Module 3 – File and Print

This module covers management and storage of network files, using DFS to organize shared folders on multiple servers, and using BranchCache to quickly access information from a Branch office. Students will learn about using FSRM to control the quantity and type of data stored on servers, accessing offline files, protecting files with EFS, and managing printing services.

Section 3.1: File Services

Summary

In this section students will explore information about file services. They will learn the following:

- Role services available when installing the File Services role:
    - File server
    - Distributed File System (DFS)
    - File Server Resource Manager (FSRM)
    - Services for network File System (NFS)
    - Windows Search Service
    - Windows Server 2003 File Services
    - BranchCache for network files
- Share permissions and NTFS permissions

Students will learn how to:

- Install the appropriate File Services role services.
- Implement combined share and NTFS permission strategies.

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- 105. Plan file and print server roles.
- 402. Provision data.

Video/Demo	Time
☐ 3.1.1 File Services Role	6:22
☐ 3.1.4 NTFS and Share Permissions	<u>10:40</u>
Total	*17:02*

Lab/Activity

- ☐ Add Role Services for File Services
- ☐ Configure NTFS and Share Permissions 1
- ☐ Configure NTFS and Share Permissions 2

☐ **Number of Exam Questions: 5 questions**

Total Time: About 45 minutes

Section 3.2: Storage

Summary

This section discusses the following details about storage:
- Options for Server and Network storage:
  - Direct Attached Storage (DAS)
  - Network Attached Storage (NAS)
  - Storage Area Network (SAN)
- Methods used to create the SAN fabric:
  - Fibre Channel (FC)
  - iSCSI
- Disk configurations that can be configured for a storage unit:
  - Simple
  - Spanned
  - Striped (RAID 0)
  - Mirrored (RAID 1)
  - Striped with parity (RAID 5)
- Tools for working with disks and managing SANs:
  - Virtual Disk Service (VDS)
  - Share and Storage Management
  - Storage Explorer
  - iSCSI Initiator
  - Internet Storage Name Service (iSNS)
  - Multipath I/O (MPIO)
  - Storage Manager for SANs (SMfS)
  - DiskRAID .exe
- General actions that can be performed with a VHD file:
  - Create
  - Attach
  - Detach
  - Compact
  - Expand

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- 105. Plan file and print server roles.
- 501. Plan storage.

Video/Demo	Time
☐ 3.2.1 Storage	9:53
☐ 3.2.5 Mounting and Booting a VHD	5:31

Total	*15:24*

☐ **Number of Exam Questions: 5 questions**

Total Time: About 35 minutes

Section 3.3: DFS

Summary

This section examines using the Distributed File System (DSF) to logically organize shared folders on multiple servers into a single logical folder hierarchy. Students will become familiar with the following details:

- Components of DFS Namespaces:
    - Namespace
    - Namespace server
    - Namespace root
    - Folder
- Criteria that the namespace type is based on:
    - Stand-alone
    - Domain-based
- Managing DFS Namespaces
- Components to control DFS replication:
    - Replication group
    - Replicated folder
    - Connection
- Configuring DFS

Students will learn how to:

- Create a DFS namespace with folders and targets.
- Add role services as required to support DFS and the appropriate replication method.
- Configure DFS replication of folder targets.

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- 105. Plan file and print server roles.

Video/Demo	Time
☐ 3.3.1 DFS	9:43
☐ 3.3.2 Configuring DFS Namespaces	10:17

☐ 👤 3.3.5 DFS Replication		10:00
☐ 🖥 3.3.6 Configuring DFS Replication		4:52
☐ 👤 3.3.9 New DFS Features		4:51
☐ 🖥 3.3.10 Configuring DFS Read-Only Replicated		
Folders and Access Based Enumeration		3:49
Total		*43:32*

Lab/Activity

- ☐ Create a DFS Structure
- ☐ Add Role Services for Replication

☐ **Number of Exam Questions: 4 questions**

Total Time: About 65 minutes

Section 3.4: BranchCache

Summary

In this section students will learn about using BranchCache to store content in remote locations so that users in branch offices can access information more quickly. Details include:
- The role of Branch Cache
- BranchCache modes:
  - o Hosted Cache
  - o Distributed Cache

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- 105. Plan file and print server roles.

