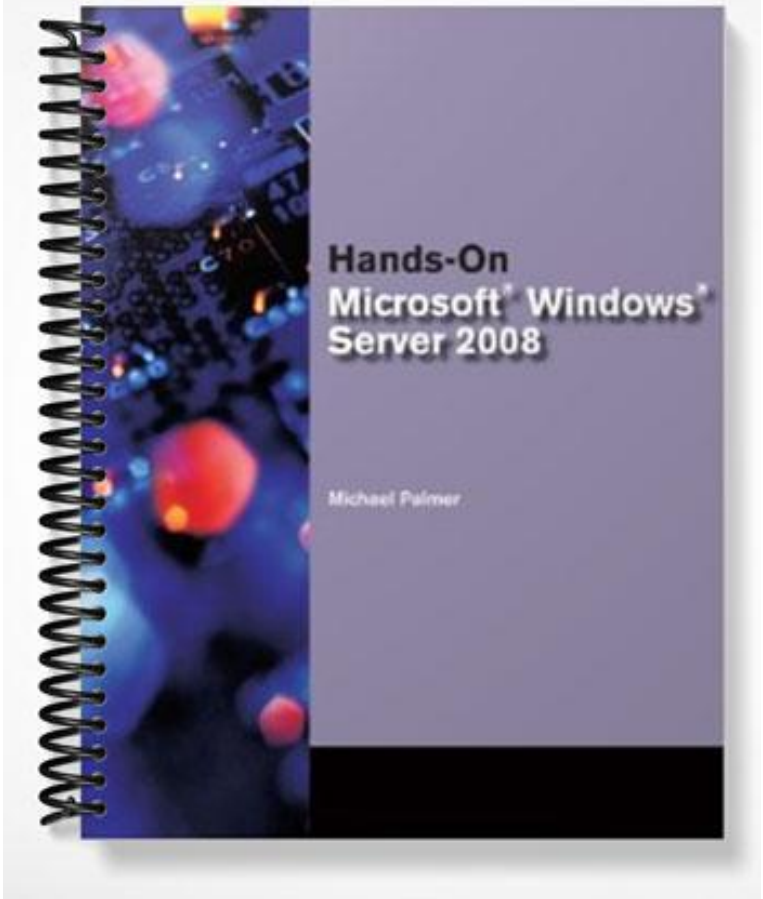
SOLUTIONS MANUAL



Chapter 2 Solutions

Review Questions

1. Your colleague is trying to upgrade from Windows Server 2003 Datacenter Edition to Windows Server 2008 Standard Edition, but the Setup program won't allow the upgrade. Which of the following is the problem?
   Answer: c. Windows Server 2003 Datacenter Edition cannot be upgraded to Windows Server 2008 Standard Edition.

2. Your IT director heard about a fast but inexpensive new computer and purchased it to be the new Windows Server 2008 server on the network. When you attempt to install Windows Server 2008 the operating system won't install because there seems to be a problem with the BIOS in the new computer. How might this dilemma have been avoided?
   Answer: d. The IT director should have checked to see if the computer hardware and BIOS were certified for Windows Server 2008.

3. You have installed Windows Server 2008, but when the computer reboots you only see a command line screen. However, you intended to implement a full version of the operating system with the normal Windows GUI. What has happened?
   Answer: d. During the installation, you selected to install Server Core instead of the full installation.

4. Which of the following are roles that can be implemented in Windows Server 2008? (Choose all that apply.)
   Answer: b. Application Server, c. Fax Server, d. Terminal Services

5. You have installed Windows Deployment Services, but the installation does not properly work. Which of the following might be the problem? (Choose all that apply.)
   Answer: a. There is no DHCP server on the network. and b. Active Directory is not installed on a network server.

6. Before you install Windows Server 2008, the company's management team has expressed a concern about the Marketing Department using too much disk space on the server, because they aren't good about deleting old files. What feature(s) of NTFS in Windows Server 2008 can be used to help address this concern? (Choose all that apply.)
   Answer: b. compression and d. disk quotas

7. The maximum length for a Windows Server 2008 computer name is _____.
   Answer: 63 characters

8. The _____ server role is used to manage security tokens and security services for a Web-based network.
   Answer: Active Directory Federation Services

9. Your company plans to purchase and implement 21 new servers in the next few months and then add 10 more over the next year. You want to make a case for using Windows Deployment Services. Which of the following do you mention as you make the case? (Choose all that apply.)
   Answer: a. lowers installation costs, b. enables consistent deployment and configuration, and d. enables the servers to be administered together through the help of scripts

10. You have installed Windows Server 2008, but during the installation there was no screen on which to enter the name of the server computer. What tools enable you to name the server? (Choose all that apply.)

