. For more information about Hyper-V Server 2008, see http://go.microsoft.com/fwlink/?LinkId=129170.

In this guide

Step 1: Install the Hyper-V management tool

To manage Hyper-V, you can use the Hyper-V management tools to manage the server remotely. The management tools are available for Windows Server 2008 and Windows Vista® Service Pack 1.

For more information, see article 950050 (http://go.microsoft.com/fwlink/?LinkId=122188) and article 952627 (http://go.microsoft.com/fwlink/?LinkId=122189) in the Microsoft Knowledge Base.

You can also use System Center Virtual Machine Manager to manage Hyper-V Server 2008.

For more information about System Center Virtual Machine Manager, see http://go.microsoft.com/fwlink/?LinkId=123533.

Step 2: Create and set up a virtual machine

After you have installed the Hyper-V management tool, you can create a virtual machine and set up an operating system on the virtual machine.

Before you create the virtual machine, you may find it helpful to consider the following questions. You can provide answers to the questions when you use the New Virtual Machine Wizard to create the virtual machine.

- Is the installation media available for the operating system you want to install on the virtual machine? You can use physical media, a remote image server, or an .ISO file. The method you want to use determines how you should configure the virtual machine.
- How much memory will you allocate to the virtual machine?
- Where do you want to store the virtual machine and what do you want to name it?

To create and set up a virtual machine

1. Open Hyper-V Manager. Click **Start**, point to **Administrative Tools**, and then click **Hyper-V Manager**.
2. From the **Action** pane, click **New**, and then click **Virtual Machine**.
3. From the **New Virtual Machine Wizard**, click **Next**.
4. On the **Specify Name and Location** page, specify what you want to name the virtual machine and where you want to store it.
5. On the **Memory** page, specify enough memory to run the guest operating system you want to use on the virtual machine.
6. On the **Networking** page, connect the network adapter to an existing virtual network if you want to establish network connectivity at this point.

   Note

   If you want to use a remote image server to install an operating system on your test virtual machine, select the external network.
7. On the **Connect Virtual Hard Disk** page, specify a name, location, and size to create a virtual hard disk so you can install an operating system on it.
8. On the **Installation Options** page, choose the method you want to use to install the operating system:
   - Install an operating system from a boot CD/DVD-ROM. You can use either physical media or an image file (.iso file).
   - Install an operating system from a boot floppy disk.
   - Install an operating system from a network-based installation server. To use this

option, you must configure the virtual machine with a legacy network adapter connected to an external virtual network. The external virtual network must have access to the same network as the image server.

9. Click **Finish**.

After you create the virtual machine, you can start the virtual machine and install the operating system.

Step 3: Install the operating system and integration services

In the final step of this process, you connect to the virtual machine to set up the operating system. As part of the setup, you install a software package that improves integration between the virtualization server and the virtual machine.

Note
The instructions in this step assume that you specified the location of the installation media when you created the virtual machine. The instructions also assume that you are installing an operating system for which integration services are available.

To install the operating system and integration services

1. From the **Virtual Machines** section of the results pane, right-click the name of the virtual machine you created in step 2 and click **Connect**. The Virtual Machine Connection tool will open.

2. From the Action menu in the Virtual Machine Connection window, click **Start**.

3. Proceed through the installation.

   Notes

   - When you are at the point where you need to provide input to complete the process, move the mouse cursor over the image of the setup window. After the mouse pointer changes to a small dot, click anywhere in the virtual machine window. This action "captures" the mouse so that keyboard and mouse input is sent to the virtual machine. To return the input to the physical computer, press Ctrl+Alt+Left arrow and then move the mouse pointer outside of the virtual machine window.

- After the operating system is set up, you are ready to install the integration services. From the Action menu of Virtual Machine Connection, click **Insert Integration Services Setup Disk**. On Windows operating systems, you must close the New Hardware Wizard to start the installation. If Autorun does not start the installation automatically, you can start it manually. Click anywhere in the guest operating system window and navigate to the CD drive. Use the method that is appropriate for the guest operating system to start the installation package from the CD drive.

