

How to safely partition an SSD on Windows without losing data.

This guide provides detailed instructions on how to partition an SSD hard drive on Windows using Disk Management. The process is simple, safe, and helps you manage your data effectively. Check it out now!

Users who have just bought a new laptop or upgraded their PC often want to reallocate data storage space more efficiently. Keeping the operating system and personal files on the same partition poses a risk of losing important files if the system crashes.

This article from GearVN will guide you on how to partition an SSD directly using the default Windows tool. This process ensures absolute safety and will not affect any existing data on the device.

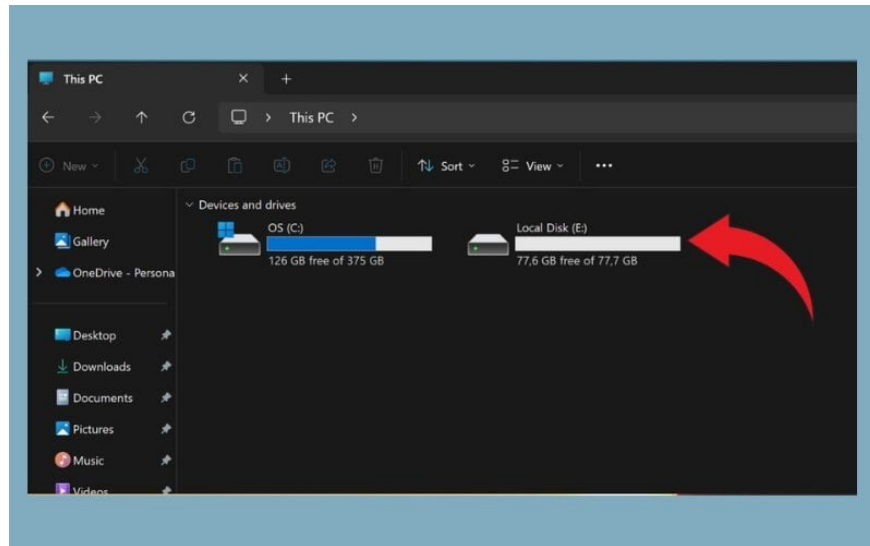
Key points

1. SSD partitioning helps manage data securely, but it's not recommended to partition hard drives with a capacity of 256GB or less to ensure optimal performance.
2. Disk Management is a default Windows tool that allows you to safely and directly partition an SSD drive without losing existing data.
3. Allocate C drive space appropriately according to your needs: 150GB for general users and 250GB or more for professional users.
4. When installing a fresh copy of Windows on a modern computer, the hard drive needs to be formatted using the GPT standard to ensure full compatibility with the modern UEFI system.
5. Always back up important data before partitioning your hard drive, and absolutely do not use the defragmentation feature on SSDs.

1. Should you partition your SSD drive, and what are some technical tips?

Hard drive partitioning is the process of dividing a physical drive into multiple separate data storage areas. Each area operates independently and is recognized by the operating system as a separate drive.

To optimize SSD usage and ensure smooth Windows operation, hard drives with a capacity of 256GB or less should not be partitioned further. This amount of capacity is just enough for the operating system to update and handle virtual memory.



