



MiniTool Partition Wizard

User Guide

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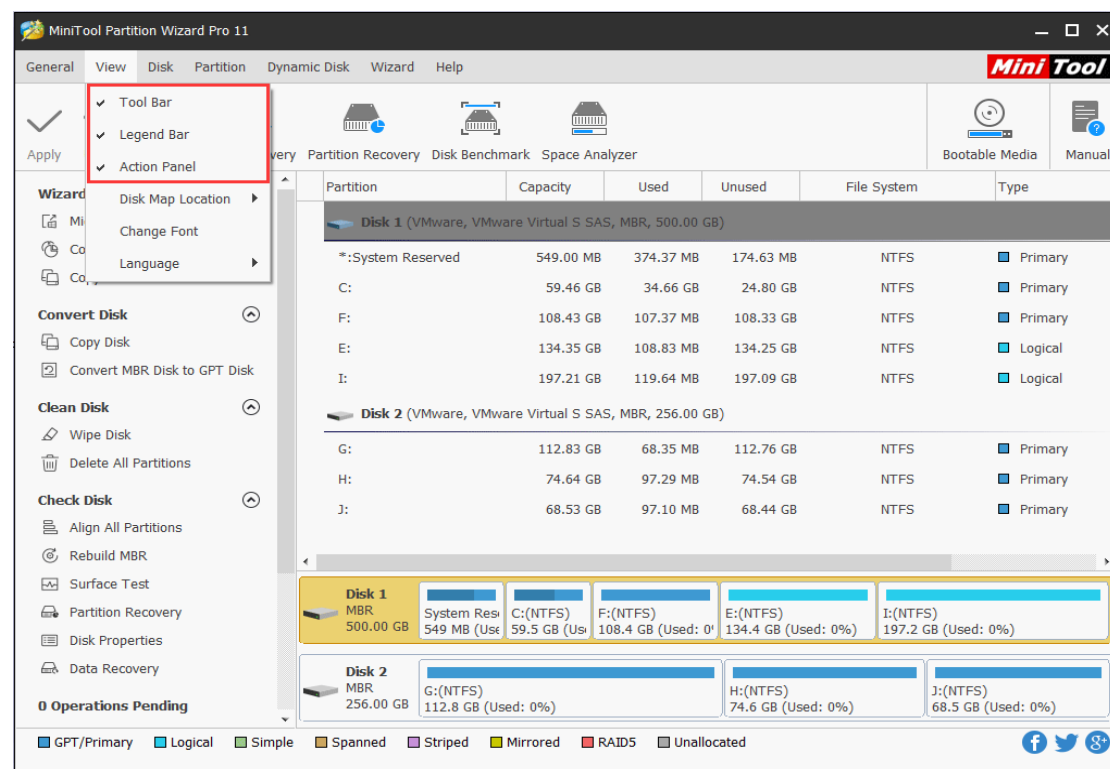
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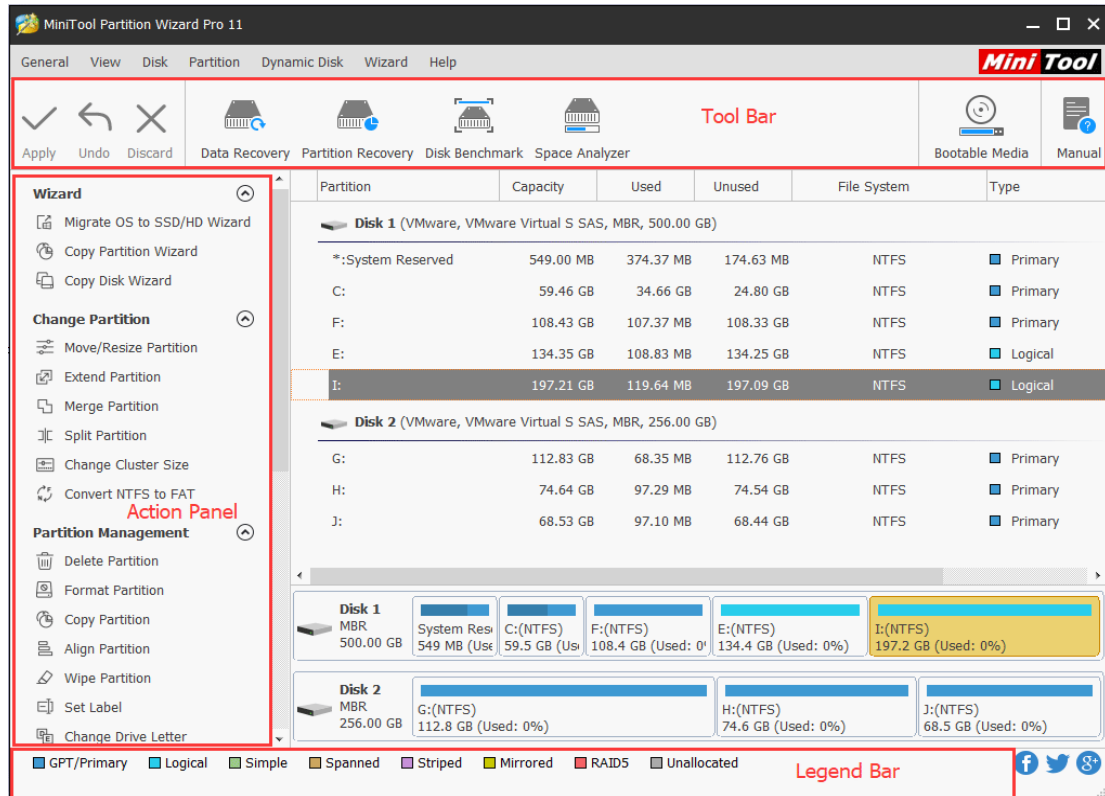
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1. Tool Bar, Legend Bar, Action Panel

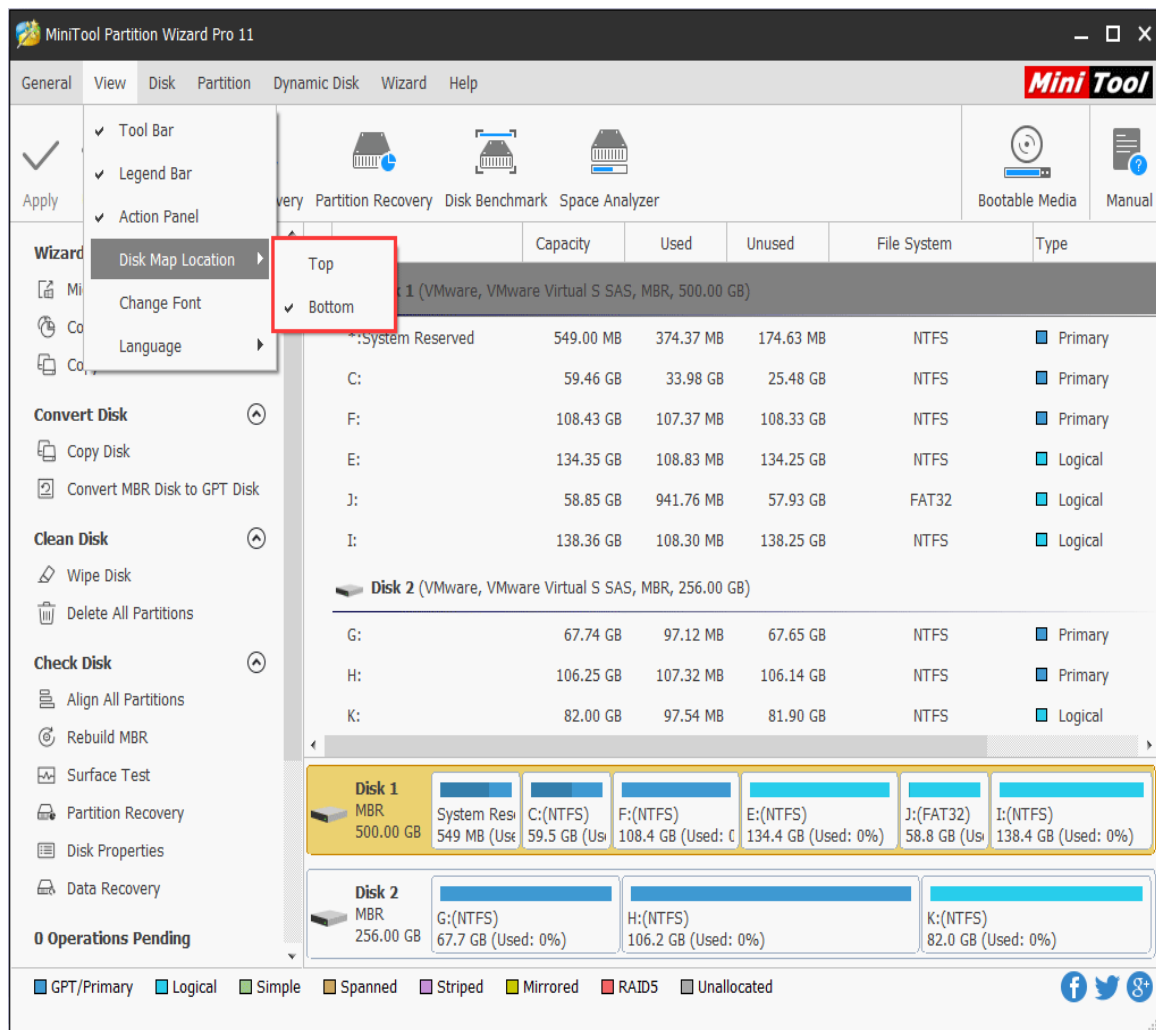
By checking or un-checking Tool Bar, Legend Bar, and Action Panel under **View**, MiniTool Partition Wizard can show or hide these items. If the screen resolution of the computer is low, users can hide them to enlarge the area of Disk/Partition List.



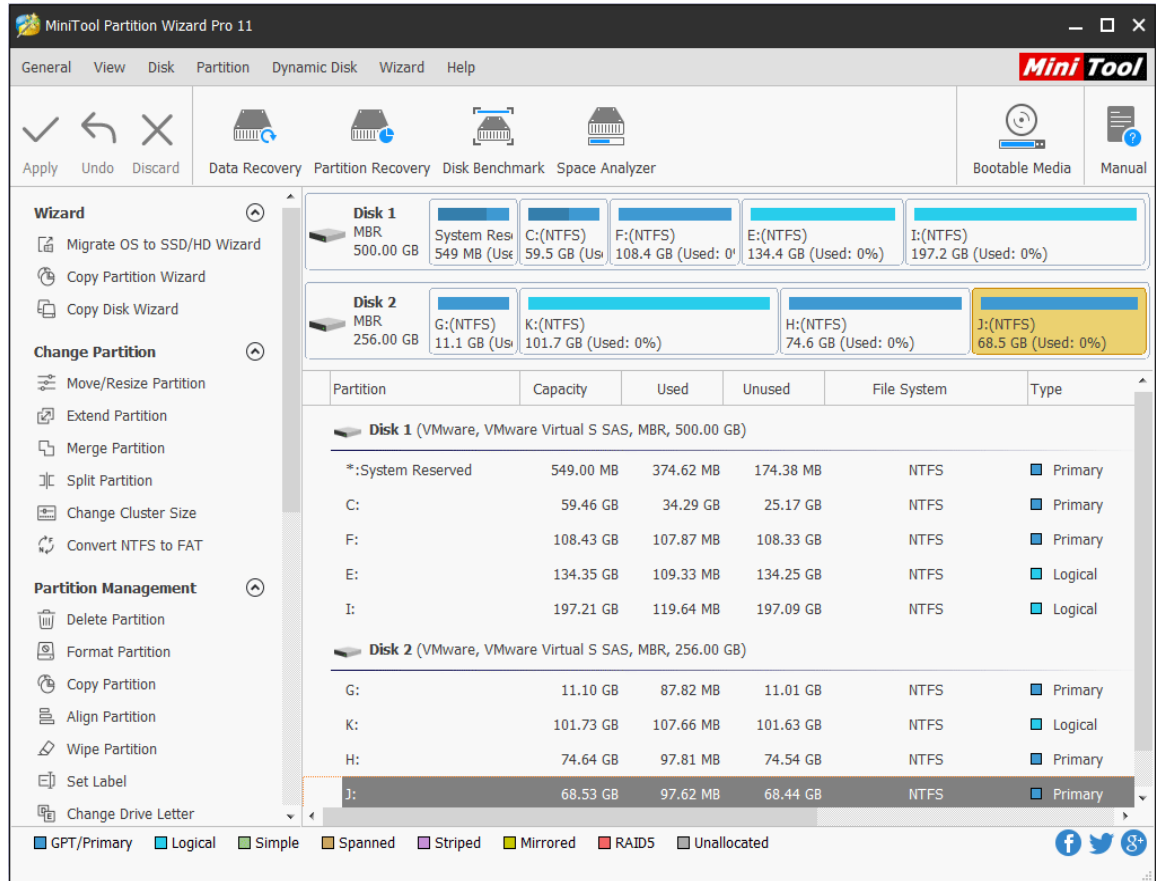


2. Disk Map Location

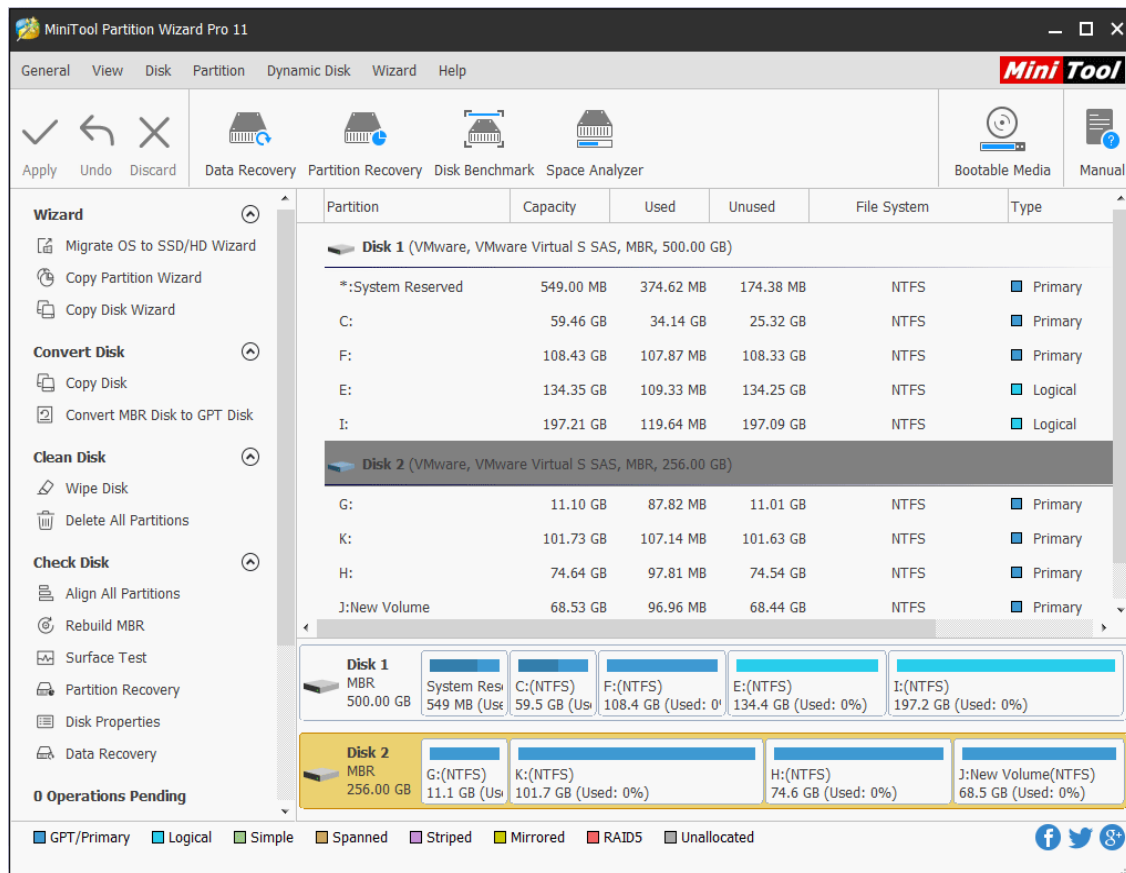
The location of disk map can be changed from the top to the bottom or from the bottom to the top, and users can complete these changes as the following screenshot shows:



If users check **Top** instead of Bottom, the disk map will show as below:



On the contrary, if users choose **Bottom** for disk map location, the disk map will show as below:



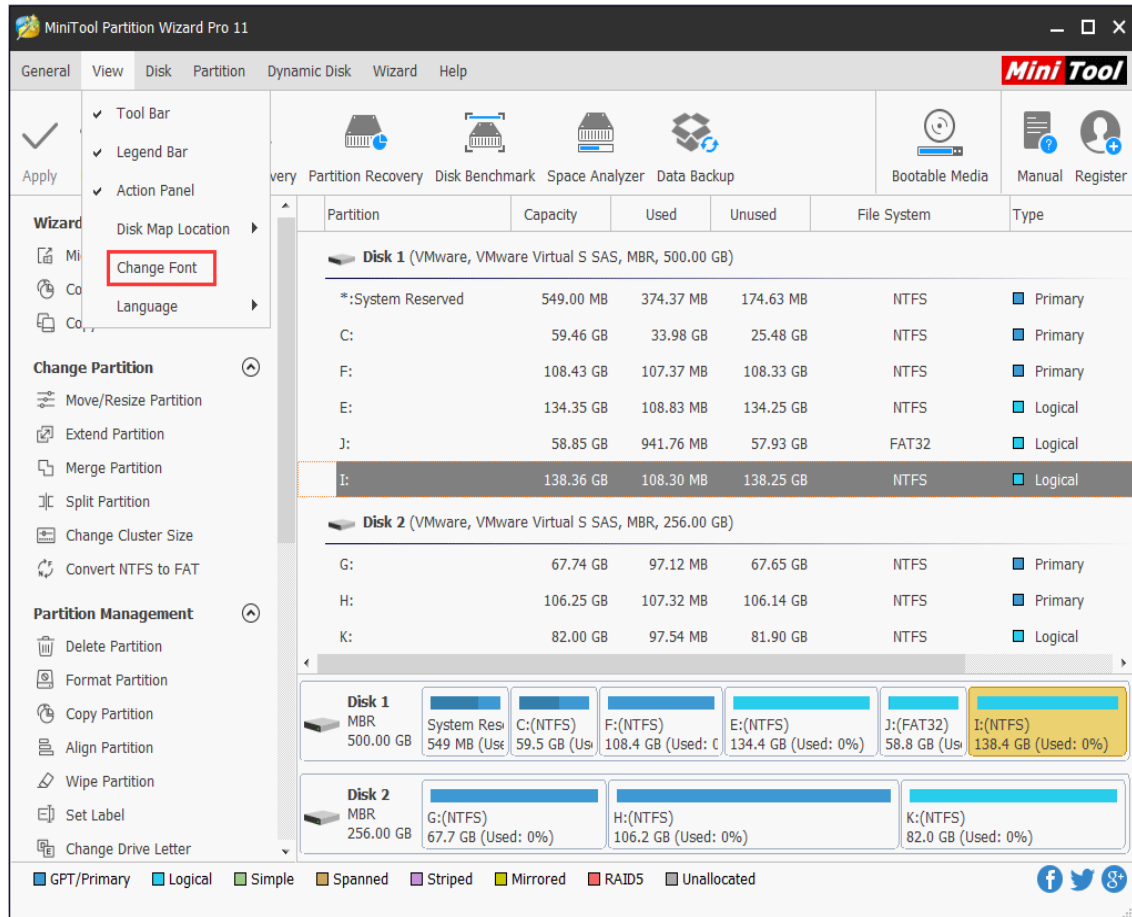
3. Change Font

3.1 About Change Font

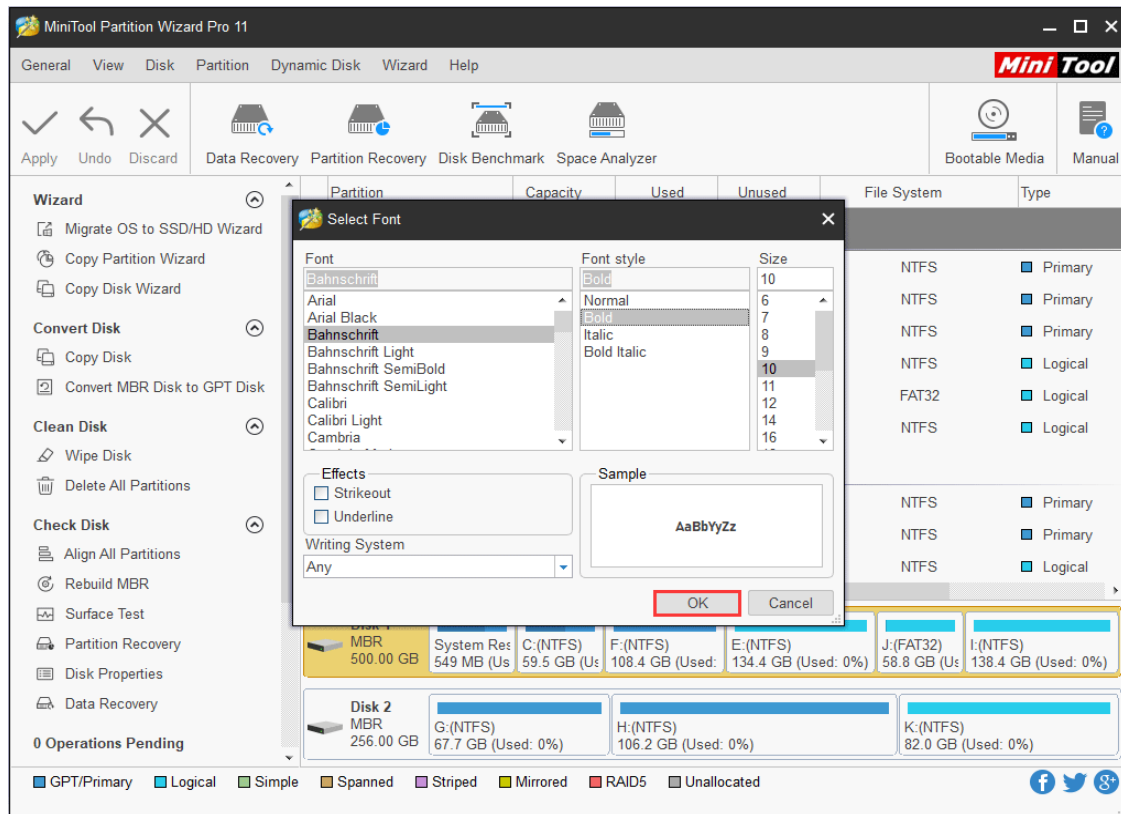
Change Font is under the **View** menu at the top of the software interface, allowing user to change font and font size freely. All available font types are those provided by OS.

3.2 How to Change Font

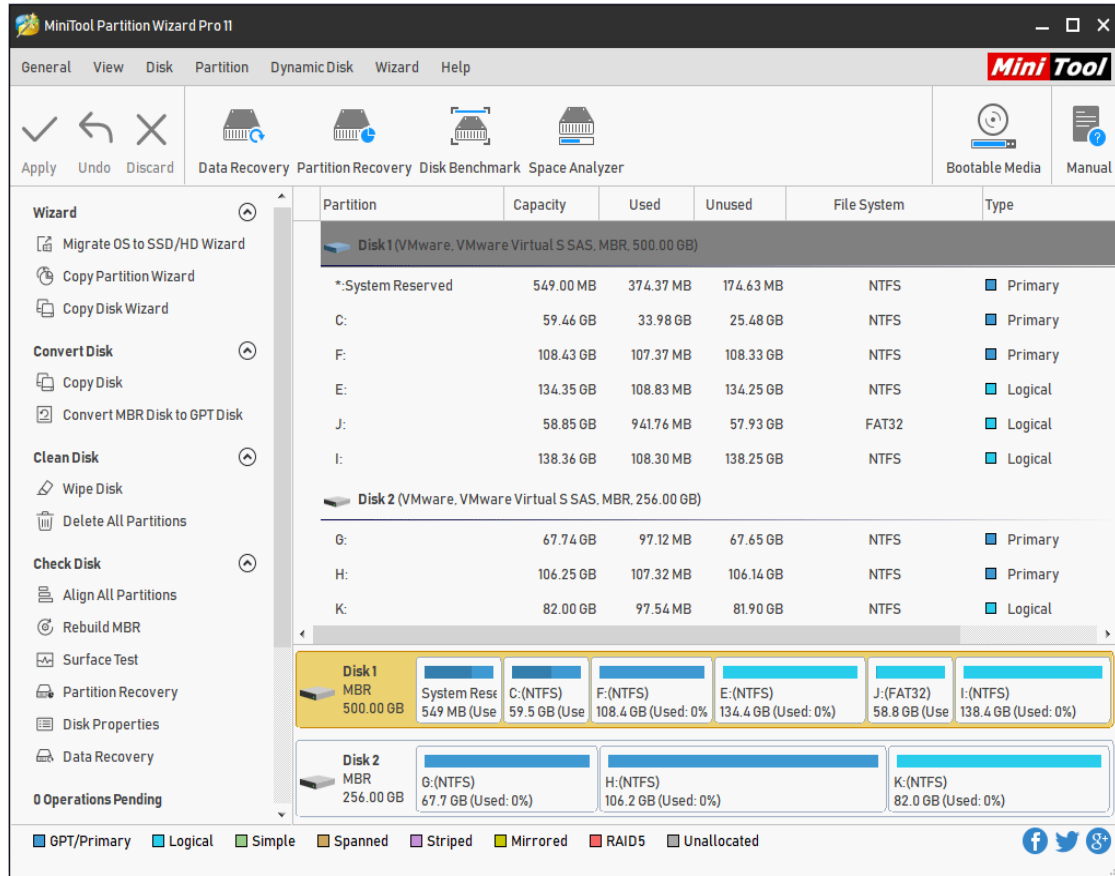
Step 1. Launch MiniTool Partition Wizard to enter the main interface as follows. Click the item **View** on the top and choose **Change Font**.



