C:\Users\nagalman>taskkill /IM notepad.exe
SUCCESS: Sent termination signal to the process "notepad.exe" with PID 1392.
C:\Users\nagalman>
• Windows Command Line
• nbstat
• Taskkill
• bootrec
• fixboot
• fixmbr
• shutdown
• tasklist
• md
• rd
• cd
• del
• format
• copy
• xcopy
• robocopy
• diskpart
• sfc
• chkdsk
A command-line interface (CLI) is a way to interact with a computer by issuing commands to the computer in the form of successive lines of text (command lines).

- All desktop OSs have a CLI
- Very powerful and fast for experienced users
- Very low resource interface
- Biggest disadvantage is having to learn and remember all the commands
• a diagnostic tool for NetBIOS over TCP/IP to help troubleshoot NetBIOS name resolution problems

• nbtstat -c
  -c: displays the contents of the NetBIOS name cache, the table of NetBIOS names and their resolved IP addresses.
  -n: displays the names that have been registered locally on the system.
  -r: displays the count of all NetBIOS names resolved by broadcast and querying a WINS server.
  -R: purges and reloads the remote cache name table.
  -RR: sends name release packets to WINs and then starts Refresh.
  -s: lists the current NetBIOS sessions and their status, including statistics.
  -S: lists sessions table with the destination IP addresses.

• nbtstat help
nbtstat

C:\Users\nagalman>nbtstat -c

Local Area Connection:
Node IPAddress: [192.168.122.111] Scope Id: []

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Host Address</th>
<th>Life [sec]</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASUS-G74SX</td>
<td>&lt;00&gt;</td>
<td>192.168.122.1</td>
<td>392</td>
</tr>
<tr>
<td>ASUS-G74SX</td>
<td>&lt;20&gt;</td>
<td>192.168.122.1</td>
<td>392</td>
</tr>
</tbody>
</table>

C:\Users\nagalman>nbtstat -r

NetBIOS Names Resolution and Registration Statistics

Resolved By Broadcast = 2
Resolved By Name Server = 0
Registered By Broadcast = 6
Registered By Name Server = 0

NetBIOS Names Resolved By Broadcast

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASUS-G74SX</td>
<td>&lt;00&gt;</td>
</tr>
<tr>
<td>ASUS-G74SX</td>
<td></td>
</tr>
</tbody>
</table>

C:\Users\nagalman>
• Terminates a process (program, application) by process ID or name
• `taskkill /IM cmd.exe`
• `Taskkill /?`
• Used in the Windows Recovery Environment to troubleshoot and repair the following in Windows Vista or Windows 7:
  • A master boot record (MBR)
  • A boot sector
  • A Boot Configuration Data (BCD) store
• Bootrec.exe /fixmbr
bootrec

DISKPART> exit
Leaving DiskPart...
X:\Sources>bootrec.exe /fixmbr
The operation completed successfully.
X:\Sources>bootrec.exe /fixboot
The operation completed successfully.
X:\Sources>bootrec.exe /RebuildBcd
Scanning all disks for Windows installations.
Please wait, since this may take a while...
Successfully scanned Windows installations.
Total identified Windows installations: 1
[1] C:\Windows
Add installation to boot list? Yes(Y)/No(N)/All(A): Y
The operation completed successfully.
X:\Sources>exit...
• Used in the Windows Recovery Environment to write a new partition boot sector to the system partition
• `fixboot c:`
Microsoft Windows XP® Recovery Console.
The Recovery Console provides system repair and recovery functionality.
Type EXIT to quit the Recovery Console and restart the computer.

1: C:\WINDOWS

Which Windows installation would you like to log onto
(To cancel, press ENTER)? 1
Type the Administrator password:
C:\WINDOWS>fixboot

The target partition is C:. Are you sure you want to write a new bootsector to the partition C: ? y
The file system on the startup partition is NIFS.

FIXBOOT is writing a new boot sector.
The new bootsector was successfully written.

