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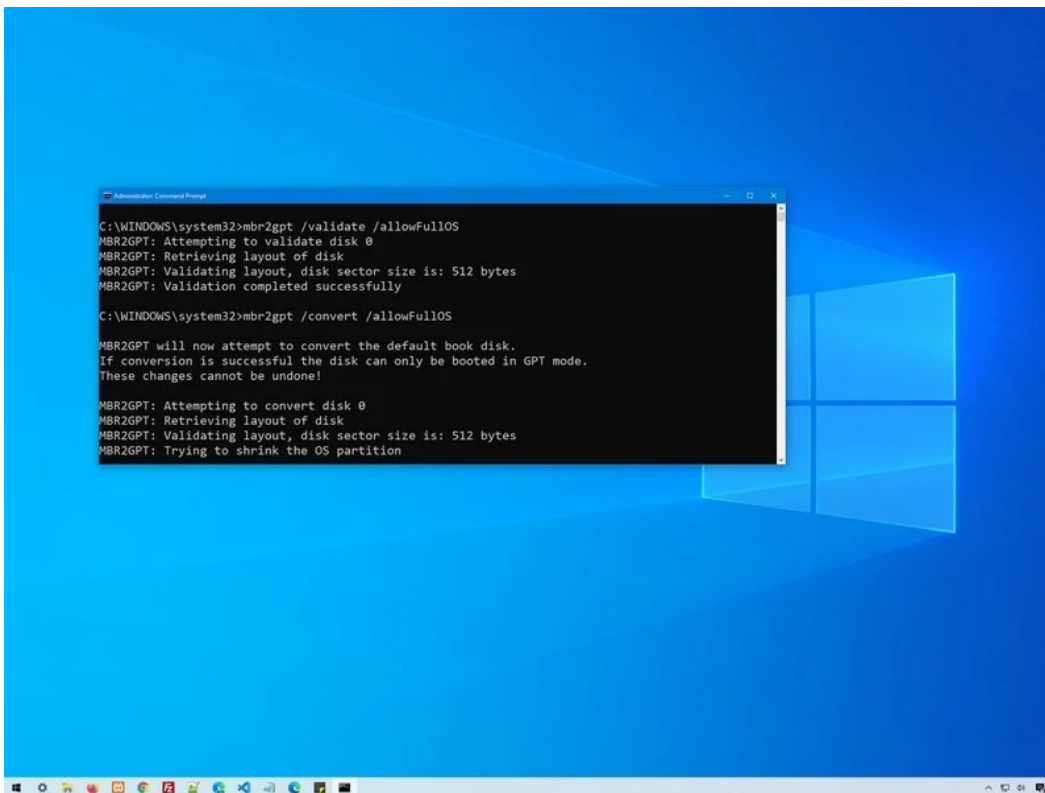
## FIRMWARE SWITCH

# How to convert MBR to GPT drive to switch BIOS to UEFI on Windows 10

UEFI makes your device more secure and faster than the legacy BIOS, and in this guide, we show you how to switch.

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Source: Windows Central

If you plan to upgrade Windows 10 to Windows 11, or want to switch the firmware type from the Basic Input/Output System (BIOS) to Unified Extensible Firmware Interface (UEFI)



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enables the connection between hardware and software. This code has been around for a long time, and while it worked well, it was never designed for modern hardware, and it had many limitations, including limitations to partitions smaller than 2TB.

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**UEFI** is the new firmware that replaces the old BIOS firmware style. It introduces several additional features, including support for partitions larger than 2TB and faster startup, sleep, resume, and shutdown times. Also, it unlocks many of the new security features available on [Windows 11](#) and [Windows 10](#). For example, "Secure Boot" is a feature that can protect a device's startup process from malicious programs, and now it's a prerequisite to install Windows 11. "Device Guard" gives you more advanced controls for app access, and "Credential Guard" can help prevent pass-the-hash attacks.

In this [Windows 10 guide](#), we will walk you through the steps and information you need to know to use the Microsoft MBR2GPT command-line tool to convert a drive from MBR to GPT partition style, to switch from BIOS to UEFI mode on your device, and enable Secure Boot correctly.

- [How to convert a drive from MBR to GPT on Windows 10](#)
- [How to change the firmware mode from BIOS to UEFI](#)

**Warning:** Although this is a non-destructive process, it's still recommended to make a [full backup of your PC](#) before proceeding in the case that something goes wrong and you need to roll back.

