Windows Command Line Cheat Sheet: All You Need in One Place

February 7, 2023 / By Cassandra Lee

🎧 Listen to the article

When working on the Windows command line, do you remember how often you kept looking for the same commands? Do you easily mistype in the Windows command prompt as if you were using **bash commands**, such as "`rm`" instead of "`del`"? If you've ever been in the situations above, this Windows command line cheat sheet is for you.

The Windows command line is only as powerful as the commands at your disposal, which we'll expand on in this Windows command prompt cheat sheet. It covers every command you need for important tasks and batch scripting, plus a few delightful surprises if you make it to the end.

Keep a copy of this Windows command line cheat sheet on your desk, in your pocket, or wherever you go. When you're ready, let's dive in.

Search cheats here 🔍

## What Is the Windows Command Line?

The Windows command line (Windows command prompt) is the command-line interface (CLI) on Microsoft Windows machines, analogous to the Terminal in **Unix**/**Linux**. It emulates many command-line abilities in Microsoft's deprecated text-only operating system MS-DOS (but **it's not MS-DOS**).

Methods to open the Windows CLI:

- On Windows 10 or above, click **Start** on the bottom left corner, type **cmd**, and select **Command Prompt**.
- On Windows 8.x or earlier, press **Ctrl+R** to open the **Run** dialog box, type **cmd** into it, and press **Enter**.

Hence, another name for Windows CLI is "cmd."

Scripts containing Windows commands (batch scripts) have ".bat" as the file extension. All cmd commands are case-insensitive, so `arp` and `ARP` are the same. If you need help using any command, add `/?` to it, e.g., `ARP /?` will show the manual for `ARP`:
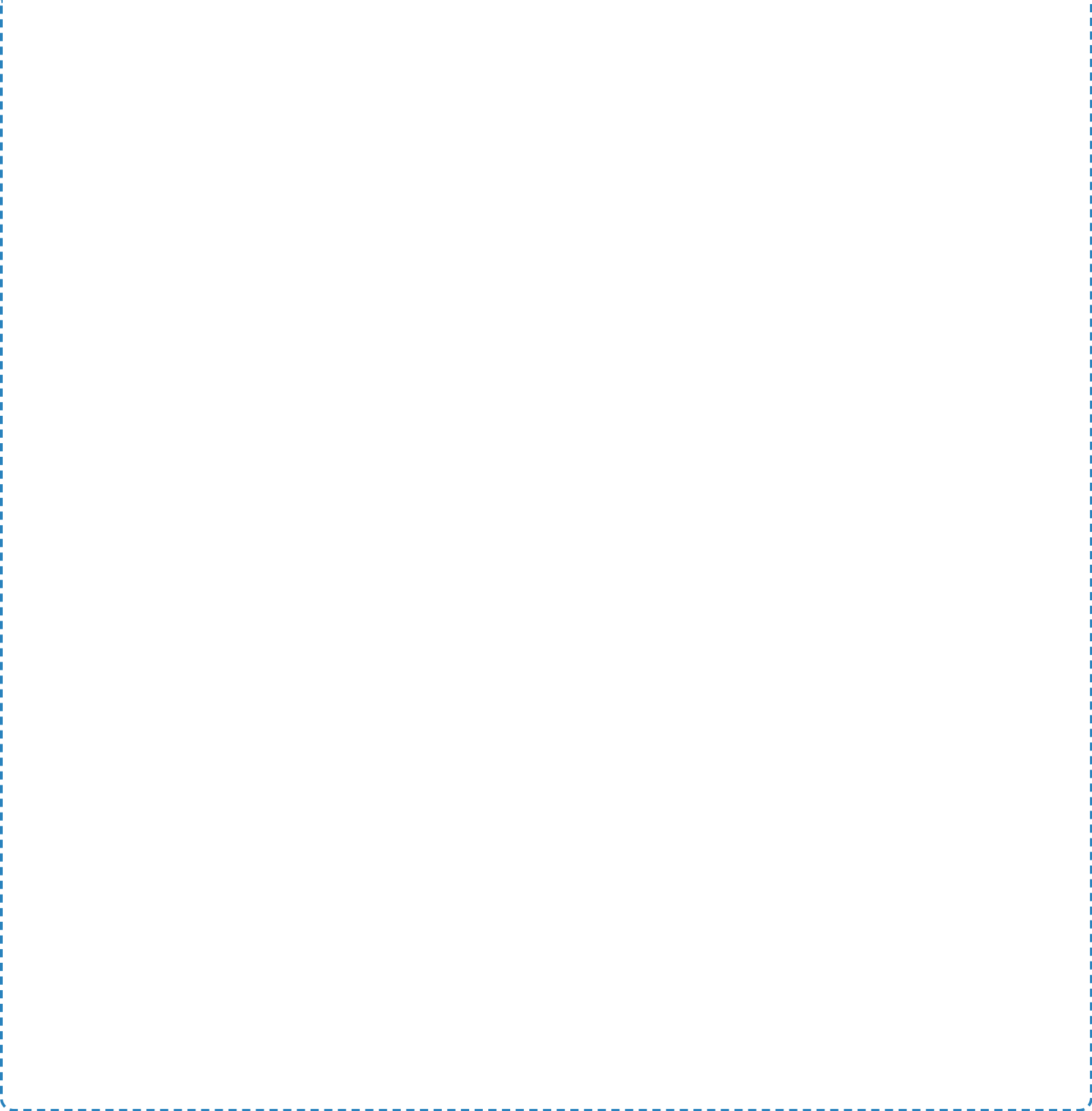
Directory Navigation

