

SOLUTIONS MANUAL

Microsoft

Official Academic Course

Windows Server® 2008

Network Infrastructure Configuration

Microsoft Certified Technology Specialist **Exam 70-642**

Windows Server 2008 Enterprise
Evaluation Software Inside

Lesson 2

Installing Microsoft Windows Server 2008

Learning Objectives

Certification Skill Number

Lesson Summary — Lecture Notes

Begin this lesson by giving an overview of the installation of Windows Server 2008. Follow this by stepping through the actual process of this installation.

Discuss the various initial configuration tasks that must be performed. Talk about the different network settings that must be configured, and step through the process of doing these configurations.

Explain the purpose of the Windows Firewall and how to configure it.

Explain the concept of a server role in detail. List some of the available server roles, and demonstrate how to configure them. Follow this by a demonstration of adding Windows Server 2008 features.

Begin a discussion about storage in Windows Server 2008. Explain disk types and the terms associated with these types. Demonstrate how to configure these different disk types.

Describe Windows Server 2008 Server Core and its benefits. Demonstrate how to manage Server Core via the command line.

End this lesson with a brief discussion about configuring Windows activation.

Key Terms

basic disks Disks that use partition tables recognized by older operating systems, such as MS-DOS and Windows 95/98.

boot volume Binary sequences of 0s and 1s used to encode traffic onto physical network media.

dynamic disks Disks that enable more advanced configuration options but are not recognized by operating systems prior to Windows 2000.

GPT (GUID Partition Table) Partition style used by dynamic disks.

Initial Configuration Tasks Post-installation startup screen that provides a unified administrative interface to configure common items when a server has been newly installed.

Internet Connection Sharing (ICS) Feature that allows multiple users to share an Internet connection that is directly attached to a single computer.

Key Management Service (KMS) License key that allows you to manage the licensing process using an internal licensing server installed on your own network.

MBR (Master Boot Record) Partition style used by basic disks.

mirrored volume Logical unit of disk space comprised of two physical disks in which data has been copied exactly from the first disk to the second for fault tolerance.

mount point Logical unit of disk space that will appear as a folder within an existing volume.

Multiple Activation Key (MAK) Activation key used for a one-time activation with Microsoft's hosted activation service.

NetBIOS Primary method of name resolution on Windows networks prior to the move to DNS within Active Directory.

Network and Sharing Center Control Panel location that allows you to manage and monitor all aspects of Windows Server 2008 networking.

network discovery Network service that locates and queries network resources and shares for information.

network location Configuration setting that allows you to configure one or more network connections to receive unified security settings. You may define different security settings for "home" network locations versus "public" network locations.

RAID-5 volume Logical unit of disk space comprised of 3 or more physical disks in which data has been interleaved with additional parity for a balance between performance and fault tolerance.

repair mode Installation option that provides an environment designed to allow you to diagnose and correct a damaged Windows installation.

Server Core Installation option in Windows Server 2008 that provides a minimal installation footprint designed to run only key infrastructure services.

simple volume Logical unit of disk space comprised of space contained on a single physical disk.

spanned volume Logical unit of disk space comprised of space contained on multiple physical disks.

striped volume Logical unit of disk space comprised of space that has been interleaved across multiple physical disks for improved read performance.

system volume Volume containing the files necessary to boot a computer.

volume Logical unit of disk space comprised of space contained on one or more physical disks.

Volume Activation Process used to manage software activation for multiple installations of Windows within an enterprise network.

Volume Activation Management Tool (VAMT) Software tool used to activate software that uses Multiple Activation Keys.

Windows Firewall Software-based firewall that is built into the Windows Server 2008 operating system.

Windows Server Backup Windows Server 2008 feature that allows you to perform one-time and recurring scheduled backups of a Windows server.

WINS Server Windows server providing the WINS server service for automated management and centralization of NetBIOS name resolution.