## How to convert a drive from MBR to GPT on Windows 10

Unlike previous methods requiring you to back up your data and reinstall Windows, the MBR2GPT tool streamlines the process to change partition styles in minutes. The



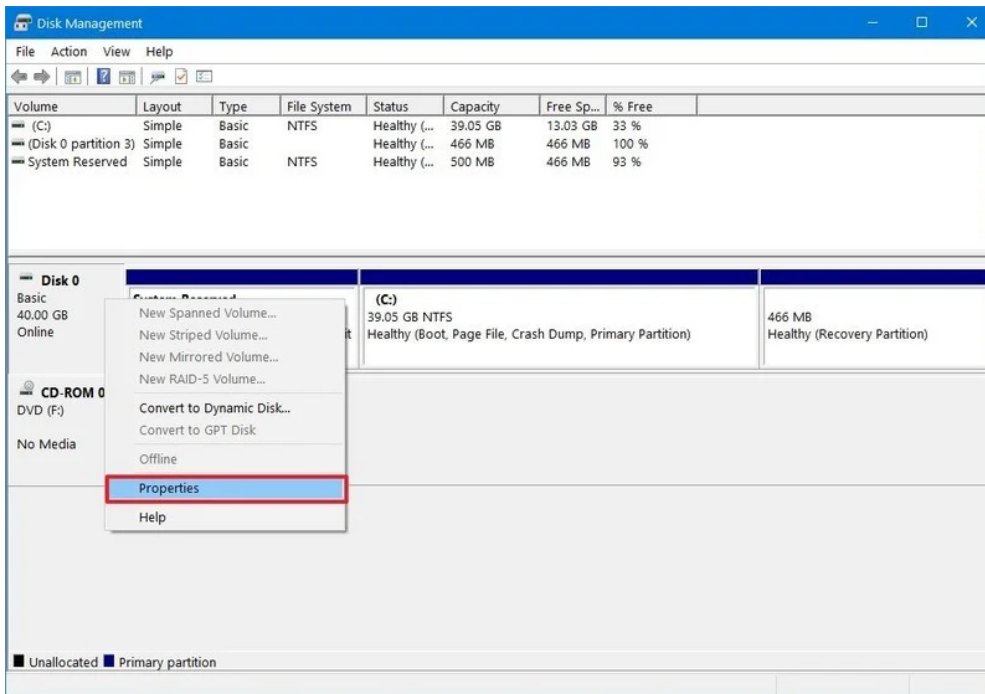
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However, if you upgrade a device running Windows 10 or an older version and supports UEFI, you can convert the drive to change the system firmware settings properly. Otherwise, the device will no longer start correctly.

## Check MBR or GPT partition style

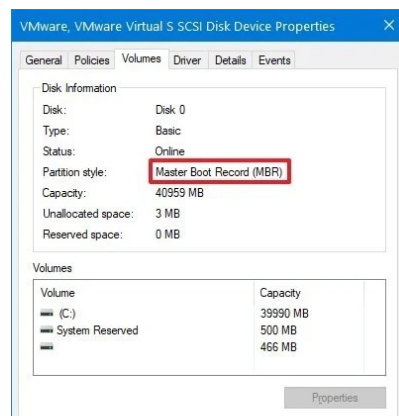
Before modifying the system configuration, you want to check the current settings to see whether the system is set to MBR or GPT using these steps:

1. Open **Start**.
2. Search for **Disk Management** and click the top result to open the experience.
3. Right-click the drive (where Windows 10 is installed) and select the **Properties** option.



Source: Windows Central

4. Click on the **Volumes** tab.
5. Under the "Partition style" field, if the field reads **GUID Partition Table (GPT)**, the drive does not need conversion, but if you see the **Master Boot Record (MBR)** label, you can use the conversion tool to switch.

