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Continuing the Interrupted Conversa...

Multi-OS Command Line Cheat Sheet

Version: January 30, 2026

Purpose: Concise reference for essential, authorized admin commands and scripting across Windows, ChromeOS, macOS, and Linux (Ubuntu/Debian). Focus on defensive tasks like diagnostics and management. Use only on authorized systems. Elevate privileges as needed (e.g., sudo, Run as Admin).

Printing Tips: A4 portrait/landscape, 9-11pt font (Arial/Calibri), standard margins. Copy to Word/Docs for PDF export.

Sources: Compiled from prior docs (e.g., Windows Admin Reference, PDQ PowerShell Guide) and online research (e.g., official Microsoft, Apple, Google, Ubuntu docs via web searches for 2025-2026 updates).

1. Windows CMD (Legacy)

Prefer PowerShell for modern tasks.

Command	Description	Example
File/Folder Management		
COPY	Copy files	COPY file.txt D:\Backup
DIR	List contents	DIR C:\Users
DEL	Delete files	DEL old.txt
CD	Change dir	CD C:\Windows
MD	Make dir	MD NewFolder
MOVE	Move files	MOVE file.txt D:\Docs
REN	Rename	REN old.txt new.txt
ROBOCOPY	Robust copy/sync	ROBOCOPY C:\src D:\dest /E

Command	Description	Example
XCOPY	Copy trees	XCOPY C:\src D:\dest /S
Diagnostics & Info		
SFC /SCANNOW	Repair system files	SFC /SCANNOW
SYSTEMINFO	System config	SYSTEMINFO
CHKDSK	Check disk	CHKDSK C: /F
DISKPART	Manage disks	DISKPART > list disk
Network		
IPCONFIG /ALL	IP config	IPCONFIG /ALL
PING	Test connectivity	PING google.com
NETSTAT	Connections	NETSTAT -an
NSLOOKUP	DNS query	NSLOOKUP google.com
Users & Processes		
NET USER	Manage users	NET USER
WHOAMI	Current user	WHOAMI
TASKLIST	List processes	TASKLIST
TASKKILL	Kill process	TASKKILL /PID 1234 /F
SHUTDOWN	Shutdown/reboot	SHUTDOWN /R /T 0

Basic Batch Scripting (.bat):

```
batch

@ECHO OFF
SET var=Hello
IF "%var%"=="Hello" ECHO Match
FOR /L %%i IN (1,1,5) DO ECHO %%i
XCOPY "%USERPROFILE%\Documents" "D:\Backup" /E /Y
PAUSE
```

2. Windows PowerShell

Object-oriented; use Get-Help for details.

Cmdlet	Description	Example
Help & Discovery		
Get-Help	Cmdlet help	Get-Help Get-Process -Examples
Get-Command	List cmdlets	Get-Command Net
Get-Member	Object properties	Get-Process Get-Member
Users & Groups		
Get-LocalUser	List users	Get-LocalUser
Get-LocalGroupMember	Group members	Get-LocalGroupMember "Administrators"
System & Hardware		
Get-ComputerInfo	System info	Get-ComputerInfo
Get-Volume	Volume usage	Get-Volume Select DriveLetter, SizeRemaining
Get-PhysicalDisk	Disk health	Get-PhysicalDisk
Get-WinEvent	Event logs	Get-WinEvent -LogName System -MaxEvents 50
Network		
Get-NetIPConfiguration	Network config	Get-NetIPConfiguration
Resolve-DnsName	DNS test	Resolve-DnsName google.com
Test-WSMan	WinRM status	Test-WSMan
Services & Processes		
Get-Service	List services (filter running)	Get-Service Where Status -eq 'Running'
Get-Process	List processes (top memory)	Get-Process Sort WorkingSet -Desc Select -First 10

Cmdlet	Description	Example
Get-History	Command history	Get-History
Environment		
Get-ExecutionPolicy	Get policy	Get-ExecutionPolicy
Set-ExecutionPolicy	Set policy	Set-ExecutionPolicy RemoteSigned -Scope CurrentUser
\$PSVersionTable	PS version	\$PSVersionTable

Control Flow:

- Foreach: `Foreach ($item in $collection) { Write-Output $item }`
- If: `If ($var -eq 10) { "Equal" } Else { "Not" }`

Advanced PowerShell Examples:

- Remote Execution: `Invoke-Command -ComputerName RemotePC -ScriptBlock { Get-Process }` (requires WinRM).
- Error Handling: `Try { Get-Process NonExistent } Catch { "Error: $_" } Finally { "Cleanup" }`
- Modules: `Import-Module ActiveDirectory; Get-ADUser -Filter *` (for domain admins).
- JSON Handling: `$data = @{'Name'='Grok'; Version=4} | ConvertTo-Json; $data | ConvertFrom-Json`
- Scheduled Tasks: `New-ScheduledTaskAction -Execute 'PowerShell.exe' -Argument 'C:\script.ps1'`

Basic Scripting (.ps1):

```
PowerShell

Write-Host "Hello, $env:USERNAME"
Get-Volume | Select @{'N'='FreeGB';E={ [math]::Round($_.SizeRemaining/1GB,2) } }
1..5 | ForEach-Object { "Count: $_" }
```

3. ChromeOS (Crosh Shell)

Open: Ctrl+Alt+T. Limited; for full Linux, enable Crostini (Debian-based, see Linux section).