Step 2. A pop-up window will show up as follows. Here users can **change Font, Font Style and Size**, and then view the effect in the lower-right side **Sample** box. Click **OK** to continue.



Step 3. The software will exist and then run automatically. At last, users will see the main interface with font changed.



4. Main Window

MiniTool Partition Wizard has a user-friendly main window, which is composed of six parts:

1. Menu Bar: General, View, Disk, Partition, Dynamic Disk, Wizard and Help are included here.

2. Tool Bar: some of the common functions are listed here.

3. Action Panel: Wizards and Partition Operations (or Disk Operations) are included. It also shows the pending operations that haven't been carried out yet.

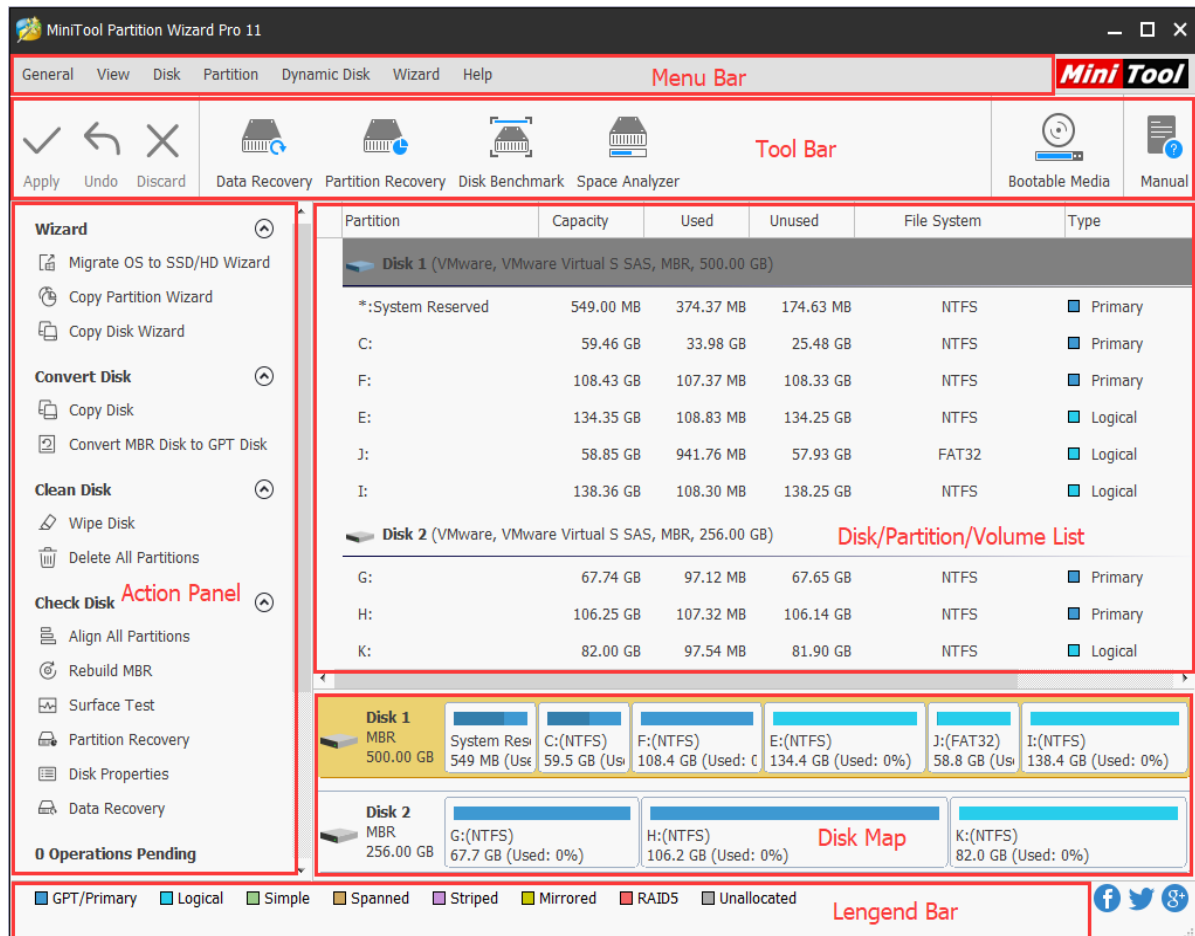
4. Disk/Partition/Volume List: shows all the disks and partitions in computer as well as the detailed information about them. All the following data are included:

- Drive letter and partition label (If a partition has no drive letter, * will be showed);
- Total capacity of partition;
- Used space in the partition;
- Unused space in the partition;
- Type of file system;

- Type of partition;
- Status of partition (**Active** means the partition is an active main partition; **Boot** means the system boots from this partition; **System** means this partition is where Windows is located; and **Hidden** means the partition is a hidden partition).

5. **Disk Map**: it gives users an intuitive preview of the partitions and unallocated space on disk.

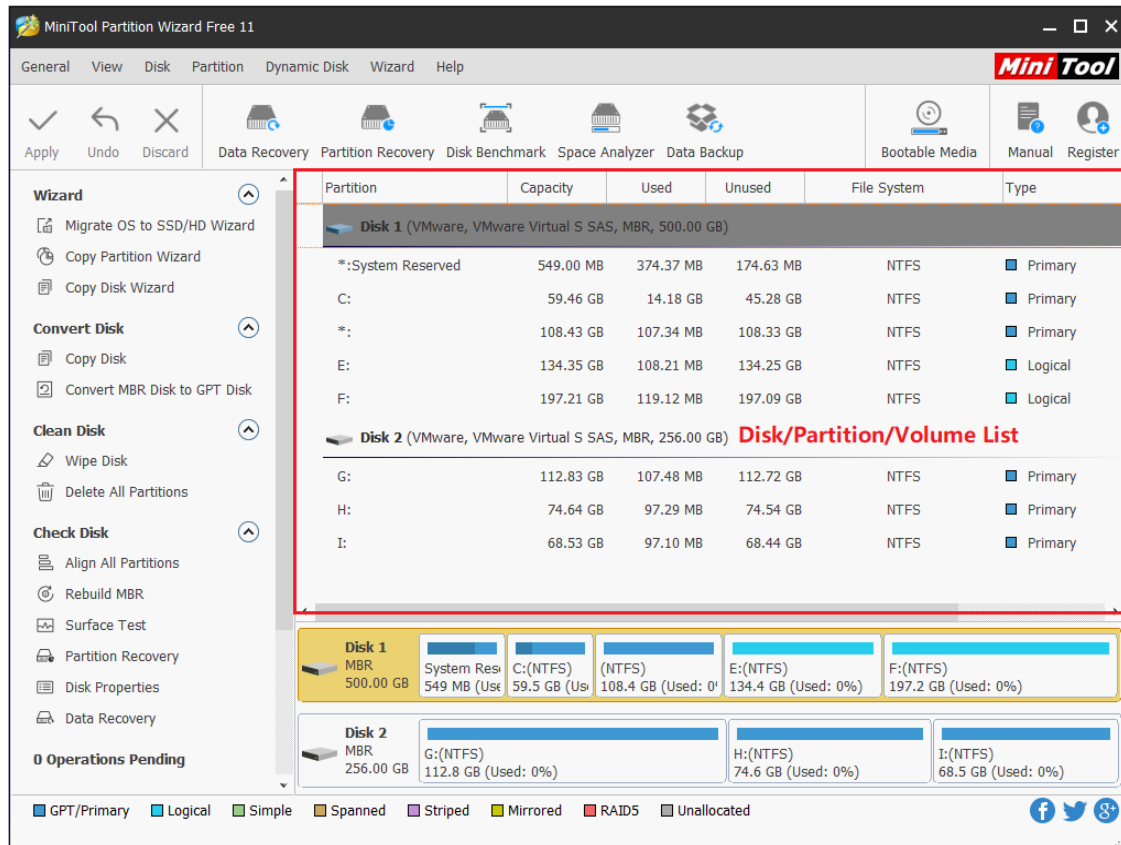
6. **Legend Bar**: different kinds of legends are displayed here with various colors and corresponding explanations.



After selecting a partition or disk in **Disk/Partition/Volume List**, users can carry out any of the functions listed in top **Partition** menu or **Disk (Dynamic Disk)** menu, **Tool Bar**, **Action Panel** or the context menu appeared after right click of mouse.

5. Disk & Partition

After starting the MiniTool Partition Wizard, users can select the [disk](#) or [partition](#) they want to manage directly from the **Disk/Partition/Volume List**.

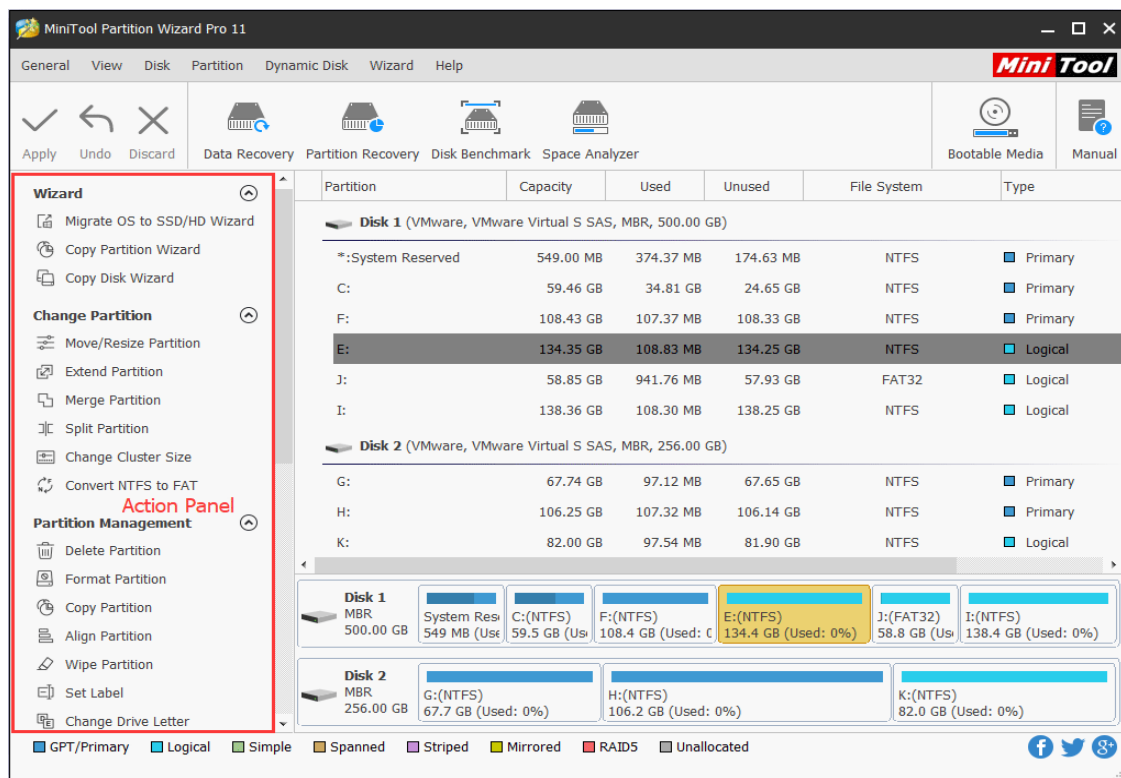


Attention:

- MiniTool Partition Wizard Free Edition does not support the management of volume and dynamic disks. It only supports basic disks of MBR style and GPT style.
- MiniTool Partition Wizard support removable disks well like USB or external disks.

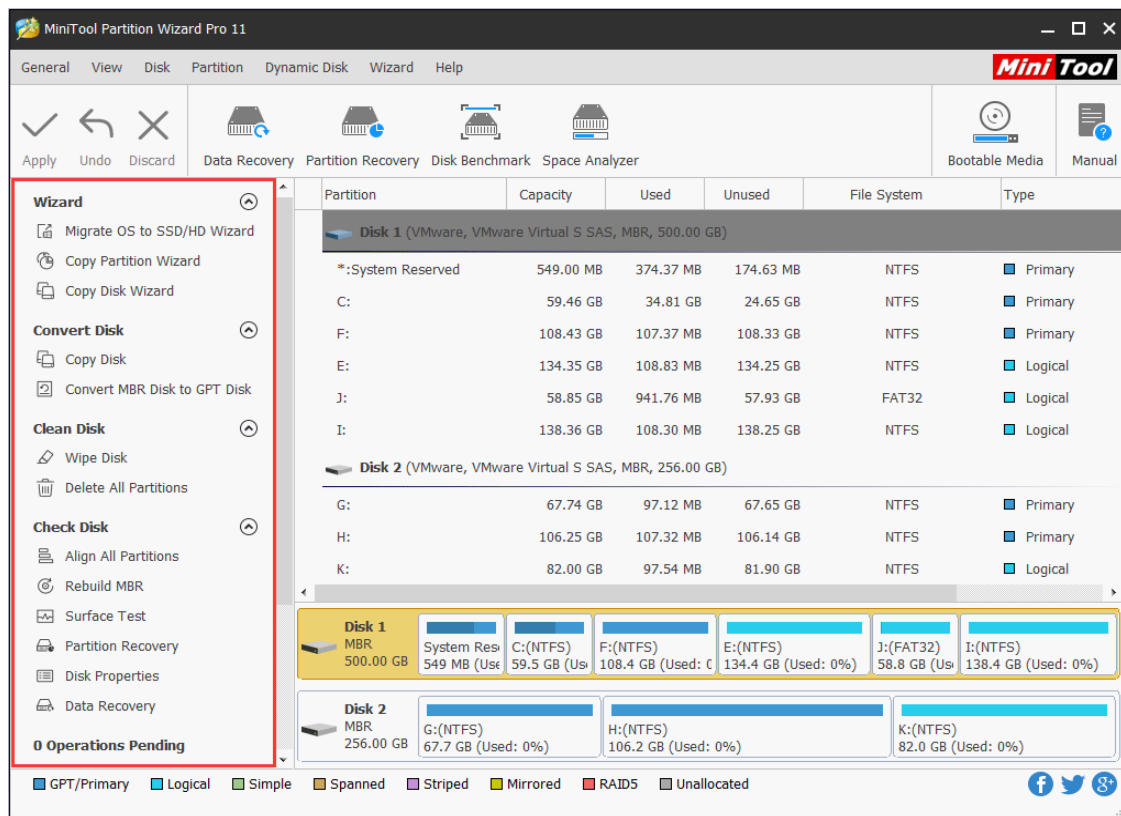
6. Select an Operation

Users can right click on a partition or disk to manage it. They can also select one function from the top **Partition** menu or **Disk (Dynamic Disk)** menu after selecting the partition or disk. The most direct way to manage a partition or disk is to choose function from **Action Panel** after selecting the partition or disk.



What users should pay attention to is that the partition operations are effective only when a partition is chosen.

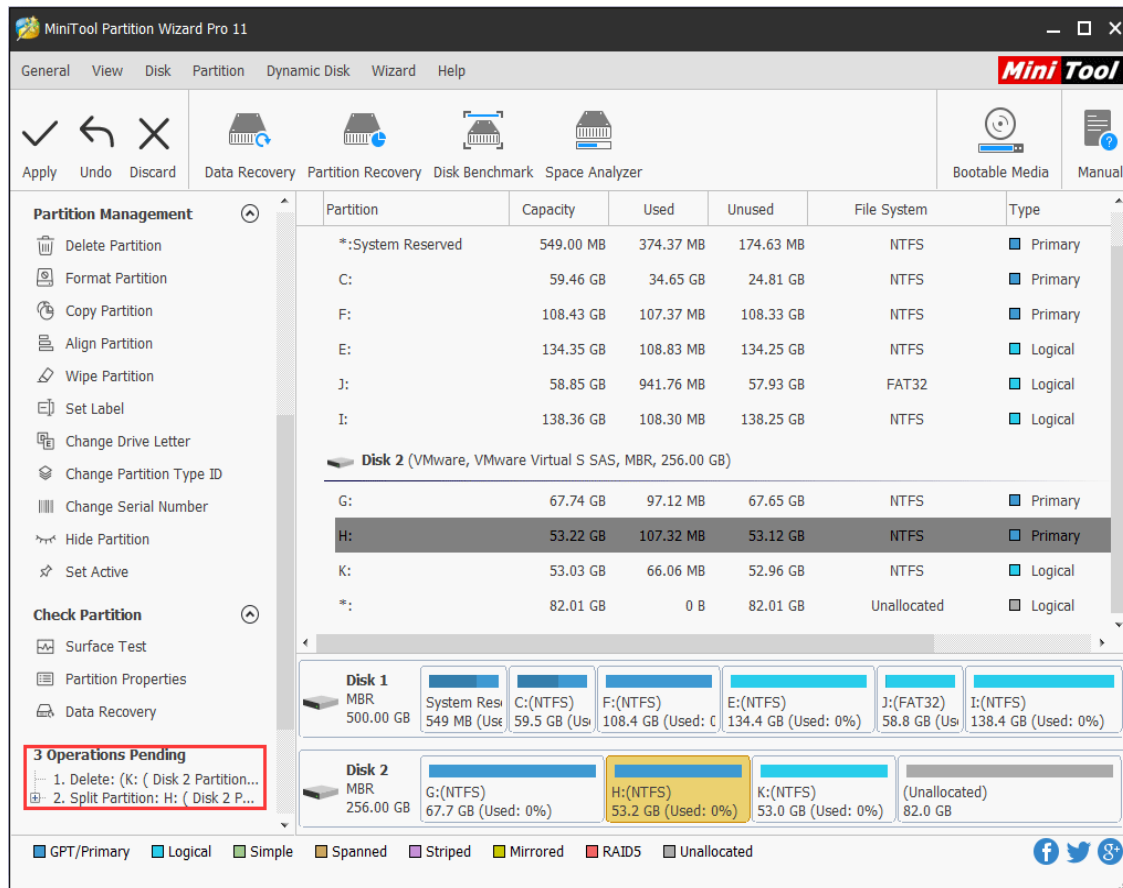
Similarly, if users choose a disk, only disk operations will appear in **Action Panel**.



Most of the time, users need to click on **Apply** button in **Tool Bar** to complete management in MiniTool Partition Wizard

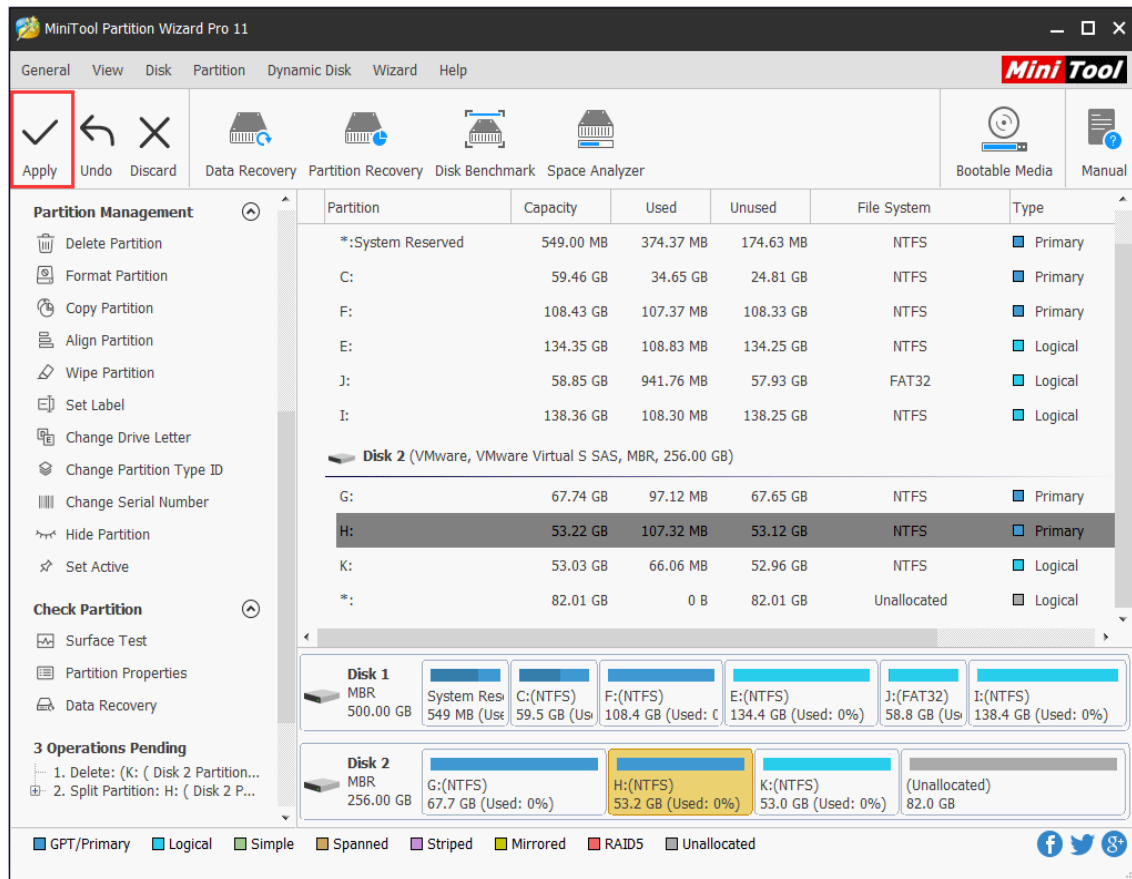
7. Apply Changes

Most of the time, MiniTool Partition Wizard will not perform any change unless users make sure to **Apply Changes**, and all changes will be listed in Operations Pending area, which provides users with a chance to check whether there are operations damaging data.

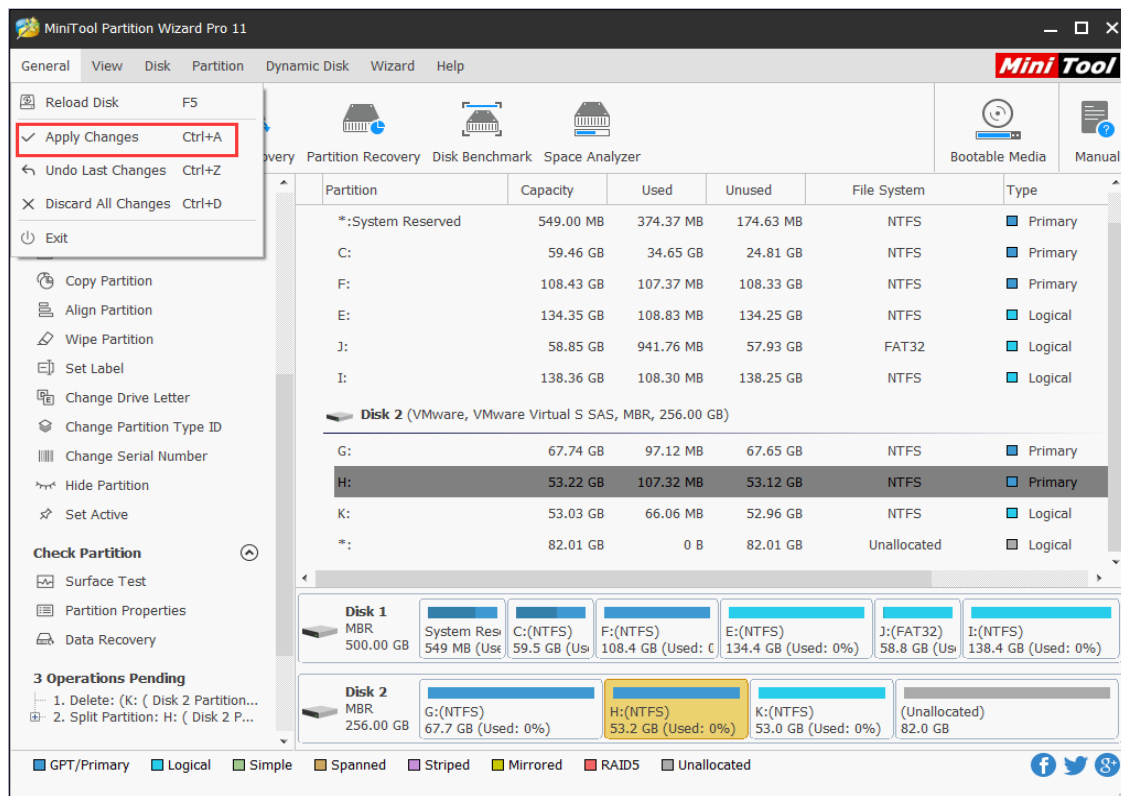


To apply pending operations, users have 3 choices:

1. Click on the functional button **Apply** in the upper left corner.



2. Choose **Apply Changes** from the drop-down menu of **General** menu.



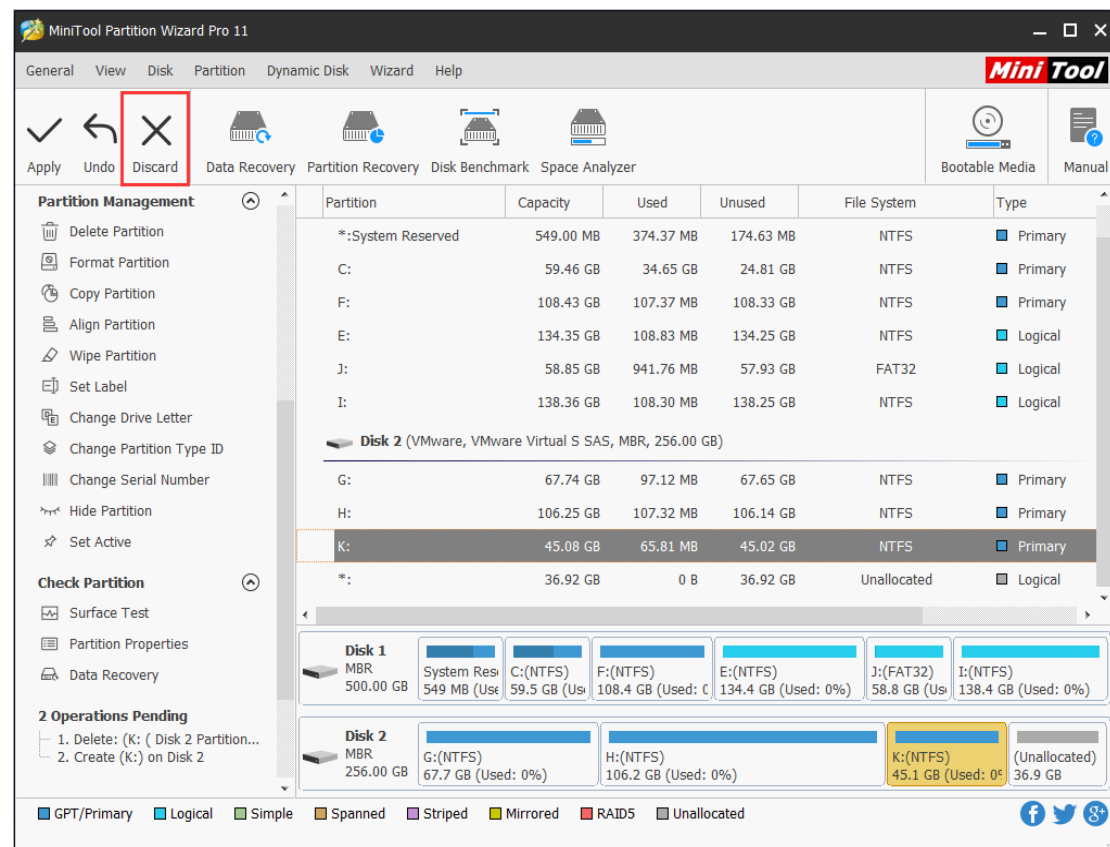
3. Make use of the combination keys **Ctrl + A**.