Answer: a. Initial Configuration Tasks window

11. When you configure a server to be a member of a domain, at the time of configuration the server checks the network to verify _____.
    Answer: there is such a domain

12. Which of the following must you do shortly after installing Windows Server 2008 in order to keep the server functions enabled?
    a. Activate Windows Server 2008.

13. The _____ file is needed for an unattended installation via Windows Deployment Services.
    Answer: unattend.xml

14. The latest service pack has some patches that you need for Windows Server 2008 security. Your assistant says the only way to get a service pack is to order a CD from Microsoft. Is there a faster way to obtain the service pack? (Choose all that apply.)
    Answer: b. Use Windows Update. and c. Check Microsoft's Web site for a download of the service pack.

15. You are installing Windows Server 2008, but the Setup program does not find any hard disk drives on the computer. What step or steps are best to take initially? (Choose all that apply.)
    Answer: c. Press F6 when the installation displays storage device information and provide a driver for the hard disks. and d. Reseat the disk adapters/controllers.

16. The target client computer which is to install an operating system via Windows Deployment Services should be _____ enabled.
    Answer: pre-boot execution environment (PXE)

17. Your assistant is about to install the latest service pack for Windows Server 2008 on a production server. What is your advice before he starts? (Choose all that apply.)
    Answer: b. Back up the server before starting.

18. When you install Windows Server 2008, you enter a password and confirm it for the _____ account.
    Answer: Administrator

19. You are going to perform a Windows Server 2008 installation early in the morning before a meeting and decide to make yourself a checklist of things to do immediately before you start. Which of the following are on your checklist? (Choose all that apply.)
    Answer: a. Disconnect any flash drives. b. Have on hand drivers for new peripherals in the computer. c. Use the test software disc that came with the computer to verify key hardware elements, such as the CPU. and d. Ensure that all necessary hardware, such as the NIC, is preinstalled.

20. The server you are installing is to be used for the Distributed File System. Which role should be installed on the server?
    Answer: a. File Services

Hands-On Projects Tips and Solutions for Chapter 2

Activity 2-1

One common source of problems during the installation of a new operating system is that the BIOS version needs to be updated. This is true even for new or relatively new computers. In this activity, students learn how to access the BIOS Setup on a computer to determine the BIOS version. Before they start, you will need to provide them with the keystroke sequence necessary to access the BIOS

Setup on the computers in the labs used by students. Also, remind students to not change any BIOS parameters and to exit without saving their changes.

In Step 3, students should record the BIOS version, such as 3.01, etc.

As an extension to this activity, consider having students go to the computer manufacturer's Web site and determine if there is a BIOS upgrade to install for that computer.

Activity 2-2

In preparing to upgrade Windows Server 2003 to Windows Server 2008 it is a good idea to check the available disk space before starting the upgrade. This activity shows students how to check the disk space using the Windows Server 2003 Disk Management tool. If there are no computers running Windows Server 2003 in the lab for students to use, consider giving an in class demonstration in place of this activity or simply discuss how to check the disk space and partitions on a computer before it is upgraded. The other alternative is to have students follow the steps for a Windows Server 2008 computer, if there are some computers already set up at this point.

In Step 4 for the Windows Server 2003 steps, students should record the drive letter assignments and the file systems in use on each partition, plus the size of each partition. If students use the steps for Windows Server 2008 instead, they should record this information for Step 5.

Activity 2-3

In this project, students use Server Manager to view the roles installed on a Windows Server 2008 server. They also view the list of roles that can be installed. In some contexts, students may not yet have access to a computer running Windows Server 2008 until they have completed Activity 2-4. If this is the case, consider having students do this activity after they complete Activity 2-4. Note that Activity 2-3 is presented at this point in the chapter, so that it is fresh in students minds just after they have completed learning about server roles.

In Step 4, students should record the roles that are already installed. The exact roles will vary by computer or lab situation.