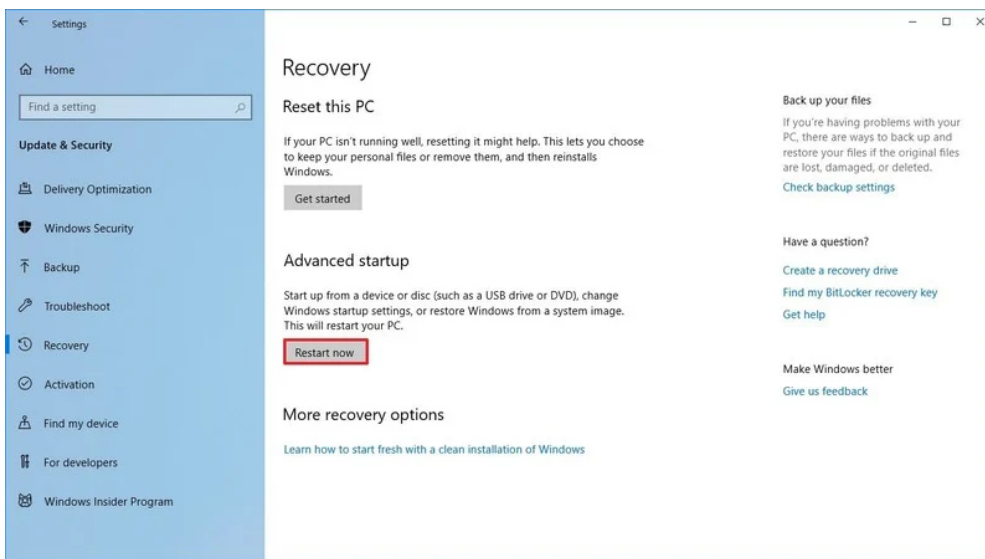


Also, if you need to change the partition, make sure to check your device manufacturer's support website to find out whether the hardware includes support for UEFI before using these instructions.

## Convert MBR to GPT partition style (offline)

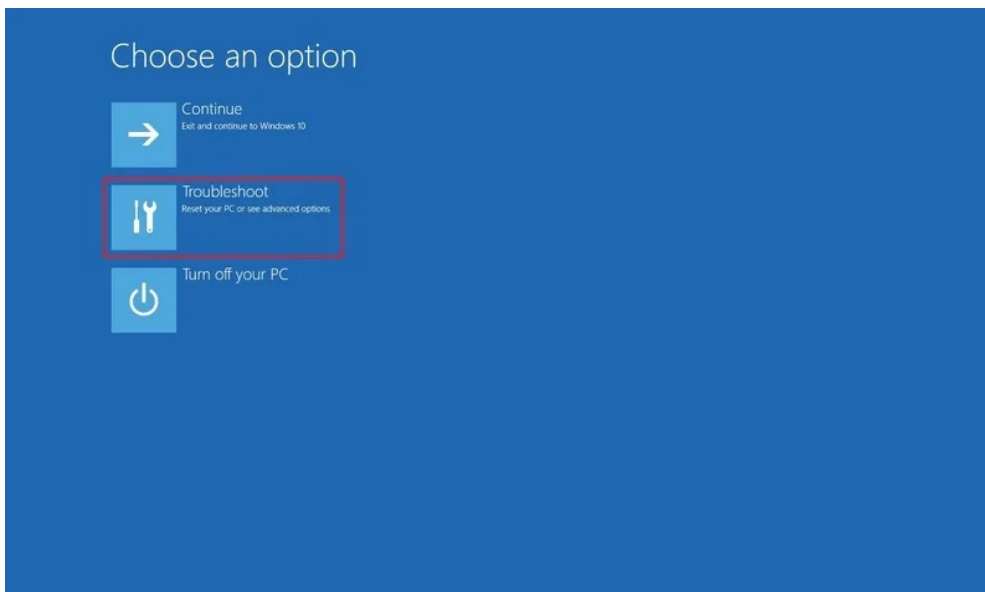
To convert a drive using MBR to GPT on Windows 10, use these steps:

