8 effective ways to check your hard drive to periodically check the health of your hard drive

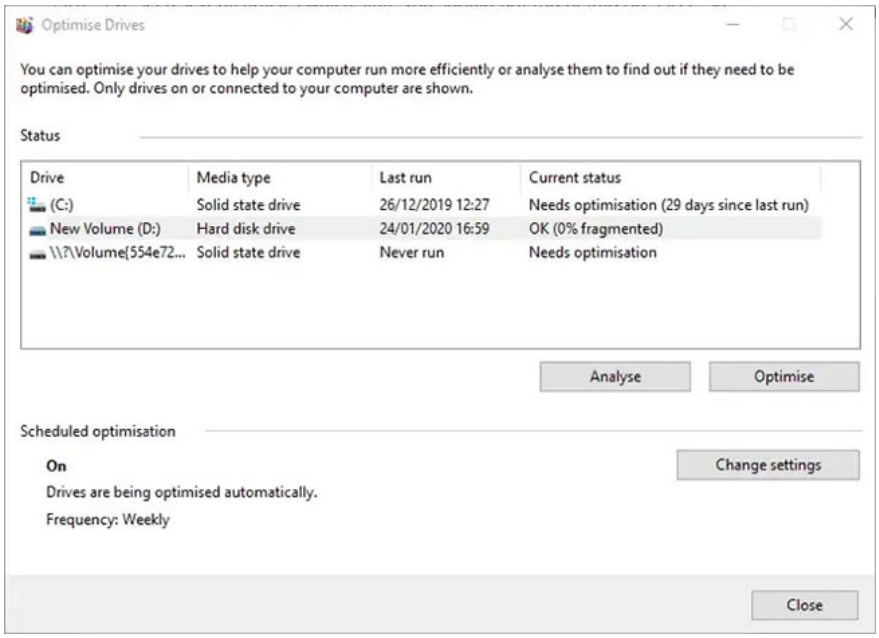
The following ways will help you check the hard drive and evaluate the current operating status of the hard drive on the computer you are using. From there, detect instabilities early to take timely measures to avoid hard drive failure and data loss.

The hard drive is where the computer's data is stored. To evaluate durability and operating status, we will use the SMART system (Self-Monitoring, Analysis, and Reporting Technology). However, Windows does not allow users to easily find and understand this important parameter.

Therefore, TipsMake will introduce you to the following ways to check the hard drive and evaluate the current operating status of the hard drive on the computer you are using. From there, detect instabilities early to take timely measures to avoid hard drive failure and data loss.

1. Optimize and defragment in Windows 10

Traditional SATA hard drives have been gradually overtaken by much faster SSDs, but they are still very popular and are an affordable way to store things like photos, videos and other types of files. too heavy otherwise. SSDs work a little differently, and although they never need defragmentation (because fragmentation is related to where the data is stored on the drive, and that's not a factor to consider on SSDs), sometimes they need to be optimized.



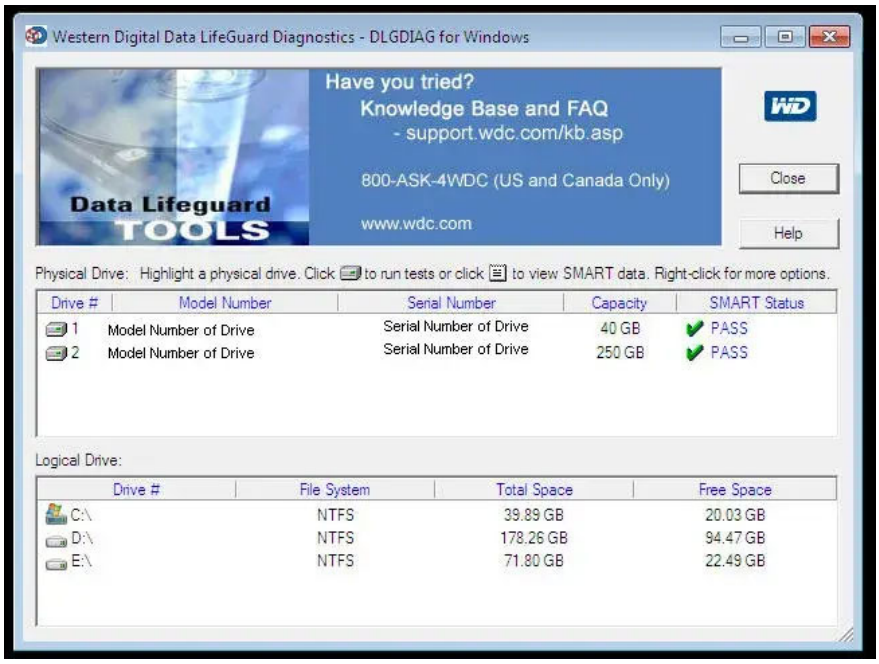
If you feel like your non-SSD hard drive is slow, you should check how fragmented it is. You can do this by using the defragmentation tool built into Windows 10 (type **defrag** into the Start menu, then go to **Defragment and Optimise Drives**), then select the drive and click **Analyze.** If fragmentation is detected, click **Optimise** (formerly known as **Defrag**) for that drive.

The article actually found that the free application Defraggler does a better job of detecting and reducing fragmentation, but not everyone wants to install additional applications when there is similar functionality built right into the operating system. onion.

You can also optimize your SSD on the Windows 10 defrag and optimize tool, although Windows 10 will handle this process automatically.