After you have completed the setup and integration services are installed, you can begin using the virtual machine. You can view or modify the virtual hardware that is configured for the virtual machine by reviewing the settings of the virtual machine. From the **Virtual Machines** pane, right-click the name of the virtual machine that you created in step 3 and click **Settings**. From the Settings window, click the name of the hardware to view or change it.

For more information, see Configuring Virtual Machines (http://go.microsoft.com/fwlink/?LinkId=122190).

Step 4: Configure virtual networks

You can create virtual networks on the server running Hyper-V to define various networking topologies for virtual machines and the virtualization server. There are three types of virtual networks: a private network, which provides communication between virtual machines only, an internal network, which provides communication between the virtualization server and virtual machines, and an external network, which provides communication between a virtual machine and a physical network by creating an association to a physical network adapter on the virtualization server.

The following procedures provide the basic instructions for configuring virtual networks.

To create a virtual network

1. Open Hyper-V Manager.
2. From the Actions menu, click **Virtual Network Manager**.
3. Under **Create virtual network**, select the type of network you want to create. The types of network are External, Internal, and Private. If the network you want to create is an external network, see the “Additional considerations” section that follows.
4. Click **Add**. The **New Virtual Network** page appears.

5. Type a name for the new network. Review the other properties and modify them if necessary.

   Note
   You can use virtual LAN identification as a way to isolate network traffic. However, this type of configuration must be supported by the physical network adapter.

6. Click **OK** to create the virtual network and close Virtual Network Manager, or click **Apply** to create the virtual network and continue using Virtual Network Manager.

To add a network adapter to a virtual machine

1. Open Hyper-V Manager. Click **Start**, point to **Administrative Tools**, and then click **Hyper-V Manager**.
2. In the results pane, under **Virtual Machines**, select the virtual machine that you want to configure.
3. In the **Action** pane, under the virtual machine name, click **Settings**.
4. In the navigation pane, click **Add Hardware**.
5. On the **Add Hardware** page, choose a network adapter or a legacy network adapter. Network adapters can only be added to a virtual machine when the machine is turned off. For more information about each type of adapter, see the "Additional considerations" section that follows.
6. Click **Add**. The Network Adapter or Legacy Network Adapter page appears.
7. Under **Network**, select the virtual network you want to connect to.
8. If you want to configure a static MAC address or virtual LAN identifier, specify the address or identifier you want to use.
9. Click **OK**.

Additional considerations

- By default, membership in the local **Administrators** group, or equivalent, is the minimum required to complete this procedure. However, an administrator can use Authorization

Manager to modify the authorization policy so that a user or group of users can complete this procedure.

- A legacy network adapter works without installing a virtual machine driver because the driver is already available on most operating systems. The legacy network adapter emulates a physical network adapter, multiport DEC 21140 10/100TX 100 MB. A legacy network adapter also supports network-based installations because it includes the ability to boot to the Pre-Boot Execution Environment (PXE). The legacy network adapter is not supported in the 64-bit edition of Windows Server 2003 or the Windows XP Professional x64 Edition.

- After you install Hyper-V and create an external virtual network, your computer will operate differently. After installation, the parent partition uses a virtual network adapter to connect to the physical network. When you look at **Network Connections** on the parent partition, you will see the original network adapter and a new virtual network adapter. The original physical network adapter has nothing bound to it except the Microsoft Virtual Network Switch Protocol, and the virtual network adapter now has all of the standard protocols and services bound to it. The virtual network adapter that appears under **Network Connections** will have the same name as the virtual network switch with which it is associated. It is possible to create an internal virtual network, which will expose a virtual network adapter to the parent partition without the need to have a physical network adapter associated with it. Hyper-V only binds the virtual network service to a physical network adapter when an external virtual network is created. However, networking will get disrupted for a short period of time on the network adapter when a virtual network gets created or deleted.