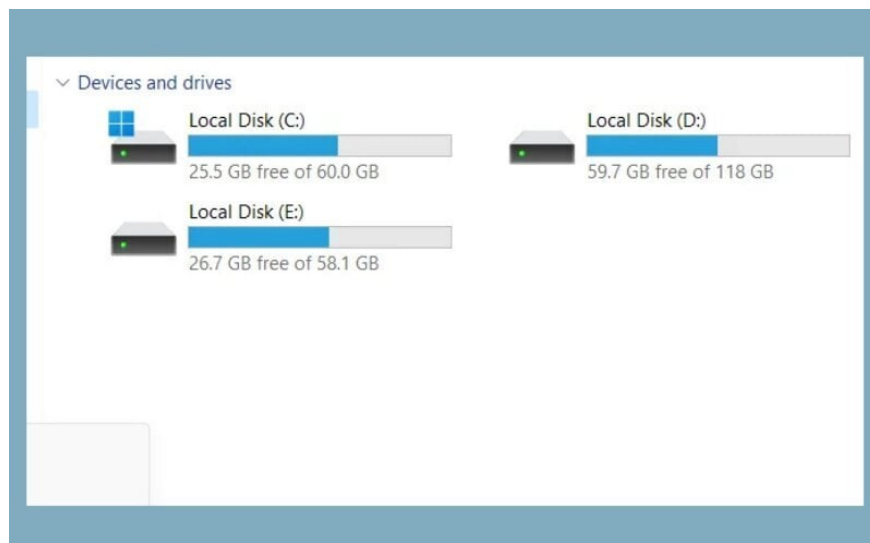
Hard drive partitioning is the process of dividing a physical drive into multiple separate data storage areas.

1.1. Benefits of partitioning an SSD

1. Clearly separate system files (Windows) from personal data (documents, games, images).
2. Ensure data safety on other drives when reinstalling or ghosting Windows is necessary.
3. It helps to make the file management process more organized and easier to search.
4. Supports installing multiple operating systems side-by-side on the same PC or laptop.

1.2. Cases where you shouldn't partition an SSD drive.

1. Do not partition when the SSD has a total capacity of 128GB or 256GB.
2. A shrinking Windows drive (drive C) can cause virtual memory overflow, reducing computer performance.
3. Your computer will display a disk full error, indicating insufficient free space to download the latest Windows updates.

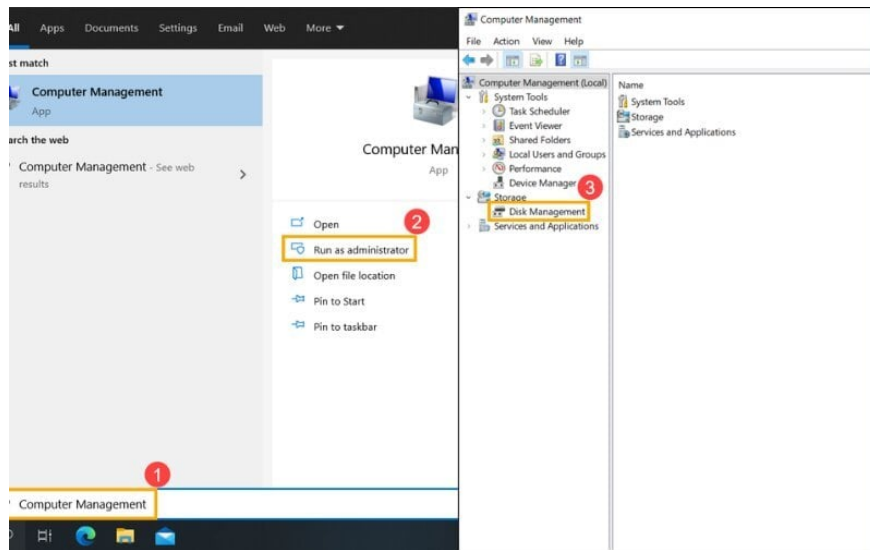


A reduced capacity for the Windows drive (drive C) will decrease computer performance.