C:\WINDOWS>
- Repairs the master boot record of the boot disk
- `fixmbr\Device\HardDisk0`
Microsoft Windows XP<sup>TM</sup> Recovery Console.
The Recovery Console provides system repair and recovery functionality.
Type EXIT to quit the Recovery Console and restart the computer.

1: C:\WINDOWS

Which Windows installation would you like to log onto
(To cancel, press ENTER)? 1
Type the Administrator password: ******
C:\WINDOWS>fixmbr c:

C:\WINDOWS>fixboot c:
The target partition is C:.
Are you sure you want to write a new bootsector to the partition C: ? y
The file system on the startup partition is NTFS.
FIXBOOT is writing a new boot sector.
The new bootsector was successfully written.
C:\WINDOWS>
• Allows you to shutdown or restart a local or remote computer

• shutdown /?
• Displays a list of applications and services with their Process ID (PID) for all tasks running on either a local or a remote computer
<table>
<thead>
<tr>
<th>Image Name</th>
<th>PID</th>
<th>Session Name</th>
<th>Session#</th>
<th>Mem Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Idle Process</td>
<td>0</td>
<td>Services</td>
<td>0</td>
<td>24 K</td>
</tr>
<tr>
<td>System</td>
<td>4</td>
<td>Services</td>
<td>0</td>
<td>588 K</td>
</tr>
<tr>
<td>smss.exe</td>
<td>264</td>
<td>Services</td>
<td>0</td>
<td>832 K</td>
</tr>
<tr>
<td>csrss.exe</td>
<td>344</td>
<td>Services</td>
<td>0</td>
<td>4,084 K</td>
</tr>
<tr>
<td>wininit.exe</td>
<td>392</td>
<td>Services</td>
<td>0</td>
<td>3,692 K</td>
</tr>
<tr>
<td>csrss.exe</td>
<td>404</td>
<td>Console</td>
<td>1</td>
<td>4,864 K</td>
</tr>
<tr>
<td>winlogon.exe</td>
<td>440</td>
<td>Console</td>
<td>1</td>
<td>6,384 K</td>
</tr>
<tr>
<td>services.exe</td>
<td>484</td>
<td>Services</td>
<td>0</td>
<td>10,636 K</td>
</tr>
<tr>
<td>lsass.exe</td>
<td>508</td>
<td>Services</td>
<td>0</td>
<td>8,916 K</td>
</tr>
<tr>
<td>lsm.exe</td>
<td>516</td>
<td>Services</td>
<td>0</td>
<td>3,704 K</td>
</tr>
<tr>
<td>svchost.exe</td>
<td>616</td>
<td>Services</td>
<td>0</td>
<td>7,348 K</td>
</tr>
<tr>
<td>svchost.exe</td>
<td>716</td>
<td>Services</td>
<td>0</td>
<td>6,632 K</td>
</tr>
<tr>
<td>svchost.exe</td>
<td>832</td>
<td>Services</td>
<td>0</td>
<td>15,596 K</td>
</tr>
<tr>
<td>svchost.exe</td>
<td>864</td>
<td>Services</td>
<td>0</td>
<td>87,276 K</td>
</tr>
<tr>
<td>svchost.exe</td>
<td>904</td>
<td>Services</td>
<td>0</td>
<td>15,216 K</td>
</tr>
<tr>
<td>svchost.exe</td>
<td>936</td>
<td>Services</td>
<td>0</td>
<td>31,596 K</td>
</tr>
<tr>
<td>svchost.exe</td>
<td>300</td>
<td>Services</td>
<td>0</td>
<td>5,856 K</td>
</tr>
<tr>
<td>svchost.exe</td>
<td>1016</td>
<td>Services</td>
<td>0</td>
<td>21,852 K</td>
</tr>
<tr>
<td>spoolsv.exe</td>
<td>1188</td>
<td>Services</td>
<td>0</td>
<td>9,024 K</td>
</tr>
<tr>
<td>svchost.exe</td>
<td>1240</td>
<td>Services</td>
<td>0</td>
<td>13,488 K</td>
</tr>
<tr>
<td>armsvc.exe</td>
<td>1340</td>
<td>Services</td>
<td>0</td>
<td>3,392 K</td>
</tr>
<tr>
<td>mDNSResponder.exe</td>
<td>1408</td>
<td>Services</td>
<td>0</td>
<td>4,504 K</td>
</tr>
<tr>
<td>EloSrvce.exe</td>
<td>1464</td>
<td>Services</td>
<td>0</td>
<td>4,116 K</td>
</tr>
<tr>
<td>svchost.exe</td>
<td>1504</td>
<td>Services</td>
<td>0</td>
<td>13,344 K</td>
</tr>
<tr>
<td>sqlservr.exe</td>
<td>1540</td>
<td>Services</td>
<td>0</td>
<td>15,324 K</td>
</tr>
<tr>
<td>QBCFMonitorService.exe</td>
<td>1736</td>
<td>Services</td>
<td>0</td>
<td>11,294 K</td>
</tr>
<tr>
<td>sqlbrowser.exe</td>
<td>1924</td>
<td>Services</td>
<td>0</td>
<td>3,424 K</td>
</tr>
<tr>
<td>sqlwriter.exe</td>
<td>1956</td>
<td>Services</td>
<td>0</td>
<td>5,244 K</td>
</tr>
<tr>
<td>TeamViewer_Service.exe</td>
<td>2000</td>
<td>Services</td>
<td>0</td>
<td>7,504 K</td>
</tr>
<tr>
<td>QBBDMgrN.exe</td>
<td>2884</td>
<td>Services</td>
<td>0</td>
<td>15,084 K</td>
</tr>
<tr>
<td>taskhost.exe</td>
<td>3056</td>
<td>Console</td>
<td>1</td>
<td>9,388 K</td>
</tr>
<tr>
<td>dwm.exe</td>
<td>2468</td>
<td>Console</td>
<td>1</td>
<td>5,680 K</td>
</tr>
<tr>
<td>explorer.exe</td>
<td>712</td>
<td>Console</td>
<td>1</td>
<td>52,216 K</td>
</tr>
</tbody>
</table>
• Make directory – creates a folder, directory, or subdirectory
• `md \School\UMBC`
• Can substitute `mkdir` for `md`
c:\Users\nagalman>md School