Activity 2-4

This activity enables students to install Windows Server 2008. Students will need the Windows Server 2008 installation DVD before starting. Also, if it is appropriate to your network or class situation, consider giving students static IP addresses that they can use to set up IP communications.

Activity 2-5

After Windows Server 2008 is installed, the Initial Configuration Tasks window becomes available from which to perform the startup configuration steps. This activity gives students experience with the Initial Configuration Tasks window.

In Step 13, students should record the names of any programs or ports checked as exceptions. The exceptions are in part determined by what role or roles are enabled at the server. Two exceptions that are typically checked by default are Core Networking and Network Discovery.

Activity 2-6

In this project, students install and configure the Windows Deployment Services server role.

Important Note: Students will have not yet installed Active Directory, but they need it for this project. You will need to have a server with Active Directory turned on for this project and then can turn it off, if desired, for the projects in Chapter 4.

Students will need access to the Windows Server 2008 installation DVD. Note that in Step 19 they configure Windows Deployment Services to respond only to known client computers. Consider explaining that because of this selection, the names of the new clients must be defined to Active Directory – as a security step so that unknown computers cannot participate in using Windows Deployment Services.

If you like to train students in the command line as well as the GUI interface, consider demonstrating how to configure Windows Deployment Services by using *wdsutil*.

Case Projects

This week you work with Gym Masters, a company that makes equipment for fitness centers and gyms. Gym Masters makes tread mills, stair steppers, cross trainers, exercise bikes, free weights, and stationary exercise devices. They supply fitness and recreation centers throughout the United States and Canada. Gym Masters has two locations, one in Chicago and one in Toronto. Both locations have computer centers currently filled with Windows 2000 Server and Windows Server 2003 servers. The Chicago location consists of an office building and a manufacturing building, both fully networked. The Toronto location has a single large building that houses offices and a manufacturing center. The Toronto building is also fully networked. All networks use IPv4 for communications.

The Chicago location has a combination of Windows XP and Windows Vista workstations. In Toronto, they have fully upgraded to Windows Vista. However, the Toronto location is to receive 24 new computers that will need to have Windows Vista installed.

In both locations, the servers are centralized in a controlled computer center environment. The Gym Masters management wants to upgrade the 22 servers in the Chicago location and the 18 servers in Toronto to Windows Server 2008. There is a combination of Standard, Enterprise, and Datacenter Edition computers to upgrade. Also, the company is planning to add 12 new servers in Chicago and 14 new ones in Toronto. As is common in many organizations, the information technology (IT) staff are overworked and understaffed. Gym Masters has hired you through Aspen Consulting to coordinate and assist with the transition to Windows Server 2008.

Case Project 2-1: Advance Preparations

The IT managers from Chicago and Toronto have decided the first step is to form a transition committee to plan and track the progress of the server upgrades. The committee consists of both IT managers (from each location), two department heads from each location, the chief financial officer, the director of operations, a senior applications programmer, and a senior systems programmer.

During the kickoff meeting, you briefly mention a few advance preparation steps the committee needs to know about. In response, the committee asks you to create a full report or slide presentation of the steps that need to be considered in advance for Windows Server 2008 installations. In your report or slide show, present all of the steps appropriate to Gym Masters' situation.

Answer:

Students should create a short report of the advance preparations needed. If the resources are available, encourage students to prepare a slide presentation.

The advance preparation steps that students should discuss include those discussed in the text:

- Identify the hardware requirements and check hardware compatibility

- Determine disk partitioning options
- Understand the file system (students may or may not choose to include this topic, but it is good to discuss because some of the older systems, particularly Windows 2000 Server may use FAT or NTFS partitions)
- Determine upgrade options
- Plan user licensing
- Determine domain or workgroup membership
- Choose a computer name
- Determine whether to install server core or the full version
- Identify the server roles to implement
- Determine the immediate preparations

Some special issues particularly apply to Gym Masters. For example, do they want to purchase any new hardware? Will they keep the same computer names? Will more licenses be needed? Will they do upgrades or clean installs for computer s that currently run Windows Server 2003? Although students won't necessarily have the answers to these questions, consider giving them credit or extra credit for raising the questions.

