IT Essentials 5.0 5.3.4.2 Lab - Hard Drive Maintenance in Windows 7

Introduction

Print and complete this lab.

In this lab, you will examine the results after using Disk Check and Disk Defragmenter on a hard drive.

Recommended Equipment

The following equipment is required for this exercise:

- A computer running Windows 7
- Two or more partitions on the hard drive.

Step 1

Log on to Windows as an administrator.

Start > Computer > double-click New Volume (G:).

Note: Substitute volume and drive (G:) for the letter used in your computer.



Right-click anywhere in the white space of the folder area for drive **G**: > **Properties** > **Tools** tab > **Check Now**.

The "Check Disk New Volume (G:)" window opens. Make sure there is not a check mark in either checkbox then click **Start**.

The "Your device or disk was successfully scanned" screen appears.

Checking Disk New Volume (G:)
Your device or disk was successfully scanned
No problems were found on the device or disk. It is ready to use.
If you removed the device or disk before all files were fully written to it, parts of some files might still be missing. If so, go back to the source and recopy those files to your device or disk.
Hide details
Volume label is New Volume.
CHKDSK is verifying files (stage 1 of 3) 256 file records processed.
File verification completed. 0 large file records processed.
0 bad file records processed.
0 EA records processed.
0 reparse records processed.
CHKDSK is verifying indexes (stage 2 of 3) 280 index entries processed.
Index verification completed.
CHKDSK is verifying security descriptors (stage 3 of 3) 256 file SDs/SIDs processed.
Security descriptor verification completed. 12 data files processed.
Windows has checked the file system and found no problems.
511999 KB total disk space. 349268 KB in 8 files. 16 KB in 14 indexes. 5295 KB in use by the system. 4608 KB occupied by the log file. 157420 KB available on disk.
4096 bytes in each allocation unit. 127999 total allocation units on disk. 39355 allocation units available on disk.

Click the expand button next to See details.

How many stages were processed?

Click Close.

Select the **Tools** tab, and then click **Check Now**.



Remove the check mark next to Automatically fix file system errors.

Place a check mark in the checkbox next to Scan for and attempt recovery of bad sectors > Start.

The "Your device or disk was successfully scanned" screen appears.

Checking Disk New Volume (G:)
Your device or disk was successfully scanned
No problems were found on the device or disk. It is ready to use.
If you removed the device or disk before all files were fully written to it, parts of some files might still be missing. If so, go back to the source and recopy those files to your device or disk.
Hide details
Volume label is New Volume.
CHKDSK is verifying files (stage 1 of 5) 256 file records processed.
File verification completed. 0 large file records processed.
0 bad file records processed.
0 EA records processed.
0 reparse records processed.
CHKDSK is verifying indexes (stage 2 of 5) 280 index entries processed.
Index verification completed.
CHKDSK is verifying security descriptors (stage 3 of 5) 256 file SDs/SIDs processed.
Security descriptor verification completed. 12 data files processed.
CHKDSK is verifying free space (stage 5 of 5) 39355 free clusters processed.
Free space verification is complete. Windows has checked the file system and found no problems.
511999 KB total disk space. 349268 KB in 8 files. 16 KB in 14 indexes. 5295 KB in use by the system. 4608 KB occupied by the log file.
13/420 KB available on disk. 4096 bytes in each allocation unit. 127999 total allocation units on disk. 39355 allocation units available on disk.

Click the expand button next to See details.

What stages were processed?

Click Close.

Select the **Tools** tab **> Check Now**.

Place a check mark in both checkboxes.

Check Disk I	Vew Volu	ime (G:)		×
Check dis	k options				
Autom	atically fix	file sys	tem error	rs	
Scan f	or and att	empt re	covery o	f bad se	ctors
		Sta	art N	Can	cel
			3		

Click Start.

An information window opens.

N	Aicrosoft Windows
	Windows can't check the disk while it's in use
	Do you want to dismount this volume first? Note: All opened handles to this volume will become invalid.
	Force a dismount Cancel

Why will Check Disk not start?

Note: This message is displayed because a boot partition will be scanned, or a non-boot partition that is going to be scanned is open.

Click Force a dismount.

The "Your device or disk was successfully scanned" screen appears.

