SIDEBAR Operating Systems

Windows 11 Drivers & Updates Cheat Sheet

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How to list drivers and who made them, see what Windows Update changed and when, line crashes up against those changes, and test one change at a time. The listing commands and the update history were run on the PC this was written on (Windows 11 Pro, build 26300) as a normal user. Driver Verifier's `/querysettings` was run; `/reset` and the Device Manager and DISM steps come from Microsoft's documentation or my own knowledge and were not run here.

LIST THE DRIVERS

```
driverquery
```

Drivers loaded in the system (`/v` adds details, `/si` signing information, `/fo csv` for a file)

```
driverquery /si
```

Shows whether each device driver is signed and who the manufacturer is

```
Get-CimInstance Win32_SystemDriver | Where-Object State -eq 'Running'
```

Running kernel drivers (194 here)

```
Get-CimInstance Win32_PnPSignedDriver | Where-Object DeviceName
```

Device drivers with version, date and provider (217 with a provider here)

```
pnputil /enum-drivers
```

Driver packages in the driver store: published name `oemNN.inf`, original name, provider, version, date

```
Get-PnpDevice -PresentOnly | Where-Object Status -ne 'OK'
```

Present devices with a problem (none here)

```
Get-WindowsDriver -Online
```

Third-party driver packages with detail; needs administrator rights (not run here)

WHO REALLY MADE IT?

```
(Get-Item C:\Windows\System32\drivers\x.sys).VersionInfo | Format-List CompanyName, FileVersion, ProductName
```

The company named inside the file

```
Get-AuthenticodeSignature C:\Windows\System32\drivers\x.sys
```

Who signed it. For most vendors' drivers this says *Microsoft Windows Hardware Compatibility Publisher*: certified by Microsoft, not written by Microsoft

```
File date
```

The driver file's build date, not when it arrived on this PC

```
Driver store date
```

`pnputil /enum-drivers` and `Win32_PnPSignedDriver.DriverDate` show the package date; also not the install date

```
Here
```

21 of 194 running kernel drivers are not Microsoft's: VPNs (OpenVPN, WireGuard, NordVPN), TotalAV, Citrix USB, Killer, MediaTek, Realtek and AMD

WINDOWS UPDATE HISTORY

```
Settings > Windows Update > Update history
```

Quality, driver, definition and other updates, with dates. Direct page: `ms-settings:windowsupdate-history`

```
Get-HotFix | Sort-Object InstalledOn -Descending
```

Installed quality updates (KB numbers)

```
$h = (New-Object -ComObject Microsoft.Update.Session).CreateUpdateSearcher();
$h.QueryHistory(0, $h.GetTotalHistoryCount())
```

The full history, including feature updates (1,577 entries here). Filter `Title` for `Windows 11, version` to find them

```
Get-WinEvent -FilterHashtable @{LogName='System'; ProviderName='Microsoft-Windows-WindowsUpdateClient'; Id=19}
```

Installation Successful events; Id 20 is a failed installation

```
Feature update
```

On this PC: *Windows 11, version 26H2* on 2026-10-08, then the October security update on the 14th, before the first bugcheck on the 19th

LINE CRASHES UP AGAINST CHANGES

`Kernel-Power 41 times`	From the Crash Triage and Event Viewer sheets
`Update history times`	From above. Put both on one list, oldest first
`Quiet gap`	Note the longest crash-free period before the first crash; a change just after a long quiet is the best-dated suspect
`Also look at`	New software, new hardware, driver installs not from Windows Update, antivirus changes, BIOS updates
`Correlation`	A lead, not a cause. Several things usually change in one update

DEVICE MANAGER

`devmgmt.msc`	Win+R, or right-click Start > Device Manager
`Properties > Driver`	Version, date, provider, and the buttons: Driver Details, Update Driver, Roll Back Driver, Disable Device, Uninstall Device
`Roll Back Driver`	Only available if Windows kept the previous driver; it is often greyed out (the course *Windows 11 Troubleshooting & Administration 7* explains why)
`View > Show hidden devices`	Reveals devices not currently connected, including old drivers
`Yellow triangle / down arrow`	A problem code / a disabled device; the Device status box says which
`Uninstall Device > delete the driver software`	Removes the driver package too: note the version first

REPAIR TOOLS (ADMINISTRATOR)

`sfc /scannow`	Checks protected system files and repairs from the local copy
`DISM /Online /Cleanup-Image /RestoreHealth`	Repairs the component store SFC relies on; use when SFC cannot repair
`sfc /verifyonly`	Checks without repairing
`Order`	Usually DISM first, then SFC. Both take minutes and need administrator rights. Not run here

DRIVER VERIFIER

`verifier /querysettings`	Shows the current settings; ran here as a normal user: *Verifier Flags: 0x00000000*, everything off
`verifier`	Administrator Command Prompt: opens Driver Verifier Manager
`verifier /standard /driver x.sys`	Standard checks on one named driver
`verifier /query`	Statistics for the drivers being verified
`verifier /reset`	Turn it off, then restart (Microsoft)
`Microsoft's warnings`	*Running Driver Verifier could cause the computer to crash.* Test computers only. Administrators only
`Won't boot`	Boot into Safe Mode and run `verifier /reset` (the usual advice; not on the Microsoft page read for this sheet)
`Before enabling`	Read the dumps first; if one names a driver, verify that driver alone

ONE CHANGE AT A TIME

`Log before`	Date, what you will change, the undo, the longest crash-free gap so far
`Change one thing`	Remove one unused VPN; stop one service; one antivirus; roll back one driver
`Wait`	Several times the longest gap you have seen. A quiet week proves nothing for a PC that crashes every few weeks
`Record`	Crash or no crash, and the date; then undo before the next change
`Prove it`	The convincing test is putting the change back and seeing the problem return

A MICROSOFT SIGNATURE IS NOT A MICROSOFT DRIVER

Counting drivers by signer says almost everything is Microsoft's. Read the company named in the file; that is why the census here finds 21 other drivers instead of one.

BACK UP BEFORE TOUCHING A DRIVER

Note the version, export the driver (`pnputil /export-driver` needs administrator rights) or keep the installer, and have the undo ready. A driver that fixes one thing can break another.