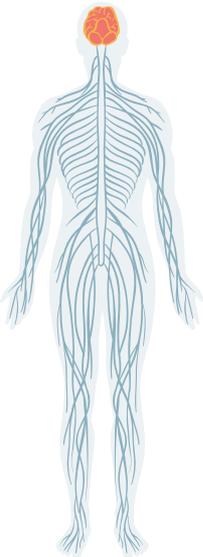
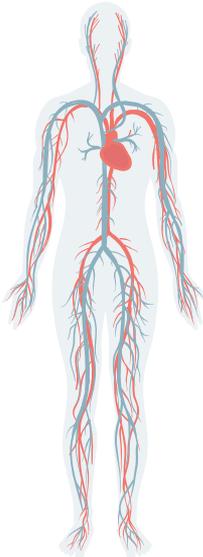


# **Windows Sysinternals**

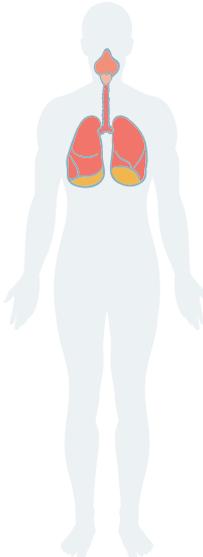
# Utilities for...



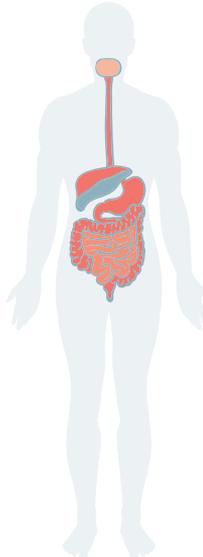
Networking



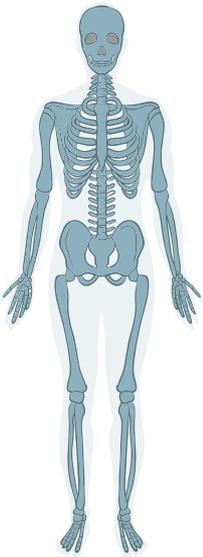
File/Disk



Other



Processing



Security

# Networking

A

## ShareEnum

Show file shares and their security

B

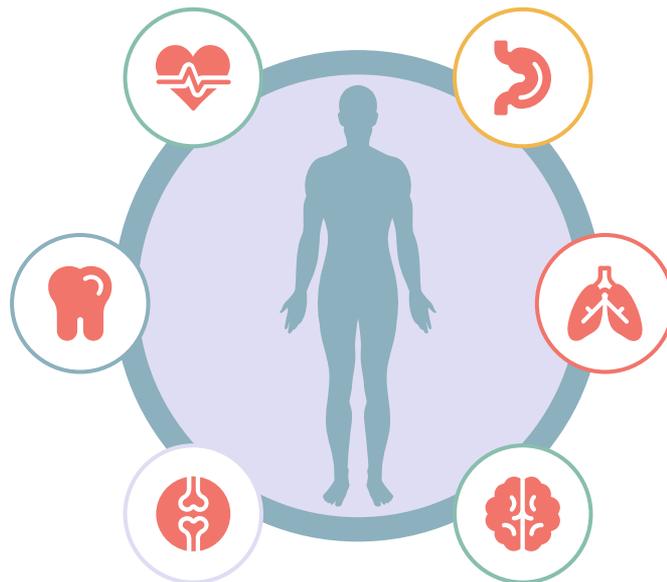
## TCPview

Show all persistent connections

C

## PStools

On remote systems, list/start/suspend/kill processes, passwords, users, open files, logs. Reboot. Check performance