c:\Users\nagalman>cd School

c:\Users\nagalman\School>mkdir UMBC

c:\Users\nagalman\School>dir
  Volume in drive C has no label.
  Volume Serial Number is D8A7-740C

  Directory of c:\Users\nagalman\School

  07/22/2013  01:46 PM  <DIR>  .
  07/22/2013  01:46 PM  <DIR>  ..
  07/22/2013  01:46 PM  <DIR>  UMBC
          0 File(s)           0 bytes
         3 Dir(s)  6,096,531,456 bytes free

c:\Users\nagalman\School>
• Remove directory – deletes a folder, directory, or subdirectory
• rd \School\UMBC
• Can substitute rmdir for rd
c:\Users\nagalman\School>dir
Volume in drive C has no label.
Volume Serial Number is D8A7-740C

Directory of c:\Users\nagalman\School
07/22/2013 01:46 PM  <DIR>  .
07/22/2013 01:46 PM  <DIR>  ..
07/22/2013 01:46 PM  <DIR>  UMBC
  0 File(s)           0 bytes
  3 Dir(s)           6,096,703,488 bytes free

 c:\Users\nagalman\School>rd UMBC

 c:\Users\nagalman\School>dir
Volume in drive C has no label.
Volume Serial Number is D8A7-740C

Directory of c:\Users\nagalman\School
07/22/2013 01:59 PM  <DIR>  .
07/22/2013 01:59 PM  <DIR>  ..
  0 File(s)           0 bytes
  2 Dir(s)           6,096,703,488 bytes free

 c:\Users\nagalman\School>
• Change directory – displays the name of the current directory or changes the current folder
• cd \School\UMBC
• Can substitute chdir for cd
cd

c:\Users\nagalman>dir
Volume in drive C has no label.
Volume Serial Number is D8A7-740C

