Internal SSD FAQ :
# Fix Your Slow SSD

# The Reasons Why Your SSD May Be  slow

1. **Storage capacity:** If your SSD is nearly full, it can affect its performance. SSDs tend to slow down as they approach their maximum capacity.

2. **Firmware and driver issues**: Outdated firmware or drivers can impact the performance of your SSD. Ensure that you have the latest firmware updates installed for your SSD and also update the drivers related to your storage controller.

3. **Overheating:** M.2 NVMe SSDs can generate significant heat, especially during heavy usage. If your SSD is not adequately cooled, it may throttle its performance to prevent overheating.

4. **Power-saving features:** Some power-saving features in your operating system can affect SSD performance.

5. **Background processes:** Background processes, such as antivirus scans, software updates, or file indexing, can utilize the SSD and impact its performance.

6. **Defragmentation:** Unlike traditional hard disk drives (HDDs), SSDs do not benefit from defragmentation. In fact, defragmenting an SSD can reduce its lifespan and potentially impact performance.

7. **Hardware issues:** In some cases, hardware issues can cause performance degradation.

# The Tips to Solve Slow SSD issue

1. **Check storage capacity:** As mentioned earlier, a nearly full SSD can slow down. Remove any unnecessary files or applications from the drive to free up space. Aim to **keep at least 30% of the SSD's capacity free for optimal performance.**

2. **Update firmware and drivers**: Visit the manufacturer's website for your SSD and check for any available firmware updates. Similarly, ensure that you have the latest drivers installed for your storage controller. Updating these components can often improve SSD performance.

3. **Monitor temperature:** Use monitoring software (e.g. CyrstalDiskInfo or CPU HWMonitor) to check the temperature of your SSD during heavy usage. If it's running hot, consider improving airflow around the SSD by cleaning dust from the system fans or installing additional cooling solutions like heatsinks or dedicated SSD coolers.

4. **Disable power-saving features:** Some power-saving features in your operating system can affect SSD performance. Disable any power-saving settings that may be throttling the SSD's performance. You can find these settings in the power options of your operating system.

5. **Check for background processes:** Open the Task Manager (Ctrl+Shift+Esc in Windows) and monitor the processes and resource utilization. Look for any processes that are consuming excessive CPU or disk usage and consider disabling or optimizing them.

6. **Scan for malware:** Malware or viruses can cause performance issues on your system, including affecting the SSD's performance. Run a thorough scan using reliable antivirus software to ensure your system is free from any malicious programs.
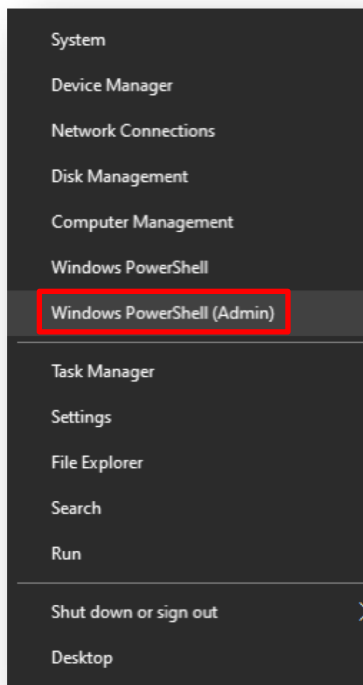
### 7.    Check the TRIM command

TRIM is an essential feature for an SSD to **keep it on top performance** and **helps the drive to last much longer.**
The TRIM feature allows Windows or any supported operating system, to notify an SSD which blocks of data are no longer in use and can be safely wiped out to be writable again.
Having this operation done ahead of time improves performance, as the drive won't have to spend time erasing a particular block when space is needed to store new data, ensuring the SSD reaches its advertised lifespan.

• Right-click on Start, the windows icon on the bottom-left of the screen or use **Windows key + X keyboard** shortcut to open **[Windows PowerShell (Admin)]**

System

Device Manager

Network Connections

Disk Management

Computer Management

Windows PowerShell

Windows PowerShell (Admin)

Task Manager

Settings

File Explorer

Search

Run

Shut down or sign out

Desktop

- Type the following command

**fsutil behavior set DisableDeleteNotify 0**



- Press Enter. After running the command, you will notice the same DisableDeleteNotify = 0, which indicates that the feature is enabled.
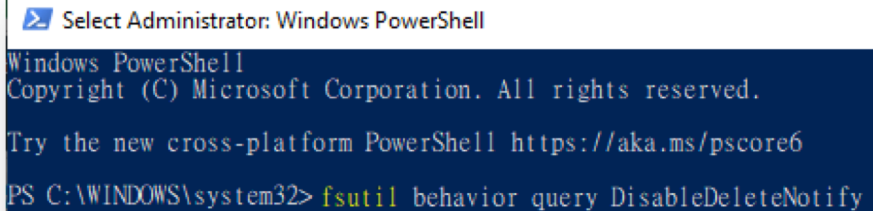
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• Type the following command and press Enter to check if TRIM have been enabling?