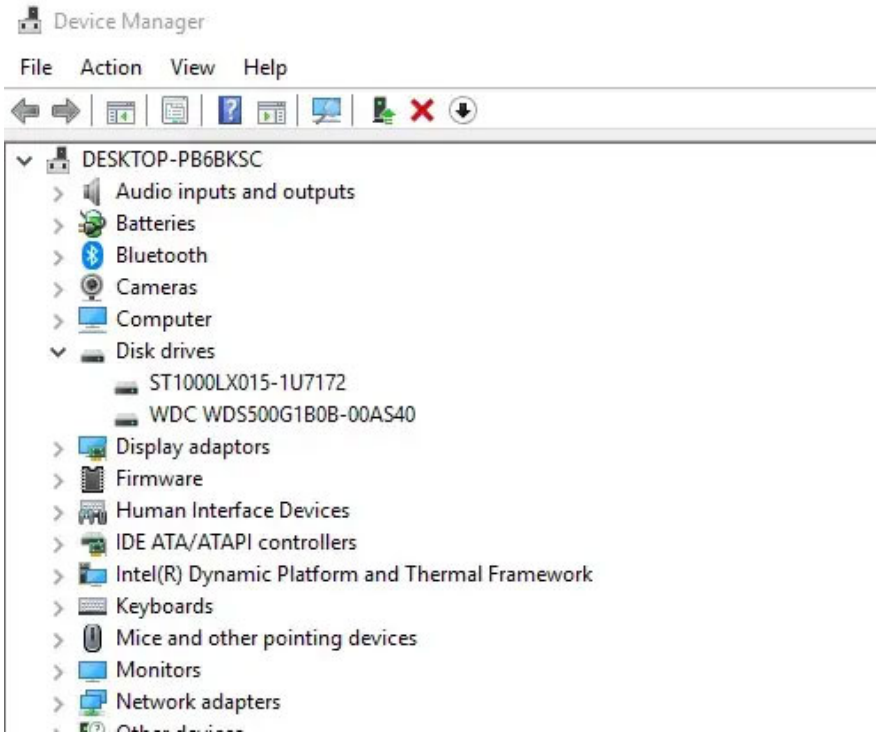
2. Use the HDD manufacturer's tools

Most major hard drive manufacturers offer powerful free tools to monitor hard drive health and performance. The first step in knowing which one to use, of course, is to find the hard drive manufacturer.



If you already know the hard drive manufacturer, you can skip this part. If not, press the key `Win`, type **device manager** and click on it when it appears in the search results.

In Device Manager, unlock the **Disk drives** option and note the hard drive's model number. Next, enter the model number into Google to display results that will show you the hard drive manufacturer name.



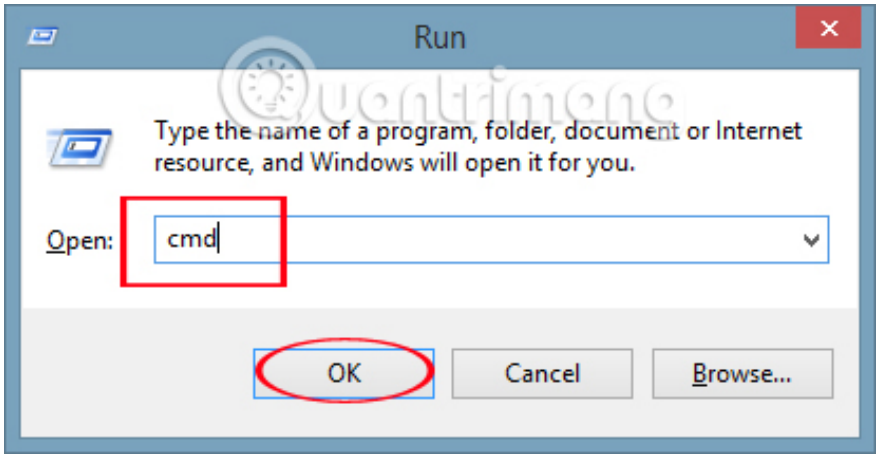
Then, visit the manufacturer's support page and search for their hard drive utility. Here are links to relevant download pages for some of the largest hard drive brands:

Each of these tools works a little differently, but most importantly, each option has diagnostic features, allowing you to check the health of your hard drive.

3. How to check the hard drive using the WMIC command in CMD

WMIC is a command line interface that allows you to perform many administrative tasks, including checking hard drive health. It uses the **SMART** (Self-Monitoring, Analysis and Reporting Technology) feature of the hard disk to view the status and give simple conclusions about the actual condition of the hard drive such as ' **OK** ', ' **Pred Fail** ' , etc. Overall, WMIC is still an extremely basic command and provides quite a bit of information. But in return it gives quick results and is still a built-in feature of Windows.

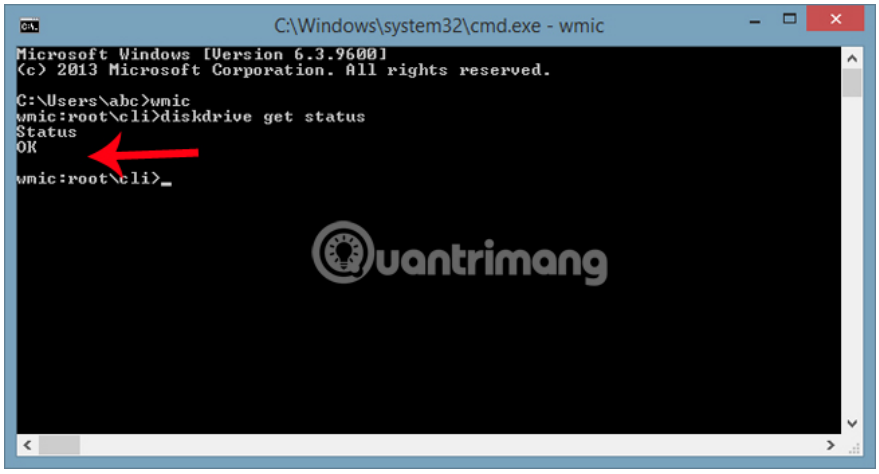
To check the hard drive status using WMIC, first press the **Windows + R key combination to open the Run** window . Next, enter the keyword **cmd** and click **OK** to open the Command Prompt window.