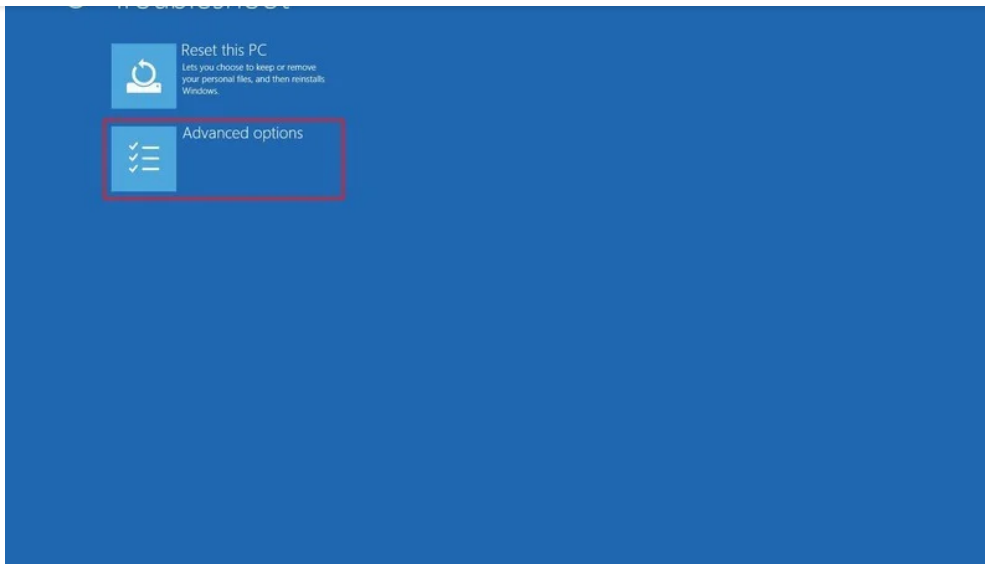
1. Open **Settings**.
2. Click on **Update & Security**.
3. Click on **Recovery**.
4. Under the "Advanced startup" section, click the **Restart now** button.



Source: Windows Central

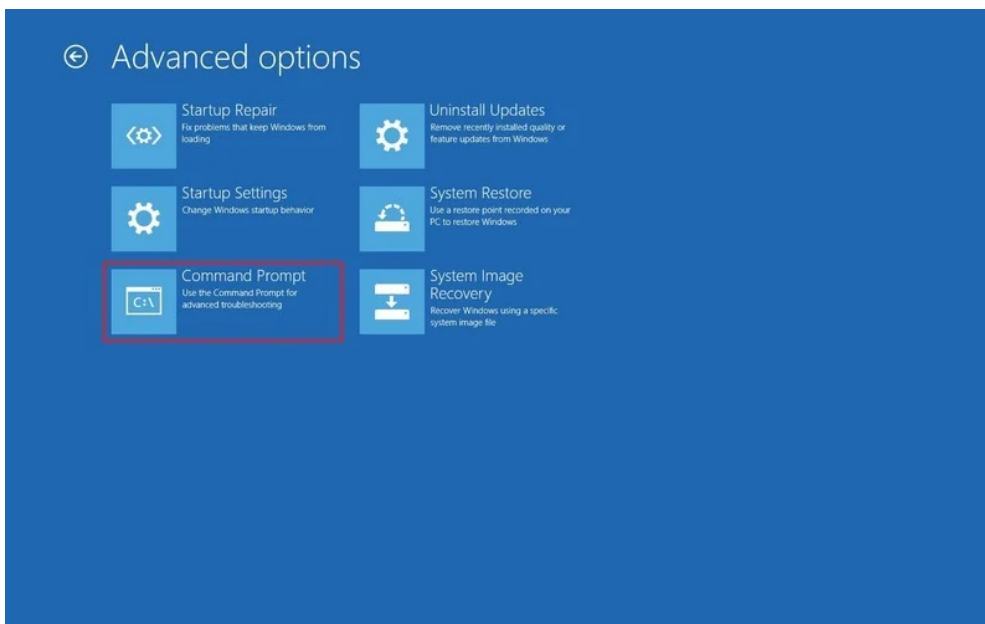
5. Click the **Troubleshoot** option.





Source: Windows Central

7. Click the **Command Prompt** option.



Source: Windows Central

8. Select your administrator account and sign in (if applicable).
9. Type the following command to validate that the drive meets the requirements and press **Enter**:

```
mbr2gpt /validate
```

```
(C) 2018 Microsoft Corporation. All rights reserved.  
X:\windows\system32>mbr2gpt /validate  
MBR2GPT: Attempting to validate disk 0  
MBR2GPT: Retrieving layout of disk  
MBR2GPT: Validating layout, disk sector size is: 512 bytes  
MBR2GPT: Validation completed successfully  
X:\windows\system32>
```

Source: Windows Central

**Quick tip:** The `mbr2gpt.exe` is located in the "System32" folder inside the "Windows" folder. If you want to see all the available options, use the `mbr2gpt /?` command.