Wireless Networking Windows Server 2008 feature that installs and configures wireless connections and wireless LAN profiles.

Answers for Knowledge Assessment

Fill in the Blank

1. repair mode
2. server core
3. Initial Configuration Tasks
4. striped volume
5. Internet Connection Sharing
6. Network and Sharing Center
7. network location
8. Windows firewall
9. network discovery
10. dynamic disk

Multiple Choice

1. b Rather than contacting the Microsoft-hosted activation service each time a new instance of Vista or Windows Server 2008 needs to be activated on your network, KMS allows you to contact the Microsoft site one time and then manage the activation process internally.
2. b A RAID-1 volume is also commonly referred to as a “mirrored” volume.
3. a A mount point can be used to minimize the number of drive letters used by a server. For example, a 500GB disk drive configured as a mount point of e:\accounting would create a blank folder within the existing e:\ drive with a 500GB capacity.
4. c The Wireless Networking feature is installed using the “Add Features” function within the Server Manager console.
5. d NetBIOS name resolution is broadcast based by default and was the default name resolution protocol in Windows NT, Windows 95 and Windows 98.
6. b The Windows Server Backup feature is installed using the “Add Features” function within the Server Manager console.
7. c The WINS service provides an analogous service for NetBIOS names just as the DNS name resolution service provides for fully qualified domain names (FQDNs) on a TCP/IP network.
8. b All new disks added to a Windows Server 2008 computer are initially added as basic disks and can be initialized using either the MBR or GPT partition styles.
9. a Volume Activation can eliminate the need to manually enter a product key when an operating system is installed.

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10. b The system volume contains files necessary to boot the computer; the boot volume contains the Windows operating system files.

Answers for Case Scenario

Scenario 2-1: Planning for Windows Server 2008

1. Install a minimum of two disks into the database server, and configure a RAID-0 array.
2. Use the Server Core installation option.

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Installing Microsoft Windows Server 2008

Knowledge Assessment

Fill in the Blank

Complete the following sentences by writing the correct word or words in the blanks provided.

1. The ability to use the installation process to fix problems with an existing Windows Server system is called ___**repair mode**_____.
2. Installation of just the necessary components for a particular server role, without the GUI and other software features, is called ___**server core**_____.
3. The ___**Initial Configuration Tasks**_____ screen appears by default when the Windows Server 2008 operating system is first installed.
4. A(n) ___**striped volume**_____ offers the best performance of any multi-disk configuration option within the Disk Management MMC, but does so at the expense of fault tolerance.
5. The feature that allows users on different computers to access the Internet through a single connection is called ___**Internet Connection Sharing**_____.
6. The ___**Network and Sharing Center**_____ provides a single point of administration to configure networking and firewall configuration tasks on a Windows Server 2008 computer.
7. The setting describing the network environment, such as home or public network, is called the ___**network location**_____.
8. Unsolicited inbound traffic can be blocked through the use of the ___**Windows firewall**_____.
9. The network location setting controls the behavior of ___**network discovery**_____.
10. Once a disk is converted from a basic disk to a(n) ___**dynamic disk**_____, it can only be accessed only by operating systems that support dynamic disks: Windows 2000 Professional, Windows XP Professional, Windows Vista Business, Enterprise or Ultimate, Windows 2000 Server, Windows Server 2003, and Windows Server 2008.

Multiple Choice

Select all answers that apply for the following questions.

1. What type of license key allows you to host an activation service locally within your own network?
 - a. Multiple Activation Key (MAK)
 - b. **Key Management System (KMS)**

- c. Key Activation System (KAS)
- d. Multiple Management System (MMS)

Rather than contacting the Microsoft-hosted activation service each time a new instance of Vista or Windows Server 2008 needs to be activated on your network, KMS allows you to contact the Microsoft site one time and then manage the activation process internally.