At the Command Prompt window , type the command:

```
wmic diskdrive get model,status
```

The result will return **Pred Fail** if your drive is about to fail or **OK** if it thinks the drive is working fine.



On a Mac, open **Disk Utility** from **/Applications/Utilities/** , click on the drive and look at the SMART Status at the bottom left, which will say **Verified** or **Failing.**

However, this basic SMART information can be misleading. You'll only know when your drive is about to fail, but problems can start happening even when the basic SMART condition is fine. For a closer look, the article recommends downloading CrystalDiskInfo for Windows (free) or DriveDx for macOS ($20 with free trial), both of which will provide more detailed SMART information than what your computer Yours is self-sufficient.

Instead of saying whether the drive is in an **"OK"** or **"Bad"** state , like the built-in tools, CrystalDiskInfo and DriveDx have more intermediate labels, like **Caution** or **Warning, respectively.** These labels apply to hard drives and SSDs that are starting to wear out, but are not yet at the point of complete failure.

For example, the drive in the example had a few bad sectors, some reallocated sectors, and did not encounter any problems (possibly because those bad sectors did not contain any actual data at the time). there). But if just one of those bad sectors is on the file you need, it can be corrupted. So the **Caution** label is usually a good sign that you should back up the drive and think about replacing it soon, even if you haven't had problems yet.

If you want a more accurate, in-depth picture of your drive's health, check the manufacturer's website for a specialized tool. For example, Seagate has SeaTools, Western Digital has Western Digital Dashboard, and Samsung has Samsung Magician for its SSDs.

These tools can sometimes take into account certain technologies specific to their HDDs and SSDs. But for most people, CrystalDiskInfo will give you a suitable recommendation for any drive. More details about this tool will be at the end of the article.

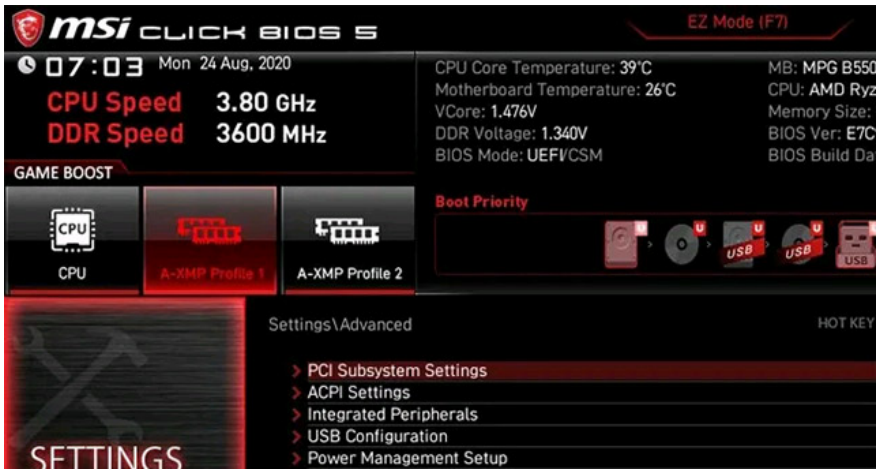
4. Check BIOS

As long as you have a relatively modern motherboard, you can launch the hard drive check process in the BIOS without having to worry about any annoying interference that may originate from the operating system. .

BIOS (short for **Basic Input/Output System** - basic input/output system) is a place that contains many groups of commands stored on a mainboard Firmware chip to help control the basic features of the computer.

To access the BIOS, you will have to use certain key combinations (depending on the mainboard type or model). The most popular BIOS access keys for computers today are **F1, F2, F10, F12, DEL** or **ESC** . To learn how to access specific BIOS for many models, please refer to the article:

Once in the BIOS, exact instructions on how to check hard drive health will depend on your motherboard manufacturer. For example, on this MSI Mortar WiFi B550M board, in the BIOS, you can navigate to ' **Settings -> Advanced -> NVME self-test** ' to check the specific status of your NVMe hard drive.