10. Type the following command to convert the drive from MBR to GPT and press **Enter**:

```
mbr2gpt /convert
```

```
Administrator: X:\windows\system32\cmd.exe  
X:\windows\system32>mbr2gpt /convert  
MBR2GPT will now attempt to convert the default boot disk.  
If conversion is successful the disk can only be booted in GPT mode.  
These changes cannot be undone!  
MBR2GPT: Attempting to convert disk 0  
MBR2GPT: Retrieving layout of disk  
MBR2GPT: Validating layout, disk sector size is: 512 bytes  
MBR2GPT: Backing up the system partition  
MBR2GPT: Creating the EFI system partition  
MBR2GPT: Installing the new boot files  
MBR2GPT: Performing the layout conversion  
MBR2GPT: Migrating default boot entry  
MBR2GPT: Adding recovery boot entry  
MBR2GPT: Fixing drive letter mapping  
MBR2GPT: Conversion completed successfully  
MBR2GPT: Before the new system can boot properly you need to switch the firmware to boot to UEFI mode!  
X:\windows\system32>
```

Source: Windows Central

11. Click the **Close** button.
12. Click the **Turn off your PC** option.

After you complete the steps, several actions will take place, including validating the drive and creating an EFI system partition (ESP). The UEFI boot files and GPT components will be added to the partition. The MBR2GPT tool will update the Boot Configuration Data (BCD), and the previous letter will be added to the drive.

## Convert MBR to GPT partition style (online)

Whenever possible, it's recommended to use the MBR2GPT tool when Windows is offline to avoid potential problems. However, you can also use it when Windows 10 is fully functional.

To convert a drive from MBR to GPT, use these steps:



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## Administrator Option

3. Type the following command to validate the drive and press **Enter**:

```
mbr2gpt /validate /allowFullOS
```

```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.17763.379]
(c) 2018 Microsoft Corporation. All rights reserved.

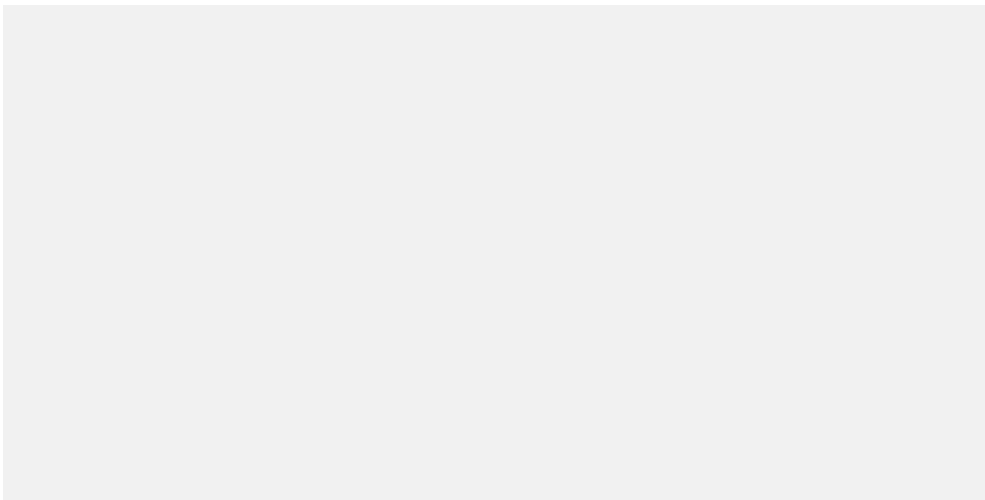
C:\Windows\system32>mbr2gpt /validate /allowFullOS
MBR2GPT: Attempting to validate disk 0
MBR2GPT: Retrieving layout of disk
MBR2GPT: Validating layout, disk sector size is: 512 bytes
MBR2GPT: Validation completed successfully

C:\Windows\system32>
C:\Windows\system32>
```

Source: Windows Central

4. Type the following command to convert the drive to GPT and press **Enter**:

```
mbr2gpt /convert /allowFullOS
```



Source: Windows Central

Once you complete the steps, the command-line tool will shrink the primary partition and switch the drive from MBR to GPT.

### MBR2GPT return codes

If the processes are completed successfully, the return code should be "0," but if the process fails, you may see one of the 11 error codes:

Return code	Description
1	User canceled the conversion.
2	Internal error.
3	Initialization error.
4	Invalid command-line parameters.
5	Error on the geometry and layout of the selected disk.

8	Error while creating the EFI system partition.
9	Error installing boot files.
10	Error while applying GPT layout.
100	Successful conversion, but some boot configuration data didn't restore.

## MBR2GPT important details

The MBR2GPT tool works on a traditional hard drive (HDD), solid-state drive (SSD), and even an M.2 drive with any version of Windows 10, but you must run the tool from a computer running Windows 10, version 1703 or later.