Moreover, sometimes users will be asked to restart the computer after they apply all changes. That is because they are operating the device which is being used. Just do as told and MiniTool Partition Wizard will perform all unfinished operations in safe boot mode. After all operations are completed, the computer will start normally.

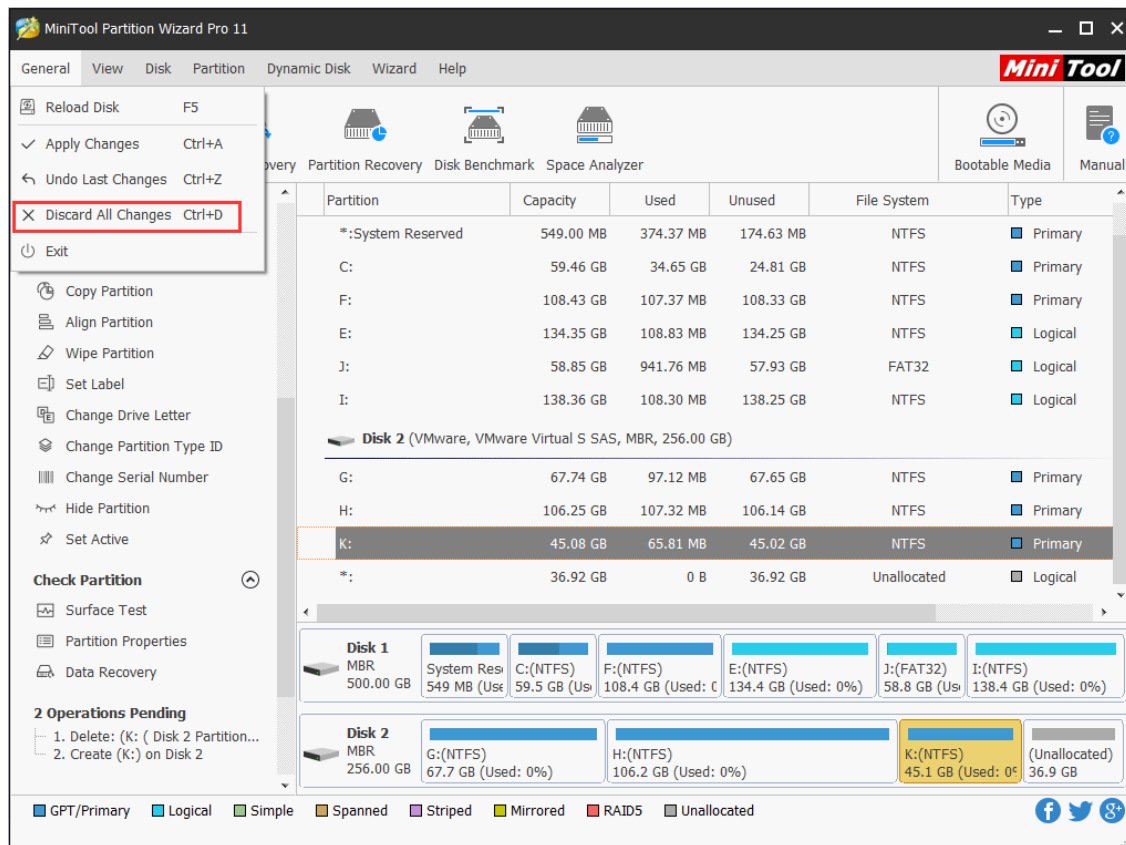
8. Discard All Changes

With this feature, users can discard all previous changes to disks and partitions in one go rather than cancel the last one. Users can activate this feature via the following 3 ways:

1. Choose **Discard** button at the top directly.



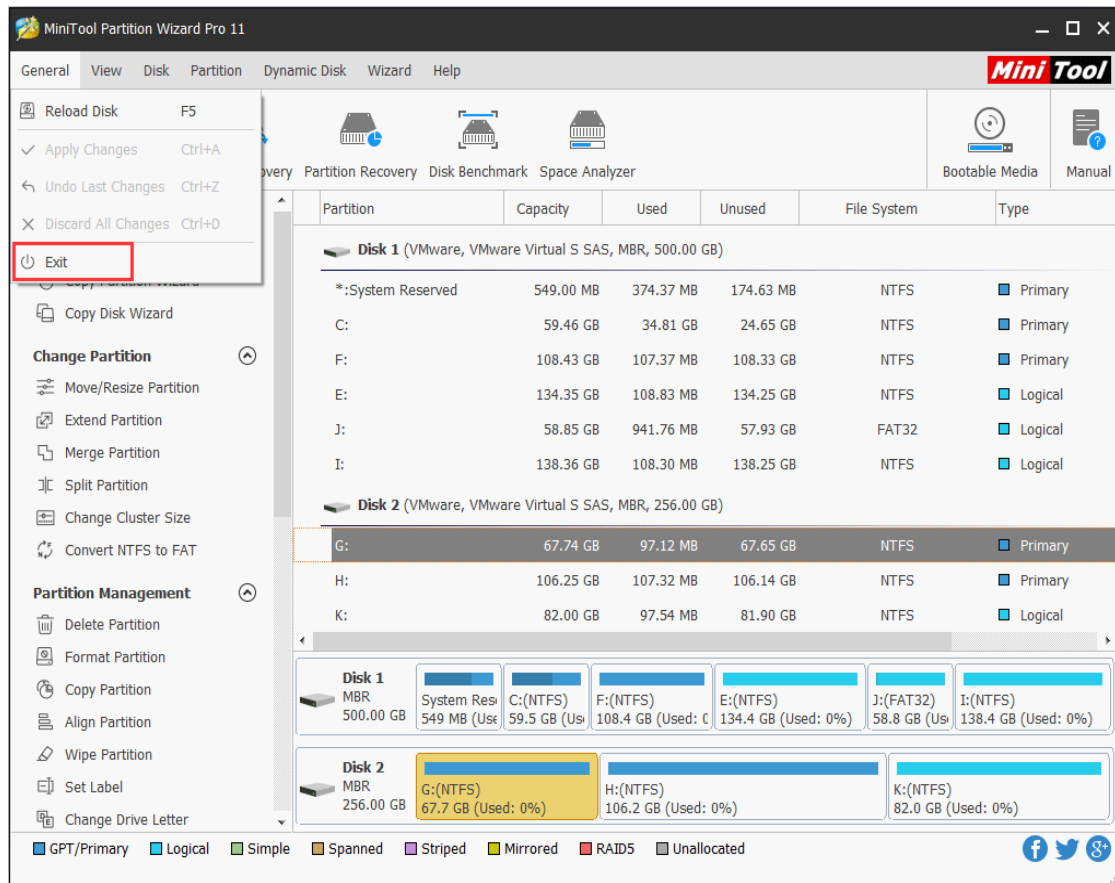
2. Select **Discard All Changes** from the drop-down list of **General** item.



3. Make use of shortcut keys **Ctrl + D**.

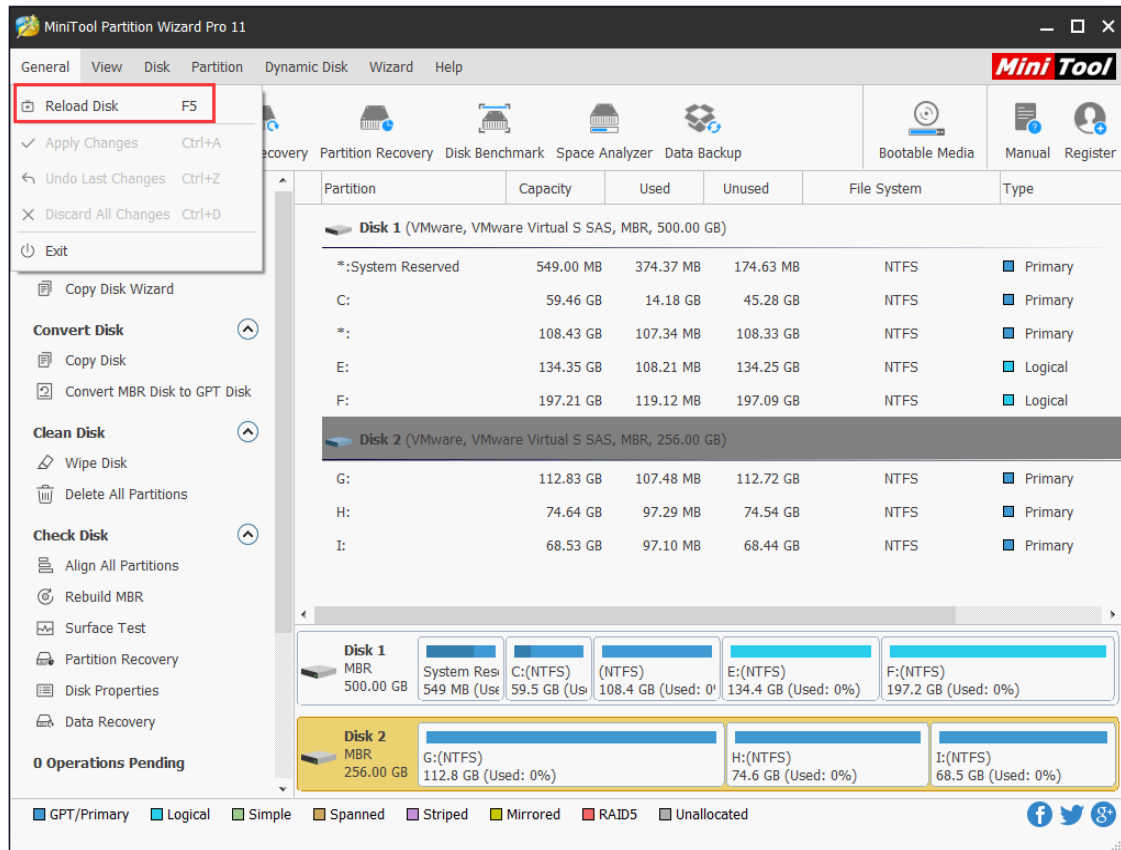
9. Exit

To exit from MiniTool Partition Wizard, users have 2 choices. One is to choose **Exit** from the drop-down list of **General** item, and the other is to click on the close button at the top-right corner of the window.



10. Reload Disk

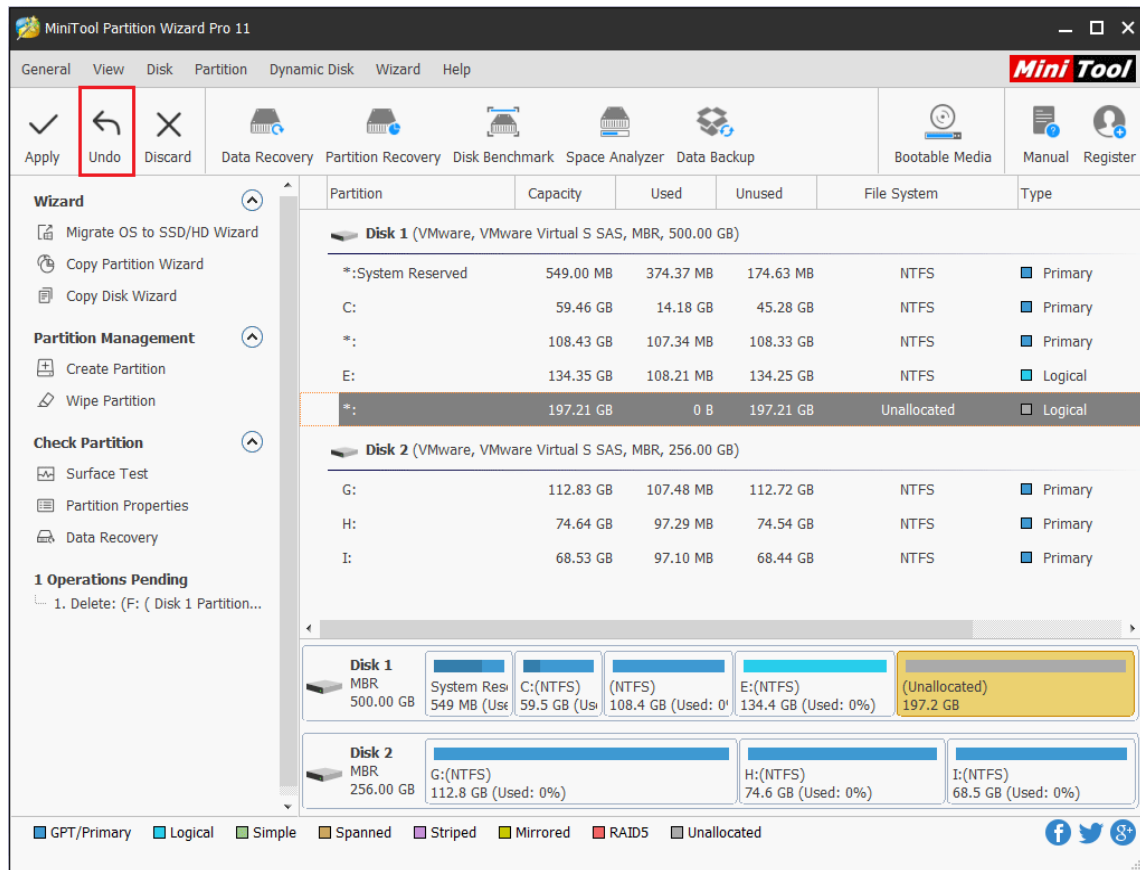
If users have made changes on disks or partitions but MiniTool Partition Wizard does not detect such changes, they can manually reload disk and partition information via the **Reload Disk** feature, which is located under the **General** tab.



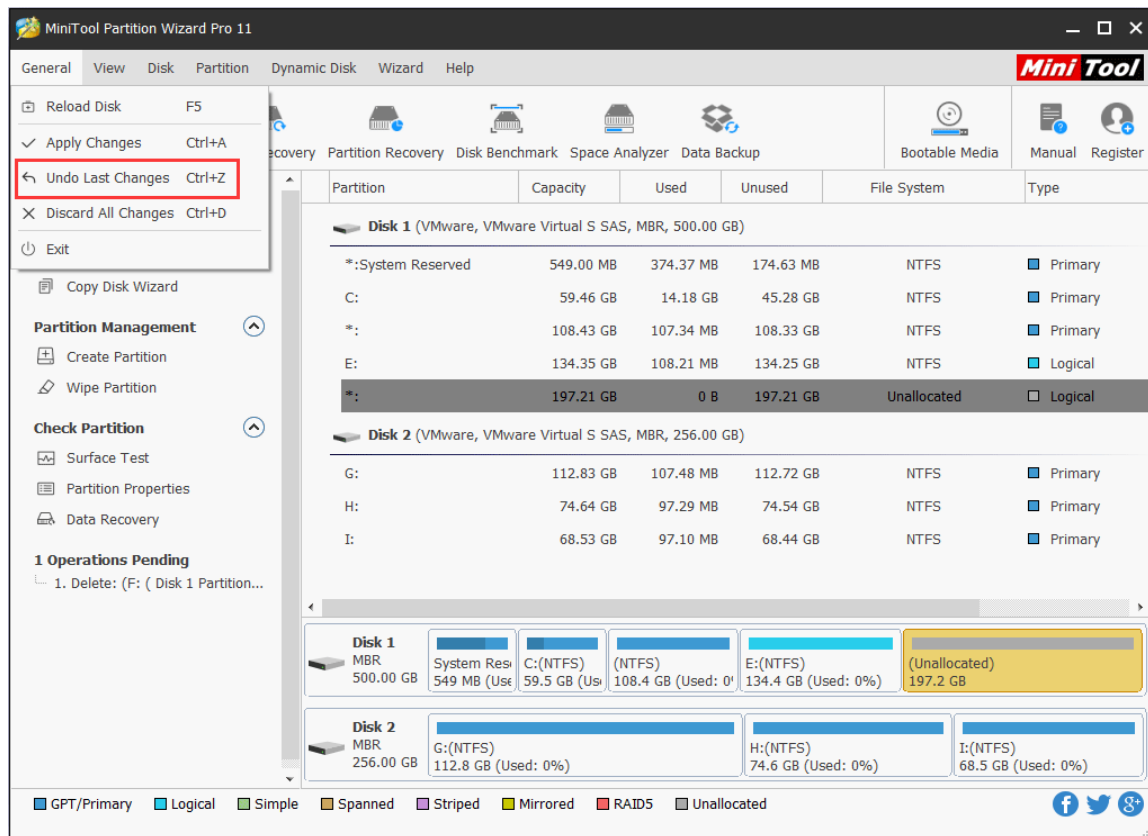
11. Undo Last Changes

With **Undo** feature, users can cancel the last operation to a partition or disk without having any influence on data, and it can be activated via the following 3 ways:

1. Choose **Undo** button directly from the toolbar.

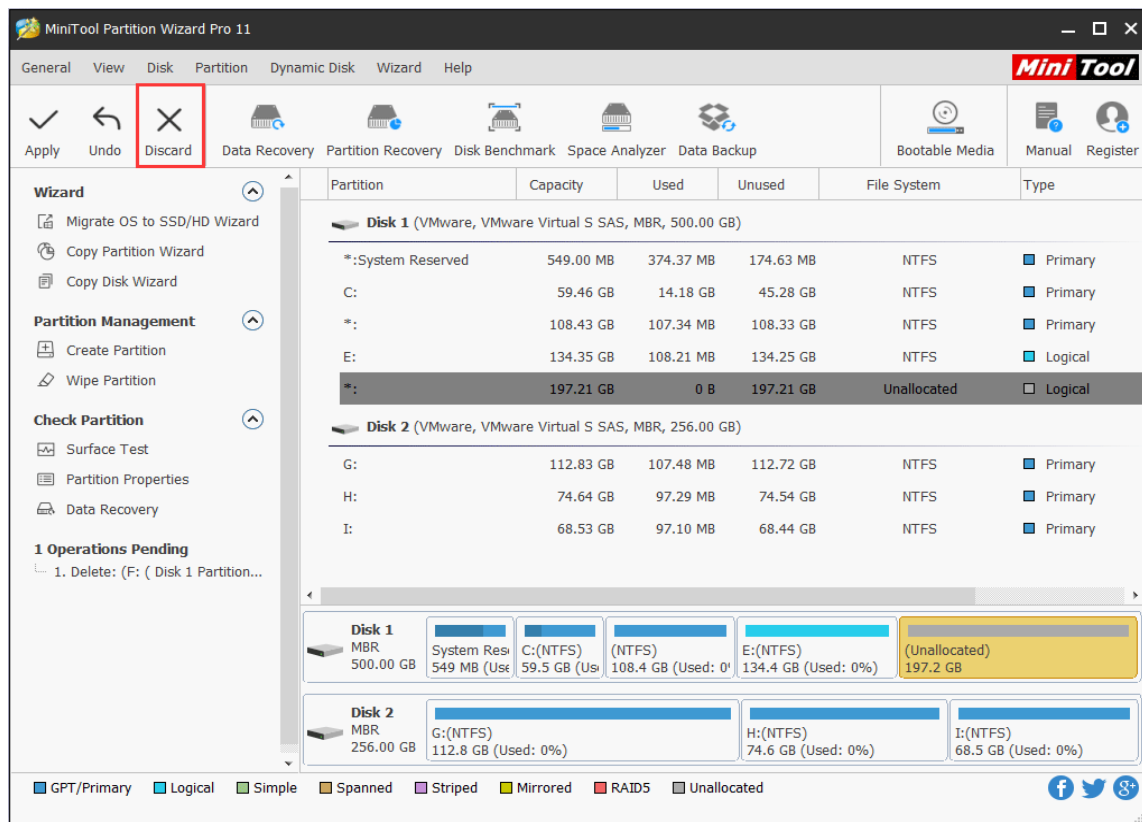


2. Choose "Undo Last Changes" from the drop-down list of **General** item.



3. Make use of the shortcut keys **Ctrl + Z**.

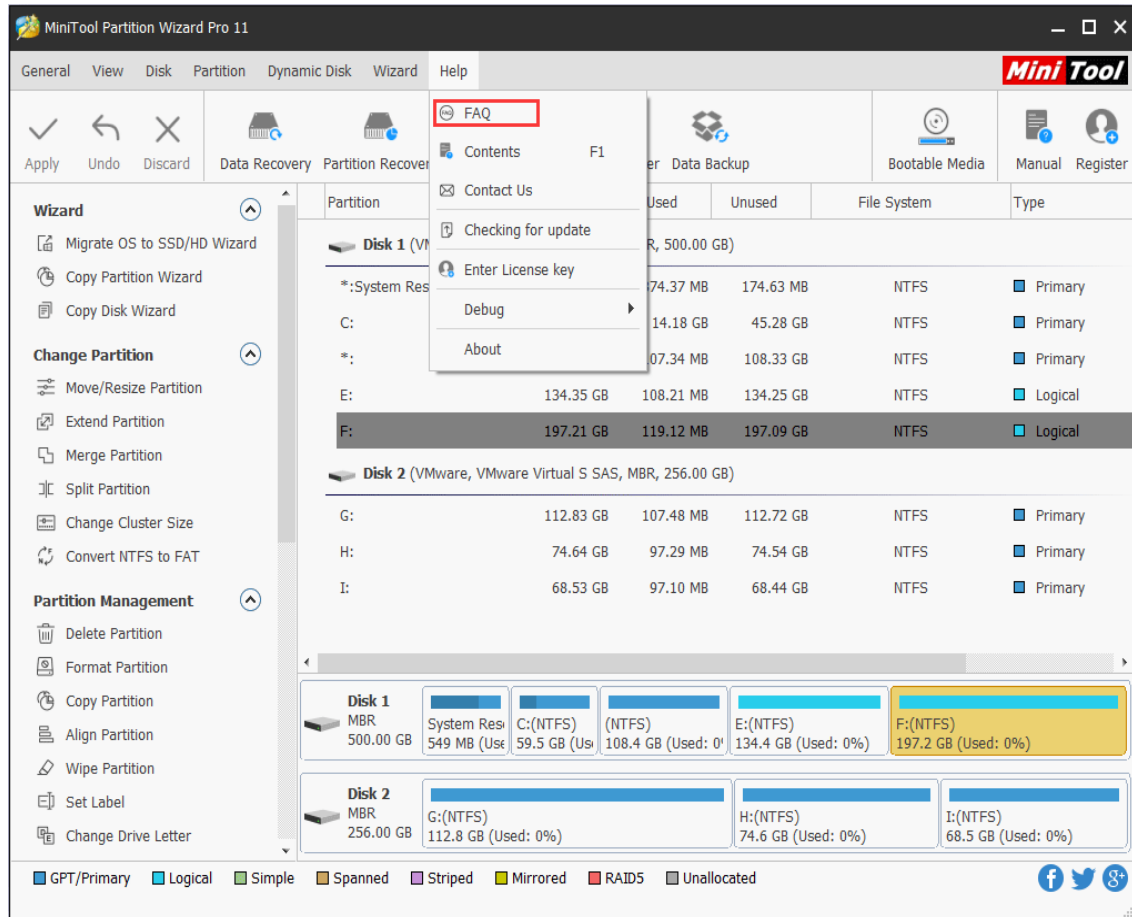
To cancel all changes, users need to employ the feature **Discard**.