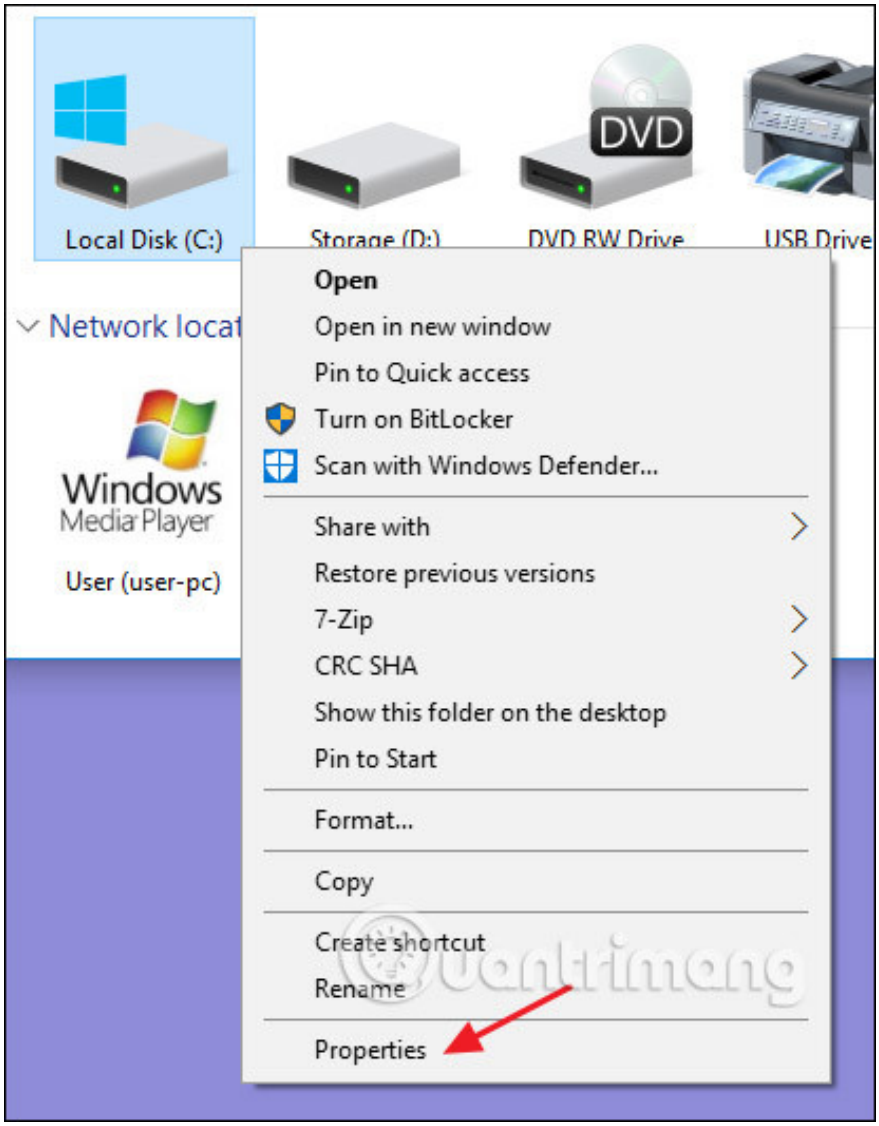


Besides, in the BIOS environment, you can also check whether your hard drive is actually recognized and absolutely compatible by the PC/motherboard.

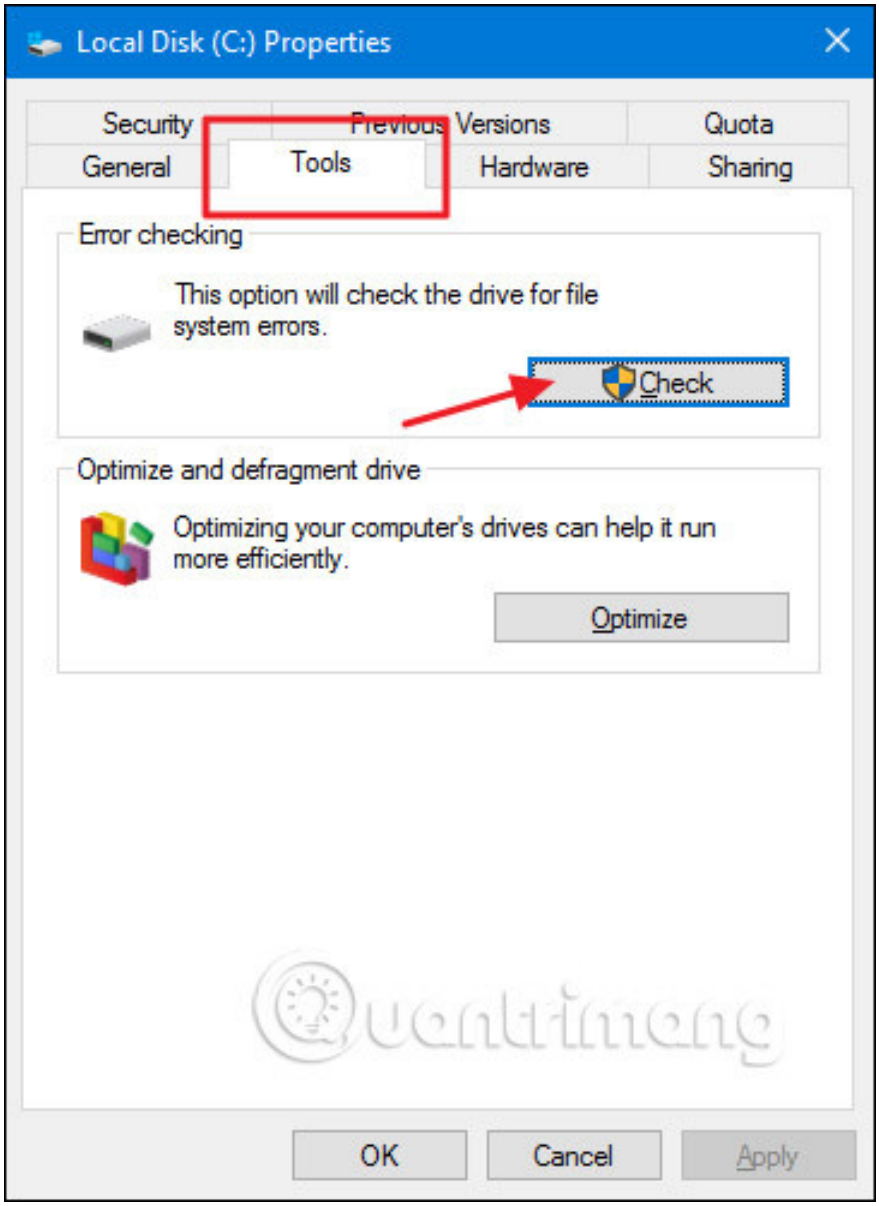
On Dell and HP laptops, you can check the hard drive health by accessing the BIOS and looking for the " **Diagnostics** " option.