**fsutil behavior query DisableDeleteNotify**



You get a result of **zero (0),** then it means that TRIM is **enabled**, and no further action is required. However, if after running the command you see a result of **one (1),** then it means that TRIM is **disabled**.
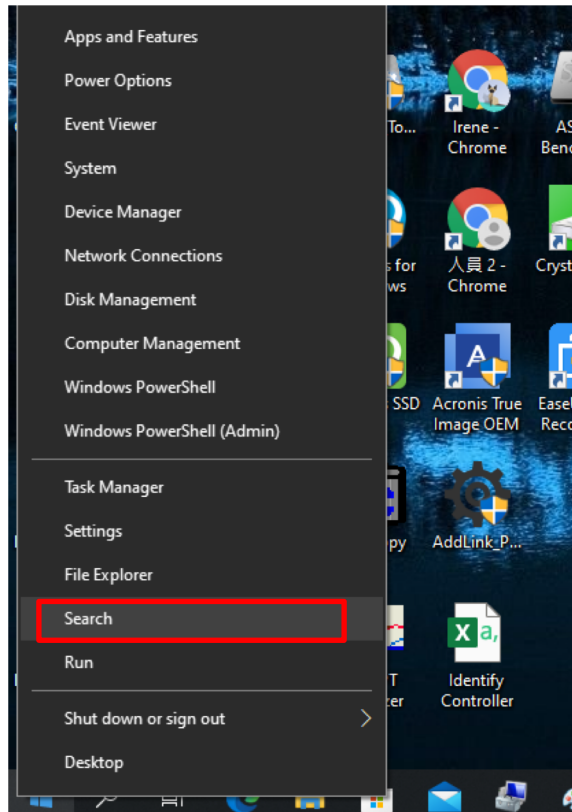
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### 8. Optimize SSD Drive (Windows)