2. How to partition an SSD directly on Windows

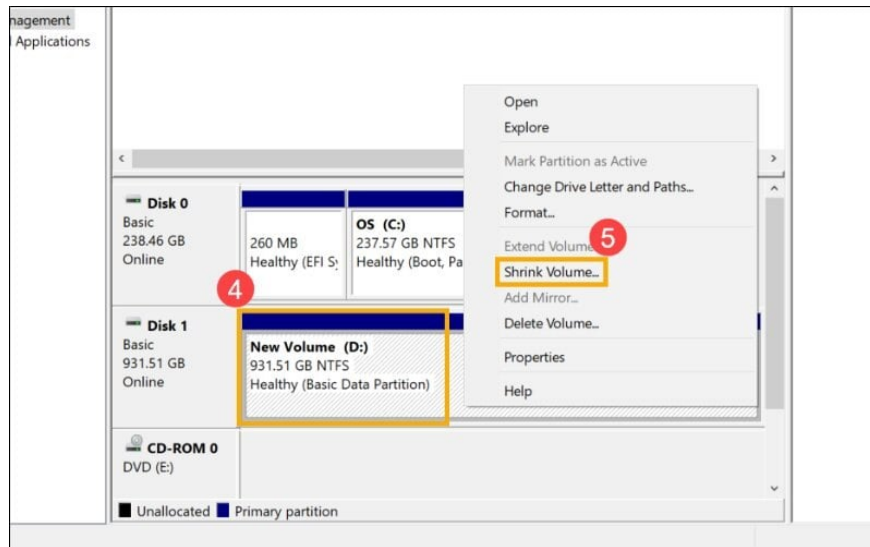
Using the built-in Disk Management tool in Microsoft Windows is the safest method for disk shrinking. This allows users to partition an SSD on Windows 10 without losing data and without needing to download any third-party software.

1. **Step 1:** Type and search for "**Computer Management**" in the Windows search bar , then click "**Run as administrator**". In **Computer Management** , select **Disk Management** .



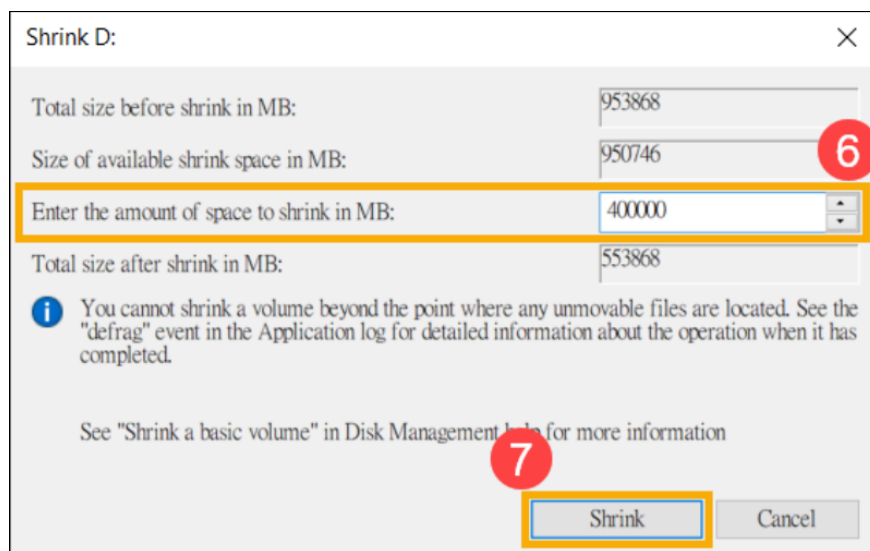
In Computer Management, select Disk Management.

1. **Step 2:** Identify the partition you want to shrink. Right-click on that partition and select the **Shrink Volume** command . The system will take a few seconds to analyze and determine the safe free space that can be separated.