5. How to check the drive using tools available on Windows

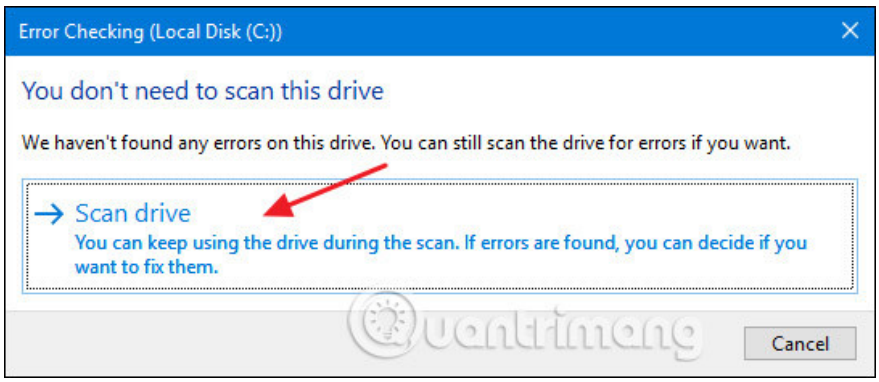
Running the Check Disk tool from the desktop in Windows is easy. In File Explorer, right-click the drive you want to check, then select ' **Properties** '.



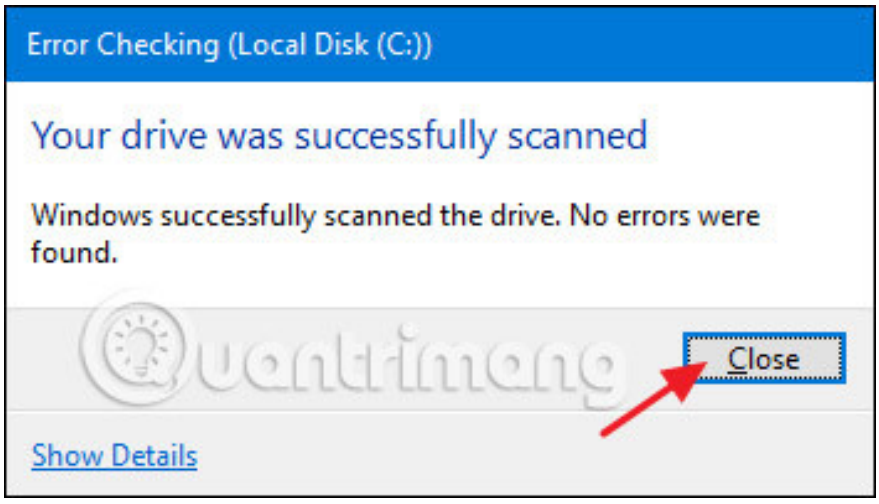
In the Properties window, switch to the **"Tools"** tab and then click the **"Check" button.** In Windows 7, the button is named " **Check now** ".



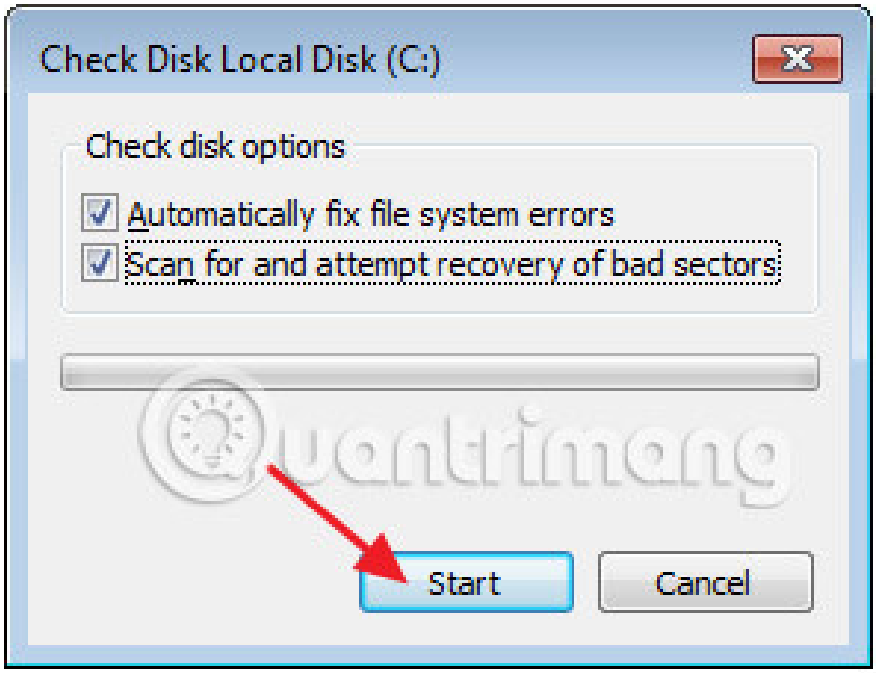
In Windows 8 and 10, Windows may notify you that it did not find any errors on the drive. You can still perform a manual scan by clicking " **Scan drive** ". This will first perform a scan without repair, so it will not restart your PC at this time. If a quick scan of the drive shows any problems, Windows will present that option to you. However, if you want to force chkdsk to work, you will have to use Command Prompt to run chkdsk (read later in the article).