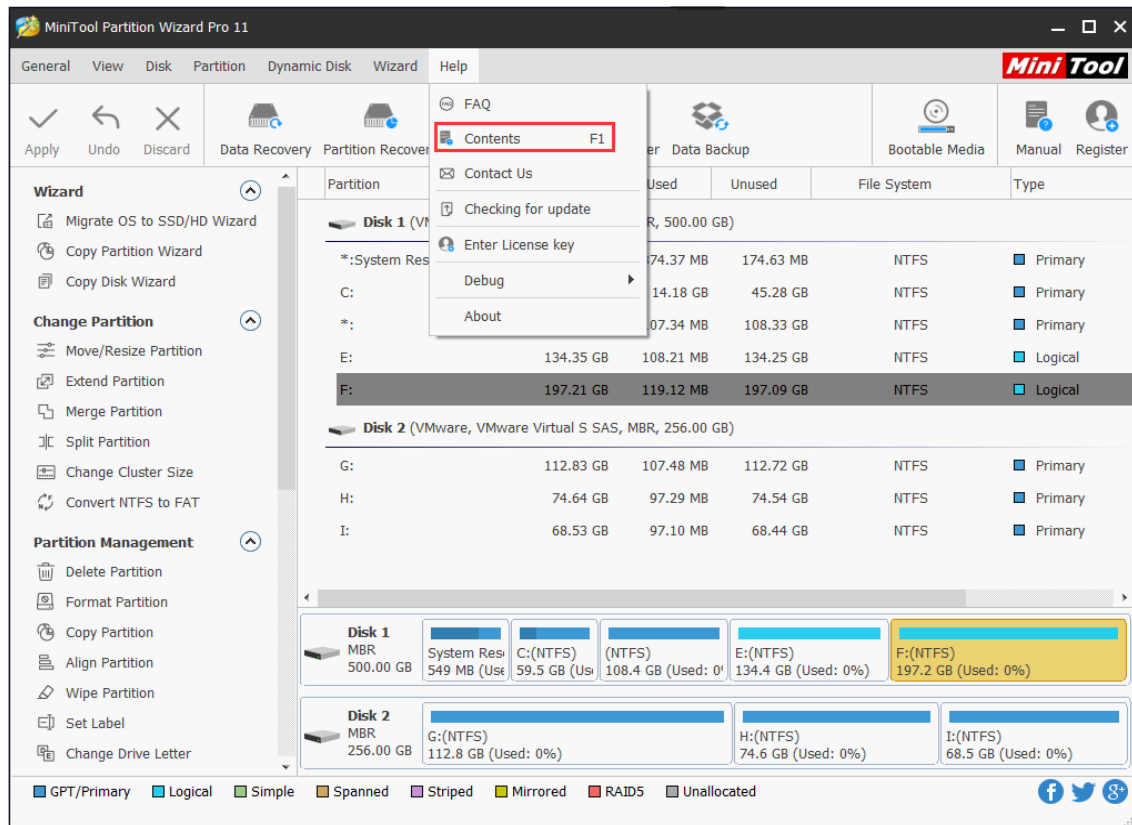
12. Help

The **Help** item in Menu Bar has 6 broad items as following:

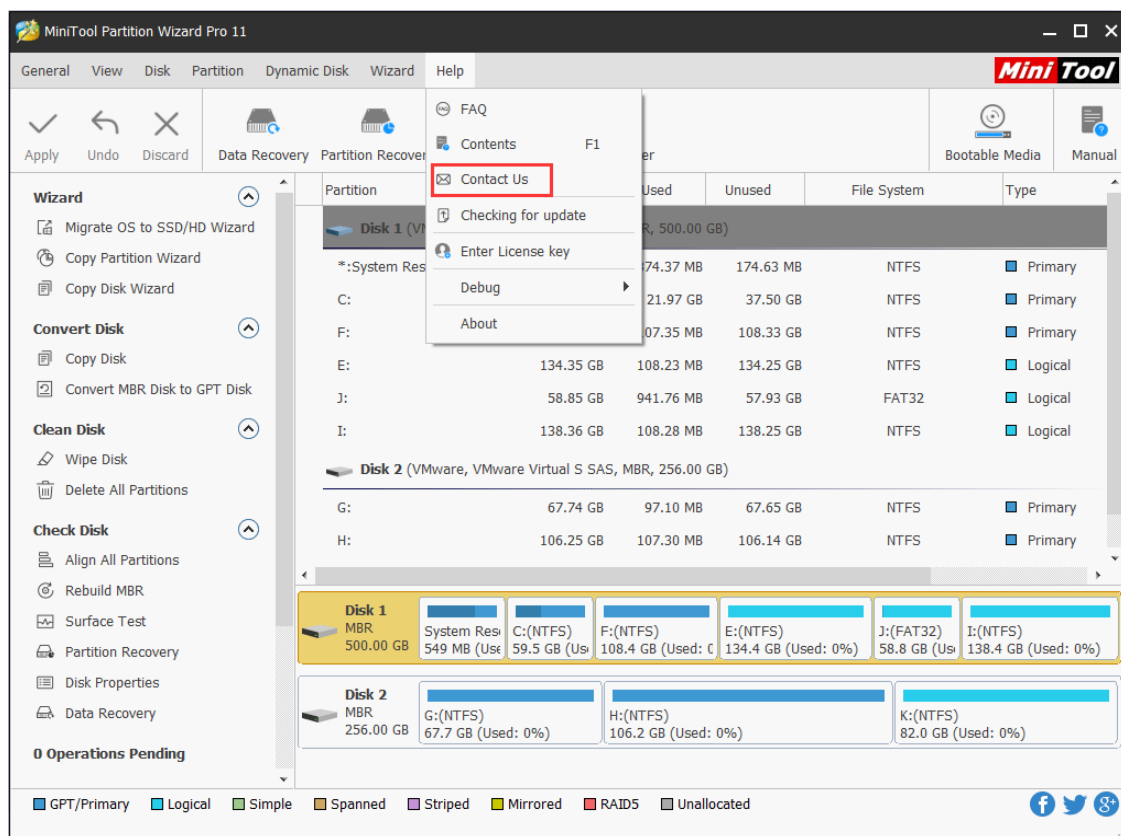
1. **FAQ:** Go to **Help > FAQ** and users will enter a website which shows them how to use this software to solve some common disk or partition issues.



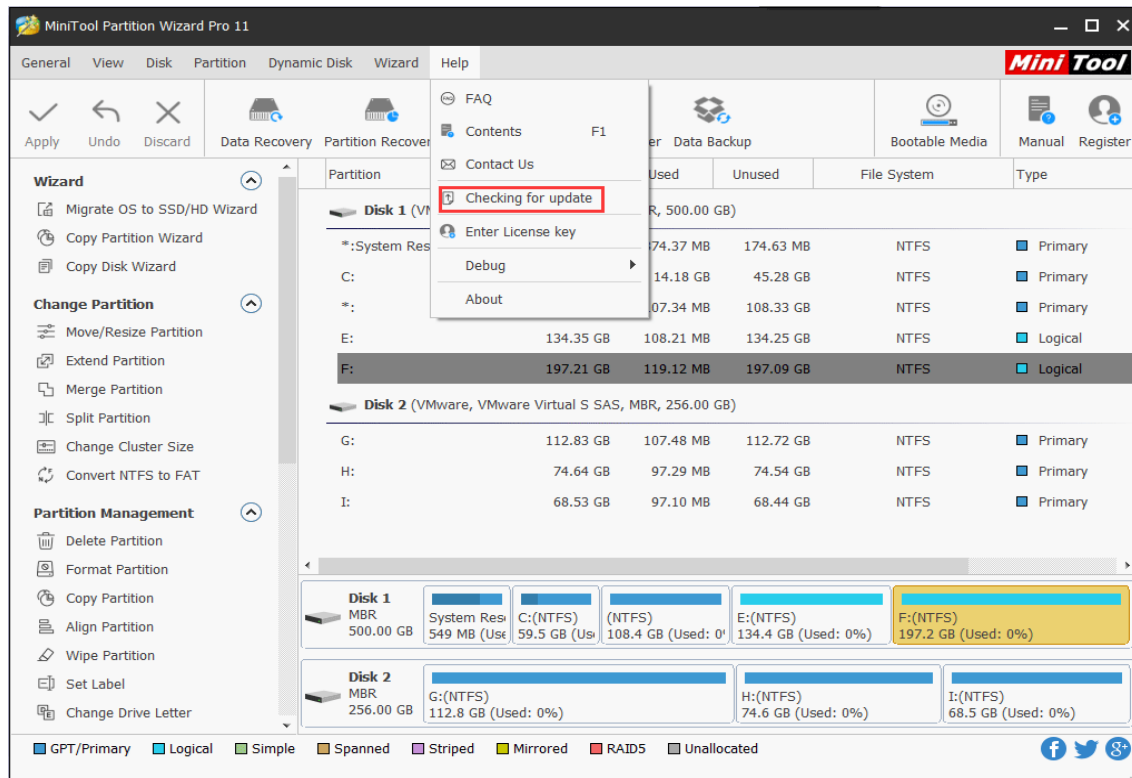
2. **Contents:** Go to **Help > Contents F1** or press on F1, and users will get the interface where all functional tutorials of this program are shown.



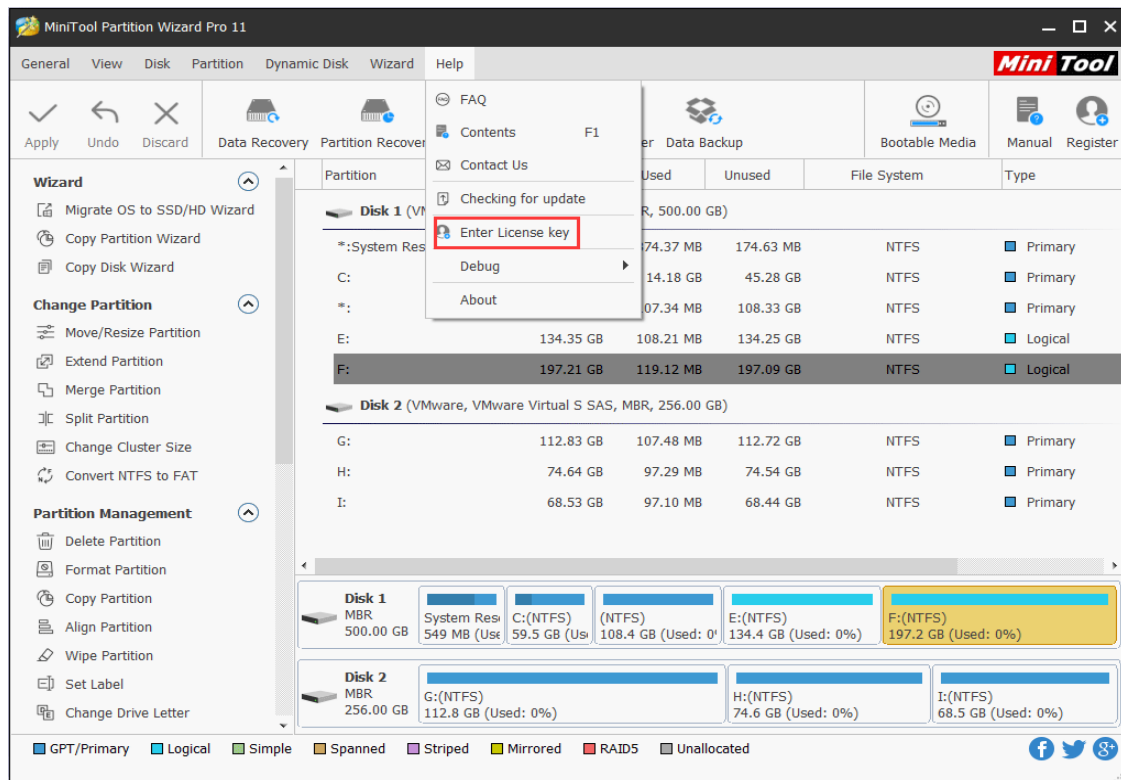
3. **Contact Us:** Go to **Help> Contact Us**, users can contact MiniTool Partition Wizard's technical support directly to get help.



4. **Checking for Upgrade:** Go to **Help > Checking for upgrade**, and this software will check whether there is a new version available or not.



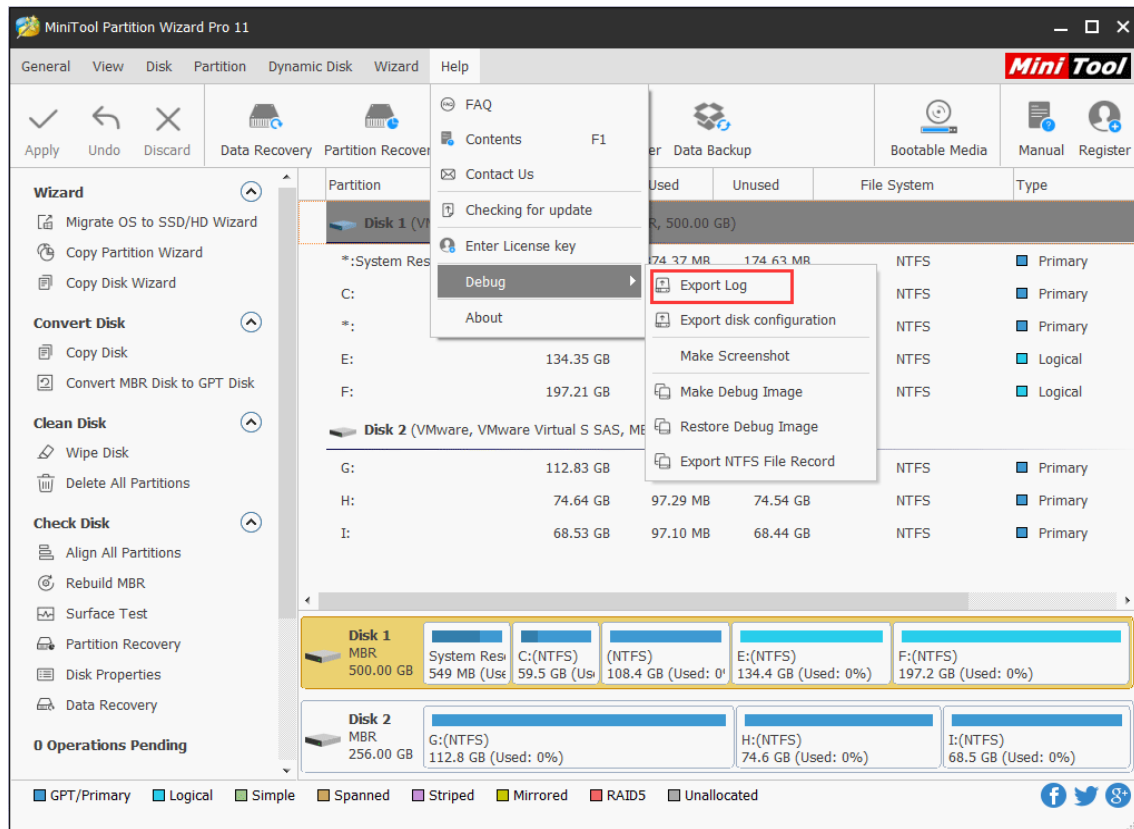
5. **Enter License Key:** If users purchase a license key from the official site, they should go to **Help > Enter License key** and enter the pop-out interface to register for the corresponding edition.



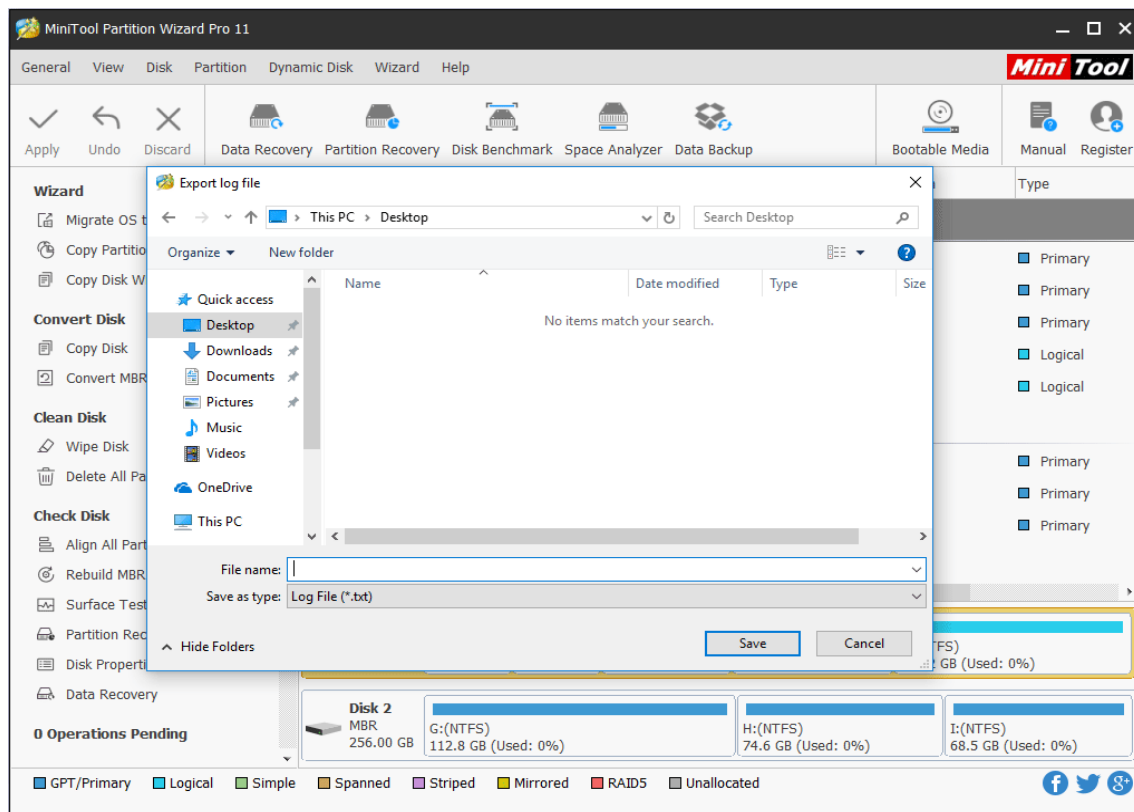
6. Debug Help:

1). **Export Log:** Go to **Help > Debug Help > Export Log** to export the log of operations and save it to the specified path.

Step 1. Go to **Help > Debug Help > Export Log**.



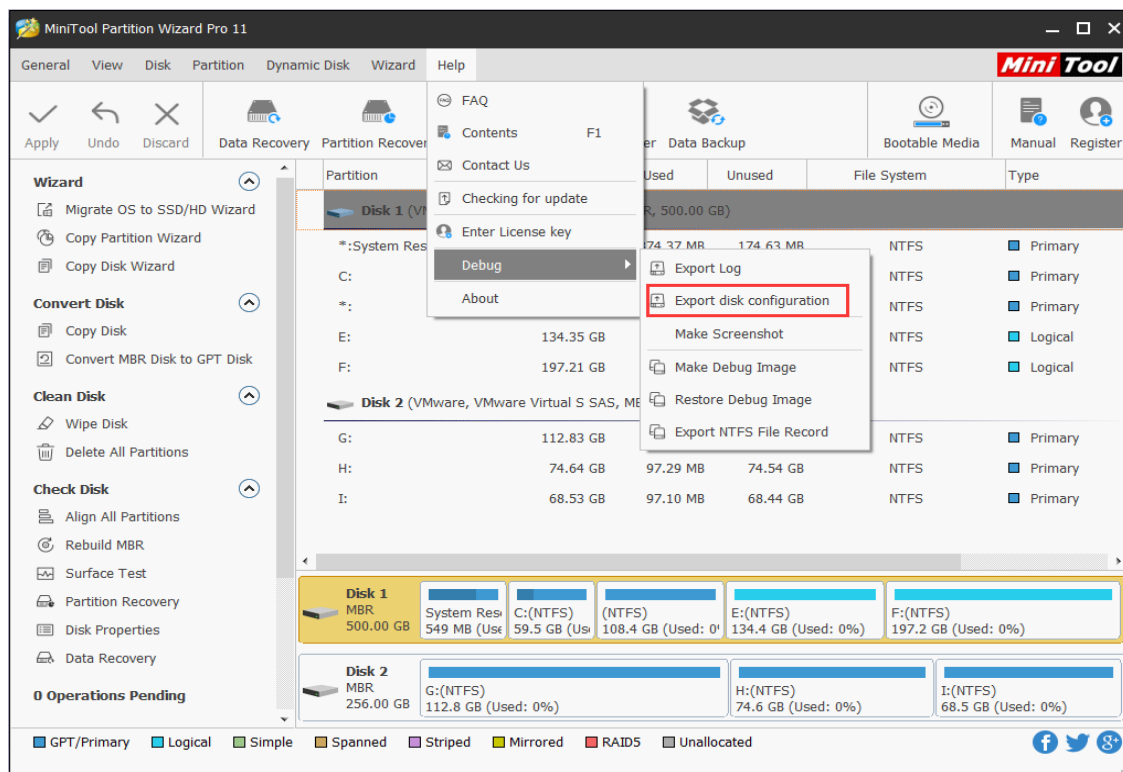
Step 2. Choose a proper storage path, set the file name and then click on **Save**.



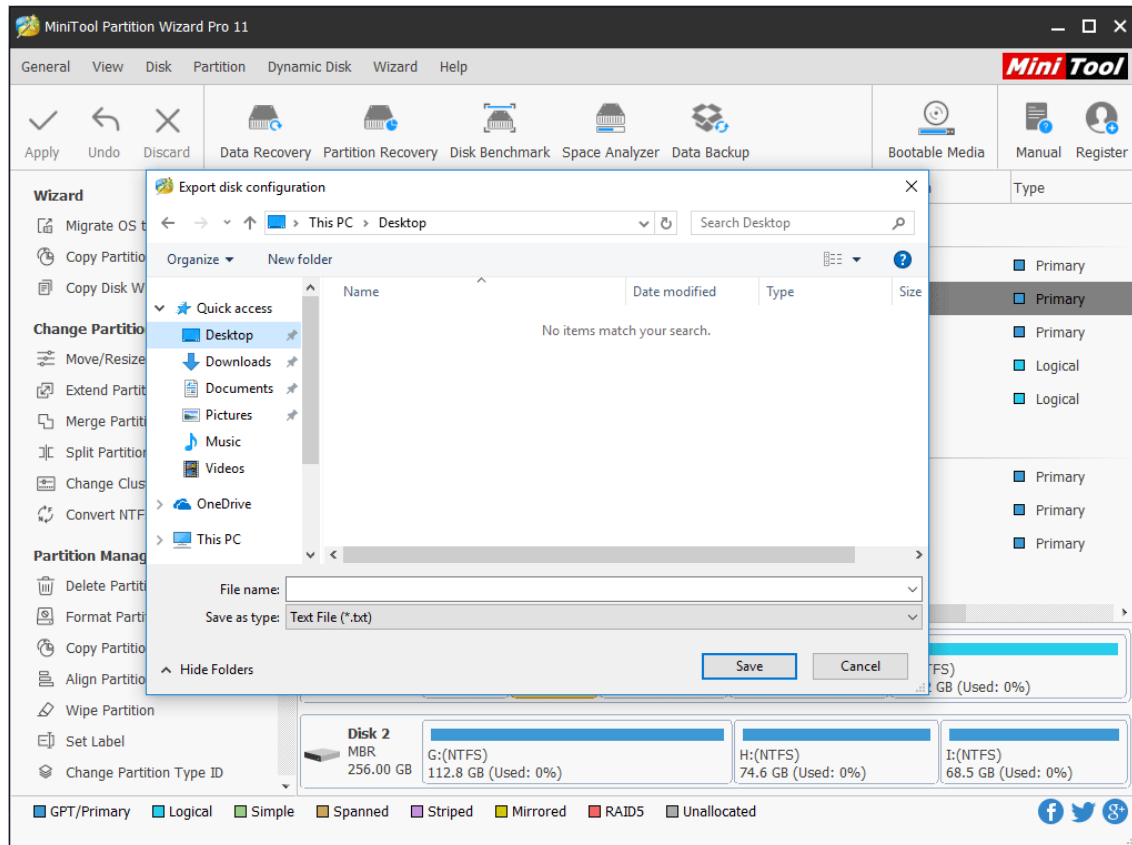
At last, the log will be stored on the specified path.

2). Export Disk Configuration:

Step 1. Go to **Help > Debug Help > Export disk configuration**.



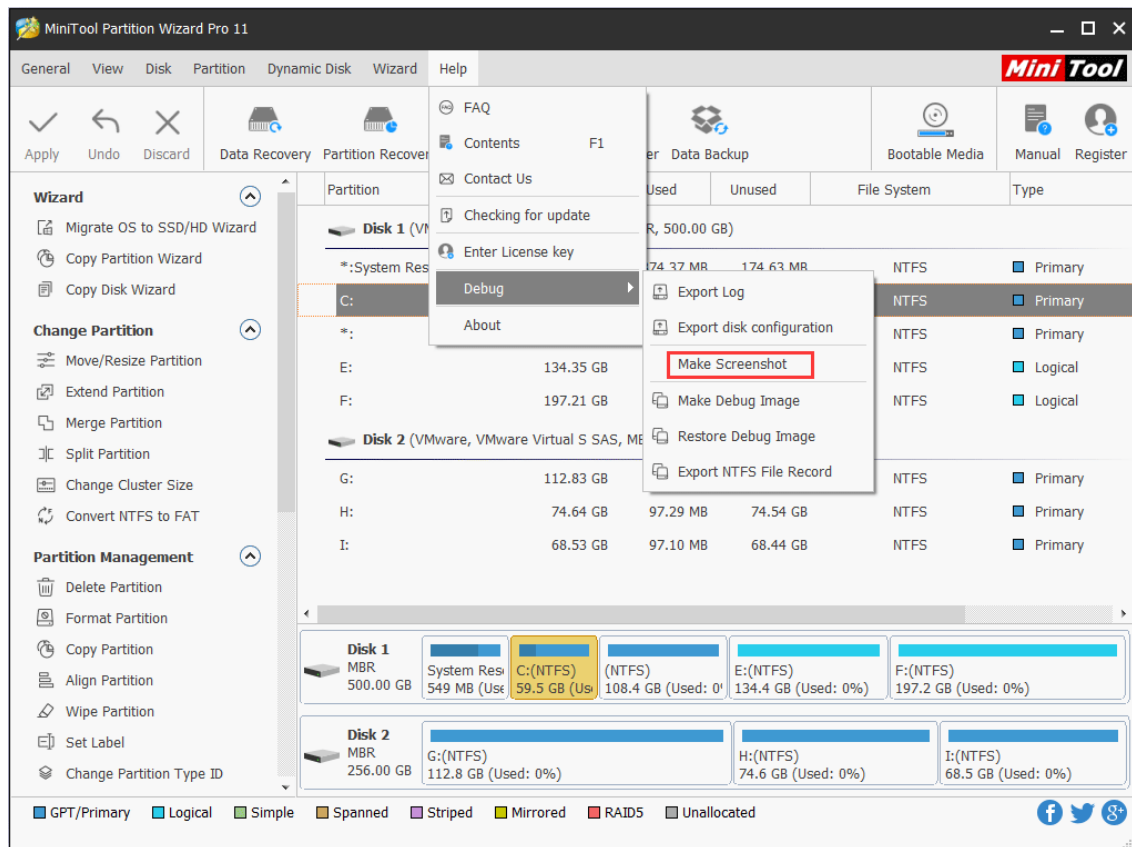
Step 2. Select a proper path to store this disk configuration and set a name for it on this pop-out interface. Then click on **Save**.