Directory of c:\Users\nagalman

07/22/2013  01:46 PM  <DIR>    .
07/22/2013  01:46 PM  <DIR>    ..
12/14/2012  02:21 AM  <DIR>    .gimp-2.8
12/14/2012  02:18 AM  <DIR>    .thumbnails
05/19/2013  02:44 AM  <DIR>    Contacts
07/21/2013  08:04 PM  <DIR>    Desktop
06/07/2013  05:17 AM  <DIR>    Documents
07/02/2013  06:42 PM  <DIR>    Downloads
05/19/2013  02:44 AM  <DIR>    Favorites
05/19/2013  02:44 AM  <DIR>    Links
05/19/2013  02:44 AM  <DIR>    Music
05/19/2013  02:44 AM  <DIR>    Pictures
05/19/2013  02:44 AM  <DIR>    Saved Games
07/22/2013  01:59 PM  <DIR>    School
05/19/2013  02:44 AM  <DIR>    Searches
05/19/2013  02:44 AM  <DIR>    Videos

0 File(s)          0 bytes
16 Dir(s)    6,096,179,200 bytes free

c:\Users\nagalman>cd School

c:\Users\nagalman\School>
• Deletes files
• del grade.txt
• Can substitute erase for del
c:\Users\nagalman\School>dir
Volume in drive C has no label.
Volume Serial Number is D8A7-740C

Directory of c:\Users\nagalman\School

07/22/2013 02:06 PM     <DIR>          .
07/22/2013 02:06 PM     <DIR>          ..
07/22/2013 02:06 PM     5 grades.txt   
1 File(s)             5 bytes
2 Dir(s)   6,095,650,816 bytes free

 c:\Users\nagalman\School>del grades.txt

 c:\Users\nagalman\School>dir
Volume in drive C has no label.
Volume Serial Number is D8A7-740C

Directory of c:\Users\nagalman\School

07/22/2013 02:07 PM     <DIR>          .
07/22/2013 02:07 PM     <DIR>          ..
0 File(s)             0 bytes
2 Dir(s)   6,095,650,816 bytes free
• Formats the disk in the specified volume to accept Windows files
• format a:
• format /?
• Copies one or more files from one location to another
• copy Members.xls Cancel
• copy /?
c:\Users\nagalman\School>dir
Volume in drive C has no label.
Volume Serial Number is D8A7-740C

Directory of c:\Users\nagalman\School
07/22/2013 02:18 PM <DIR> .
07/22/2013 02:18 PM <DIR> ..
07/22/2013 02:18 PM 5 grades.txt
07/22/2013 02:18 PM <DIR> UMBC
     1 File(s) 5 bytes
     3 Dir(s) 6,095,650,816 bytes free

c:\Users\nagalman\School>copy grades.txt UMBC
1 file(s) copied.

c:\Users\nagalman\School>cd UMBC

c:\Users\nagalman\School\UMBC>dir
Volume in drive C has no label.
Volume Serial Number is D8A7-740C

Directory of c:\Users\nagalman\School\UMBC
07/22/2013 02:19 PM <DIR> .
07/22/2013 02:19 PM <DIR> ..
07/22/2013 02:18 PM 5 grades.txt
     1 File(s) 5 bytes
     2 Dir(s) 6,095,650,816 bytes free
• Copies files and directories, including subdirectories.
• xcopy Members.xls Cancel
• xcopy /?
xcopy

c:\Users\nagelman\School>dir
Volume in drive C has no label.
Volume Serial Number is D8A7-740C

Directory of c:\Users\nagelman\School

07/22/2013  02:18 PM  <DIR>          .
07/22/2013  02:18 PM  <DIR>          ..
07/22/2013  02:18 PM  5 grades.txt
07/22/2013  02:19 PM  <DIR>          UMBC
   1 File(s)          5 bytes
   3 Dir(s) 6,095,650,816 bytes free

xcopy UMBC \Users\nagelman\Upload UMBC\grades.txt
1 File(s) copied

c:\Users\nagelman\School>dir \Users\nagelman\Upload
Volume in drive C has no label.
Volume Serial Number is D8A7-740C