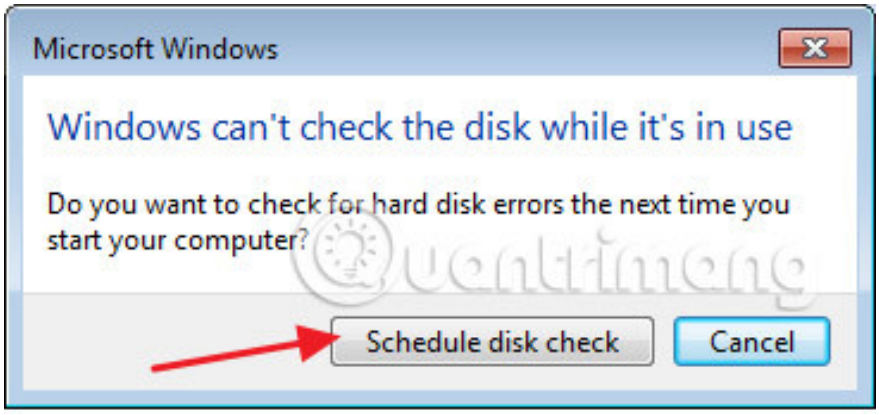
After Windows scans your drive, if no errors are found, you can simply click **'Close'.**



In Windows 7, when you click the ' **Check now** ' button, you will see a dialog box that allows you to choose a few additional options, specifically whether you want to automatically fix file system errors and scan for bad sectors. Are not. If you want to perform the most comprehensive drive check, go ahead and select both options and then click " **Start** ". Just note that if you add a sector scan to the mix, checking the drive can take a long time. It might be something you want to do when you don't need to use your computer for a few hours.



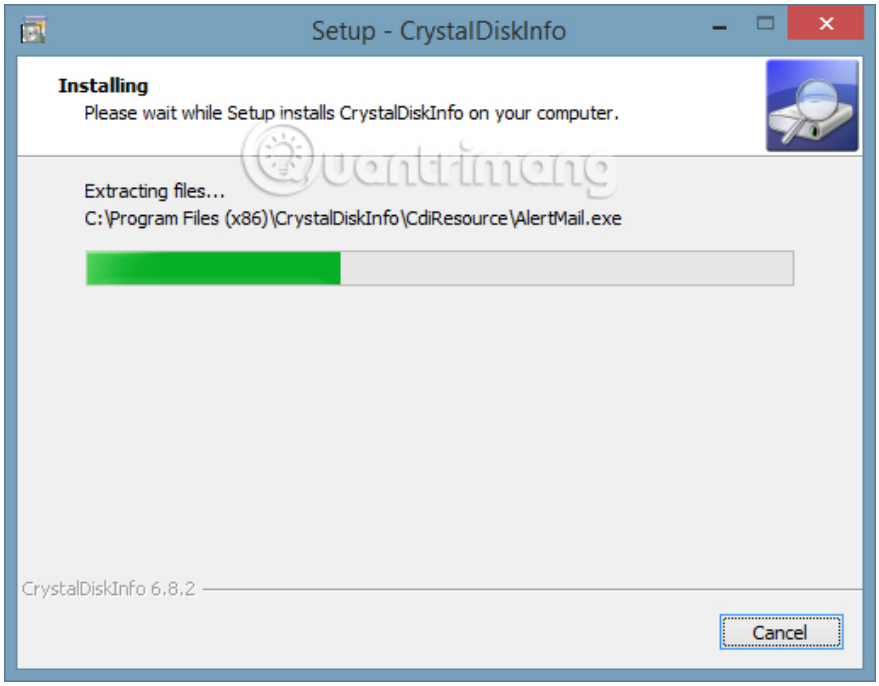
If you choose to repair file system errors or scan bad sectors, Windows will not be able to perform a scan while the drive is in use. If that happens, you'll have the option to cancel the scan or schedule a drive check the next time you restart Windows.



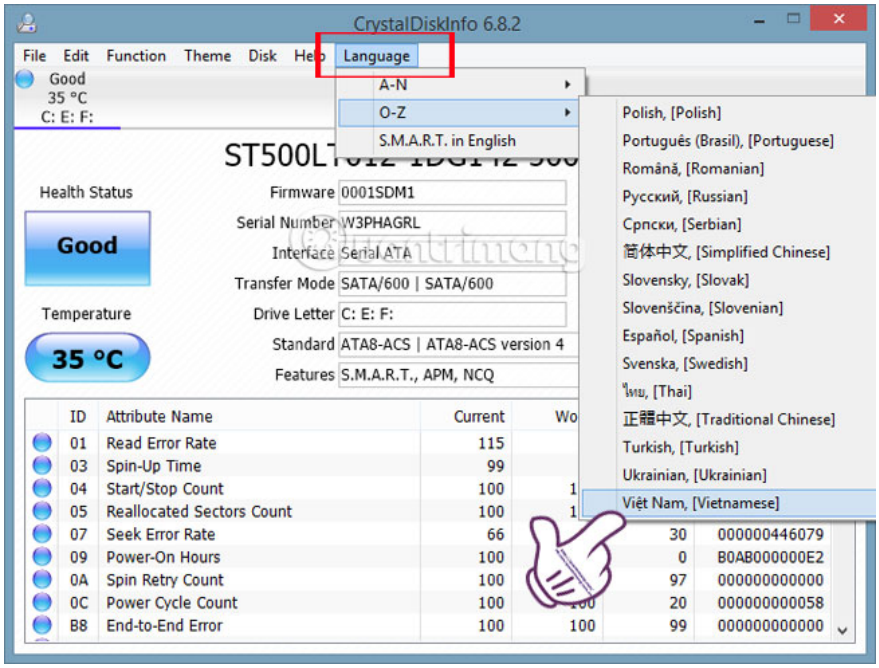
6. Use CrystalDiskInfo software to check the hard drive

If you still do not see effective testing when using the above two options, you can use hard drive health testing tools such as CrystalDiskInfo, for example.

After successfully downloading the software on the computer, we proceed to install the program.