- Right-click on Start, the windows icon on the bottom-left of the screen or use **Windows key + X keyboard** shortcut to open **[Search]**
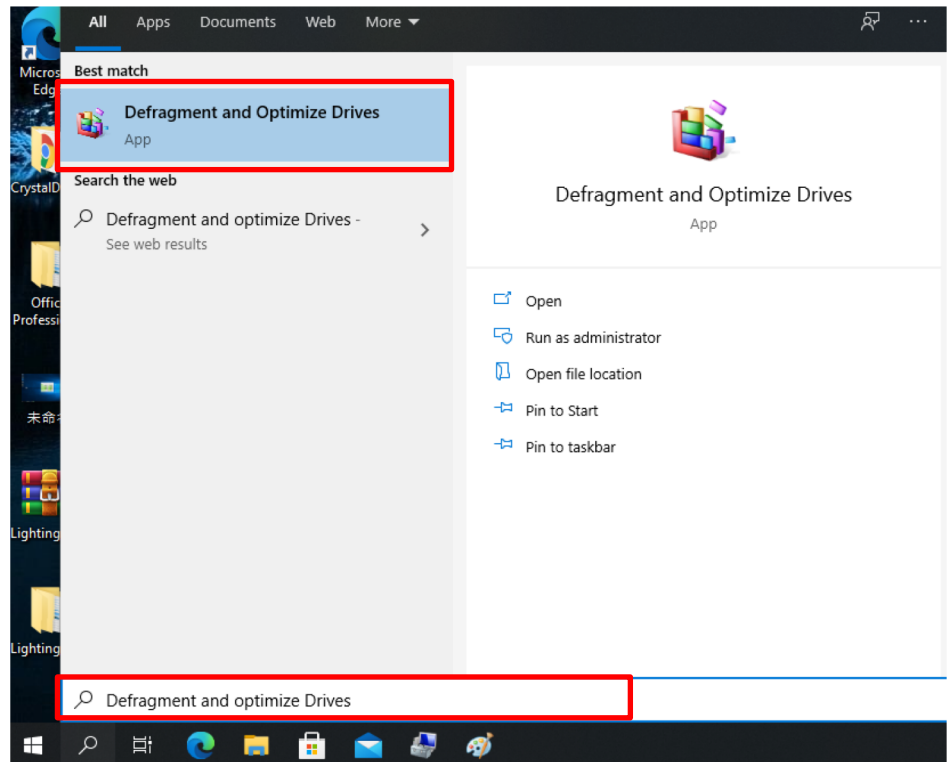
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• In the Search bar, type **Defragment and Optimize Drives** and you will find **[Defragment and Optimize Drives]** APP and click to open it.
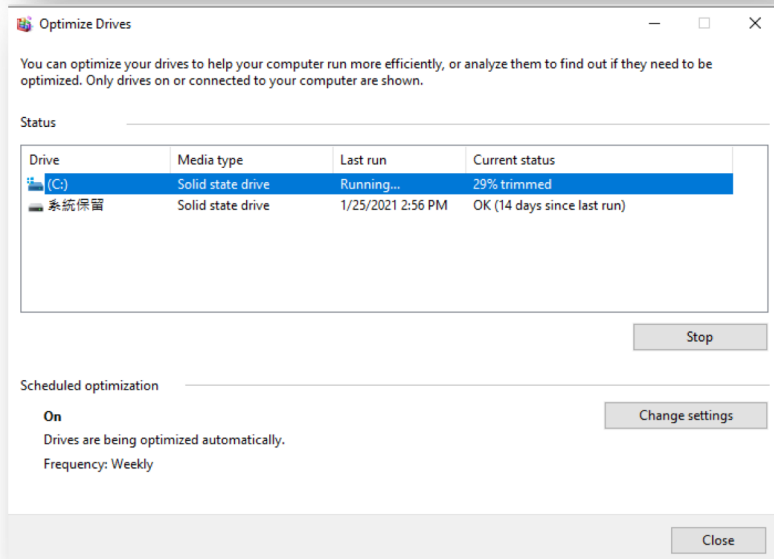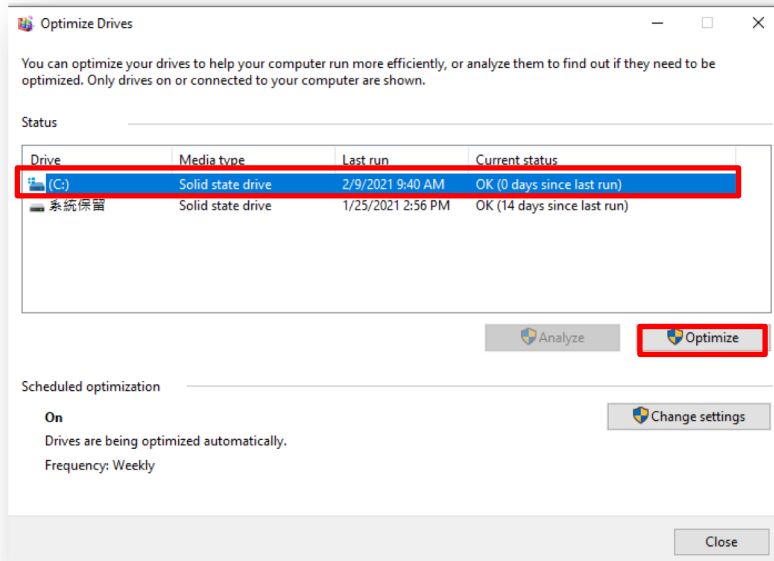
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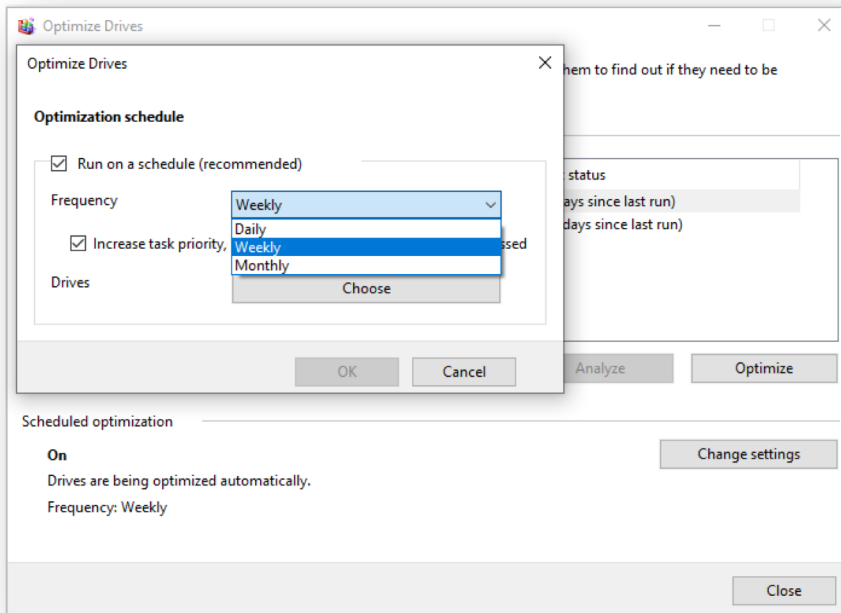
- **Highlight your SSD** and click on **Optimize**

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- You can Set Optimization Schedule and optimize your SSD Automatically.

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