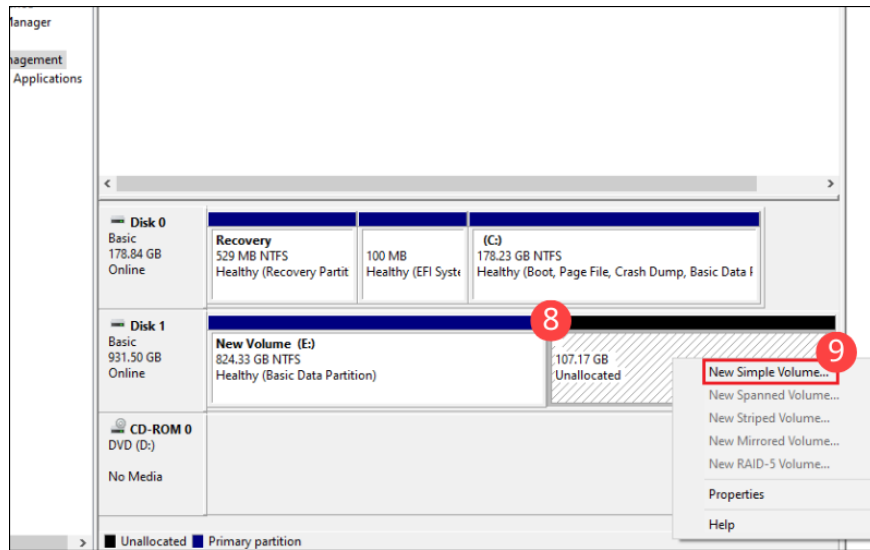
Right-click on the partition you want to shrink and select the Shrink Volume command.

1. **Step 3:** Enter the desired amount of space to shrink in MB in the " **Enter the amount of space to shrink in MB**" box .



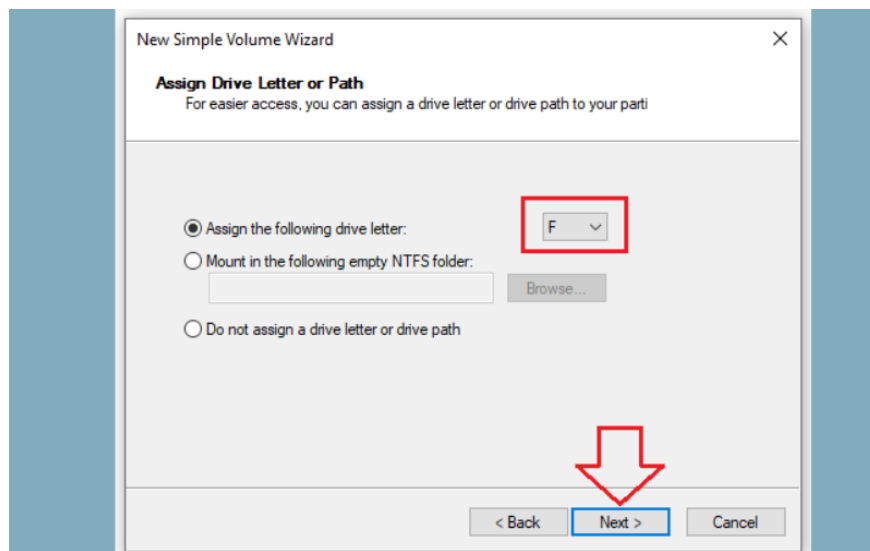
Enter the desired amount of space to shrink in MB in the "Enter the amount of space to shrink in MB" box.

1. **Step 4 :** An empty space with a black border will appear labeled "**Unallocated**". Right-click on this **Unallocated space** and select "**New Simple Volume**", then click **Next** .