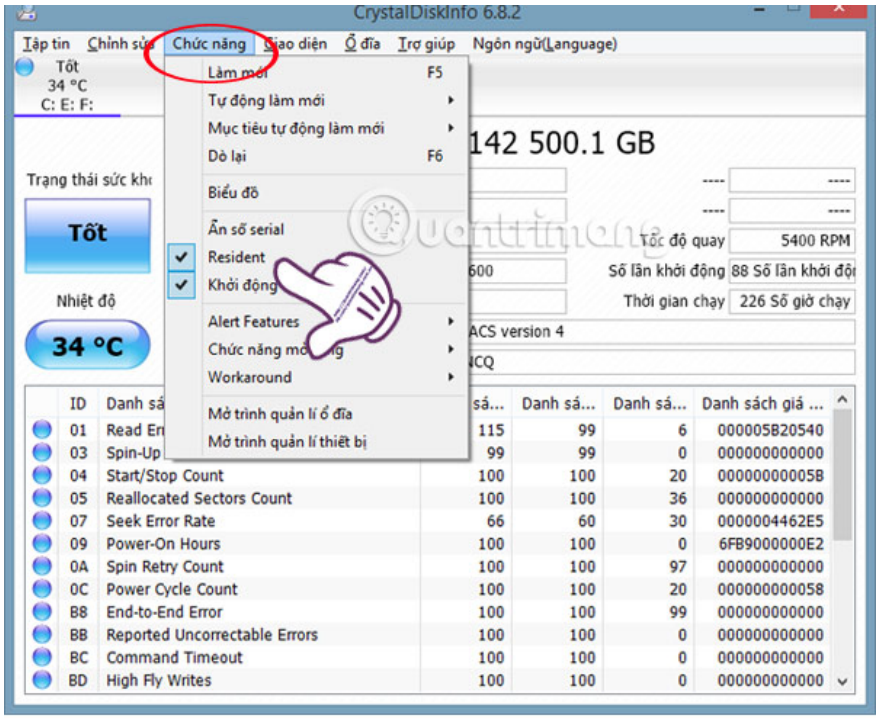


Immediately after that, the software will check the health of the hard drive in the computer. You will see, the program's interface provides complete information, such as hard drive name, capacity, temperature, etc. If the interface you are using is in English, click on the **Language** section above. and select Vietnamese for ease of use.



From what CrystalDiskInfo software provides to users, you can identify errors related to the hard drive to get timely error correction solutions.

To keep the software running in **the background** , click on **Function** and then select **Resident** . To start with Windows, we also go to **Function** and select **Startup** .



So after setup, you will see **2 icons of the CrystalDiskInfo taskbar** . We can immediately click on it to check the hard drive and to receive warnings as soon as the hard drive has problems.

Above are 3 methods to help you check the operation of the hard drive on your computer. These 3 ways are quite simple and quick, not too many steps even when installing CrystalDiskInfo software. You should check the hard drive status regularly to be able to know errors and find the fastest way to fix them.

7. How to check SSD hard drive life on Mac OS

The lifespan of an SSD hard drive is a finite number with a certain data cycle, from 10,000 or more. The number of data writing cycles of an SSD hard drive is about a few thousand, but it is not a problem for you to worry about. For example, every day we will write about 100GB of data, then after 10,0000 days we can only write 1PB of data to the SSD. And to check the capacity written to the SSD is also very simple.

To check the amount of data recorded on the Mac's SSD we will **use the Terminal command** .

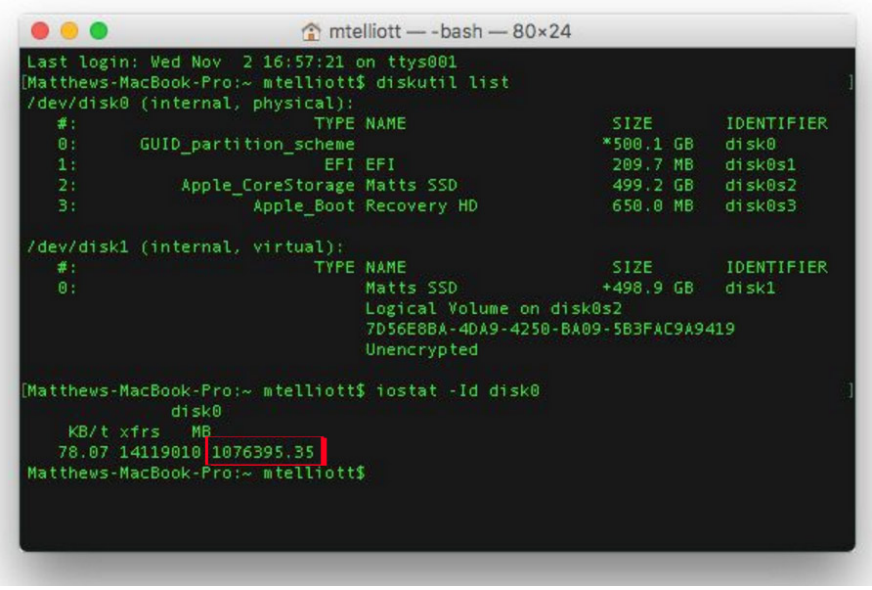
First of all, open Terminal on your computer and enter the **command line diskutil list** . The new list that appears will include drives and virtual disks. We need to find **the actual hard drive** . In the example it will be disk0.

Next, we enter the **command line iostat -Id disk0** . Depending on the serial number of the drive on the computer, the disk0 part can be replaced with another symbol.

In the image below, we will see symbols including:

1. KB/t = ??kilobytes/transmission.
2. xfrs = number of transmissions.
3. MB = number of megabytes transferred.

The MB = part represents **the amount of data recorded on the drive** . And here is 1,076,395.35MB of data recorded on the SSD, about more than 1TB of data.



8. Check lifespan on Windows SSD

Monitoring the health of your storage drives is an important task, especially if you don't want to replace them frequently. What's more, being aware of certain problems before they happen means you'll never have to worry about losing large amounts of important data.

