

Advanced Windows 11 performance troubleshooting

Core built-in tools

Tool	Launch	Best use
Task Manager	<code>Ctrl</code> + <code>Shift</code> + <code>Esc</code>	Quick identification of sustained CPU, RAM, disk, GPU, or network consumers; inspect Startup apps
Resource Monitor	<code>resmon.exe</code>	Per-process disk I/O, hard faults, TCP connections, handles, and services
Performance Monitor	<code>perfmon.exe</code>	Real-time counters, baseline capture, Data Collector Sets, long-running logging
System Diagnostics report	<code>perfmon /report</code>	60-second assessment of hardware, drivers, services, configuration, and obvious resource issues
Reliability Monitor	<code>perfmon /rel</code>	Timeline of crashes, hangs, failed updates, driver failures, and application instability
Event Viewer	<code>eventvwr.msc</code>	Root-cause evidence: disk, storage, driver, WHEA, kernel, power, application, and service events

Diagnose boot and background load

Use these when performance degradation begins at login, after patching, or only with normal startup software enabled.

- **Clean boot:** Run `msconfig`, hide Microsoft services, disable the remaining third-party services, and disable nonessential startup apps. Re-enable in groups to isolate the offender.
- **Safe Mode:** Determines whether the issue persists with a reduced driver and service set.
- **Autoruns (Sysinternals):** Much more complete than Task Manager Startup; review Logon, Scheduled Tasks, Services, Drivers, Explorer, WMI, and browser extensions. Disable rather than delete until validated.
- <https://learn.microsoft.com/en-us/sysinternals/downloads/autoruns>
- **Process Explorer (Sysinternals):** Inspect process trees, loaded DLLs, verified signer status, handles, CPU history, and suspicious parent/child relationships.
- <https://learn.microsoft.com/en-us/sysinternals/downloads/process-explorer>
- **Process Monitor (Sysinternals):** Use a narrowly filtered capture to identify excessive file, registry, network, or process activity. Avoid capturing everything for long periods—the trace grows rapidly.
- <https://learn.microsoft.com/en-us/sysinternals/downloads/procmon>