## Whois

See who owns an Internet address

D

## Pipelist

Show named pipes, max, and active instances

E

# File/Disk utilities

## Contig

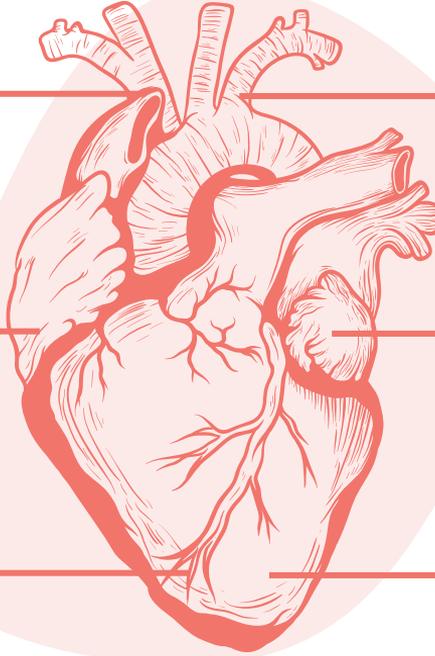
Make a file contiguous – speeds access on HDs

## Diskmon

Monitor all Disk activity;  
System try disk activity lite

## MoveFile

Schedule file actions for boot. Good for some malware



**DU - DiskUsage**  
Shows disk space usage  
for directories  
and sub-directories

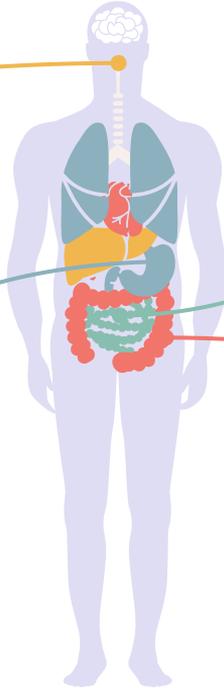
## CacheSet

Control file access caching

## Sync

Flush cache data  
to storage

# Processing



01

## Autoruns

Show/Edit boot/login programs

02

## Process Explorer

Show/edit processes  
(Task manager on steroids)

03

## Process Monitor

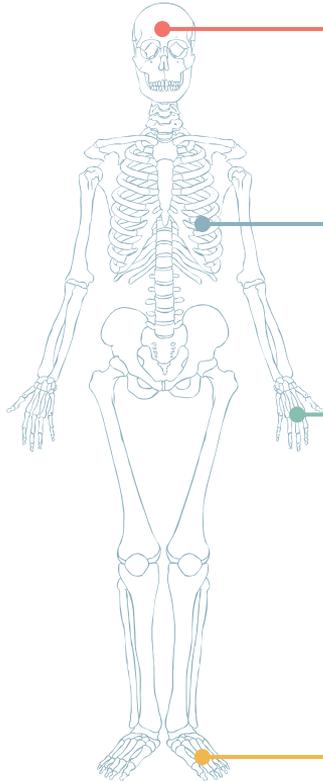
View file, registry, thread, event activity. Can filter

04

## ShellRunAs

Run a program as a different user

# Security



**AccessChk / AccessEnum**  
Check access authorities by  
user / directory / registry key / service

**Rootkit Revealer**  
Advanced rootkit detection utility

**SDelete**  
Securely delete and overwrite  
files / free space

**ShareEnum**  
Show file shares & security settings  
on your network

# Process utilities

## [Autoruns](#)

See what programs are configured to startup automatically when your system boots and you login. Autoruns also shows you the full list of Registry and file locations where applications can configure auto-start settings.

## [Handle](#)

This handy command-line utility will show you what files are open by which processes, and much more.

## [ListDLLs](#)

List all the DLLs that are currently loaded, including where they are loaded and their version numbers. Version 2.0 prints the full path names of loaded modules.

## [PortMon](#)

Monitor serial and parallel port activity with this advanced monitoring tool. It knows about all standard serial and parallel IOCTLS and even shows you a portion of the data being sent and received. Version 3.x has powerful new UI enhancements and advanced filtering capabilities.

## [ProcDump](#)

This new command-line utility is aimed at capturing process dumps of otherwise difficult to isolate and reproduce CPU spikes. It also serves as a general process dump creation utility and can also monitor and generate process dumps when a process has a hung window or unhandled exception.

## [Process Explorer](#)

Find out what files, registry keys and other objects processes have open, which DLLs they have loaded, and more. This uniquely powerful utility will even show you who owns each process.

## [Process Monitor](#)

Monitor file system, Registry, process, thread and DLL activity in real-time.