These commands help you view directories and move directories around.

COMMAND	EXPLANATION
`C:`	Change the current drive to the C:\ drive

COMMAND	EXPLANATION
`d:`	Change the current drive to the D:\ drive
`CD c:\path\to\my_folder`	Change directory to `c:\path\to\my_folder`
`CD ..`	Navigate to the parent directory of the current working directory
`CD .\new_folder`	Navigate to the folder `new_folder` located in the current working directory
`CD /D d:\videos\`	Change the current drive to D:\ and access the folder `videos` on it.
`DIR`	Display files and folders in the current directory
`DIR /A c:\apps\`	Display files and folders in the directory `c:\apps\`
`DIR /A:D`	Display only folders (`D:` directories)
`DIR /A:-D`	Display only files (`D:` directories; `-:` not)
`DIR /A:H`	Display hidden files and folders
`DIR /O`	Display files and folders sorted alphabetically
`DIR /O:S`	Display files and folders sorted by file size from smallest to largest
`DIR /O:-S`	Display files and folders sorted by file size from largest to smallest
`DIR /B`	Display only the names of files and folders in the current working directory
`SORT`	Take input from a source file/pipeline, sort its contents alphabetically (default: A to Z; in reverse: Z to A), and display the output
`SORT "C:\music\playlist.m3u"`	Sort the contents of `C:\music\playlist.m3u` line by line
`DIR /B | SORT /R /O ZtoA.txt`	List all file and folder names in the current working directory, sort them in reverse alphabetical order, and save the sorted output to a file

COMMAND	EXPLANATION
`ZtoA.txt:`	
`MOVE`	Move a file or files
`MOVE c:\f1\text.txt c:\f2`	Move a file `text.txt` from one folder `c:\f1` to another folder `c:\f2`
`MD new_folderMAKEDIR new_folder`	Create a new folder called `new_folder` in the current directory
`RD new_folderRMDIR new_folder`	Delete the folder called `new_folder` in the current directory
`TREE`	Show the directory structure of a disk/folder
`TREE "C:\Program Files"`	Show the directory structure of the folder "Program Files" on the disk C:\
`TREE C:\ /F`	Display the names of the files in each folder in the directory structure of the C:\ drive
`ATTRIB`	Display/set the attributes of the files in the current directory
`ATTRIB +H +S +R myItem`	Hide a file/folder `myItem`
`ATTRIB -H -S -R myItem`	Unhide a file/folder `myItem`

File Management

The following commands are for managing and manipulating files.

