

STUDENT ACTIVITY 4.1_KEY: UNDERSTAND FILE SYSTEMS

MTA Course: 10753 Windows Operating System Fundamentals

Topic: Understand file systems

File name: 10753_WindowsOS_SA_4.1_key

Lesson Objective

4.1: Understand file systems. *This objective may include but is not limited to:* understanding FAT, FAT32, NTFS, and 32 bit vs. 64 bit.

Resources, software, and additional files needed for this lesson:

- A workstation with Microsoft Windows 7 Professional or Enterprise edition installed
 - A secondary volume should be present, which has been formatted using FAT32
- Alternative options:
 - A virtual machine with Windows 7 Professional or Enterprise installed
 - A USB thumb drive

Directions to the student:

Complete the following hands-on activities. Note that the screenshots in the activity may look different from your system. Answer the questions as you work through the activities. Verify your answers with the instructor. Request assistance from the instructor as needed.

Identify file systems using the command line:

1. Authenticate into your system using the credentials provided by your instructor.
2. Click Start, type **command** prompt in the Search box, and press ENTER.
3. At the command prompt, type **diskpart** and press ENTER.
4. Click Yes if prompted by User Account Control.
5. Type **Help** at the diskpart prompt and press ENTER. A list of available commands will be provided. All functions that can be done within the Disk Management Console can also be accomplished using diskpart.
6. At the diskpart prompt, type **list** and press ENTER.

7. List the four available options and a description of each:
 - a. Disk—Displays a list of disks
 - b. Partition—displays a list of partitions on the selected disk
 - c. Volume—displays a list of volumes
 - d. Vdisk—displays a list of virtual disks
8. While at the **diskpart** prompt, type **list volume** and press ENTER.
9. Use the following table to record the volumes displayed. Include the volume, Letter (Ltr), Label, and File System (Fs). You may have only three volumes.

| Volume | Letter (Ltr) | Label | File System (Fs) |
|-------------------|--------------|-------|------------------|
| Answers will vary | | | |
| Answers will vary | | | |
| Answers will vary | | | |
| Answers will vary | | | |

10. Type **exit** and press ENTER to leave Diskpart.

Identify file systems using the Graphical User Interface (GUI):

1. Click Start, and then click Computer.
2. Right-click a drive listed under Hard Disk Drives and select Properties.
3. What is the drive letter and file system type?
 - a. Drive Letter: Answers will vary
 - b. File System: Answers will vary

In the following steps, you will convert a volume to NTFS and use features of NTFS.

4. Open Windows Explorer.
5. Navigate to the secondary volume.
6. What is the drive letter associated with your secondary volume?
Answers will vary.
7. Create a folder and name it **FAT32Folder**.
8. Right-click this new folder and select Properties.
9. List the tabs that are available:
 - a. General
 - b. Sharing
 - c. Previous Versions
 - d. Customize

10. On the General tab, is there a button labeled Advanced?
 - a. Yes
 - b. No
11. Close the Properties box.
12. Open FAT32Folder by double-clicking it.
13. Right-click within the folder and select New and then Text Document.
14. Name the file **MyTextDocument**.
15. Open the text document in Notepad by double-clicking the file.
16. Type **Hello World** at the top of the document.
17. Save and close Notepad.
18. Right-click MyTextDocument and select Properties.
19. List the tabs that are available:
 - a. General
 - b. Sharing
 - c. Previous Versions
 - d. Customize

20. Click OK to close the Properties box.

In the following steps, you will convert the secondary volume from a FAT32 volume to NTFS.

21. Open a command prompt using what you learned earlier in this lesson.
22. Perform the following steps:
 - a. Type **Convert <secondary drive letter>: /fs:NTFS** using information listed in the table above and step 3a and then press ENTER.
 - b. Type the current volume label from the table above. If it doesn't have a label, press ENTER. The volume should be converted.
23. Using what you have learned, use **diskpart** to verify if your volume has been converted.
24. Type **exit** to close the command prompt.
25. Open Windows Explorer and navigate to your secondary volume.
26. Right-click the Fat32Folder that you created and select Properties.
27. List the tabs that are available:
 - a. General
 - b. Sharing
 - c. Security
 - d. Previous Versions
 - e. Customize

28. Click OK to close the Properties box.

29. Double-click Fat32Folder to open it.

30. What color is the name of the MyTextDocument file?

Black

31. Right-click MyTextDocument and select Properties.

32. List the tabs that are available:

- a. General
- b. Security
- c. Details
- d. Previous Versions

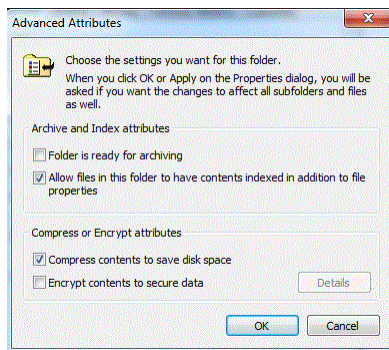
33. Click the General tab.

34. Is there an Advanced button?

- a. Yes
- b. No

35. Click the Advanced button.

36. Select the Compress Contents To Save Disk Space check box, as shown here, and click OK.



37. Click OK to close the Properties box for MyTextDocument.

38. What is the color of the MyTextDocument file now?

Blue

39. Return to the Advance Attributes dialog box of the MyTextDocument file and select the Encrypt Contents To Secure Data check box. What happened to the option to compress the file?

It became unchecked. You cannot have compression and encryption enabled at the same time.

40. Click OK to save and close the attribute settings.

41. Click OK to close the Properties box.

42. What is the color of the file?

Green

43. Return to FAT32Folder.

44. Right-click on the folder and select the Properties.

45. Click the Security tab.

46. What groups are listed in the Group or User name box?

- a. Authenticated users
- b. SYSTEM
- c. Administrators
- d. Users

47. Have your instructor verify your answers.