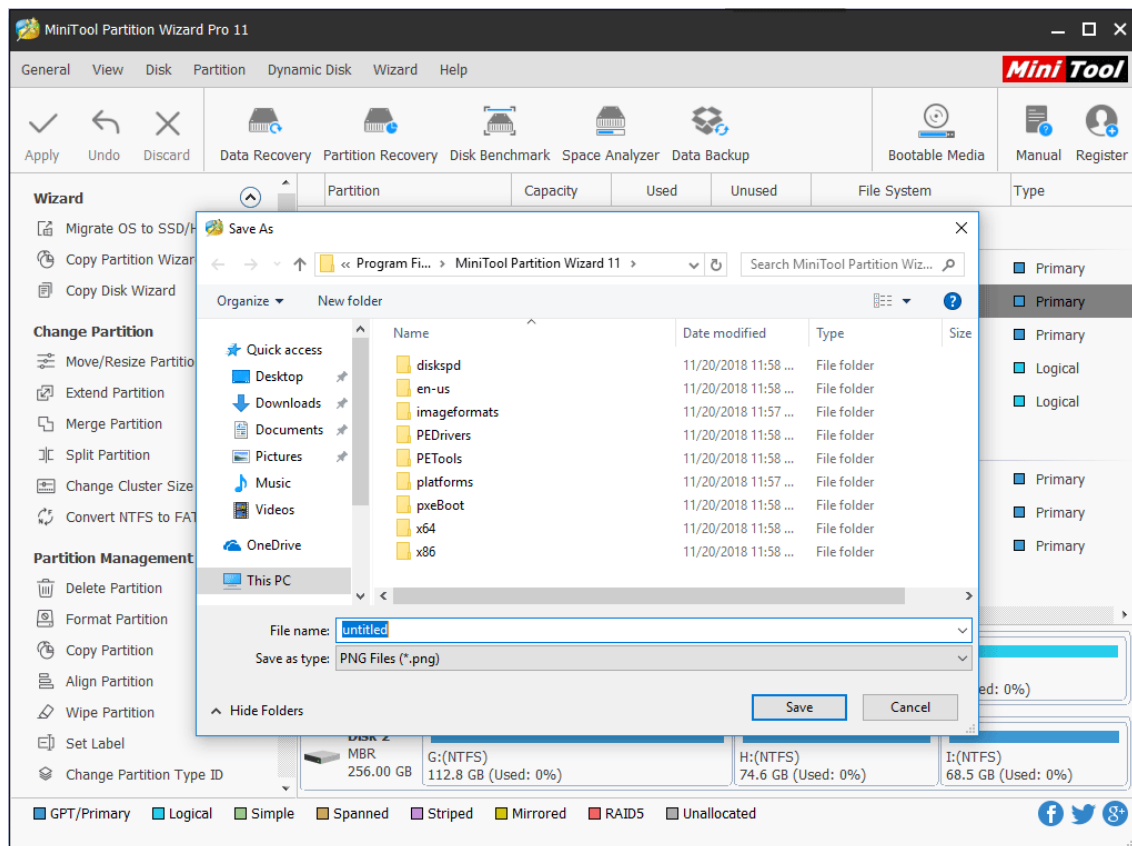
The disk configuration will be stored on the specified path.

3). Make Screenshot:

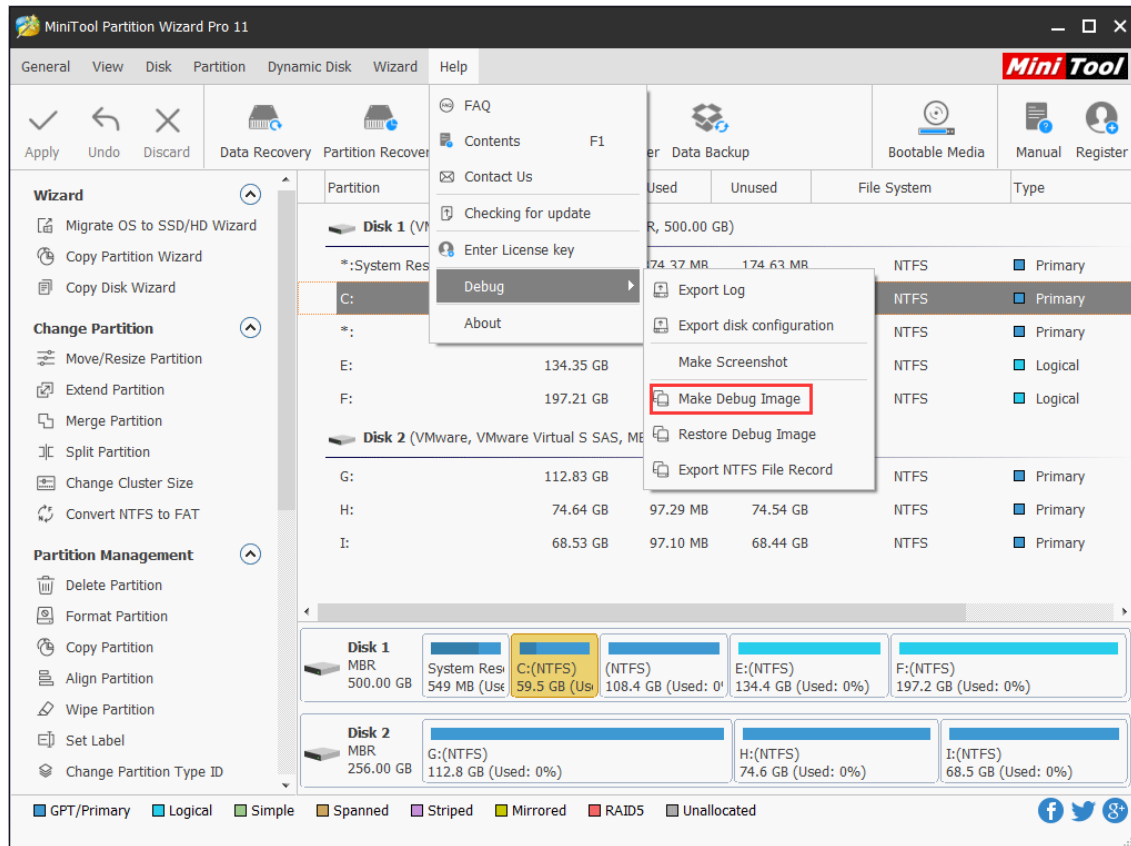
Step 1. Go to **Help > Debug Help > Make Screenshot**.



Step 2. Click on **Save Screenshot** to continue.



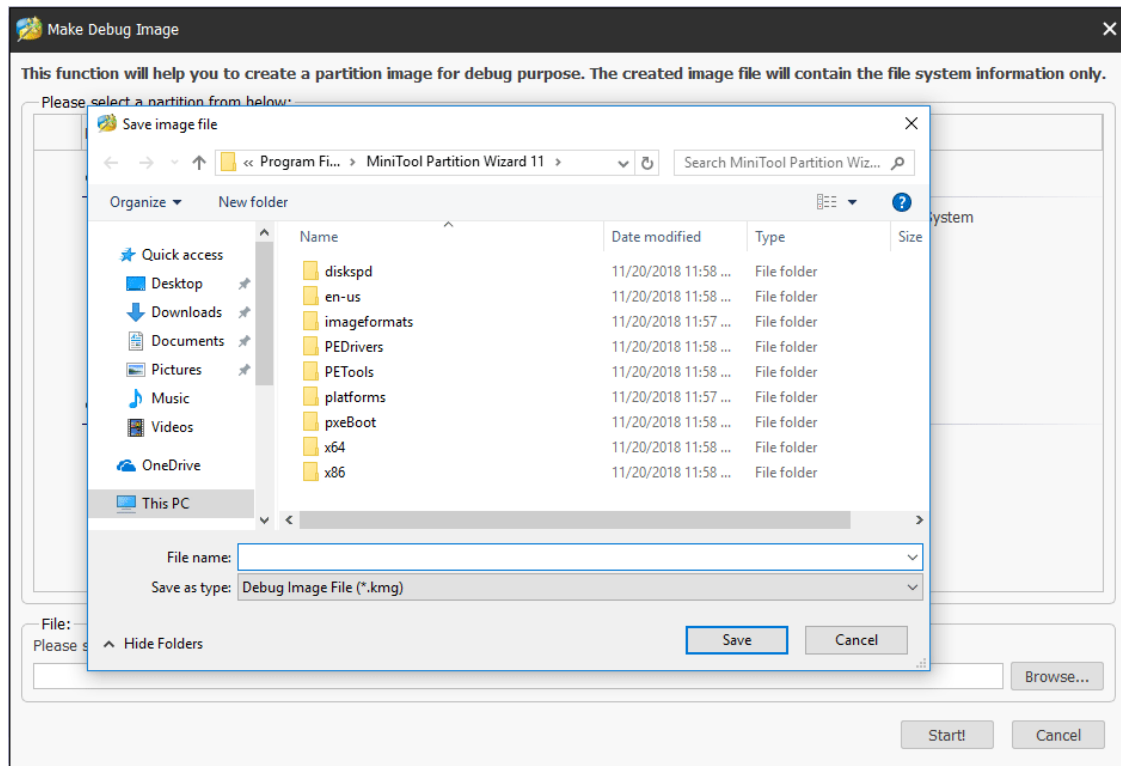
Step 3. In this second pop-out window, select a storage path, add a name for the screenshot and then click on **Save**. The screenshot will be stored in the specified path finally.



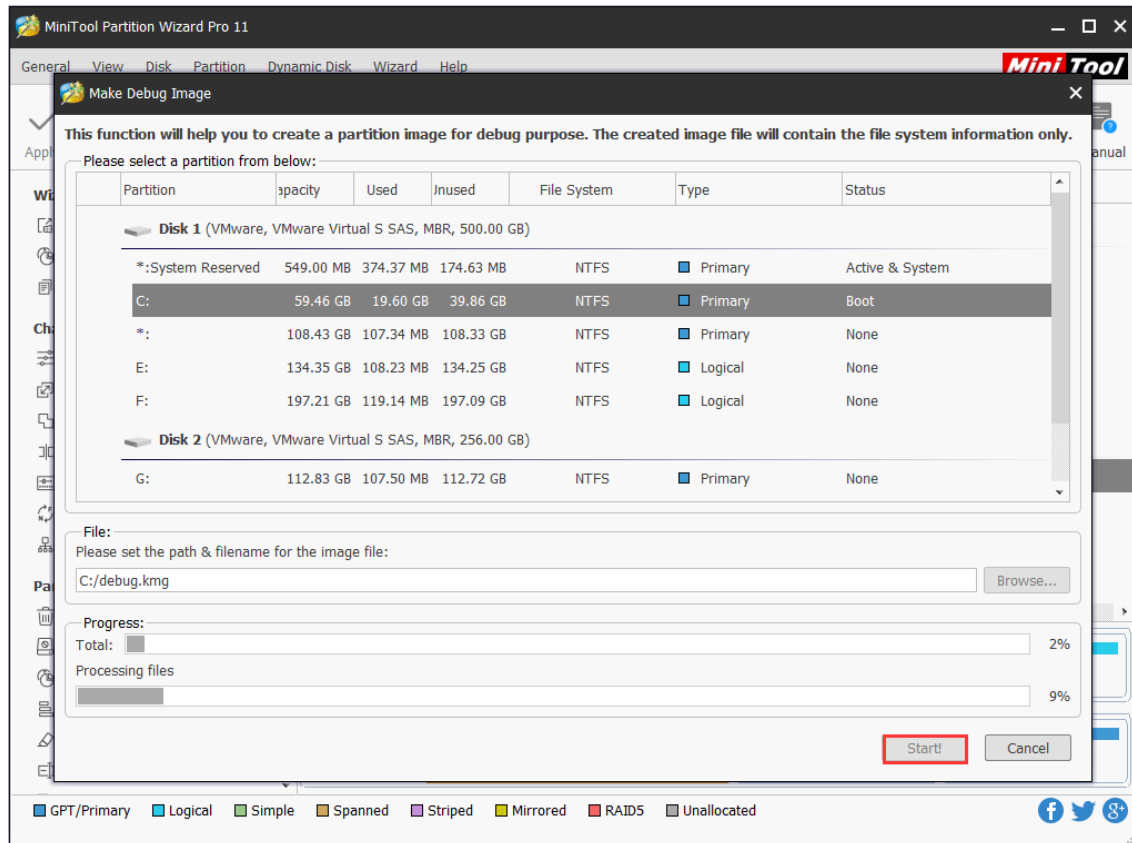
4). Make Debug Image:

This function will help users to create a partition image for debugging purpose. The created image file will contain the file system information only. It supports NTFS file system only.

Step 1. Go to **Help > Debug Help > Make Debug Image**.

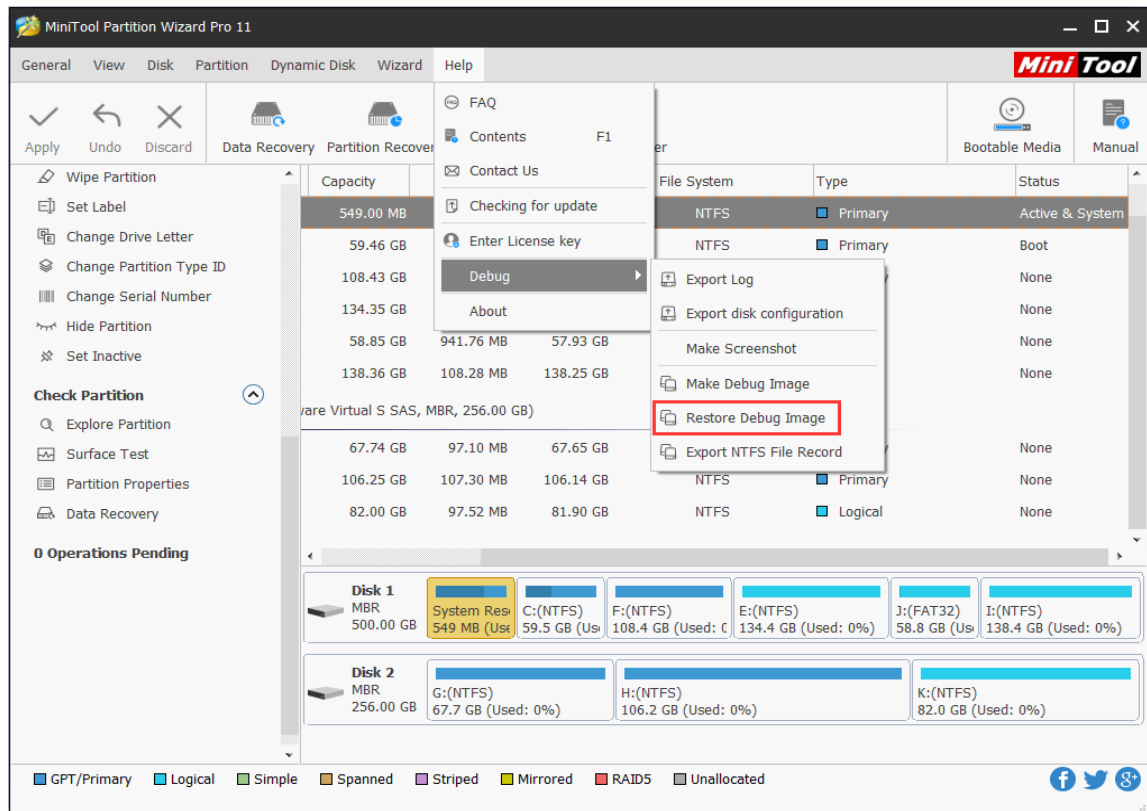


Step 2. Click on **Browse** button. There will be a pop-out window which enables users to choose a proper stored path and set the file name. Then press on **Save** to continue.



Step 3. Click on **Start!** and this software will start the debug image making process. Just press

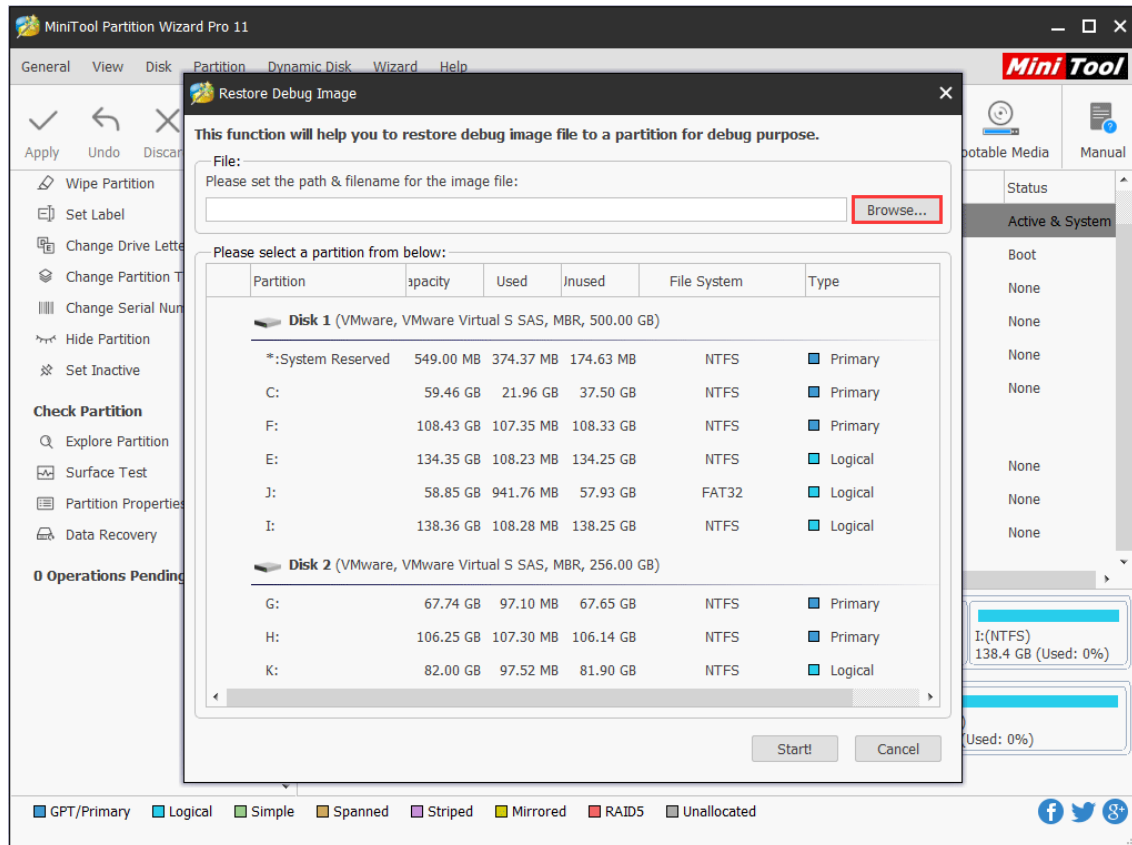
on **OK** when this process is finished. Then, the debug image will be saved on the specified path.



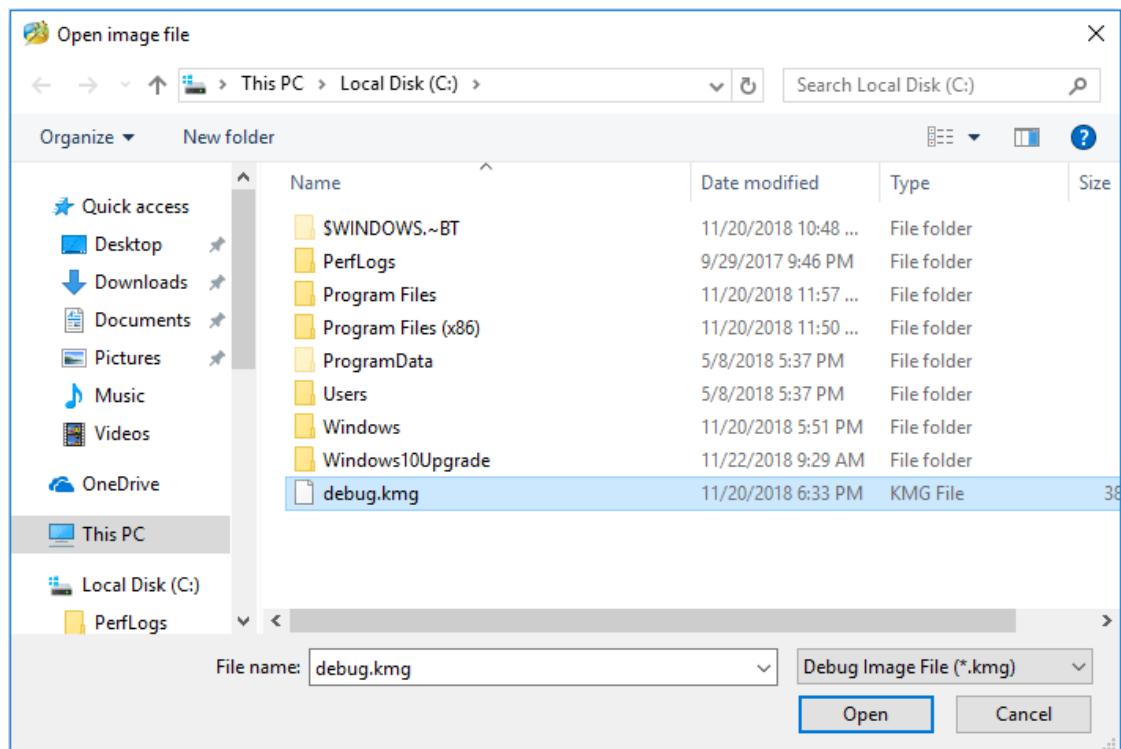
5). Restore Debug Image:

This function will help users to restore debug image file to a partition for debug purpose and just support NTFS file system.

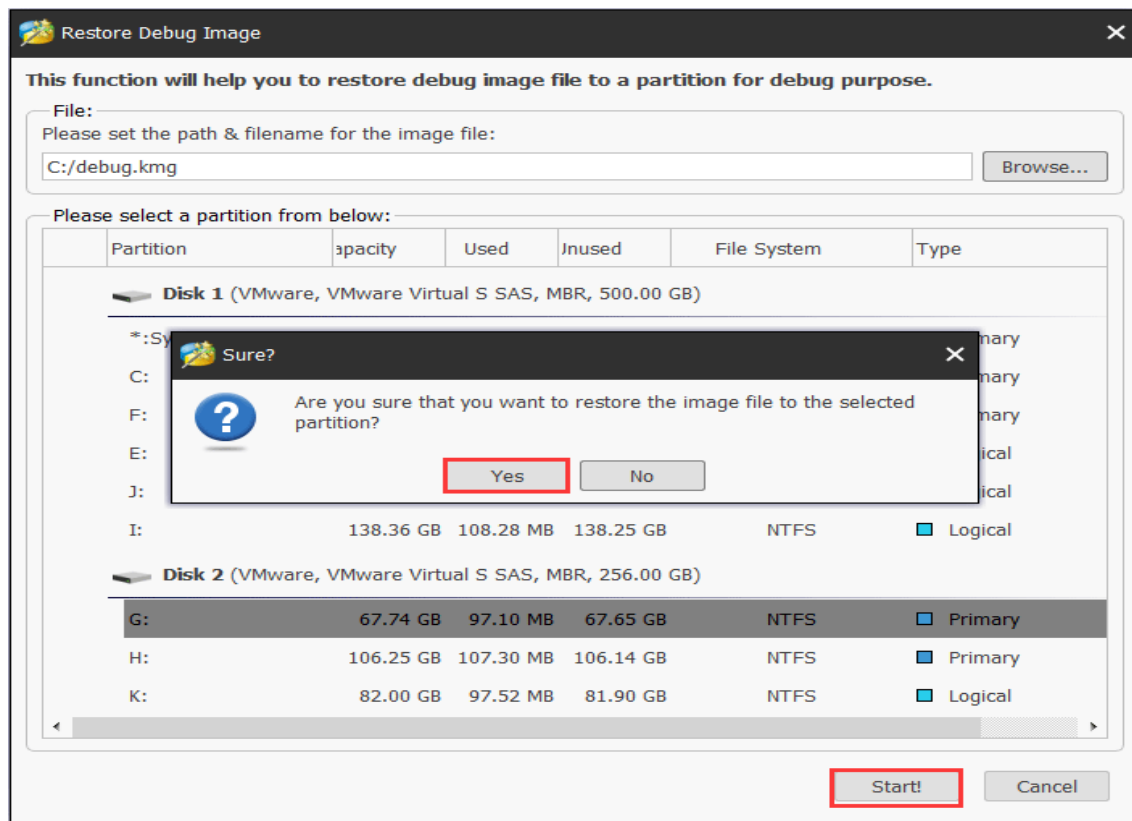
Step 1. Go to **Help > Debug Help > Restore Debug Image**.