Just like checking hard drive health that we introduced above, to check the lifespan and amount of data recorded on a Windows SSD, we can also use CrystalDiskInfo software.

CrystalDiskInfo is an application designed to help you keep your PC's hard drive healthy. CrystalDiskInfo is a handy utility developed to help you monitor your HDD or SSD easily. It can monitor SMART values ??and supports USB HDD, RAID and NVMe.

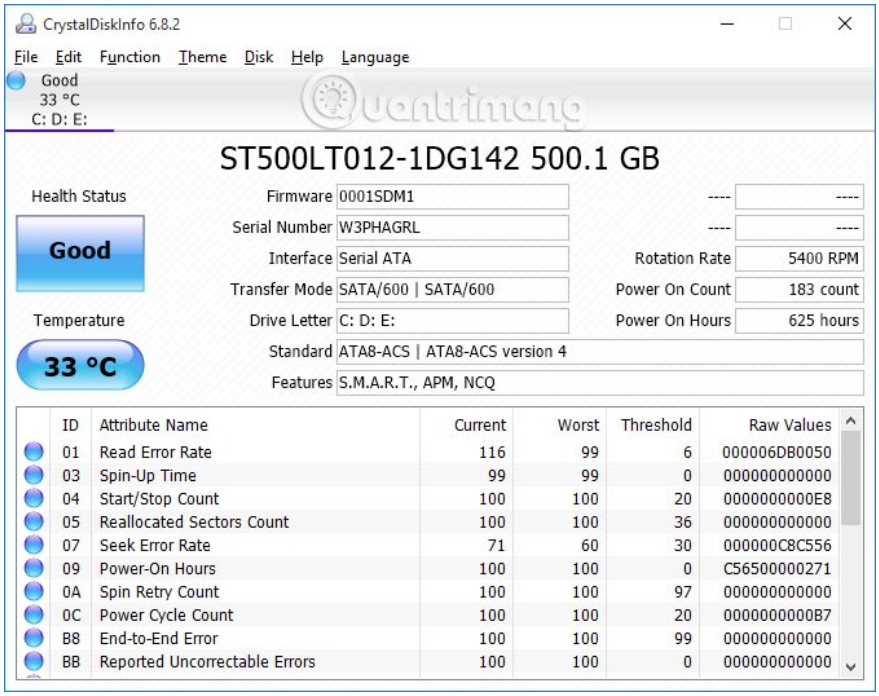
The program supports SMART technology, which helps you detect and prevent future drive failures so you can take timely action before data loss becomes inevitable.

CrystalDiskInfo shows you all kinds of detailed information about the hard drive, from the brand and model to the buffer and cache sizes, serial numbers or even the firmware it uses. The program uses a color scheme to warn you about the critical level of the drive's state, so if you notice that the temperature or some specific actions exceed the limits you consider appropriate, it can It's time to start making proper backups.

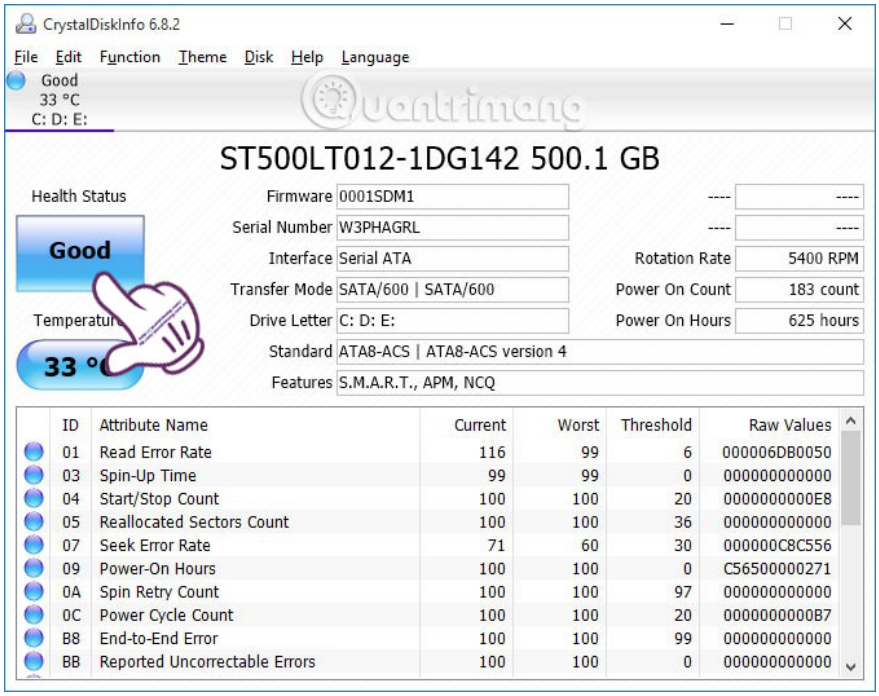
***System requirements when using CrystalDiskInfo**

1. Operating system: Windows 10, 8.1, 8, 7, Vista, XP, Windows Server 2019, 2016, 2012, 2008, 2003
2. Architecture: Supports x86, x64 and ARM64 systems
3. Software: Internet Explorer version 8.0 or higher
4. Other: .NET Framework version 2.0 or higher

CrystalDiskInfo has a very quick installation process on your computer. Below is the interface of **CrystalDiskInfo** after installation is complete.



In the Health **Status** section , the status of the SSD drive will be displayed here. If the message **Good** means the SSD is working well.



So we have completed the steps to check the amount of capacity written to the SSD, as well as check the lifespan of the drive. SSD drives are chosen by many people to store data compared to using HDD drives.

Wishing you success!

Refer to the following articles for more information:

You finished reading the article "**8 effective ways to check your hard drive to periodically check the health of your hard drive**" 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.