Case Project 2-2: Server Roles

The committee has recently been discussing the functions of each server. They are not familiar with server roles, but they do know how specific servers are used. Some of the server functions they mention include:

- Providing a Web site
- Offering applications that users can run on the server through accessing the server over the network
- Offering shared files on large scale
- Managing Active Directory functions for the domain
- Offering VPNs
- Coordinating printing
- Providing Web-based applications to internal users.

Create a short report for the committee that translates each of these functions into server roles offered through Windows Server 2008. Also, suggest some other roles that are likely necessary on the company's networks (hint: such as managing IP address assignments and translating computer names and IP addresses). Include a short explanation of each server role you mention.

Answer:

The server roles include the following:

- Web Services (IIS) role offers a full range of Web services, including Web server software.
- Terminal Services is the role that enables users to run applications on a server from a remote client.
- File Services role enables sharing files on a large scale through Distributed File System (DFS).
- Active Directory Domain Services role is the role for managing domain elements, such as user accounts, computers, servers, and others.
- Network Policy and Access Services role is needed to enable the use of Virtual Private Networks (VPNs) and also of Routing and Remote Access Services (RRAS). The role also is used for network access policies to keep a network healthy.
- Print Services role is used for coordinating printing activities on a network.

- Application Server is for housing distributed Web-based applications.

In addition to these roles, other roles are needed for large networks like those used at the Chicago and Toronto locations including:

- DNS Server role to manage translating computer names and IP addresses.
- DHCP Server role for leasing IP addresses to network clients.
- Active Directory Certificate Services role (not noted in the hint, but a good choice here) for establishing digital certificates for security.
- Active Directory Federation Services role (not noted in the hint, but a good choice here) for security tokens for Web-based networks using Web-based applications.
- Active Directory Rights Management role (not noted in the hint, but a good choice here) for information protection, such as encryption of information and security certificates – such as for using word processors and spreadsheets.

Case Project 2-3: Initial Configuration

A Gym Masters system programmer has just installed the first Windows Server 2008 system and now needs to do an initial configuration of the server. Discuss which tool she can use for the initial configuration and briefly discuss the configuration tasks that should be performed at this point.

Answer:

The system programmer can use the Initial Configuration Tasks window for the startup configuration tasks.

One of the first tasks is to review computer information in the Initial Configuration Tasks window. This includes:

- Ensuring the time zone is correct.
- Configuring networking so that the computer has a static IP address.
- Entering a name for the computer.
- Joining the computer to a domain or initially setting it to be in a workgroup.

The next task is to configure automatic updating or least to download the most current updates using the Update this Computer portion of the Initial Configuration Tasks window.

Finally, any roles intended for the server or any features can be installed in the Customize This Server section of the Initial Configuration Tasks window. However, roles and features can also be added later via Server Manager. Also, the firewall configuration should be checked to ensure the firewall is turned on.

Case Project 2-4: Installing Multiple Servers

The Toronto IT department wants to install Windows Server 2008 Standard Edition on all 14 new servers in its location. The servers have arrived, are unpacked, and have been tested. Also, the preliminary preparations have been completed. Now they want to install Standard Edition on a mass scale to complete this part of the project right away. What Windows Server 2008 capability enables them to do the mass installation quickly and efficiently? What general steps are involved in setting up this capability? Can the capability also be used to install Windows Vista on the 24 new client workstations arriving soon? Explain the answers to these questions in a memo to the IT manager in Toronto that you also copy to the transition committee.

Answer:

The Windows Server 2008 capability that enables the servers to be installed on a mass scale is Windows Deployment Services. This is a situation in which the installation can be standardized; and time and money can be saved, particularly if the steps are mimicked at the Chicago location as well. Windows Deployment Services can also be used to install Windows Vista on the 24 new client computers.

The general steps for implementing the capability include:

- Ensure that DNS, DHCP, and Active Directory are already in use on server on the network.
- Ensure that the new Windows Deployment Services server uses NTFS.
- Install Windows Server 2008 on a server on the network. Ensure the initial configuration tasks are completed, as noted in Case Project 2-3..
- Install the Windows Deployment Services role on the Windows Server 2008 server, such as through the Initial Configuration Tasks window (or Server Manager).
- Configure Windows Deployment Services.
- Ensure there is a PXE boot capability in the new server computers.
- If unattended installation is desired, set up the unattend.xml file and configure Windows Deployment Services for unattended installation.
- Boot each server to be installed via PXE and select to install Windows Server 2008 Standard Edition.