Like **Unix**, cmd supports pipelines: you may pass the output of a command to the next one by sandwiching the pipe character "|" between both.

COMMAND	EXPLANATION
`COPY text.txt C:\schoolwork`	Copy the file `text.txt` to a folder with the path `C:\schoolwork`
`DEL text.txtERASE text.txt`	Delete the file `text.txt`
`REN text.txt script.batRENAME text.txt script.bat`	Rename a file `text.txt` to `script.bat`
`REPLACE .\src\hey.txt .\dest`	Overwrite; replace a file named `hey.txt` in a local folder `src` with another `hey.txt` in a local folder `dest`, both files sharing the same name. **Warning:** Don't specify `.\dest\hey.txt` anywhere here.
`XCOPY`	Copy files and directory trees to another folder. XCOPY is similar to COPY but with additional switches to specify the source and destination paths in detail.
`XCOPY /S folder1 folder2`	Copy folders and subfolders of `folder1` to `folder2`
`ROBOCOPY`	Robust copying of files and directories: by default, such copying only occurs if the source and destination differ in time stamps or file sizes.
`EXPAND gameData.cab`	Decompresses the compressed .CAB cabinet file `gameData.cab`
`FC file1.ext file2.ext`	Compare the contents of two files (`file1.ext`, `file2.ext`) and display non-matching lines

COMMAND	EXPLANATION
`COMP file1.ext file2.ext`	Compare the contents of two files (`file1.ext`, `file2.ext`) and display non-matching items
`FIND "python" in run.bat`	Output every line that contains a text string (which you must enclose in quotation marks) "`python`" in the file `run.bat`
`FIND /C "python" in run.bat`	Count every line that contains a text string (which you must enclose in quotation marks) "`python`" in the file `run.bat`
`PRINT resume.txt`	Print contents of a file `resume.txt`
`OPENFILES /QUERY`	Query/display open files
`OPENFILES /DISCONNECT`	Disconnect files opened by network users.
`TYPE test.txt`	Displays the contents of the file `test.txt`
`TYPE playlist.m3u | SORT /unique /o C:\work\unique_play.m3u`	Sort a file `playlist.m3u` and output only the unique values to a file `C:\work\unique_play.m3u`
`MORE`	Display contents of one or more files, one screen at a time.
`ASSOC`	Display or change the association between a file extension and a file type
`NOTEPAD`	Open the Notepad application from cmd
`NOTEPAD filename.ext`	Open a file `filename.ext` in Notepad

Disk Management

It's easy to handle and automate the following tasks on cmd.

COMMAND	EXPLANATION
`CHKDSK`	Check and repair disk problems (local disks only)
`CHKDSK /F A:`	Fix errors on `A:` drive
`CHKDSK /R A:`	Recover data on `A:` drive

COMMAND	EXPLANATION
CHKDSK /X A:	Dismount drive A:
CIPHER /E classified	Encrypt the folder classified
CIPHER /D secret_recipe.txt	Decrypt the file secret_recipe.txt
DEFRAG	Disk Defragmentation
CHKNTFS	Display/modify disk-checking on startup
COMPACT	Display/change the compression of files in NTFS partitions
CONVERT	Convert FAT disk volume to NTFS
DISKPART	Display and adjust disk partition properties
FORMAT	Format the disk
FSUTIL	File system management
LABEL d:x	Rename disk D:\ to X:\
SUBST p: c:\taxes	Assign drive P:\ to the local folder c:\taxes
SUBST p: /D	Remove the path represented by P:\
RECOVER d:\data.dat	Recover a file data.dat from a bad or defective disk D:\
VOL	Display current disk volume label and serial number
POWERCFG	Control power settings and configure Hibernate/Standby modes
SFC /SCANNOW	Scan and update protected system files

System Information and Networking

The following commands are helpful in troubleshooting computers and computer networks.