## [PsExec](#)

Execute processes remotely.

## [PsGetSid](#)

Displays the SID of a computer or a user.

## [PsKill](#)

Terminate local or remote processes.

## [PsList](#)

Show information about processes and threads.

## [PsService](#)

View and control services.

## [PsSuspend](#)

Suspend and resume processes.

## [PsTools](#)

The PsTools suite includes command-line utilities for listing the processes running on local or remote computers, running processes remotely, rebooting computers, dumping event logs, and more.

## [ShellRunas](#)

Launch programs as a different user via a convenient shell context-menu entry.

## [VMMap](#)

See a breakdown of a process's committed virtual memory types as well as the amount of physical memory (working set) assigned by the operating system to those types. Identify the sources of process memory usage and the memory cost of application features.



# Autoruns – programs that run automatically

Autoruns - Sysinternals: www.sysinternals.com

File Search Entry Options Category Help

Winlogon Winsock Providers Print Monitors LSA Providers Network Providers WMI Office

Everything Logon Explorer Internet Explorer Scheduled Tasks Services Drivers Codecs Boot Execute Image Hijacks Applint Known DLLs

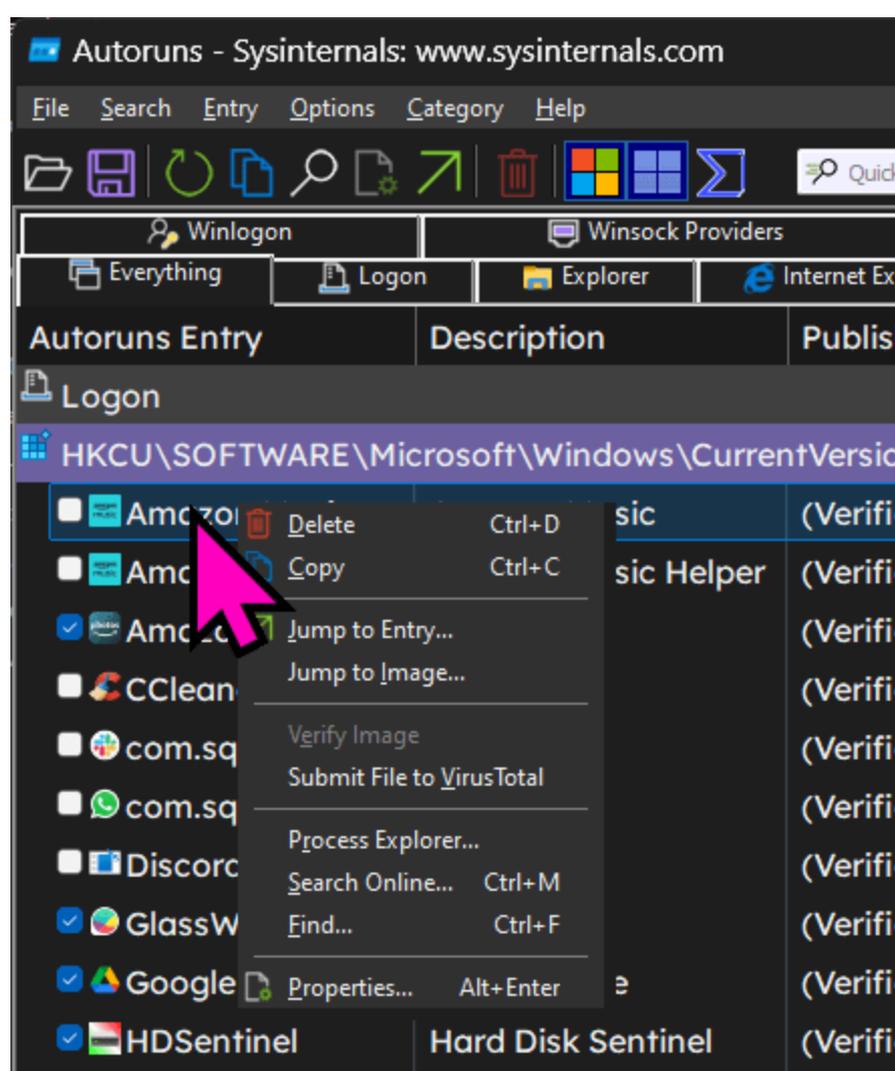
Autoruns Entry	Description	Publisher	Image Path	Timestamp	Virus Total
Logon					
HKCU\SOFTWARE\Microsoft\Windows\CurrentVersion\Run				Tue Oct 7 00:17:58 2025	
Amazon Music	Amazon Music	(Verified) Amazon.co...	C:\Users\tom\AppData\Local\Amazon Music\Amazon Music.exe	Mon Sep 25 21:59:13 2023	0 / 77
Amazon Music H...	Amazon Music Helper	(Verified) Amazon.co...	C:\Users\tom\AppData\Local\Amazon Music\Amazon Music H...	Mon Sep 25 21:59:14 2023	Error
Amazon Photos		(Verified) Amazon.co...	C:\Users\tom\AppData\Local\Amazon Drive\AmazonPhotos.exe	Fri Sep 19 15:53:36 2025	0 / 77
CCleaner Smart ...	CCleaner	(Verified) Gen Digital I...	C:\Program Files\CCleaner\CCleaner64.exe	Mon Jun 23 10:54:58 2025	Error