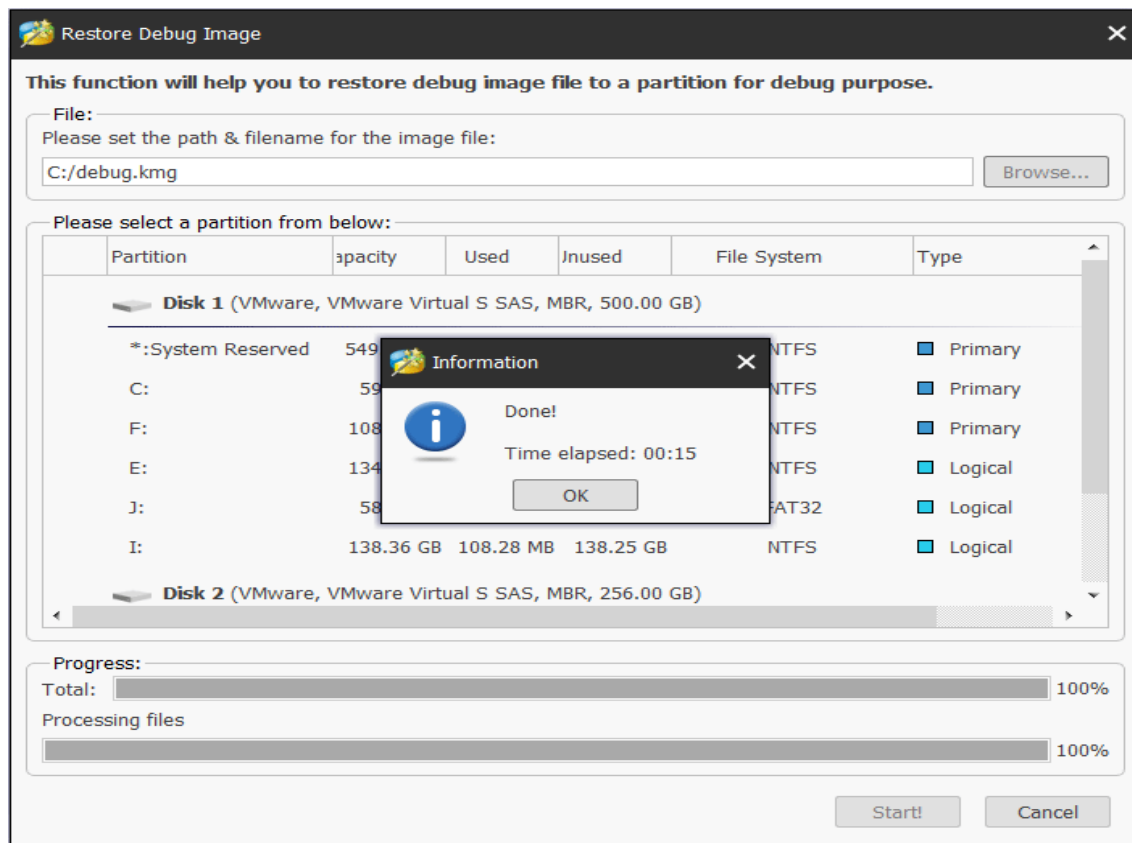
Step 2. Click on **Browse** button on the pop-out window.



Step 3. Pick the target debug image from the computer on this second pop-out window and then press on **Open** to continue.



Step 4. Select a partition from this interface, click on **Start!** and then press on **Yes** from the pop-out window to start the restoring process.

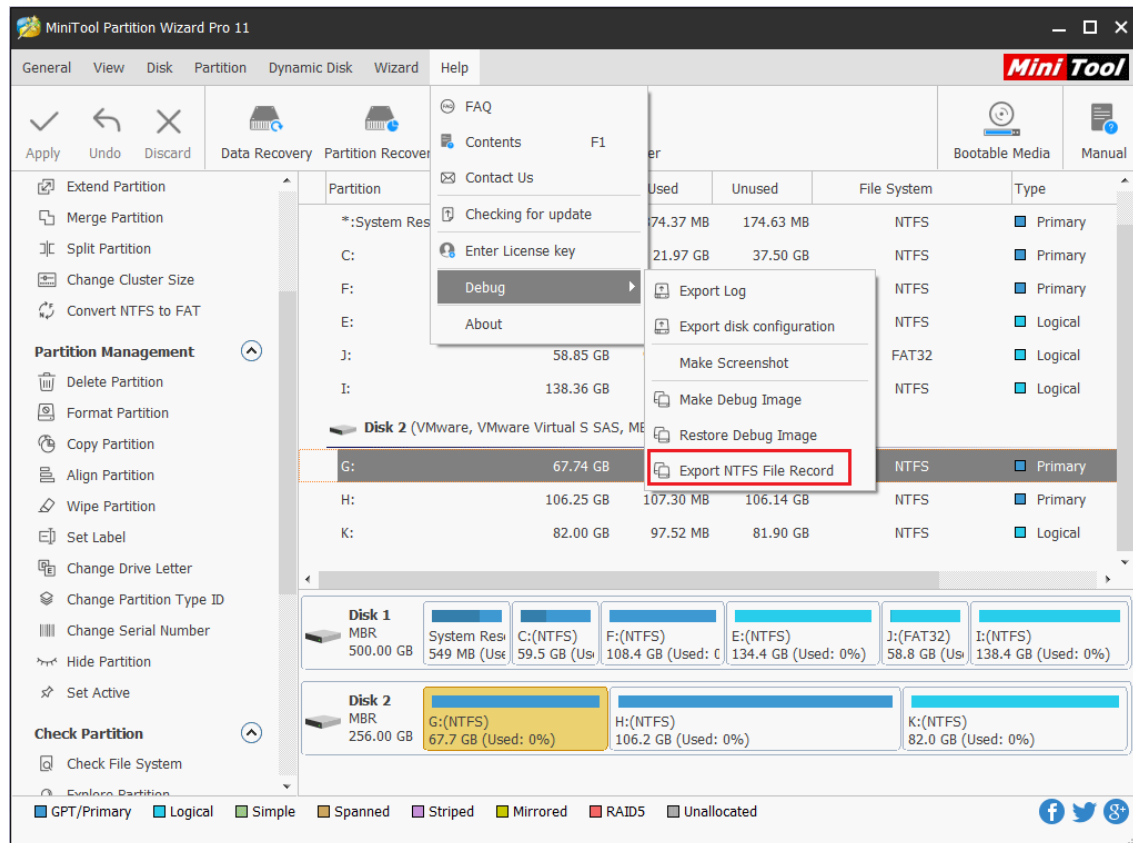


Note: The selected partition should have enough space for restoring debug image.

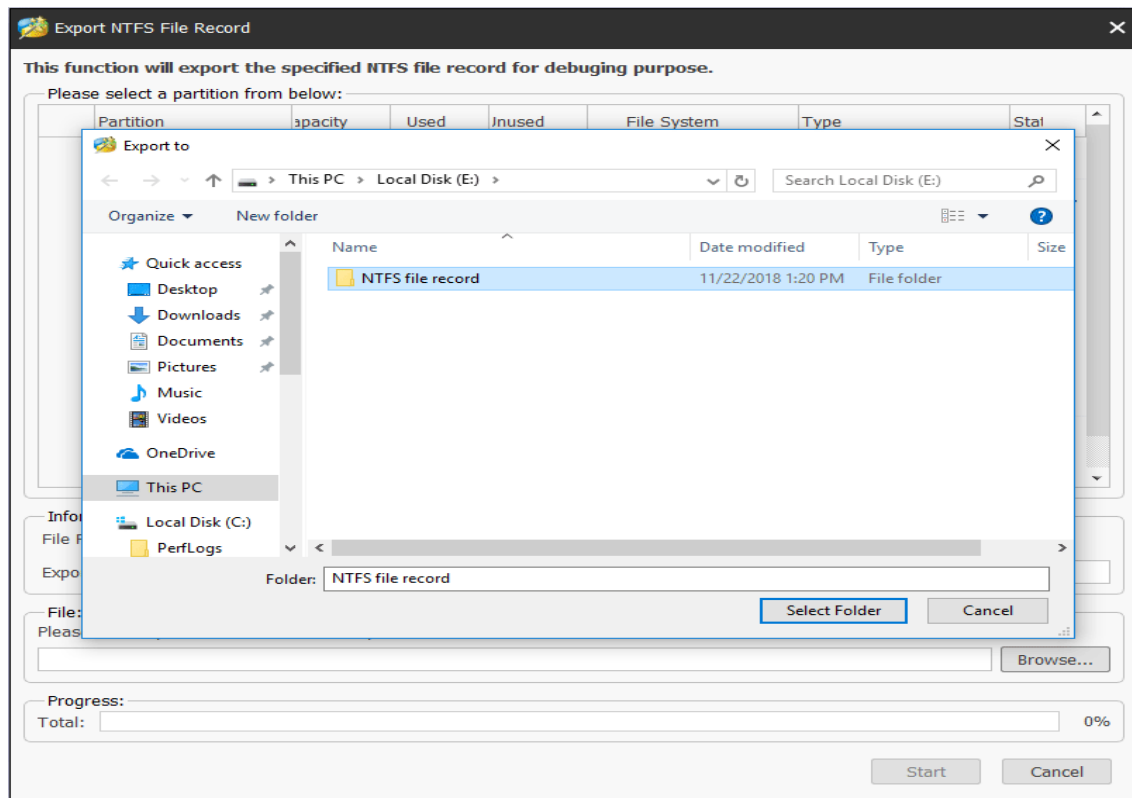
Step 5. Click on **OK** when the restoring process is finished.

6). Export NTFS File Record: This function will help users to export NTFS file record.

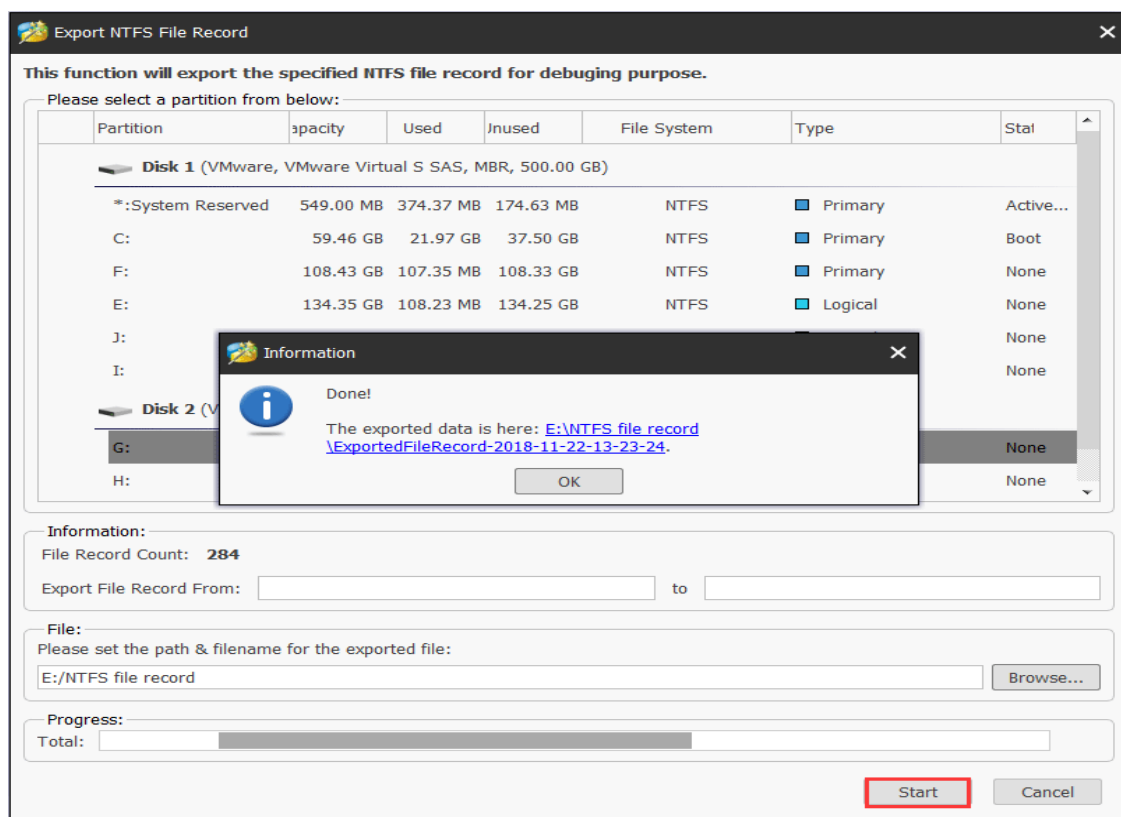
Step 1. Go to **Help > Debug > Export NTFS File Record**.



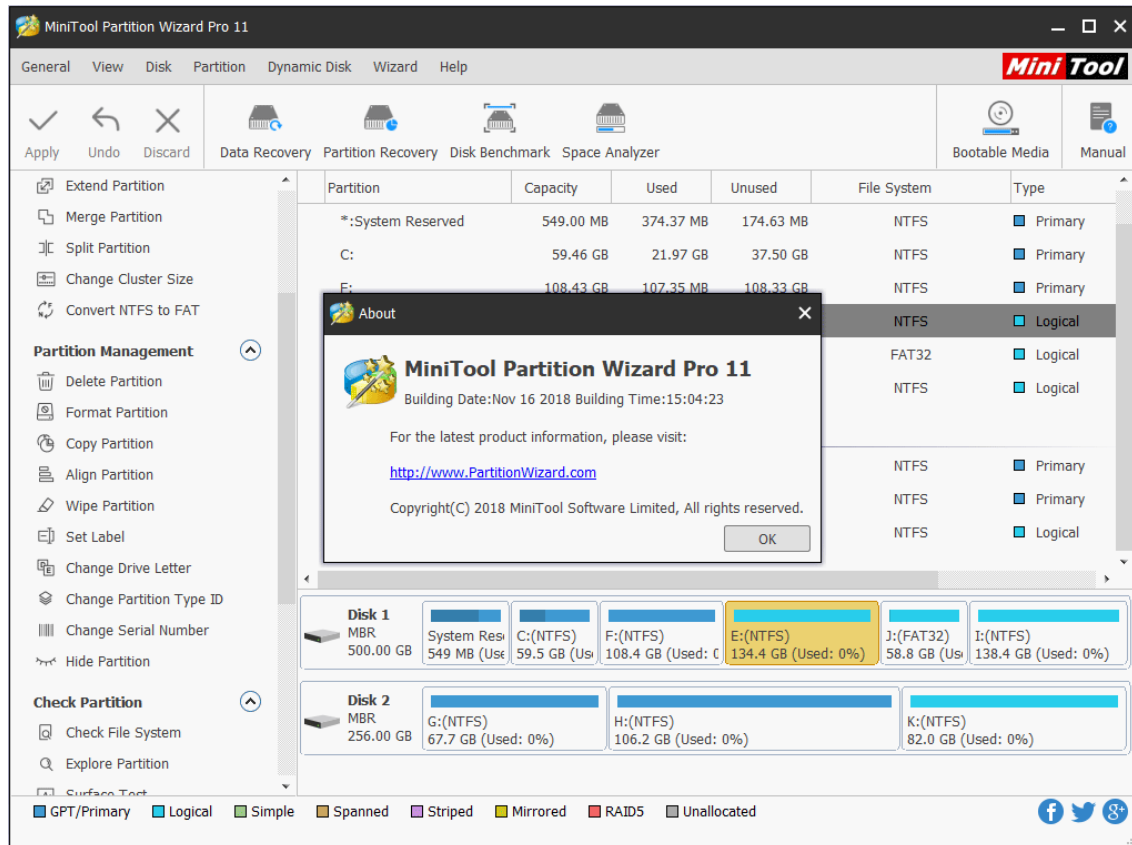
Step 2. Select a folder to store the exported file. Then click **Select Folder**.



Step 3. Select a partition from this interface, click on **OK** from the pop-out window.



7). **About:** Go to **Help > About**, and users will see a pop-out window as follows, which will show them some information about this software such as building date, building time, and copyright.



13. Offline Activation

13.1 Offline Activation

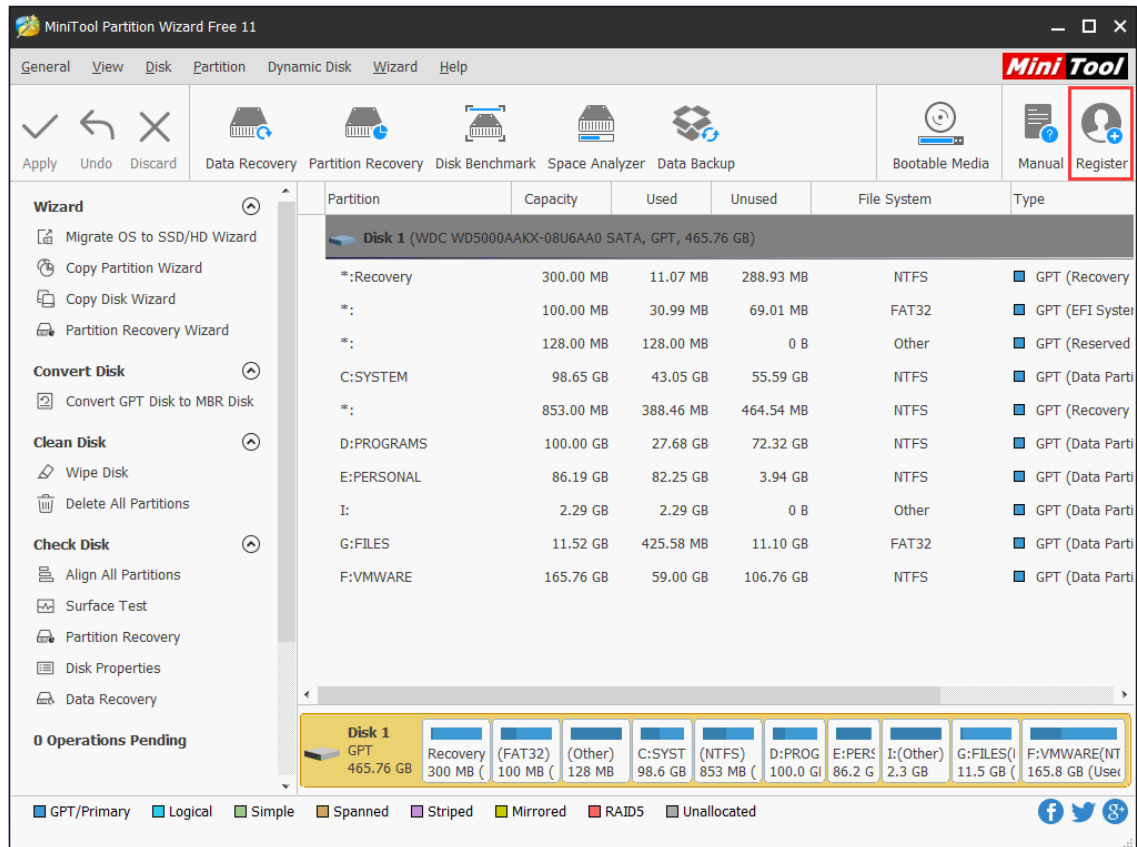
Usually, after installing MiniTool Partition Wizard paid edition, we just input the license key to the Registration box, click Register button and then we have finished online registration.

But if computer is not connected to the Internet, users will definitely receive the Offline Registration window. At this time, users should make their PC network connected. Otherwise, users will have to go through the offline license activation.

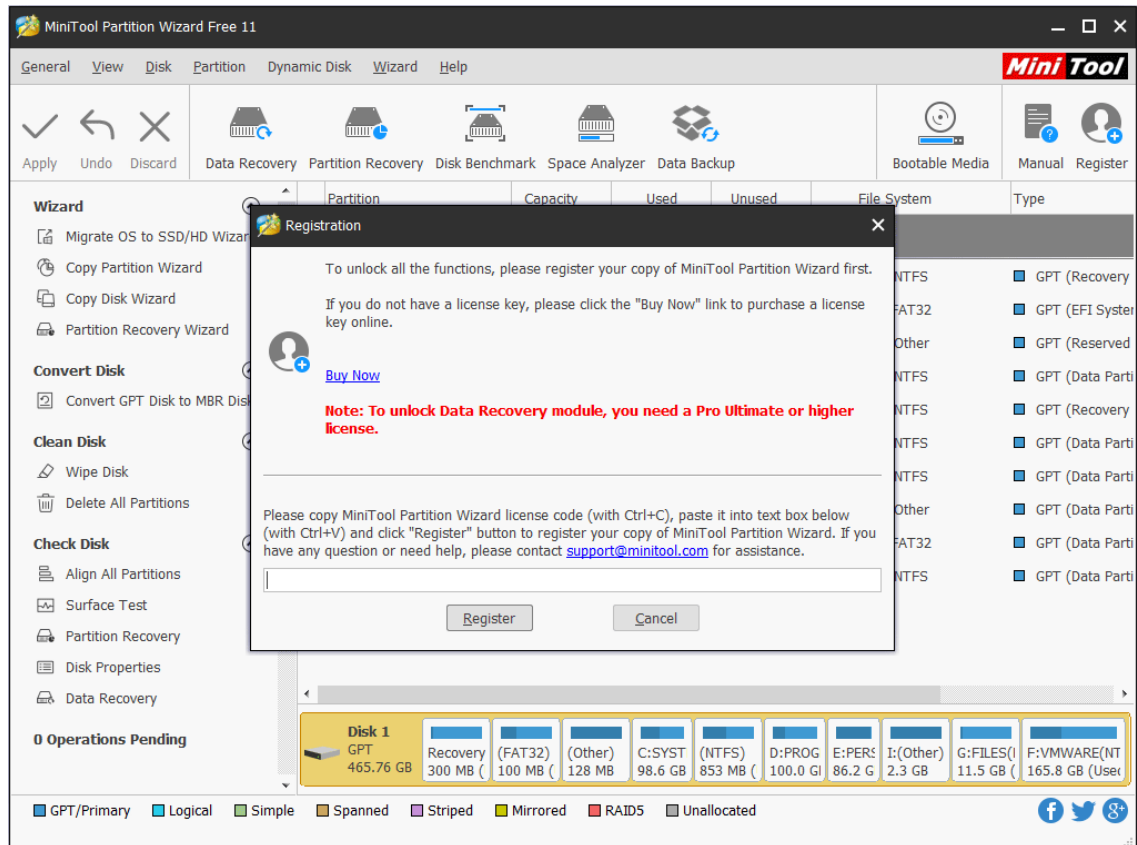
Tip: Users may copy the key information to a removable disk to get through all the steps quickly.

13.2 How to Do the Offline Activation

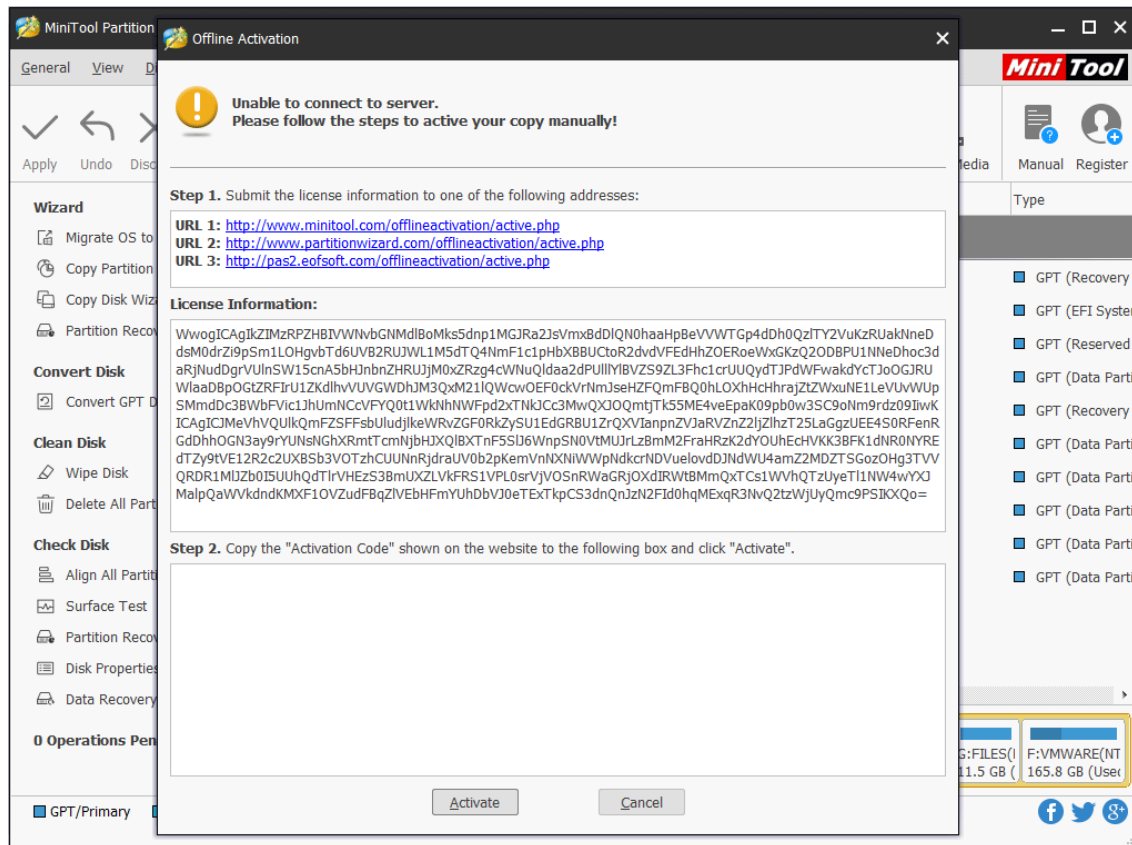
Step 1. Launch MiniTool Partition Wizard and click **Register**.



Step 2. Input the license key and and click **Register**.



Step 3. Connect the removable disk to the computer without network connection, open it and create a new Text document. Then copy the three URLs as well as the License Information and save them to the Text document. Now safely remove the removable disk and leave the Offline Activation window there.