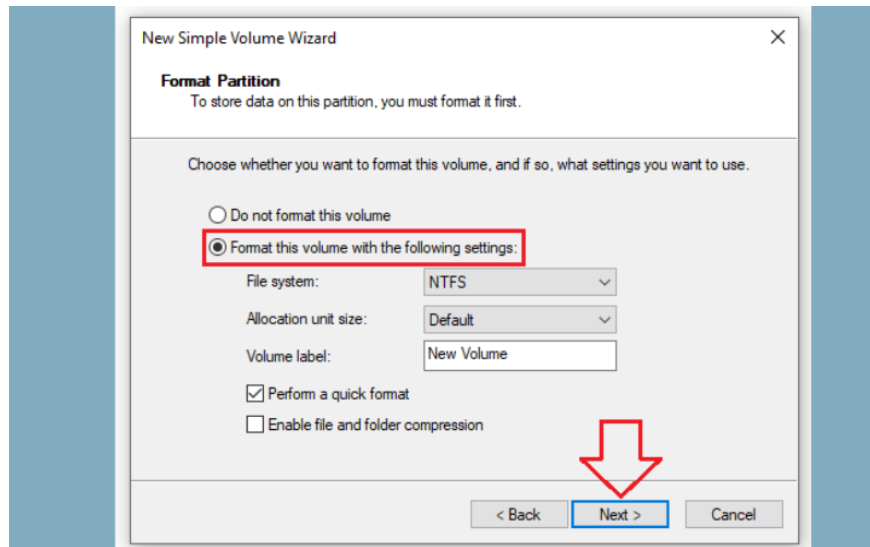
Right-click on this Unallocated space and select New Simple Volume

1. **Step 5:** Choose a drive letter. You can select A, B, C, D, etc., depending on your needs. The drive letter must not be the same as any other existing drives on your computer.



Name the new drive.

1. **Step 6:** In the **File system** section, select **NTFS**. In the **Volume label** section, give the drive a clear and easily identifiable name. Click **Next** and then **Finish** to complete the partitioning process.

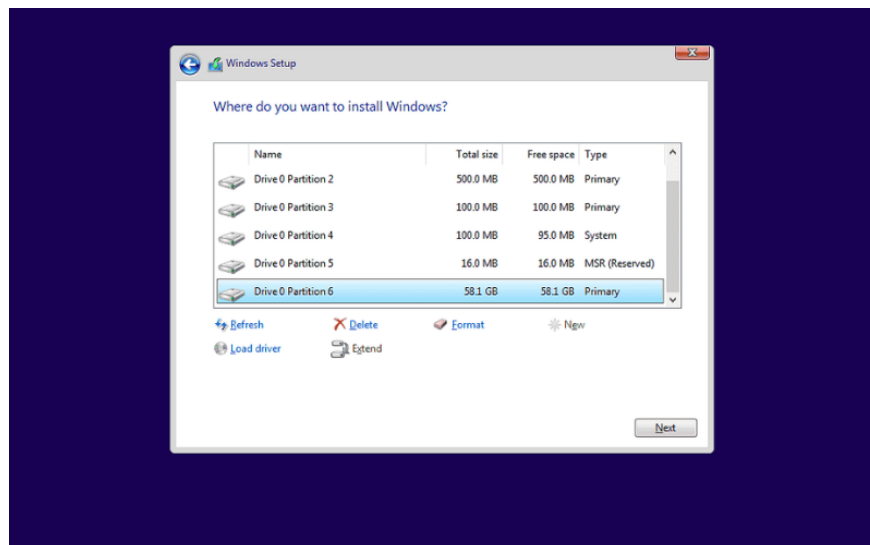


In the File system section, the user selects the NTFS standard.

3. How to partition an SSD hard drive when performing a fresh Windows installation.

For newly purchased laptops or newly assembled PCs, hard drive partitioning is usually done during the Windows installation process. This occurs on the screen that displays the message " **Where do you want to install Windows?**" .

Here, users select the old, unnecessary partitions and press **Delete** to merge them into a single **Unallocated Space** . Then, press **New** , enter the desired amount of space to dedicate to drive C, and select **Apply** .



Partitioning an SSD hard drive during a fresh Windows installation.

An important consideration regarding computer architecture is hard drive format compatibility with the motherboard system (BIOS/UEFI). For newer Hi-End PCs or gaming laptops using the UEFI standard, users are required to format the hard drive to GPT for the system to recognize and boot successfully.