com.squirrel.sla...	Slack	(Verified) Slack Techn...	C:\Users\tom\AppData\Local\slack\slack.exe	Mon Nov 25 17:12:56 2024	Error
com.squirrel.Wh...		(Verified) WhatsApp, I...	C:\Users\tom\AppData\Local\WhatsApp\Update.exe	Sun Aug 24 16:40:42 2025	Error
Discord	Update	(Verified) Discord Inc.	C:\Users\tom\AppData\Local\Discord\Update.exe	Wed Sep 4 16:46:22 2024	Error
GlassWire	GlassWire	(Verified) domotz inc	C:\Program Files (x86)\GlassWire\glasswire.exe	Mon Jul 7 05:58:54 2025	Error
GoogleDriveFS	Google Drive	(Verified) Google LLC	C:\Program Files\Google\Drive File Stream\115.0.1.0\GoogleDriv...	Tue Oct 7 00:17:40 2025	Error
HDSentinel	Hard Disk Sentinel	(Verified) Janos Mathe	C:\Program Files (x86)\Hard Disk Sentinel\HDSentinel.exe	Fri Apr 4 22:44:58 2025	1 / 77
LogiBolt		(Verified) Logitech Inc	C:\Program Files\Logi\LogiBolt\LogiBolt.exe	Tue Dec 14 03:32:10 2021	Error
NVIDIA Broadc...	NVIDIA Broadcast	(Verified) NVIDIA Cor...	C:\Program Files\NVIDIA Corporation\NVIDIA Broadcast\NVI...	Tue Jul 8 03:29:45 2025	Error
OpenDNS Updat...		(Not Verified)	C:\Program Files (x86)\OpenDNS Updater\OpenDNSUpdater.exe	Wed Jun 16 17:42:58 2010	1 / 77
Pegasus Mail	Pegasus Mail for Wi...	(Verified) David Harris	C:\PMAIL\Programs\winpm-32.exe	Tue Jan 10 13:55:32 2023	Error
Resilio Sync	Resilio Sync	(Verified) Resilio, Inc.	C:\Users\tom\AppData\Roaming\Resilio Sync\Resilio Sync.exe	Tue Apr 1 00:42:56 2025	Error
Resilio Sync	Resilio Sync	(Verified) Resilio, Inc.	C:\Users\tom\AppData\Roaming\Resilio Sync\Resilio Sync.exe	Tue Apr 1 00:42:56 2025	Error
runpopfile	Enhanced front-end ...	(Not Verified) The POP...	C:\PROGRAM FILES (X86)\POPFILE\RUNPOPPFILE.EXE	Fri Sep 2 06:58:04 2011	1 / 76
ShareX	ShareX	(Not Verified) ShareX ...	C:\PROGRAM FILES\ShareX\ShareX.exe	Tue Aug 19 04:35:48 2025	0 / 77
Skype for Desktop	Skype	(Verified) Skype Softw...	C:\Program Files (x86)\Microsoft\Skype for Desktop\Sky...	Wed Apr 30 01:57:50 2025	0 / 77
WiFi Guard	WiFi monitoring app	(Verified) SoftPerfect ...	C:\Program Files\SoftPerfect WiFi Guard\WiFiGuard.exe	Fri Jul 25 11:20:10 2025	0 / 77