Step 4. Connect the removable disk to a networked computer and open the Text document. Now visit one of the three URLs listed. Then copy the License Information from the Text document and paste it into the box shown on the page users visit. Finally, click **Activate** button.



Product Activation

License Information:

```
WwogICAgIkZlMzRPZHBIVmNvbG9mMks5dnp1MGI3Raa2J5Vmx8dDlQW0haaHpBeVWw  
TGP4dDh0Qz1TY2VukzRUakNneDdsM0drZi9p5m1LOHgvbtd6UVB2RUJmL1M5dtQ4NmF1  
c1pHbXB8BUCtoR2dvdfEFdHhZOEroelxGKzQ2OD8PU1NNeDhoc3daRjNudDgrVU1nS5W15  
cnA5bHJnbzHRUjJjM0xZRzg4clWuQ1daa2dPU111Y1BVZ59ZL3Fhc1crUUQydtJ3PdlFw  
akdyCTJoOG3RUW1aaD8pOGtZRFirU1ZKd1hvVUVGwDh3H3QxM211QWcwOEF0ckVrNm7s  
eH2FQmFBQ0hLOXhHcHhraJztZixuNE1LeVUvUUpSMmdDc3BhbFV1c13hUmNCcVFYQ0t1  
WkKhNvFpd2xTNk7Cc3WuQXJOmtJTk55ME4veEpaK09pb0w35C9oNm9rdz09IiwKICAg  
IC3MeVhVQU1kQmFZSF5sbUudj1keWVvZGF0RkZySU1EdGRBU1ZrQXVianpnZVJaRVZn  
Z21jZ1hzT25LaGgzUEE4S0RFenRgdDh0GN3ay9rYUtsNGhXRmtTcmNjbHJXQ1BXTnF5  
S136WnpSN0VtMUJrLz8mM2FraHRzK2dYOUhEcHVKK3BFK1dNR0NVREdTzy9tVE12R2c2  
UXBSb3VOTzhCUUlnRjdraUV0b2pkemVnNXN1WlpNdkcrNDVUe1ovdD3Ndlw4amZ2MDZT  
SGozOHg3TVVQRDR1H1J2b0ISUUhQdT1rVHEzS3BmUXZLVkFRS1VPL0srVjVO5nRNaGRj  
OXdiRwtBImQxTCs1WVhQTzUyeT11Nm4wYXJMa1pQaliVkdndKPF10VZudFBqZ1VEbHFM  
YUhdBvJ0eTExTkpcS3dnQnJzN2F1d0hQlEeqR3NvQ2tzUyQmC9PSIKXQo=
```

Activate

Note: Enter license information and security code, then click "Activate" to get Activation code.

Step 5. And then users will get a Activation Code. Sometimes, users will be required to enter the Security Code after pressing Activate. Do this and again click Activate. Now the Activation Code is generated. Please save this code to the Text document for next process and finally remove the removable disk safely.

License Information:

```
WwogICAgIkZIMzRPZHBIVWVbGNMdlBoMks5dnp1MGJRa2JsVmxBdDlQN0haaHpBeVWw  
TGp4dDh0Qz1TY2VuKzRUakNneDdsM0drZi9pSm1LOHgvbTd6UVB2RUJWl1M5dTQ4NmF1  
c1pHbXB8BUctoR2dvdVFEdHhZOERoeWxGKzQ2ODBPu1NNeDhoc3daRjNudDgrVUlnSw15  
cnA5bHJnbmZHRUJjM0xZRzg4cWNUQldaa2dPU1l1YlBVZS9ZL3Fhc1crUUQydTJPdWFW  
akdYcTJoOGJRUWlaaDBpOGtZRFirU1ZKdlhvVUVGVWdhJM3QxM2l1QWcwOEF0ckVrNmJs  
eHZFQmFBQ0hLOXhHcHhrajZtZWxuNE1LeVUvWUpSMmdDc3BwbFVic1JhUmNCcVFYQ0t1  
WkNhNWFPd2xTNkJCc3MwQXJOQmtjTk55ME4veEpaK09pb0w3SC9oNm9rdz09IiwKICAg  
ICJMeVhVQUlkQmFZSFFsbUludj1keWVvZGF0RkZySU1EdGRBU1ZrQXVIanpnZVJaRVZn  
Z21jZ1hzT25LaGgzUEE4S0RFenRgdDhhOGN3ay9rYUNsNGhXRmtTcmNjbHJXQlBXTnF5  
S1J6WnpSN0VtMUJrLzBmM2FraHRzK2dYOUhEcHVKK3BFK1dNR0NYREdTZy9tVE12R2c2  
UXBSb3V0TzhCUUNnRjdraUV0b2pKemVnNXNiWwPndkcrNDVue1ovdDJNdWU4amZ2MDZT  
SGozOHg3TVVQRDR1MlJZb0I5UUhQdTlrvHEzS3BmUXZLVkFRS1VPL0srVjVOSnRwaGRj  
OXdIRWtBMmQxTCs1wVhQTzUyeTl1NW4wYXJMa1pQaWVkdndKMxX10VZudFBqZlVEbHFM  
YUhDbVJ0eTEtKpCS3dnQnJzN2FId0hqMEXqR3NvQ2tzWjUyQmc9PSIKXQo=
```

Activate

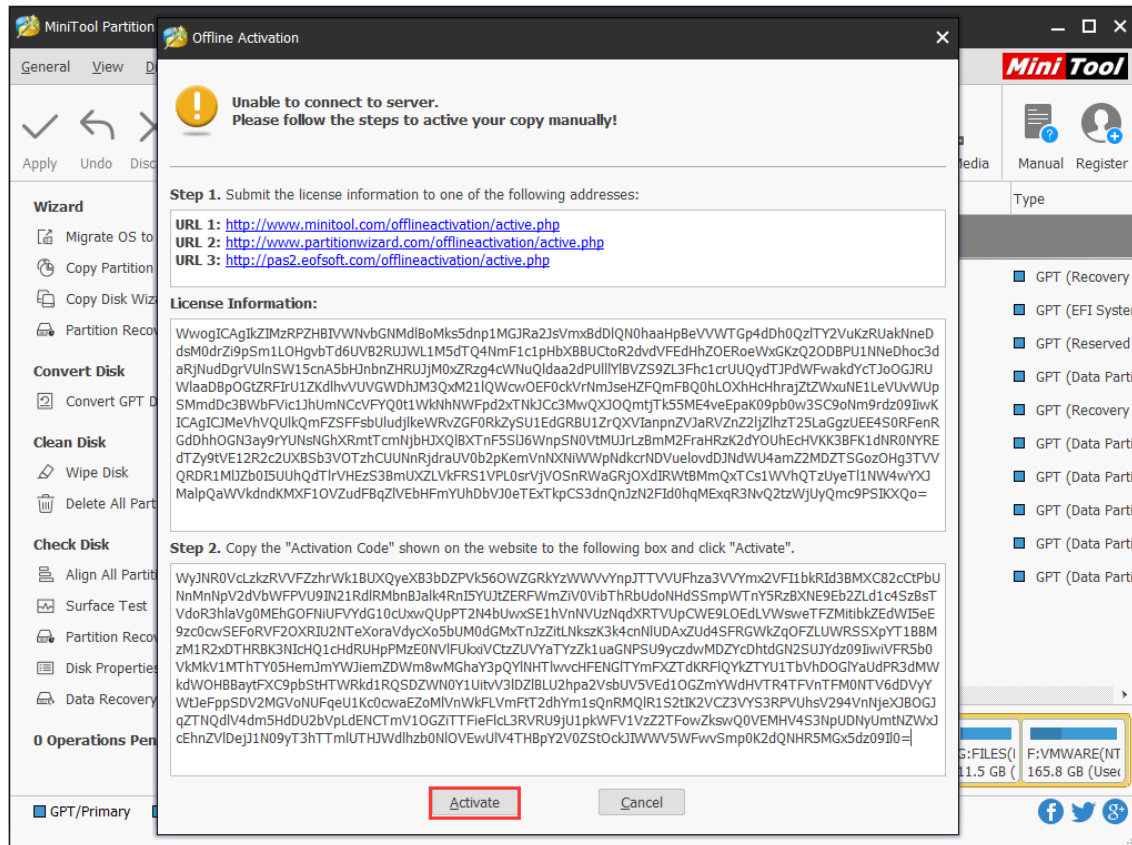
Activation Code:

```
WyJNR0VcLzkzRVVFZzhrWk1BUXQyeXB3bDZPVk56OWZGRkYzWwVvYnpJTTVVUFhza3VW  
Ymx2VF11bkRId3BMXC82cCtPbUNnMnNpV2dVbWFPVU9IN21RdlRMbnBja1k4Rn15YUJt  
ZERFWmZiV0VibThRbUdoNHdSSmpWtnY5RzBXNE9Eb2ZLd1c4SzsTVdoR3hlaVg0MEhG  
OFNiUFVYdG10cUxwQUPT2N4bUwxSE1hVnNVUzNqdXRTVUpCWE9LOEdLVwsweTFZMit  
bkZEdWI5eE9zc0cwSEFoRVF2OXRIU2NtEXoraVdycXo5bUM0dGMxTnJzZitLNksZK3k4  
cnNlUDAxZUd4SFRGwKZqOFZLUWRSSXpYT1BBmzM1R2xDTHRBK3NIcHQ1cHdRUhpPMze0  
NVlFUKxiVctzZUVYaTYzZk1uaGNPSU9yczdWMDZYcDhtdGN2SUJYdz09IiwVFR5b0V  
MkV1MThTY05HemJmYWJiemZDWM8wMGhaY3pQYlNHTlwwcHFENG1TYmFXZTdKRFlQYkZT  
YU1TbVhDOGlYaUdPR3dMWkdWOHBBaytFXC9pbStHTWRkd1RQSDZWN0Y1UitvV3lDZlBL  
U2hpa2VsBUV5VE10GZmYWdHVTR4TFVnTFM0NTV6dDVyYwtJefpSDV2MGVoNUFqeU1K  
c0cwaEZOmlVnWkFLVmFtT2dhYm1sQnRMQlR1S2tIK2VCZ3VYS3RPVUhsV294VnNjeXJB  
OGJqZTNQdlV4dm5HdDU2bVpLdENCTmV1OGZiTTFieFlcL3RVRU9jU1pkWfV1VzZ2TFow  
ZksWQ0VEMHV4S3NpUDNyUmtNZWxjcEhnZVlDejJ1N09yT3hTTmlUTHJWdlhzB0NlOVEw  
UlV4THBpY2V0ZSt0ckJIWwV5WFwvSmp0K2dQNHRS5MGx5dz09I10=
```

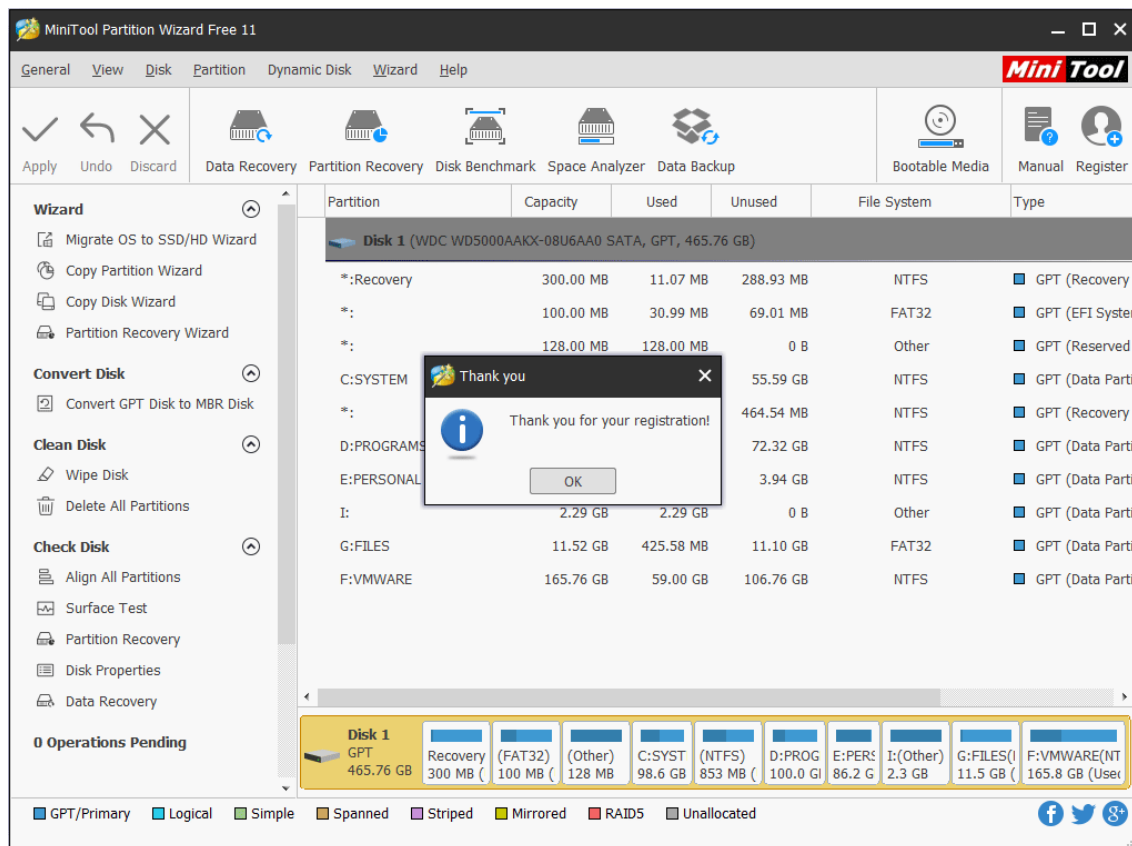
Note: Enter license information and security code, then click "Activate" to get Activation code.

Step 6. **Connect the removable disk back to the original computer**, copy the Activation Code from the Text document and paste it into the box of Offline Activation.

Step 7. Then click **Activate** button. Now users should have finished MiniTool Partition Wizard offline register.



Step 8. Click OK.



14. Create Partition

14.1 About Create Partition

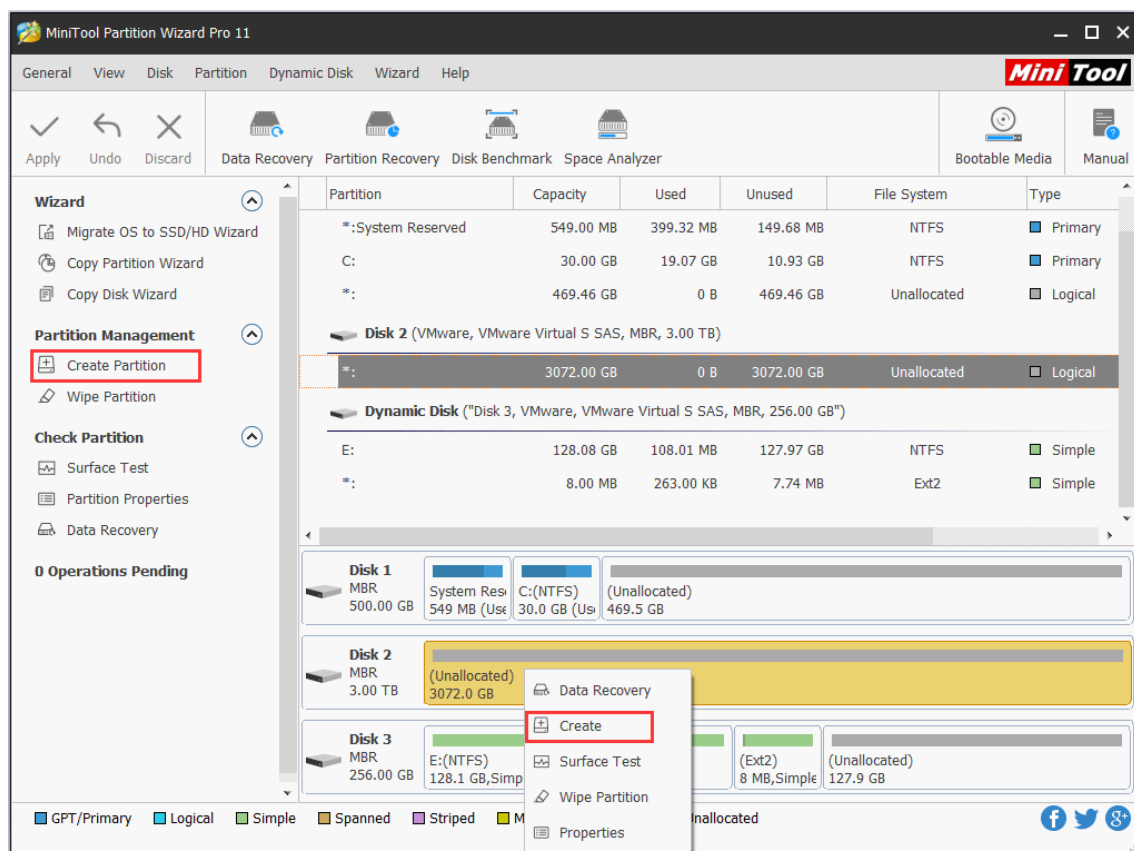
Create Partition feature enables users to create a new volume with specified unallocated space. For users who have two [partitions](#) on the same drive, with one for the operating system and the rest one for personal data, perhaps the partitions can't meet their demands for data management. In this case, Create Partition feature make it easy to manage various data by category.

14.2 How to Create Partition on Windows 10/8/7

For Windows 10/8/7 user, they can use a free partition manager - MiniTool Partition Wizard to create partition easily. Step-by-step guide is shown below:

Step 1. Choose one of the following ways to activate **Create Partition** function:

- Click **Create Partition** from the left menu after selecting the unallocated space.
- Right-click on the unallocated space and choose **Create** option from drop-down menu.



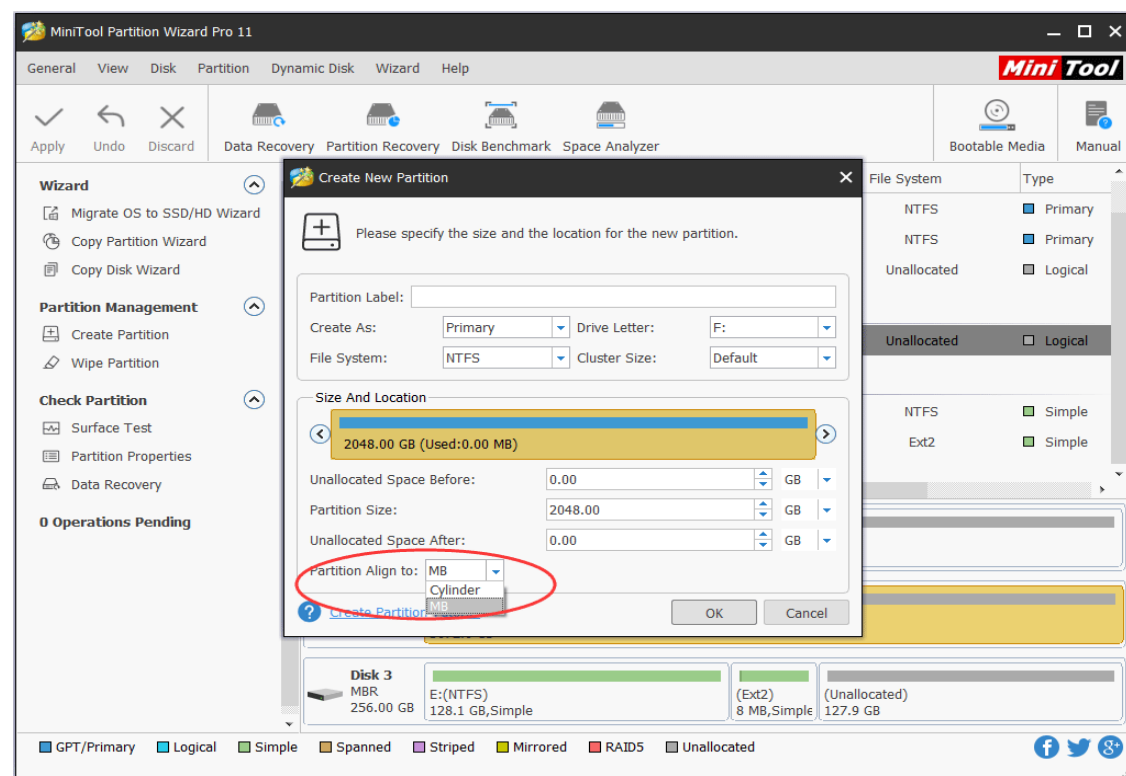
Step 2: In this interface, you are expected to confirm parameters including Partition Label,

Partition Type, Drive Letter, File System, Cluster Size, Partition Volume, Partition Location and Partition Alignment Method.

Kind Remind:

- The partition alignment option is only available when users are creating the first partition on an MBR disk.
- Aligning to cylinder is used in older OS versions like Windows XP and Windows Vista; newer Microsoft OS versions and Linux use the MB alignment by default.
- For a logical partition aligning to cylinder, there will be 8 MB unallocated space; but for a primary partition aligning to cylinder, there won't be 8 MB unallocated space.

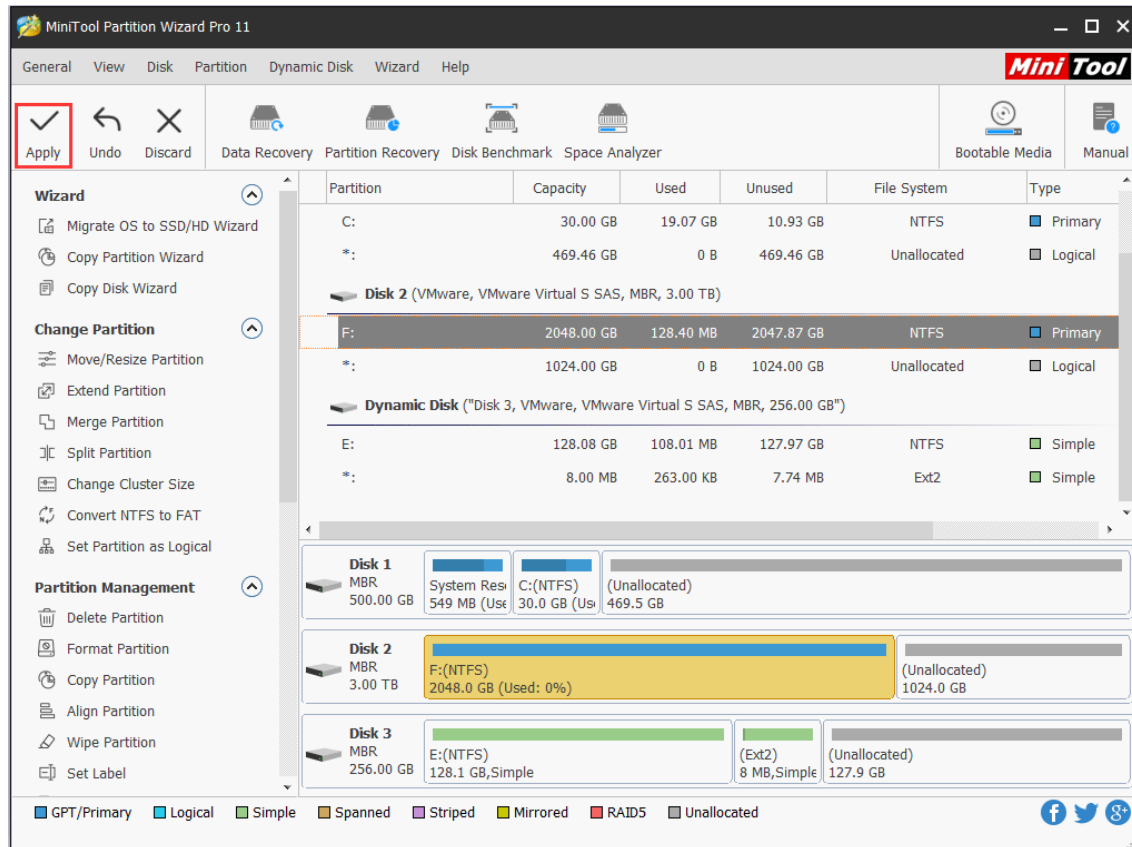
With no change here, all these parameters are kept by default. After that, click **OK** button to go back to the main interface of the software.



Recommended:

- [Primary Partition vs. Logical Drive: Their Exact Features](#)
- [What Is FAT32 Partition Size Limit and How to Break It?](#)

Step 3: users can preview a new partition will be created. Click **Apply** button on the upper left corner to confirm the creation.



Kindly Remind:

- MiniTool Partition Wizard can be used to create FAT/FAT32/exFAT/NTFS/Ext2/Ext3/Ext4/Linux Swap/Unformatted partitions.
- This software is also helpful in creating FAT32 partitions larger than 32 GB, which can't be done in Disk Management. If there is no unallocated space available for creation, try [Move/Resize Partition](#) to release some free space, and then create a new partition.
- For Windows Server users, [MiniTool Partition Wizard Server](#) is the right choice.