COMMAND	EXPLANATION
VER	Display the current operating system version
SYSTEMINFO	List system configuration

COMMAND	EXPLANATION
HOSTNAME	Show the computer's hostname on the network
DRIVERQUERY	Show all installed device drivers
DATE	Display/set system date
TIME	Display/set system time
GPRESULT	Display Resultant Set of Policy (**RSoP**) information for a remote user and computer.
GPUPDATE	Update group policies
IPCONFIG	Display Windows IP network configurations
IPCONFIG /release	Release your current local IP address
IPCONFIG /renew	Request a new local IP address
IPCONFIG /flushdns	Reset the contents of the DNS client resolver cache
PING google.com	Send ICMP requests to the target **google.com** and check host availability
PATHPING	Trace route and provide network latency and packet loss for each router and link in the path
NET	Provide various network services
NET use M: \\gameServ /user:"ReadyPlayerOne" player1	Assign as disk M:\ the path \\gameServ, logging in as "ReadyPlayerOne" and password "player1"
TRACERT	Find the IP address of any remote host
NSLOOKUP	Find IP addresses on a nameserver
ROUTE	Manipulate network routing tables
ROUTE PRINT	Displays network route details
ARP -A	List IP addresses and corresponding physical addresses

COMMAND	EXPLANATION
	(Address Resolution Protocol)
NETSH	Configure network interfaces, Windows firewall, routing, and remote access
NETSTAT	Display current TCP/IP network connections and protocol statistics
GETMAC	Shows all MAC addresses of the network adapters

Process Management

The commands below are Task Manager-like functions. Note that you call variables in arithmetic or logical expressions by enclosing each with two "%" signs (e.g., "%a%").

COMMAND	EXPLANATION
SCHTASKS	Create/edit a job on Task Scheduler. Use this to create scheduled tasks in **Disk Management**.
SET	List environment variables
PATH	Display/change the list of folders stored in the %PATH% environment variable
SHUTDOWN /R	Restart the computer
SHUTDOWN /S /T 60	Shut down the computer 60 seconds from now

▶ 00:00   00:00   1⚡ ●— ✕

COMMAND	EXPLANATION
TASKLIST /SVC	Show services related to each task
TASKLIST /V	Display detailed task information
TASKLIST | FIND "1234"	Get the name of the executable associated with the process ID (PID) of 1234
TASKKILL	End one or more tasks

COMMAND	EXPLANATION
TASKKILL /IM "msedge.exe"	Terminate all Microsoft Edge instances:
TASKKILL /PID 10736	Terminate process with PID of 10736
REGREGEDIT	Registry Editor
RUNAS /USER:user2 program1	Execute a program `program1` as another user `user2`
POWERSHELL	Open a **Powershell** instance

Batch Scripting

These commands are for constructing and debugging batch scripts (.bat). To suppress the output of a certain command, add @ in front of it, e.g., `@echo off`.

00:00   00:00   1⚡   ✕

Demonstration of CHOICE, PAUSE, and TIMEOUT

COMMAND	EXPLANATION
REM comment. . . :comment. . .	Prefix for the single-line comment "`comment. . .`"

COMMAND	EXPLANATION

`GOTO end`
`<comment_block>`
`:end`
	Format of multi-line comments represented by `<comment_block>` enclosed by delimiters `end` and `:end`

`SET /A c = %a% + %b%`	Assign the arithmetic expression `a+b` to the variable `c`
`^`	Escape character
`some_command > output.txt`	Redirect output of `some_command` to a file `output.txt`
`?`	Wildcard representing one character
`*`	Wildcard representing multiple characters
`&`	Introduce a new command on the same line
`TIMEOUT 3600`	Tell the command prompt to sleep for 3600 seconds (= 1 hour)
`PAUSE`	Prompt the user to continue
`CHOICE`	Prompt the user to pick an on-screen option