- 2. What type of volume uses 50% of available drive space to provide fault tolerance for the volume?
 - a. RAID-0
 - b. RAID-1
 - c. RAID-5
 - d. RAID-6

A RAID-1 volume is also commonly referred to as a “mirrored” volume.

- 3. Which disk formatting option will cause a disk to appear as a folder within an existing volume?
 - a. Mount point
 - b. Mirrored volume
 - c. Striped volume
 - d. GPT point

A mount point can be used to minimize the number of drive letters used by a server. For example, a 500GB disk drive configured as a mount point of e:\accounting would create a blank folder within the existing e:\ drive with a 500GB capacity.

- 4. Which Windows Server 2008 feature installs and configured wireless connections and wireless LAN profiles?
 - a. Network and Sharing Center
 - b. Windows Firewall with Advanced Security
 - c. Wireless Networking
 - d. Network Access Protection

The Wireless Networking feature is installed using the “Add Features” function within the Server Manager console.

- 5. What was the primary means of name resolution on Windows networks prior to the introduction of Windows 2000 and Active Directory?
 - a. AppleTalk
 - b. Domain Name System (DNS)
 - c. HOSTS files
 - d. NetBIOS

NetBIOS name resolution is broadcast based by default and was the default name resolution protocol in Windows NT, Windows 95 and Windows 98.

- 6. Which feature is used to perform backups and restores of Windows volumes?

- a. NTBackup
- b. **Windows Server Backup**
- c. Windows Backup
- d. Windows NT Backup

The **Windows Server Backup** feature is installed using the “Add Features” function within the **Server Manager** console.

7. Which networking service is used to automatically associate NetBIOS names with IP addresses?
- a. DNS
 - b. NetBEUI
 - c. **WINS**
 - d. AppleTalk

The **WINS** service provides an analogous service for NetBIOS names just as the **DNS** name resolution service provides for fully qualified domain names (FQDNs) on a **TCP/IP** network.

8. Which disk partition style is recommended for disks larger than 2TB or disks that are used in Itanium computers?
- a. Master Boot Record (MBR)
 - b. **GUID Partition Table (GPT)**
 - c. Master Partition Table (MPT)
 - d. GUID Boot Record (GBR)

All new disks added to a **Windows Server 2008** computer are initially added as **basic** disks and can be initialized using either the **MBR** or **GPT** partition styles.

9. What is used to manage the licensing process for volume licenses of Windows Vista and Windows Server 2008?
- a. **Volume Activation**
 - b. Activation keys
 - c. Microsoft Select
 - d. Enterprise Agreement

Volume Activation can eliminate the need to manually enter a product key when an operating system is installed.

10. Which volume contains the operating system files on a Windows computer?
- a. System volume
 - b. **Boot volume**
 - c. Mirrored volume
 - d. Striped volume

The **system volume** contains files necessary to boot the computer; the **boot volume** contains the **Windows** operating system files.

Case Scenario

Case Scenario 2-1: Planning for Windows Server 2008

Contoso, Ltd. is a research company located in Palo Alto, California. They are in the midst of a significant upgrade to their network infrastructure, including an upgrade of all server computers to Windows Server 2008. The team leader for the server upgrade project is gathering information to determine the optimum configuration for each server computer. Based on the information in this lesson, answer the following questions.

1. You have a SQL Server 2005 database against which clients perform numerous read-intensive operations. You have been tasked with optimizing the performance of this database as much as possible. Based on this requirement, how should you configure the disks on which that the database files will be installed?

Install a minimum of two disks into the database server, and configure a RAID-0 array.

2. Contoso, Ltd. has a number of satellite offices where researchers work locally on client projects. These offices are minimally staffed and do not usually have on-site IT staff available to administer any locally-housed servers. You are concerned with installing only the minimum necessary services and creating the most secure possible installation footprint on servers that are housed at these remote offices. What new feature of Windows Server 2008 can you use to increase the security of these servers?

Use the Server Core installation option.