Command	Description	Example
Basics		
exit	Exit Crosh	exit
help	Show help	help
help_advanced	Advanced help	help_advanced
Diagnostics		
top	Processes	top
battery_test	Battery health	battery_test 3600
memory_test	Test memory	memory_test
rollout_info	Update info	rollout_info
Network		
ping	Test connectivity	ping google.com
ssh	SSH connect	ssh user@host

Scripting: Use Crostini bash (see Linux).

4. macOS Terminal (bash/zsh)

Open: Spotlight > Terminal. Unix-like.

Command	Description	Example
Basics & Navigation		
sudo [cmd]	Elevate	sudo rm /path
cd [dir]	Change dir	cd Documents
pwd	Current dir	pwd
ls -la	List detailed	ls -la



Command	Description	Example
File/Dir Management		
mkdir <dir>	Create dir	mkdir Projects
rmdir <dir>	Delete empty dir	rmdir OldFolder
rm -R <dir>	Delete recursive	rm -R Folder
touch <file>	Create file	touch new.txt
cp <src> <dest>	Copy	cp file.txt /Docs
mv <src> <dest>	Move/rename	mv old.txt new.txt
Permissions		
chmod 755 <file>	Change perms	chmod 755 script.sh
chown <user>:<group> <file>	Change owner	chown user:admin file.txt
Network		
ping <host>	Test connectivity	ping google.com
curl -O <url>	Download	curl -O http://ex.com/file
ssh <user>@<host>	SSH	ssh user@192.168.1.1
ifconfig en0	Network config	ifconfig en0
Processes & Disk		
ps -aux	List processes	ps -aux
top	Monitor	top
kill <PID>	Kill process	kill 12345
find <dir> -name "<file>"	Find files	find /Users -name "*.txt"
grep "<text>" <file>	Search text	grep "error" log.txt
df -h	Disk space	df -h

Basic Scripting (.sh):

```
Bash

#!/bin/zsh
echo "Hello, $(whoami)"
rsync -avh ~/Documents/ ~/Backup/Documents/
for i in {1..5}; do echo "Loop $i"; done
```

5. Linux (Ubuntu/Debian) Bash

Open: Ctrl+Alt+T.

Command	Description	Example
Basics & Navigation		
cd [dir]	Change dir	cd /home
pwd	Current dir	pwd
ls -la	List detailed	ls -la
File/Dir Management		
mkdir <dir>	Create dir	mkdir newdir
rm <file>	Delete file	rm file.txt
rm -r <dir>	Delete recursive	rm -r dir
cp <src> <dest>	Copy	cp file.txt /backup
mv <src> <dest>	Move/rename	mv old.txt new.txt
System & Diagnostics		
uname -a	System info	uname -a
df -h	Disk usage	df -h
free -h	Memory usage	free -h
top	Process monitor	top
Network		
ping <host>	Test connectivity	ping google.com

Command	Description	Example
ip addr	Network interfaces	ip addr
curl <url>	Fetch data	curl example.com
ssh <user>@<host>	SSH	ssh user@host
Users & Processes		
sudo [cmd]	Elevate	sudo apt update
useradd <user>	Add user	sudo useradd newuser
passwd <user>	Set password	sudo passwd newuser
ps aux	List processes	ps aux
kill <PID>	Kill process	kill 1234
Packages (APT)		
apt update	Update repos	sudo apt update
apt install <pkg>	Install	sudo apt install vim
apt remove <pkg>	Remove	sudo apt remove vim

Basic Scripting (.sh):

Bash

```
#!/bin/bash
echo "Hello from $(hostname)"
read -p "Number: " num
if [ $num -gt 0 ]; then echo "Positive"; fi
tar -czf backup.tar.gz ~/Documents
for i in {1..5}; do echo "Iteration $i"; done
```

Cross-Platform Automation Tools

For managing multiple OS:

- **Ansible:** Agentless, YAML-based. Example: `ansible all -m ping` (install via pip/brew/apt). Good for config management.

- **Puppet:** Declarative, handles Windows/Linux/macOS. Example: Manifest file with `package { 'vim': ensure => installed }.`
- **Python Scripting:** Use libraries like paramiko (SSH), os, subprocess. Cross-OS example:

Python

```
import os
import platform
if platform.system() == 'Windows':
    os.system('ipconfig')
else:
    os.system('ip addr')
```

- **Terraform:** Infrastructure as code, multi-cloud/OS. Example: Provision VM with commands.
- **PowerShell Core:** Cross-platform (install on Linux/macOS via dotnet). Example: `Get-Process` works everywhere.

Tips: Use `man <cmd>` (Linux/macOS) or `Get-Help` (PowerShell). For scripts, add shebang (e.g., `#!/bin/bash`). Download: Copy to .md file, zip with example scripts (.bat, .ps1, .sh).

↳ Add Bash scripting examples

↳ Advanced Linux networking

↳ Make tables even more concise