Directory of c:\Users\nagelman\Upload

07/22/2013  02:35 PM  <DIR>          .
07/22/2013  02:35 PM  <DIR>          ..
07/22/2013  02:18 PM  5 grades.txt
   1 File(s)          5 bytes
   2 Dir(s) 6,095,650,816 bytes free

c:\Users\nagelman\School>
- Robust file copy - Copies files and directories, including subdirectories.
- Much more capable than copy
- Enables copying of files based on specific criteria
- ROBOCOPY source destination [file [file]...] [options]
- robocopy /?
• Enables management of disks, partitions, and volumes
• Diskpart is its own command interpreter
  • You enter commands much like cmd.exe
• Diskpart
  • create partition primary size=10240 ID=[GUID]
  • help
diskpart

Microsoft DiskPart version 6.1.7601
Copyright (C) 1999-2008 Microsoft Corporation.
On computer: KUV-W7-64

DISKPART> help

Microsoft DiskPart version 6.1.7601

ACTIVE - Mark the selected partition as active.
ADD - Add a mirror to a simple volume.
ASSIGN - Assign a drive letter or mount point to the selected volume.
ATTRIBUTES - Manipulate volume or disk attributes.
ATTACH - Attaches a virtual disk file.
AUTOMOUNT - Enable and disable automatic mounting of basic volumes.
BREAK - Break a mirror set
CLEAN - Clear the configuration information, or all information, off the disk.
COMPACT - Attempts to reduce the physical size of the file.
CONVERT - Convert between different disk formats.
CREATE - Create a volume, partition or virtual disk.
DELETE - Delete an object.
DETAIL - Provide details about an object.
DETACH - Detaches a virtual disk file.
EXIT - Exit DiskPart.
EXTEND - Extend a volume.
EXPAND - Expands the maximum size available on a virtual disk.
FILESYSTEMS - Display current and supported file systems on the volume.
FORMAT - Format the volume or partition.
GPT - Assign attributes to the selected GPT partition.
HELP - Display a list of commands.
IMPORT - Import a disk group.
INACTIVE - Mark the selected partition as inactive.
LIST - Display a list of objects.
MERGE - Merges a child disk with its parents.
ONLINE - Online an object that is currently marked as offline.
OFFLINE - Offline an object that is currently marked as online.
RECOVER - Refreshes the state of all disks in the selected pack.
- Attempts recovery on disks in the invalid pack, and resynchronizes mirrored volumes and RAID5 volumes that have stale plex or parity data.
REM - Does nothing. This is used to comment scripts.
REMOVE - Remove a drive letter or mount point assignment.
REPAIR - Repair a RAID-5 volume with a failed member.
RESCAN - Rescan the computer looking for disks and volumes.
RETAIN - Place a retained partition under a simple volume.
SAN - Display or set the SAN policy for the currently booted OS.
SELECT - Shift the focus to an object.
• System file checker – scan and verifies the versions of all protected system files after a system restart
• Must be in an administrator command prompt
• sfc /scannow
• Sfc /?
sfc

Microsoft (R) Windows (R) Resource Checker Version 6.0
Copyright (c) 2006 Microsoft Corporation. All rights reserved.

Scans the integrity of all protected system files and replaces incorrect version
files with
correct Microsoft versions.

 [/OFFWINDIR:<offline windows directory> /OFFBOOTDIR:<offline boot directory>]

/SCANNOW with
problems when possible.
/VERIFYONLY
Scans integrity of all protected system files. No repair operation is
performed.
/SCANFILE
Scans integrity of the referenced file. Repairs file if problems are
identified. Specify full path <file>
/VERIFYFILE
Verifies the integrity of the file with full path <file>. No repair
operation is performed.
/OFFBOOTDIR
For offline repair specify the location of the offline boot directory
/OFFWINDIR
For offline repair specify the location of the offline windows directory

# e.g.

sfc /SCANNOW
sfc /VERIFYFILE=c:\windows\system32\kernel32.dll
sfc /SCANFILE=d:\windows\system32\kernel32.dll /OFFBOOTDIR=d:\ /OFFWINDIR"
• Check disk – display a status report and lists and correct disk errors
• chkdsk c:
• chkdsk /?
THANK YOU