The tool has been designed to convert drives running Windows 8.1, 7, or an older version, but you can upgrade the installation to the latest version of Windows 10 and then use the tool to convert from MBR to GPT.

When dealing with a drive using file encryption with BitLocker, you must first suspend the encryption before following the instructions outlined above.

Finally, while MBR-style drives can have up to four primary partitions, the drive you want to convert can't have more than three partitions because one additional allocation is required to create the UEFI partition.

## How to change the firmware mode from BIOS to UEFI

Once you have converted the drive to a GPT partition style, the device will no longer boot until you access the motherboard's firmware and switch from BIOS to UEFI.

Usually, this process requires hitting one of the function keys (F1, F2, F3, F10, or F12), Esc, or Delete key as soon as you start the computer. The only caveat is that these settings will be different per manufacturer and even by computer model. As a result, make sure to check your device manufacturer's support website for more specific details.

While in the firmware interface, find the "Boot" menu, and enable the UEFI option, save the changes, and then the computer should start correctly.

Also, if you plan to upgrade the device to Windows 11, while in the UEFI settings, open the boot or security settings page, select the "Secure Boot" option and enable it, and exit the firmware saving the changes.

## Check GPT partition style

To verify the computer is using a GPT partition style, use these steps:

1. Open **Start**.
2. Search for **Disk Management** and click the top result to open the experience.
3. Right-click the main drive and select the **Properties** option.



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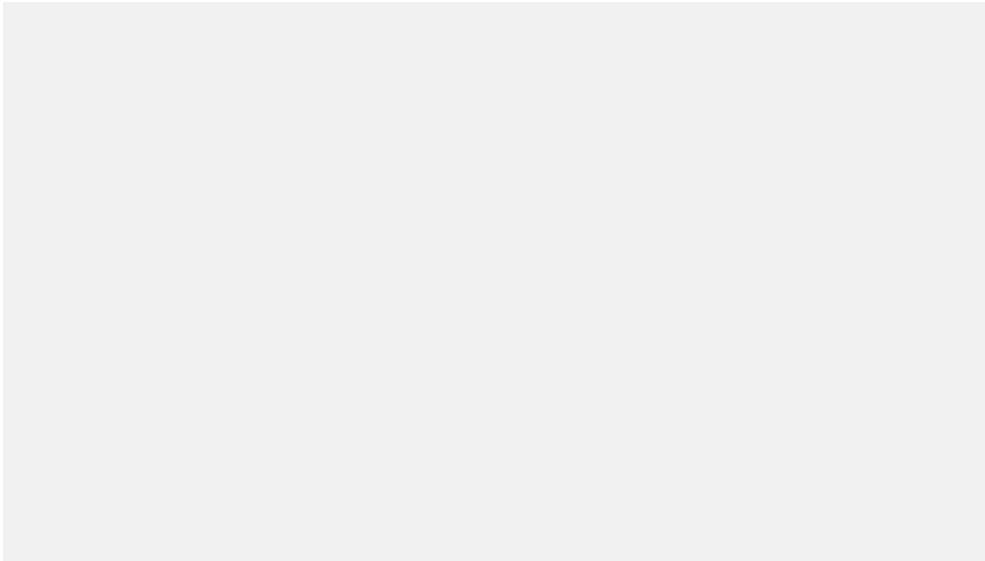


After completing the steps, if the partition is running using the correct partition style, the last thing is to check whether the device is using the UEFI firmware mode.

## Check UEFI firmware

To verify that your computer is using UEFI mode and Secure Boot is enabled, use these steps:

1. Open **Start**.
2. Search for **msinfo32** and click the top result to open the **System Information** app.
3. Click on **System Summary** on the left pane.
4. Check the "BIOS Mode," which now should read **UEFI**.



Source: Windows Central

5. Check the "Secure Boot State" information, which now should read **On**.

Once you complete the steps, if the System Information shows UEFI, you have successfully switched the firmware modes.

## More Windows resources

For more helpful articles, coverage, and answers to common questions about Windows 10 and Windows 11, visit the following resources:

🔖 [Windows 10 on Windows Central — All you need to know](#)

🔖 [Windows 10 help, tips, and tricks](#)

🔖 [Windows 11 on Windows Central — All you need to know](#)

🔖 [Windows 11 help, tips, and tricks](#)

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