# Autoruns actions (as administrator)

- Uncheck entry to disable
- Delete entry
- Jump to other entries
- Submit to VirusTotal
- Open Process Explorer for the process
- Search Online
- Find among entries
- Properties





# Process Explorer



Process Explorer - Sysinternals: www.sysinternals.com [Missing\tom]

File Options View Process Find Utilities Help

<Filter by name>

Process	Pr...	GPU	CPU	CPU History	Private By...	Working Set	PID	VirusTotal	I/O History	I/O Delta Re...	I/O Delta Wc...	I/O Delta Oth...	Verified Signer	Description	Company Name
OpatchServ...	8				8,092 K	15,240 K	6904	A device a...					(Verified) ACROS ...	Opatch Service	Acros Security
OpatchTray.exe	8		< 0.01		2,664 K	14,844 K	18412	A device a...					(Verified) ACROS ...	Opatch Tray	Acros Security
AmazonPhot...	4		0.16		171,664 K	276,180 K	21012	A device a...		92.8 MB	7.7 MB		(Verified) Amazon...		
amdffndrse...	8				2,404 K	8,192 K	3832	A device a...					(Verified) Microsof...	AMD Crash Defende...	Advanced Micro Devic...
AOMEIApiGa...	8				8,344 K	21,112 K	7124	A device a...					(Verified) AOMEI ...	AOMEI Api Gatewa...	AOMEI International ...
AOMEIINfsSe...	8				191,680 K	17,096 K	7024	A device a...					(Verified) AOMEI ...		
AppleMobile...	8		< 0.01		3,488 K	14,300 K	6972	A device a...					(Verified) Apple Inc.	MobileDeviceService	Apple Inc.
atiesxxx.exe	8		< 0.01		4,640 K	17,796 K	4592	The syste...							
atiesxxx.exe	8				1,912 K	7,736 K	5824	A device a...					(Verified) Advanc...	AMD External Event...	AMD
AutoHotkey6...	8		< 0.01		2,860 K	12,736 K	28180	A device a...					(No signature was...	AutoHotkey 64-bit	AutoHotkey Foundatio...
AutoHotkey6...	13				2,712 K	12,212 K	26688	A device a...					(No signature was...	AutoHotkey 64-bit	AutoHotkey Foundatio...
AutoHotkeyU...	8				2,336 K	10,536 K	2936	A device a...					(No signature was...	AutoHotkey Unicod...	
Autonuns64.e...	8		0.04		19,260 K	41,960 K	26200	A device a...					(Verified) Microsof...	Autostart program ...	Sysinternals - www.sys...
AWCC.Backgr...	8		< 0.01		42,516 K	61,564 K	24216	A device a...		166 B	316 B		(Verified) Dell Inc	AWCC.Background...	Dell Technologies
AWCC.Servic...	8		< 0.01		57,276 K	80,644 K	23692	A device a...					(Verified) Dell Inc	AWCC.Service	Dell Technologies
awscons.exe	8		< 0.01		47,284 K	55,452 K	3512	A device a...					(Verified) A-Volute ...	A-Volute NS	A-Volute
chrome.exe	8		< 0.01		199,712 K	315,696 K	25352	A device a...		85.3 KB	62.3 KB	45.2 KB	(Verified) Google ...	Google Chrome	Google LLC
chrome.exe	8				6,840 K	9,092 K	24260	A device a...					(Verified) Google ...	Google Chrome	Google LLC
chrome.exe	10		< 0.01		254,140 K	227,056 K	12280	A device a...		560 B	448 B		(Verified) Google ...	Google Chrome	Google LLC
chrome.exe	8		0.01		32,440 K	37,372 K	22716	A device a...		5.8 KB	146.5 KB	17.3 KB	(Verified) Google ...	Google Chrome	Google LLC
chrome.exe	8		< 0.01		9,828 K	22,160 K	24100	A device a...					(Verified) Google ...	Google Chrome	Google LLC
chrome.exe	4		< 0.01		285,412 K	360,556 K	2032	A device a...		1.2 KB	1000 B		(Verified) Google ...	Google Chrome	Google LLC
chrome.exe	8		< 0.01		673,248 K	710,044 K	17316	A device a...		224 B	224 B		(Verified) Google ...	Google Chrome	Google LLC
chrome.exe	4		< 0.01		89,788 K	153,404 K	23948	A device a...		224 B			(Verified) Google ...	Google Chrome	Google LLC
chrome.exe	4		< 0.01		30,680 K	59,020 K	22396	A device a...		12.0 KB	784 B		(Verified) Google ...	Google Chrome	Google LLC
chrome.exe	4		< 0.01		36,776 K	65,184 K	9412	A device a...		8.4 KB	448 B		(Verified) Google ...	Google Chrome	Google LLC
chrome.exe	4		< 0.01		44,312 K	78,264 K	13512	A device a...		16.9 KB	448 B		(Verified) Google ...	Google Chrome	Google LLC
chrome.exe	4		< 0.01		91,184 K	155,840 K	18352	A device a...		688 B	776 B		(Verified) Google ...	Google Chrome	Google LLC