Criteria	MBR standard	GPT standard
Capacity support	Up to 2TB	Up to billions of TB
Number of partitions	Maximum of 4 Primary partitions	Up to 128 partitions
System compatibility	Traditional BIOS (Legacy)	The latest UEFI standard

4. Suggestions for allocating SSD storage according to usage needs.

4.1. For students and general users

Users with a 512GB SSD should only create two basic partitions. The C drive partition needs about 150GB to store Windows, the Office suite, and educational software. The remaining space should be formatted as the D drive for storing documents, images, etc.

4.2. For gamers and experienced players

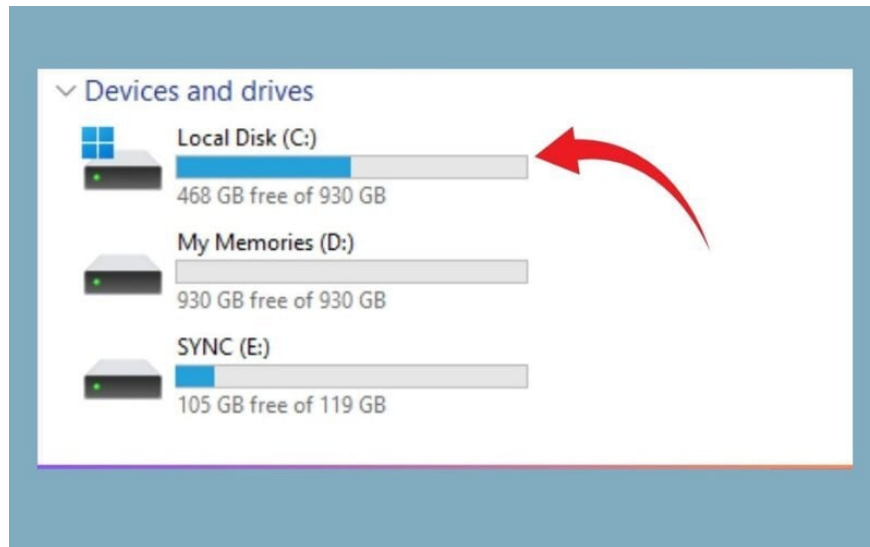
Gamers with 1TB or 2TB SSDs should prioritize partitioning their drives into three separate partitions. The C drive should be set at a minimum of 200GB to accommodate system updates and game launchers.

A 300GB partition is used for installing eSports titles that require fast loading speeds. The other partition serves as storage for personal data and high-end AAA games.

4.3. For programmers and graphic designers

Graphic designers and programmers frequently work with source code and software cache from Adobe, AutoCAD, etc. Therefore, the C drive must have a capacity of 250GB or more, and a high-speed NVMe SSD is preferred.

Project data, render files, or design resource libraries should be stored in a separate partition to avoid system data fragmentation, which can cause lag during work.



Graphic designers and programmers need a C drive with a capacity of 250GB or more.

5. Things to note when partitioning and using an SSD hard drive.

1. **Data backup:** Always copy important files to a USB drive or external hard drive before modifying partitions to prevent the risk of accidental manipulation.
2. **No defragmentation:** Do not use defragmentation for SSDs because continuous write and erase operations will severely reduce the lifespan of the drive.
3. **Be aware of the TBW (Terabytes Written) limit:** Continuously deleting and creating partitions consumes write cycles, degrades SSD read and write speeds over time.
4. **Ensure sufficient free space:** Always keep at least 15-20% free space on your C drive to maintain optimal Windows performance.



Copy important files to a USB drive before modifying the partition.