Video/Demo	**Time**
☐ 👤 3.4.1 BranchCache	4:56
☐ 🖥 3.4.2 Configuring BranchCache	2:25

Total   *7:21*

☐ **Number of Exam Questions: 3 questions**

Total Time: About 15 minutes

Section 3.5: FSRM

Summary

In this section students will learn how to use File Server Resource Manager (FSRM) to manage the quantity and type of data stored on their servers. Details include:

- FSRM features:
    - o Quotas
    - o Notifications
    - o File Screening
    - o Storage Reports
    - o File Classification
    - o File Management
- Methods for configuring quotas for Windows Server 2008 and Windows Server 2008 R2:
    - o NTFS Disk Quotas
    - o Folder and Volume Quotas

Students will learn how to:

- Create quotas and quota templates.
- Configure file screens with file groups and file screen exceptions.
- Configure file classification and management tasks.

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- 105. Plan file and print server roles.

Video/Demo	Time
☐ 3.5.1 FSRM	5:26
☐ 3.5.2 Configuring FSRM Quota and File Screening	8:44
☐ 3.5.3 FSRM File Classifications and Management	6:06
☐ 3.5.4 Configuring FSRM File Classifications and Management	8:40

Total	*28:56*

☐ **Number of Exam Questions: 5 questions**

Total Time: About 40 minutes

Section 3.6: Offline Files and Indexing

Summary

This section discusses using offline files and indexing. Details include:
- The role of offline files
- Settings that control how caching works:
  - Only the files and programs that users specify are available offline
  - All files and programs that users open from the share are automatically available offline
  - No files or programs from the share are available offline
- Configuring, storing, protecting, and encrypting offline files
- Synchronization settings
- Sync conflicts

Students will learn how to:

- Configure caching options for offline files, including automatic caching of files and caching of applications.
- Configure offline availability on the client.
- Add role services for indexing.

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- 105. Plan file and print server roles.
- 402. Provision data.

Video/Demo	**Time**
☐ 3.6.1 Offline Files and Indexing	6:24
☐ 3.6.2 Using Offline Files	6:26

Total   *12:50*

☐ **Number of Exam Questions: 2 questions**

Total Time: About 20 minutes

Section 3.7: Encryption

Summary

This section provides information about using Encrypting Files System (EFS) to encrypt files and folders. Students will become familiar with the following concepts:

- Working with EFS
- Copying and moving encrypted files
- The role of BitLocker
- Components of BitLocker
    - o Operating system
    - o BitLocker partition
    - o Trusted Platform Module (TPM)
    - o BIOS Support
    - o Group Policy
- Configuring BitLocker security components:
    - o TPM owner password
    - o Recovery password and recovery key
    - o PIN
    - o Startup key
    - o Data volume key
    - o Data Recovery Agent
- Methods to startup a system using BitLocker
- Facts regarding BitLocker

Students will learn how to:

- Encrypt or decrypt a file or folder.
- Add authorized users to allow encrypted file access.
- Prepare a computer for BitLocker.
- Enable BitLocker.

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- 101. Plan server installations and upgrades.
- 303. Monitor and maintain security and policies.

Video/Demo	Time
☐ 3.7.1 EFS	4:41

☐ 3.7.2 Using EFS   6:17
☐ 3.7.4 BitLocker   5:52
☐ 3.7.5 Using BitLocker   6:03
       Total   *22:53*

Number of Exam Questions: 9 questions

Total Time: About 40 minutes

Section 3.8: Print Services

Summary

In this section students will learn the basics of print services:
- Print service terms:
  - Print server
  - Printer
  - Print device
  - Print driver
  - Print queue
  - Print spooler
  - Printer port
- Manage printing on a Windows Server 2008
  - Control Panel
  - Print Management snap-in
- Services and features used to provide printing and document services support:
  - Print server
  - LPD Service
  - Internet Printing
  - Distributed Scan Server
  - LPR Port Monitor
- Managing printing:
  - Printer permissions
  - Multiple printer objects and priorities
  - Printer pooling
  - List in Active Directory
  - Deploy with Group Policy
  - Export/import printer
  - Manage print drivers
  - Location-aware printing
  - Print driver isolation
  - Client-Side Rendering (CSR)
- Print and Document Services

Students will learn how to:

- Add the Print and Document Services role with required role services.
- Use Group Policy objects to deploy printers to computer and user accounts.

Windows Server 2008 Server Administrator

- 105. Plan file and print server roles.

Video/Demo	Time
☐ 3.8.1 Print Services	13:41
☐ 3.8.2 Installing the Print and Document Services Role	1:49
☐ 3.8.3 Using the Print Management Console	4:38
☐ 3.8.4 Migrating Print Servers and Configuring Print Driver Isolation	3:04
Total	*23:12*

Lab/Activity

- ☐ Add The Print and Document Services Role
- ☐ Deploy Printers with Group Policy

☐ **Number of Exam Questions: 6 questions**

Total Time: About 45 minutes