CPU Usage: 0.67% | Commit Charge: 34.71% | Processes: 326 | Physical Usage: 34.41%



# Process Explorer - columns

Tabs at top to choose fields for:

- Image
- Performance
- Handles
- DLL
- .NET
- Status bar
- GPU
- Memory
- I/O

Process Explorer - Sysinternals: www.sysinternals.com [Missing\tom]

File Options View Process Find Users Help

Process Pr... GPU CPU CPU History Private By... Working Set

8,092 K 15,240 K

2,664 K 14,844 K 10

170,976 K 280,616 K 2

2,404 K 8,192 K

8,344 K 21,112 K

191,680 K 17,096 K 7

3,488 K 14,300 K 6

4,640 K 17,828 K 4

1,912 K 7,736 K 1

10,172 K 19,268 K 2

2,860 K 12,768 K 2

2,712 K 12,212 K 2

2,336 K 10,536 K 1

19,260 K 41,964 K 26

42,516 K 61,564 K 2

57,288 K 80,656 K 2

47,284 K 55,480 K

200,020 K 315,992 K 2

6,840 K 9,092 K 24

230,520 K 225,624 K 17

32,552 K 57,492 K 2

9,832 K 22,168 K 24

chrome.exe 8 < 0.01

chrome.exe 8 < 0.01

Select Columns

Process I/O Process Memory Process GPU

Handle DLL .NET Status Bar

Process Image Process Performance

Select the columns that will appear on the Process view of Process Explorer.

Process Name  Window Title

PID (Process Identifier)  Window Status

User Name  Session

Description  Command Line

Company Name  Comment

Verified Signer  Autostart Location

Version  Virus Total

Image Path  DEP Status

Image Type (64 vs 32-bit)  Integrity Level

Package Name  Virtualized

DPI Awareness  ASLR Enabled

Protection  UI Access

Control Flow Guard  Enterprise Context

Stack Protection

OK Cancel

# Process Explorer actions

Set affinity (to a CPU core)

Set priority

Kill process

Restart

Suspend

Debug

Create dump

Check VirusTotal

Properties

Search online

The screenshot shows the Process Explorer application window. The title bar reads "Process Explorer - Sysinternals: www.sysinternals.com [Missing\tom]". The menu bar includes "File", "Options", "View", "Process", "Find", "Users", and "Help". The main window displays a list of processes with columns for "Process", "Pr...", "GPU", "CPU", "CPU History", "Private By...", and "Working". A context menu is open over a process, with "Set Priority" highlighted. A sub-menu is also open, showing priority levels: "Realtime: 24", "High: 13", "Above Normal: 10", "Normal: 8", "Below Normal: 6", "Background: 4 (Low I/O and Memory Priority)", and "Idle: 4". A pink mouse cursor points to the "Set Priority" option.