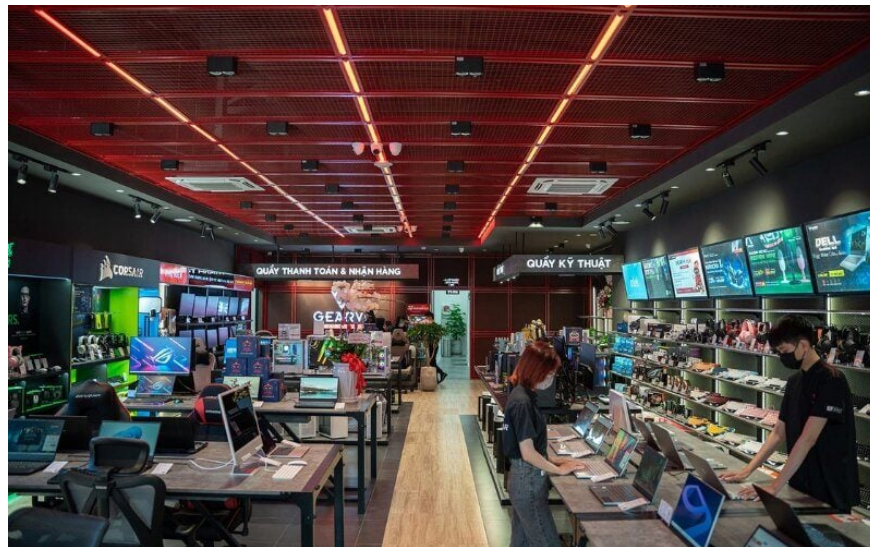
6. Buy and upgrade genuine SSDs at GearVN.

GearVN specializes in providing high-end PCs, laptops , computer components (RAM , CPU, SSD, etc.), and gaming equipment (monitors , headphones, keyboards, mice, etc.) to meet all the needs of gamers and technology users. In particular, GearVN is also known for the following features:

1. **Diverse products and optimized configurations:** GearVN offers countless options from major brands such as Samsung, Kingston, Western Digital, Corsair, and Crucial. All products are carefully selected.
2. **Competitive pricing and numerous promotions:** GearVN regularly runs attractive promotions and discounts on special occasions. You can easily own your desired SSD at the best price, along with attractive gifts or flexible installment payment options.
3. **Reliable warranty and after-sales service policy:** When shopping at GearVN, you can rest assured with our clear warranty policy and dedicated technical support team. Our experienced specialists are always ready to advise you on choosing the right product and answer any questions you may have during use.
4. **Convenient shopping experience:** Whether you want to experience our products in person at our showrooms or shop online through our website with fast delivery service, GearVN offers maximum convenience.

GearVN Contact Information

1. **Hotline:** 1900.5301
2. **Website:** gearvn.com



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7. Frequently Asked Questions about SSD Partitioning

7.1. Will partitioning an SSD slow down the computer or reduce its lifespan?

Partitioning does not reduce the inherent fast access speed of SSD technology. However, if users format, create, and delete partitions too many times, the total write capacity (TBW) will be depleted, thereby affecting the physical lifespan of the memory chip.

7.2. Why is the Shrink Volume displayed smaller than it actually is?

When using the Shrink Volume command, the amount of space that can be freed up is often smaller than the actual free space due to system files that cannot be moved. Typical examples include virtual memory files (Pagefiles), hibernation features, and System Protection files protected by the Windows Registry.

7.3. What to do if you accidentally delete a data partition?

As soon as accidental deletion is detected, users should stop writing any new data to the drive. Take the device to a showroom or professional data recovery center so that technicians can use specialized software to scan and restore the partition structure in the safest way possible.

See more:

1. How to transfer Windows from HDD to SSD without losing data (detailed guide)
2. Causes and effective solutions for SSD formatting errors.
3. Computer not recognizing SSD? Quick fix guide.

Hopefully, the above article has provided you with useful information on how to partition an SSD hard drive on Windows. If you encounter difficulties during the setup process or need to upgrade your storage device, please bring your computer to the nearest GearVN showroom for professional support.

You finished reading the article "**How to safely partition an SSD on Windows without losing data.**" edited by the [TipsMake](#) team. We hope this article has provided you with many useful tech tips and tricks. You can search for similar articles on tips and guides. Thank you for reading and for following us regularly.