Checking Disk New Volume (G:)
Your device or disk was successfully scanned
No problems were found on the device or disk. It is ready to use.
If you removed the device or disk before all files were fully written to it, parts of some files might still be missing. If so, go back to the source and recopy those files to your device or disk.
Hide details
Volume dismounted. All opened handles to this volume are now invalid. Volume label is New Volume.
CHKDSK is verifying files (stage 1 of 5) 256 file records processed.
File verification completed. 0 large file records processed.
0 bad file records processed.
0 EA records processed.
0 reparse records processed.
CHKDSK is verifying indexes (stage 2 of 5) 280 index entries processed.
Index verification completed.
CHKDSK is verifying security descriptors (stage 3 of 5) 256 file SDs/SIDs processed.
Security descriptor verification completed. 12 data files processed.
CHKDSK is verifying file data (stage 4 of 5) 240 files processed.
File data verification completed. CHKDSK is verifying free space (stage 5 of 5) 121275 free clusters processed.
Free space verification is complete. Windows has checked the file system and found no problems.
511999 KB total disk space. 21588 KB in 7 files.
16 KB in 14 indexes. 5291 KB in use by the system.
4608 KB occupied by the log file. 485104 KB available on disk.
4096 bytes in each allocation unit.
127999 total allocation units on disk. 121276 allocation units available on disk.

Click the expand button next to See details.

What stages were processed?

What is being verified in each of the stages?

Were any problems found with the volume?

If so what are they?

Click **Close** and close all open windows.

Step 2

Start > Control Panel > Administrative Tools > Event Viewer.

Event Viewer					- 0	x
File Action View Help						
Event Viewer (Local)	Application Nu	mber of events: 6,455				Î
Custom Views Windows Logs	Level	Date and Time	Source	Event ID	Task C	-
Application	(i) Information	9/25/2012 5:01:33 AM	LoadPerf	1000	None	
😭 Security 😽	(i) Information	9/25/2012 5:01:33 AM	LoadPerf	1001	None	
Setup	(i) Information	9/25/2012 4:30:25 AM	Securit	903	None	-
System	Event 1000, Load	Perf				×
Applications and Services Lo	General Detai	ls				
	Performance Record Data i	counters for the WmiApRp in the data section contains	l (WmiApRpl) : the new index	service wer values ass	e loaded si igned to th	<u> </u>
	Log Name:	Application				=
	Source:	LoadPerf	Logg	ed:	9/25/2012	
	Event ID:	1000	Task	Category:	None	
	Level:	Information	Keyw	ords:		
	User:	SYSTEM	Com	nuter:	Student01	-
< <u> </u>				1		

In the left pane expand **Windows Logs >** select **Application**. Double-click the top event in the middle pane.

Record Data in	ounters for the WmiApRpl the data section contains t	(WmiApRpl) service we he new index values as	re loaded successfully. The signed to this service.	
Log Name:	Application	1	0/25/2012 5-01-22 484	
Source: Event ID:	1000	Loggea: Task Categoon	9/23/2012 3:01:55 AIVI	1
Level:	Information	Keywords:	None	
User:	SYSTEM	Computer:	Student01	
OpCode:	Info			

If the displayed event is not Chkdsk, click the black down arrow until the Chsdsk event appears.



Which stages are shown as completed?

Close all open windows.

Step 3

Start > Computer > right-click drive (C:) > Properties > select Tools tab > Defragment Now button.

The "Disk Defragmenter" window opens.

Scheduled defragment	ation is turned on	😌 Configure schedule
Run at 1:00 AM every We	ednesday	
Next scheduled run: 12/2	29/2010 2:33 AM	
urrent status:		
Disk	Last Run	Progress
Local DIsk (C:)	12/22/2010 8:45 AM (0% fragmented)	
(E:)	Never run	
New Volume (F:)	Never run	
New Volume (G:)	Never run	
(H:)	Never run	
System Reserved	12/22/2010 8:44 AM (0% fragmented)	

Make sure drive C: is selected and then click **Defragment disk**.

Windows starts defragmenting hard drive (C:).

Scheduled defragmentation is turned on Run at 1:00 AM every Wednesday		Configure schedule
Next scheduled run: 12/	29/2010 2:32 AM	
rrent status:		
lisk	Last Run	Progress
Local DIsk (C:)	Running	42% analyzed
🗃 (E:)	Never run	
New Volume (F:)	Never run	
New Volume (G:)	Never run	
(H:)	Never run	
System Reserved	12/22/2010 8:44 AM (0% fragr	nented)

What is the first process during defragmenting (See "Progress" column)?

What are the three tasks performed for each Pass (See "Progress" column)?

How many passes did it take to defragment drive C:?

Scheduled defragment Run at 1:00 AM every We	ation is turned on ednesday	Configure schedule
Next scheduled run: 12/2 urrent status:	29/2010 2:32 AM	
Disk	Last Run	Progress
🕌 Local DIsk (C:)	12/24/2010 9:08 AM (0% fragme	ented)
📷 (E:)	Never run	
New Volume (F:)	Never run	
New Volume (G:)	Never run	
(H:)	Never run	
System Reserved	12/22/2010 8:44 AM (0% fragme	ented)
nly disks that can be defrad	amented are shown.	

When defragmenting is completed click **Close**.

Close all windows.

Note: It is not possible to view the detail of the defragmented hard drive through the GUI version of defragmenter.