Process	Pr...	GPU	CPU	CPU History	Private By...	Working
0patchServic...	8				8,164 K	15,30
0patchTray.exe	8		< 0.01		2,664 K	14,84
AmazonPh...					175,640 K	285,43
amdfendrs					2,404 K	8,19
AOMEIApi...						11
AOMEIInf...						09
AppleMobil...						50
atieclxx.ex...						39
atiesrxx.ex...						73
audiodg.ex...						71
AutoHotke...						81
AutoHotke...					2,712 K	12,21
AutoHotke...					2,336 K	10,53
Autoruns64...					17,408 K	40,82
AWCC.Backg...					42,516 K	61,58
AWCC Servic...	8		< 0.01		57,340 K	80,63



# Sysinternals File and Disk Utilities

## [AccessChk](#)

This tool shows you the accesses the user or group you specify has to files, Registry keys or Windows services.

## [AccessEnum](#)

This simple yet powerful security tool shows you who has what access to directories, files and Registry keys on your systems. Use it to find holes in your permissions.

## [CacheSet](#)

CacheSet is a program that allows you to control the Cache Manager's working set size using functions provided by NT. It's compatible with all versions of NT.

## [Contig](#)

Wish you could quickly defragment your frequently used files? Use Contig to optimize individual files, or to create new files that are contiguous.

## [Disk2vhd](#)

Disk2vhd simplifies the migration of physical systems into virtual machines (p2v).

## [DiskExt](#)

Display volume disk-mappings.

## [DiskMon](#)

This utility captures all hard disk activity or acts like a software disk activity light in your system tray.

## [DiskView](#)

Graphical disk sector utility.

## [Disk Usage \(DU\)](#)

View disk usage by directory.

## [EFSDump](#)

View information for encrypted files.

## [FindLinks](#)

FindLinks reports the file index and any hard links (alternate file paths on the same volume) that exist for the specified file. A file's data remains allocated so long as it has at least one file name referencing it.

## [jcd](#)

jcd is a command-line tool that provides quick directory navigation with substring matching and smart selection for Linux and macOS.

## [Junction](#)

Create Win2K NTFS symbolic links.

## [LDMDump](#)

Dump the contents of the Logical Disk Manager's on-disk database, which describes the partitioning of Windows 2000 Dynamic disks.

## [MoveFile](#)

Schedule file rename and delete commands for the next reboot. This can be useful for cleaning stubborn or in-use malware files.

## [NTFSInfo](#)

Use NTFSInfo to see detailed information about NTFS volumes, including the size and location of the Master File Table (MFT) and MFT-zone, as well as the sizes of the NTFS meta-data files.

## [PendMoves](#)

See what files are scheduled for delete or rename the next time the system boots.

## [Process Monitor](#)

Monitor file system, Registry, process, thread and DLL activity in real-time.

## [PsFile](#)

See what files are opened remotely.

## [PsTools](#)

The PsTools suite includes command-line utilities for listing the processes running on local or remote computers, running processes remotely, rebooting computers, dumping event logs, and more.

## [SDelete](#)

Securely overwrite your sensitive files and cleanse your free space of previously deleted files using this DoD-compliant secure delete program.

## [ShareEnum](#)

Scan file shares on your network and view their security settings to close security holes.

## [Sigcheck](#)

Dump file version information and verify that images on your system are digitally signed.

## [Streams](#)

Reveal NTFS alternate streams.

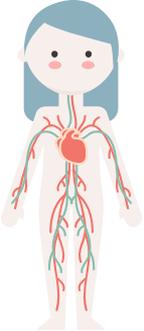
## [Sync](#)

Flush cached data to disk.

## [VolumeID](#)

Set Volume ID of FAT or NTFS drives.

# Security utilities



## [AccessChk](#)

This tool shows you the level of access the user or group you specify has to files, Registry keys or Windows services.

## [AccessEnum](#)

This simple yet powerful security tool shows you who has what access to directories, files and Registry keys on your systems. Use it to find holes in your permissions.

## [Autologon](#)

Bypass password screen during logon.