`CHOICE /T 15 /C ync /CS /D y`
`/M "Press y=Yes, n=No,`
`c=cancel:"`
	You have 15 seconds to press Y, N, or C keys without capitalization, defaulting to "y" if time runs out without a decision

`CLS`	Clear screen
`COLOR`	Set text and background color of cmd:

COMMAND	EXPLANATION
`ECHO ON`	Display each command executed
`ECHO OFF`	Only display command output
`ECHO a string of characters`	Display a `string of characters`
`HELP`	Display help
`PROMPT topSecret^>$$`	Changes the command line prompt to `topSecret>$` for the current session
`PROMPT`	Reset the command line prompt to default
`START X`	Start/open a program/document `X` in a new window
`TITLE top Secret`	Set the title of the current session of Windows command prompt to `top Secret`
`/?`	Add this to the end of any command word (shown in ALL CAPS in this cheat sheet) to get help on the command, e.g., `CD/?` = manual for `CD` (change directory) command
`| CLIP`	Append this to the end of a command to copy the command output to the clipboard
`EXIT`	Exits the command line

00:00   00:00   1⚡   ✕

CONDITIONAL	SYNTAX
If	`IF (condition) do_something`
If-else	`If (condition) (do_something)` `ELSE (do_something_else)`
Nested if	`IF (condition1) IF (condition2) do_something`

CONDITIONAL	SYNTAX
Infinite loop	``` :marker do_something GOTO marker ```

While loop	```
	:marker
	IF (condition) (
	    do_something
	    GOTO :marker
	)
	``

Shortcut keys

Any Windows CLI cheat sheet must include methods to speed up your work, such as the following.

KEY	EFFECT
Tab	Autocomplete
Ctrl+F	Find text in console (opens dialog box)
F1, F3, F5, F8	Retype command
F2	Copy the current command leftward of the cursor
F4	Delete the current command rightward of the cursor
F6	Insert end-of-file character

▶   00:00   00:00   1⚡   ✕

| F9 | Retype a command by typing its line number in the command history |

Conclusion

We sincerely hope this Windows cmd commands cheat sheet helps you finish your work quickly and efficiently today, especially if you're prone to confusing Windows command prompt commands with other terminal scripting languages in the past.

Remember to check out **our course offerings on Windows**.

Frequently Asked Questions

⊖ **Can I use the command line for coding?**

Like bash, sh, and zsh, the Windows command line is a shell scripting language suited for automating line-by-line execution of programs callable from a command line interface. It's not suitable as a programming language because it lacks data structures found in general-purpose programming languages such as Python (interpretive) and C++ (compiled).

⊕ **What are the basic CLI commands?**

⊕ **Is learning the command line useful?**

⊕ **Can CMD run Python?**

⊕ **What cool things can you do with the command prompt?**

Grow your Cyber Security Skills

▶ 00:00   00:00   1⚡   ✕

CATEGORIES   CHEAT SHEETS   IT FUNDAMENTALS

Cassandra Lee

I make connections across disciplines: cyber security, writing/journalism, art/design, music, mathematics, technology, education, psychology, and more. I've been advocating for girls and women in STEM since the 2010s, having written for Huffington Post, International Mathematical Olympiad 2016, and Ada Lovelace Day, and I'm honored to join StationX. You can find me on **LinkedIn** and **Linktree**.

Related Articles

00:00

00:00   1⚡   ✕

Nmap Cheat Sheet 2023: All the Commands, Flags & Switches

Read More »

Linux Command Line Cheat Sheet: All the Commands You Need

Read More »

Wireshark Cheat Sheet: All the Commands, Filters & Syntax

Read More »

Common Ports Cheat Sheet: The Ultimate Ports & Protocols List

Read More »

00:00   00:00   1⚡   ✕

00:00   00:00   1⚡   ✕