## [Autoruns](#)

See what programs are configured to startup automatically when your system boots and you log in. Autoruns also shows you the full list of Registry and file locations where applications can configure auto-start settings.

## [LogonSessions](#)

List active logon sessions

## [Process Explorer](#)

Find out what files, registry keys and other objects processes have open, which DLLs they have loaded, and more. This uniquely powerful utility will even show you who owns each process.

## [PsExec](#)

Execute processes with limited-user rights.

## [PsLoggedOn](#)

Show users logged on to a system.

## [PsLogList](#)

Dump event log records.

## [PsTools](#)

The PsTools suite includes command-line utilities for listing the processes running on local or remote computers, running processes remotely, rebooting computers, dumping event logs, and more.

## [Rootkit Revealer](#)

RootkitRevealer is an advanced rootkit detection utility.

## [SDelete](#)

Securely overwrite your sensitive files and cleanse your free space of previously deleted files using this DoD-compliant secure delete program.

## [ShareEnum](#)

Scan file shares on your network and view their security settings to close security holes.

## [ShellRunas](#)

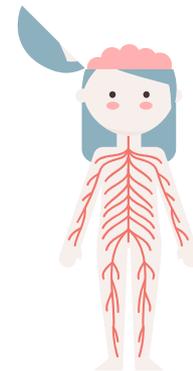
Launch programs as a different user via a convenient shell context-menu entry.

## [Sigcheck](#)

Dump file version information and verify that images on your system are digitally signed.

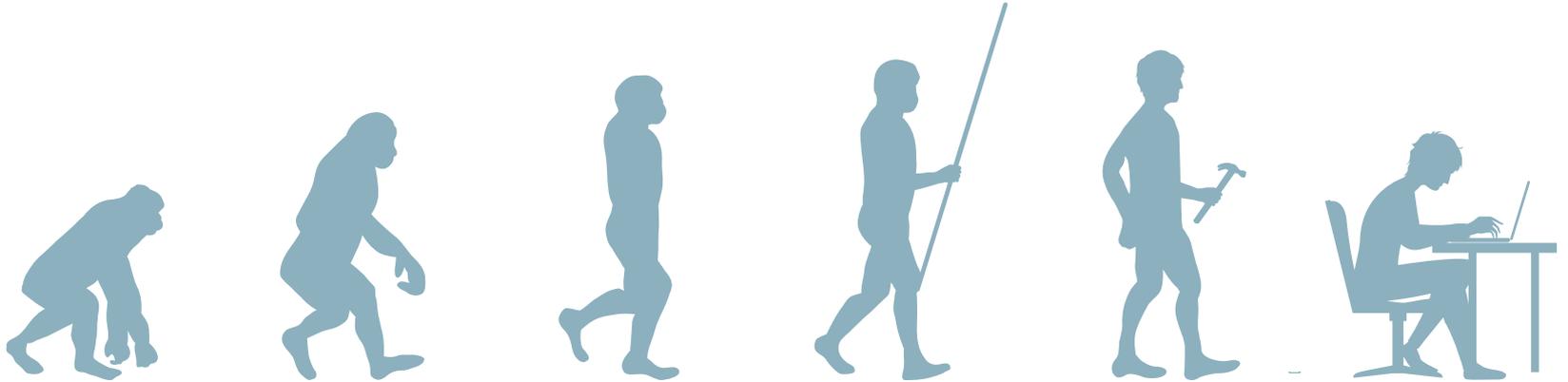
## [Sysmon](#)

Monitors and reports key system activity via the Windows event log.



## Other

Many tools: ADEplorer ADInsight adrestore Autologon Bginfo Clockres  
Coreinfo CPUTRES ctrl2cap Dbgview Desktops disk2vhd diskext DiskView  
efsdump FindLinks handle hex2dec junction Idmdump Listdlls livekd  
LoadOrd logonsessions notmyfault notmyfaultc ntfsinfo pagedfrg pendmoves  
portmon procdump RAMMap RDCMan RegDelNull regjump ru sigcheck  
streams strings Sysmon tcpvcon Testlimit vmmap Volumeid Winobj ZoomIt



# Sysinternals

Useful strong tools  
for managing your computer  
& diagnosing troubles.