15. Delete Partition

15.1 About Delete Partition

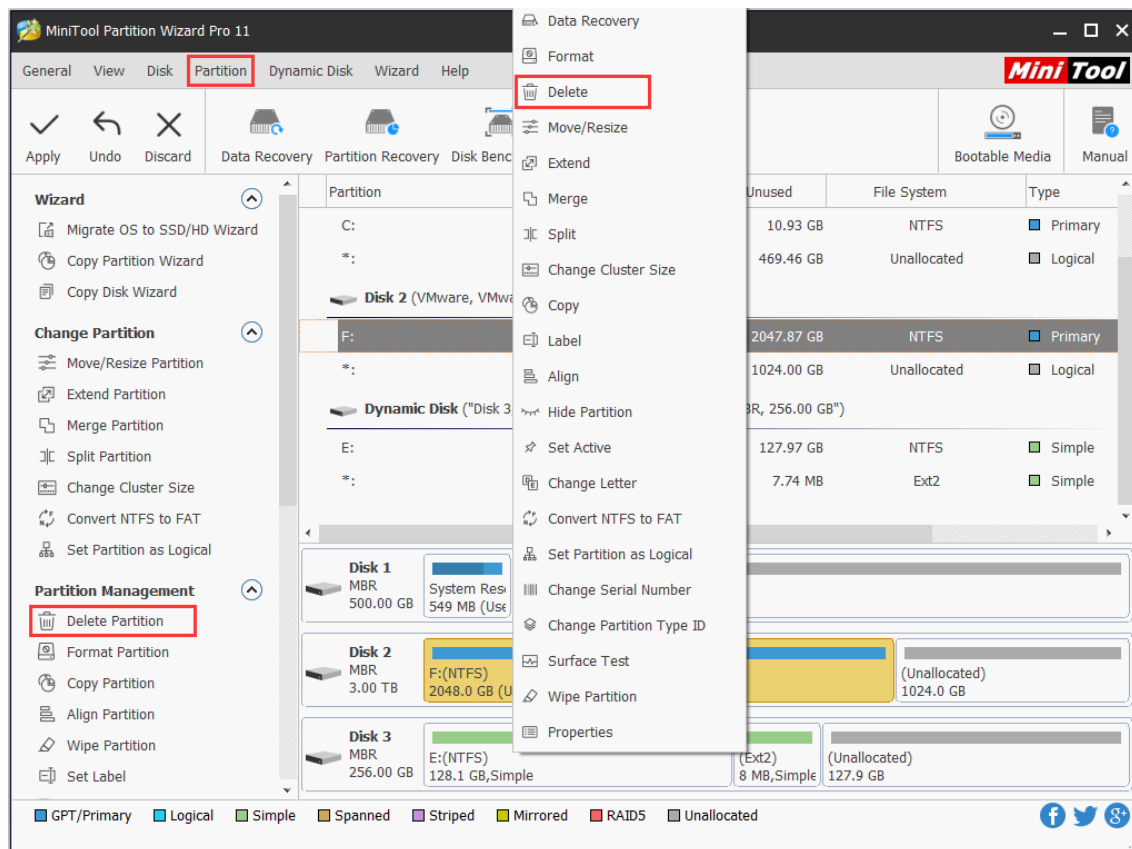
Delete Partition feature enables users to remove a specified partition. For users who want to remove all partitions on the same disk, [Delete All Partitions](#) is more convenient.

Note: In Windows 10/8/7, if users plan to delete system partition or the partition which contains page files, crash dump files, and hibernation files, please use MiniTool Partition Wizard Professional Edition to create a bootable disc, boot computer from this disc and then delete that partition in WinPE environment. For more information, click [here](#).

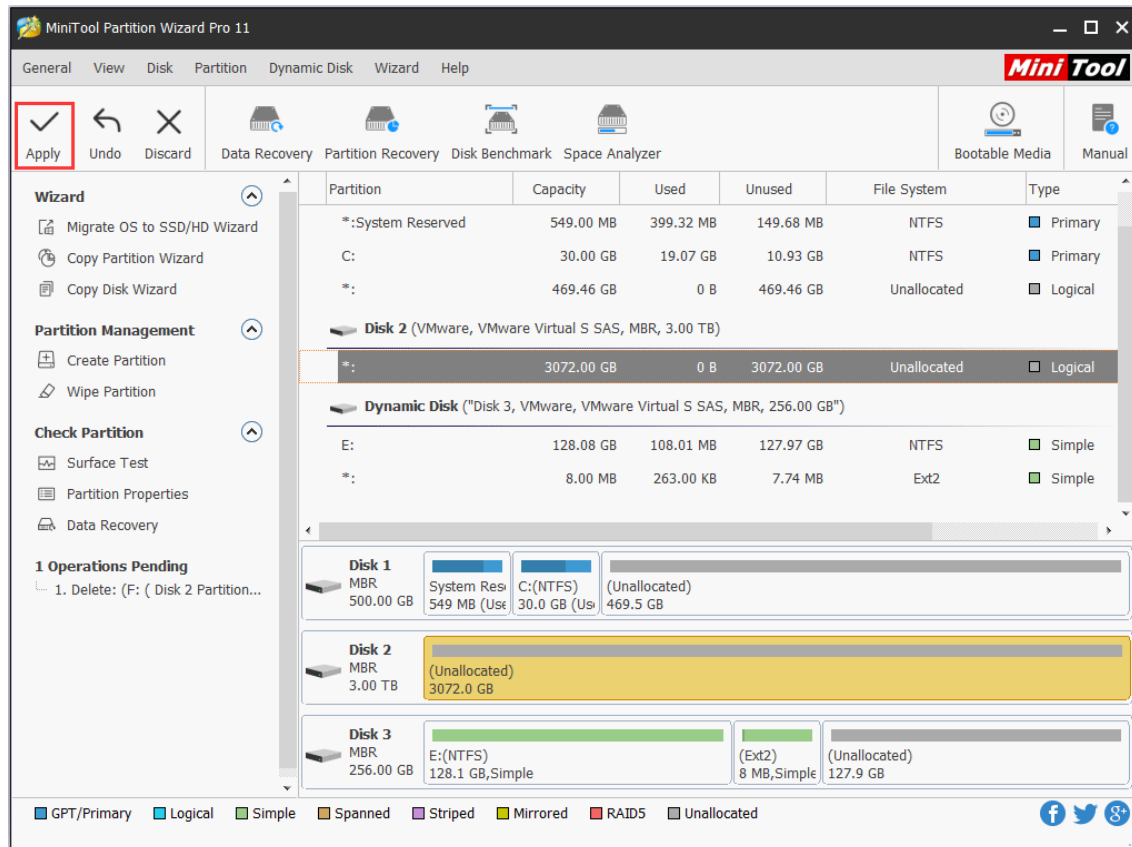
15.2 How to Delete Partition

Step 1. Choose a preferred way to activate partition deleting feature among the listed ones:

- Choose target partition and then click **Delete Partition** from left action panel.
- Select partition to be removed from the disk and click **Partition** on the menu bar, then select **Delete**.
- Right click target partition and click **Delete** from the context menu.



Step 2. Click **Apply** and tap **Yes** button to let the software perform deleting operation.



With the help of MiniTool Partition Wizard tutorial, users can easily get unneeded partition removed.

16. Format Partition

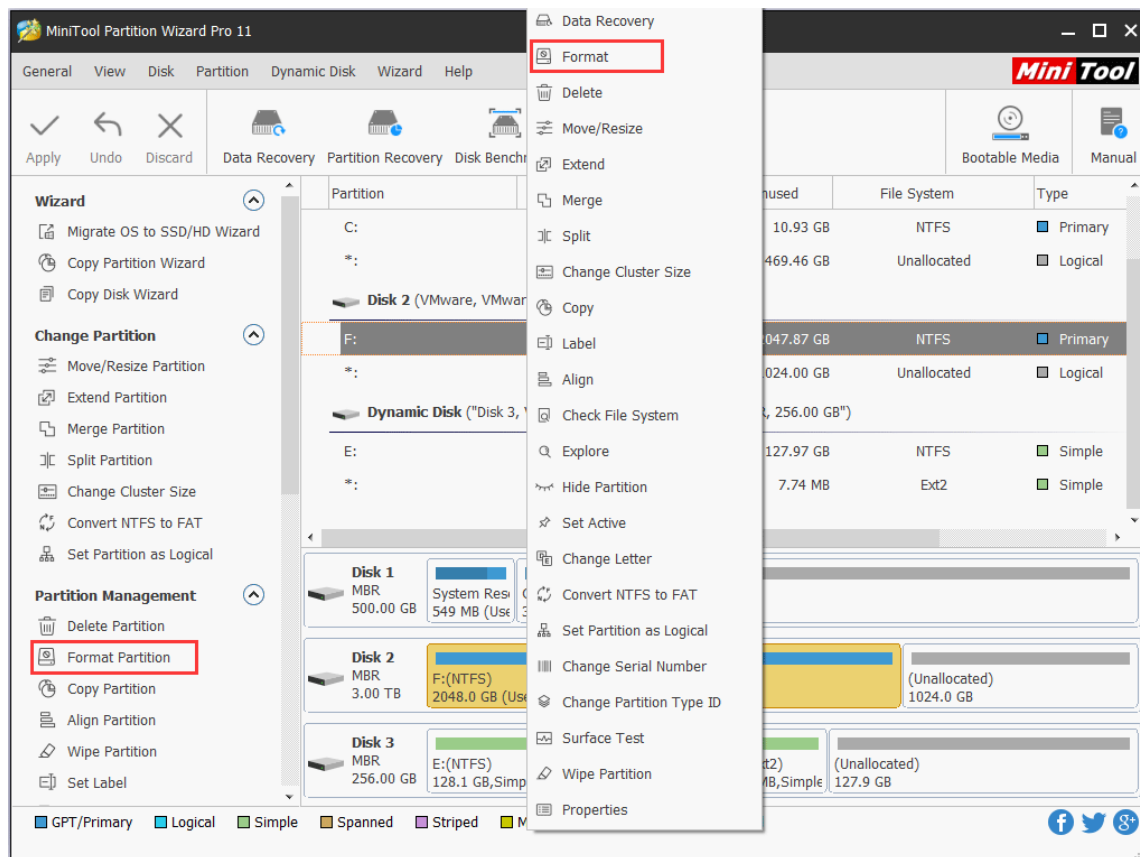
16.1 About Format Partition

With **Format Partition** feature, users can clear partition data and then reconfigure parameters for the specified partition so as to meet actual demands.

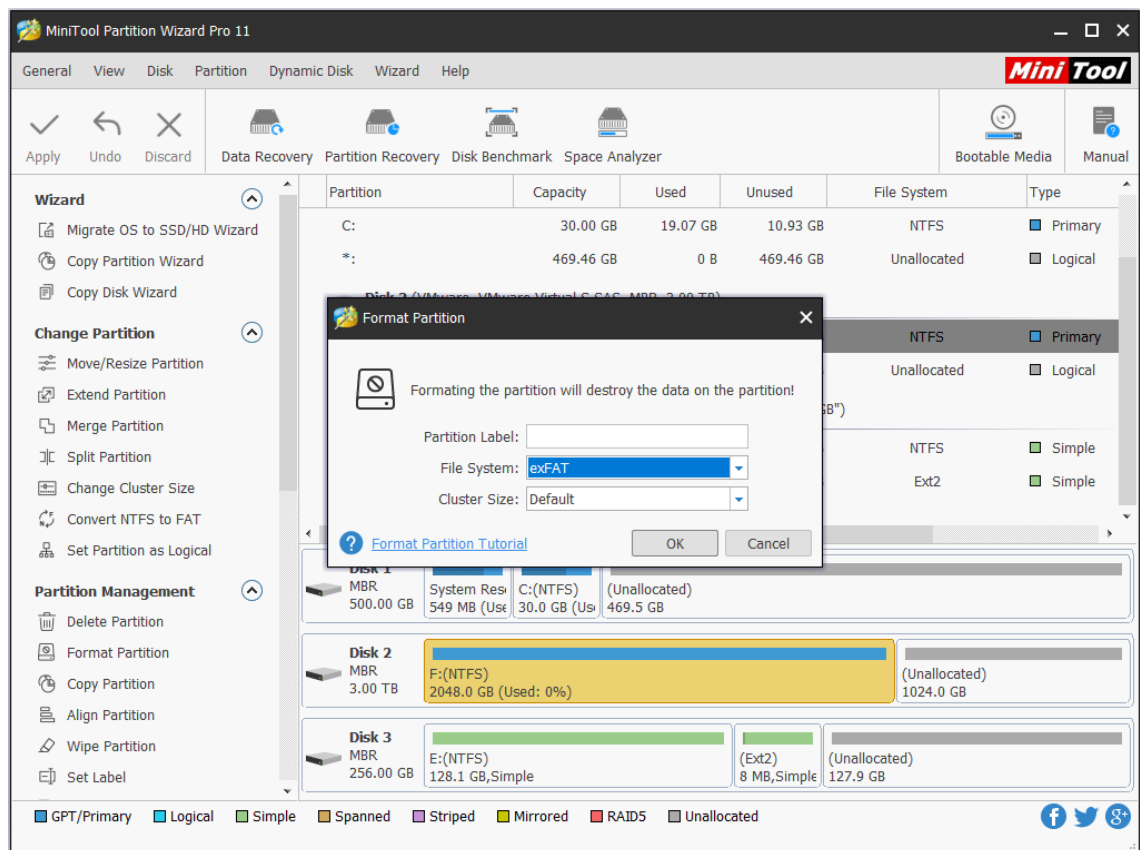
Warning: Formatting will destroy all data in the target partition. If the system partition or boot partition is formatted, the current OS will fail to boot properly.

16.2 How to Format Partition

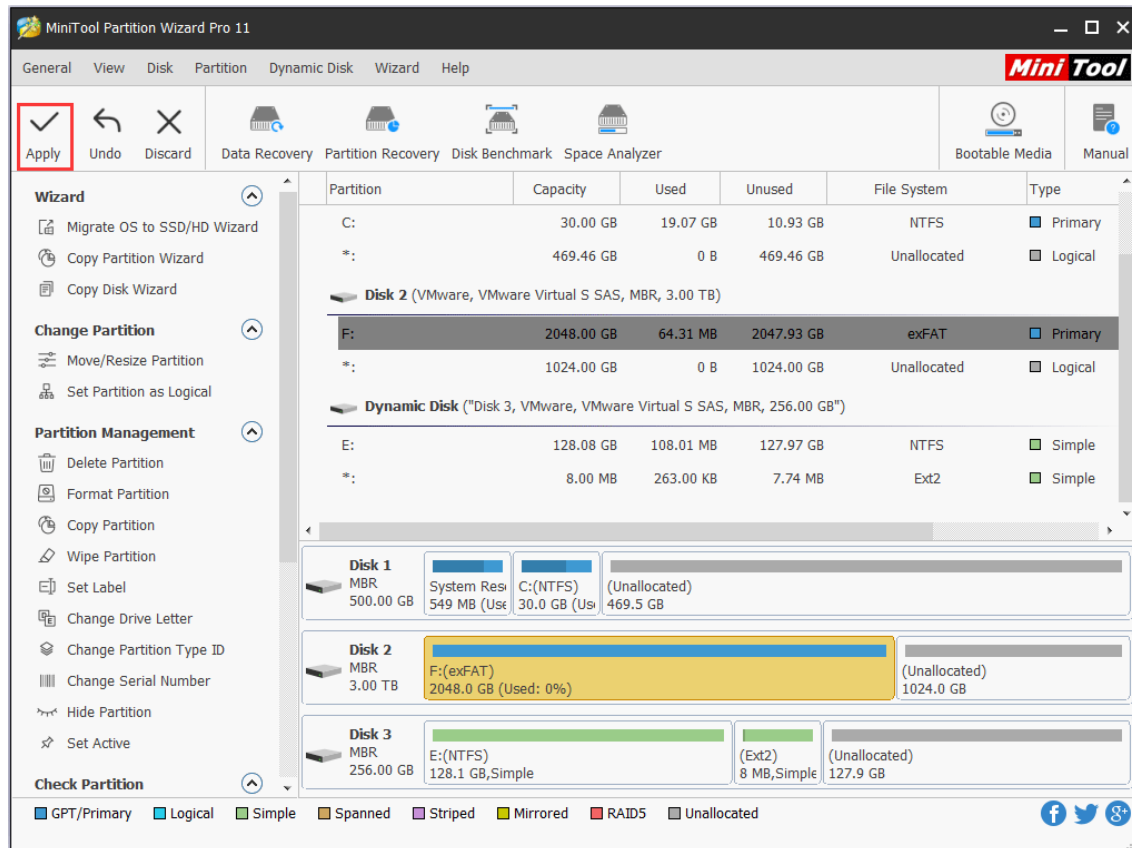
Step 1. Launch MiniTool Partition Wizard to get the following interface. Then, select the partition which needs formatting and choose **Format Partition** feature from the left panel.



Step 2. Set partition label, file system and [cluster](#) size for the selected partition and click OK.



Step 3. Now users can preview the formatted partition. If it is satisfying, please click **Apply** button at the top to apply the change.



Corresponding MiniTool Partition Wizard tutorial for partition reformatting is demonstrated as above.

17. Merge Partition

17.1 About Merge Partition

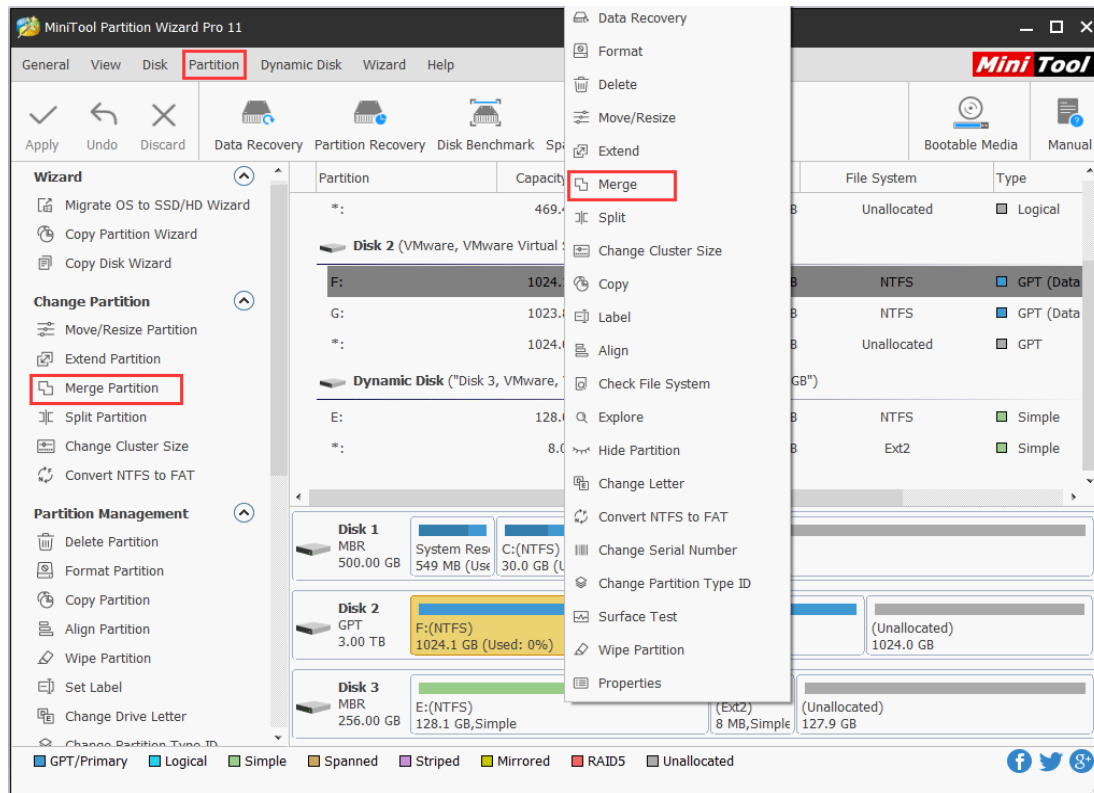
Merge Partition function helps users merge two adjacent partitions. It is noteworthy that this function only works for NTFS partitions. If the target partition is formatted with FAT12/FAT16/FAT32 [file system](#), please use **Convert FAT to NTFS** function of the software to convert the partition to NTFS at first.

17.2 How to Merge Partition

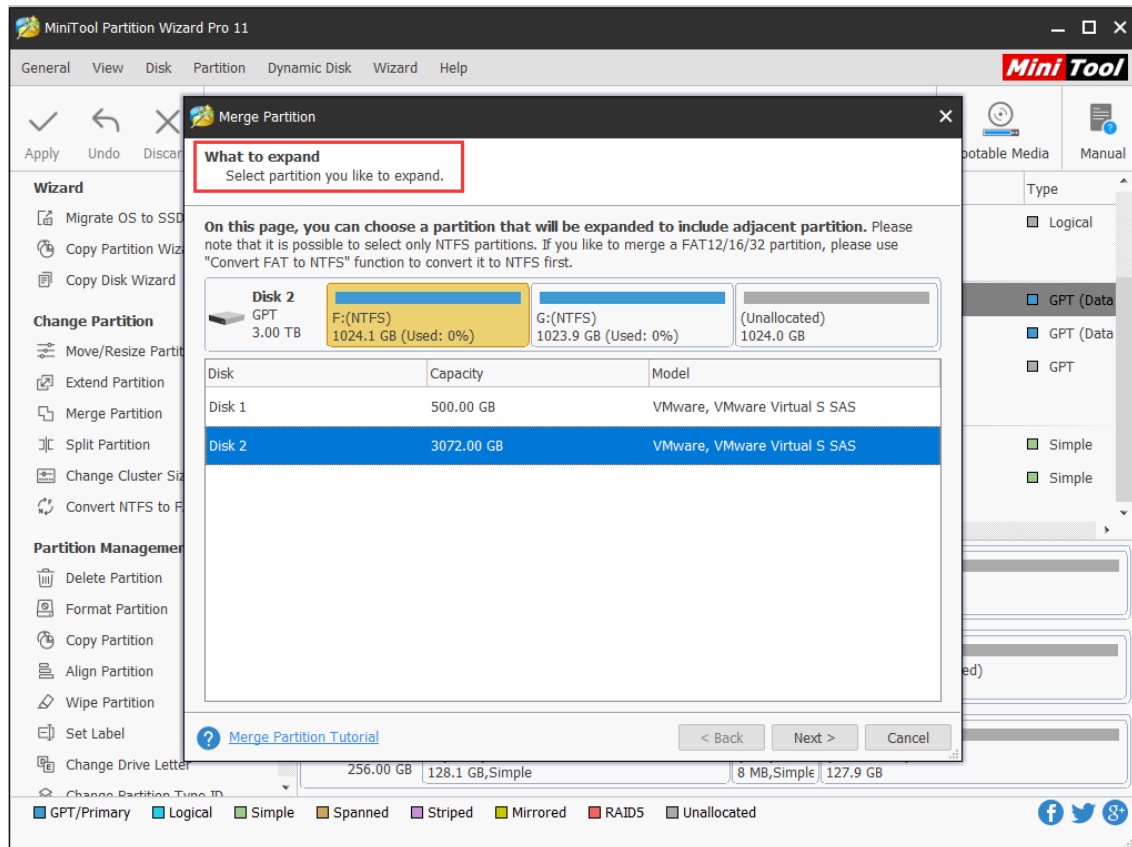
Please view the MiniTool Partition Wizard tutorial for partition incorporation here:

Step 1: Choose a preferred way to start partition merging operation from the listed ones:

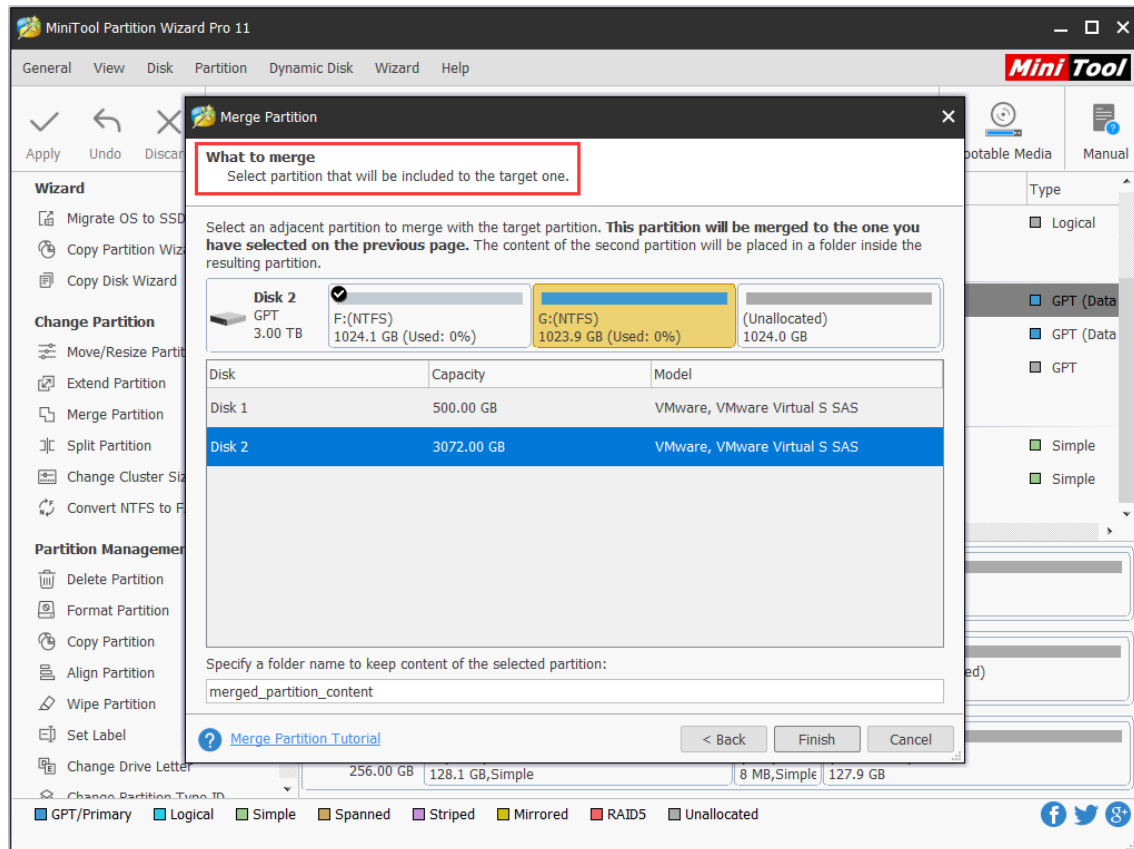
- Select the source partition and click **Merge Partition** from left action panel.
- Select the source partition and click **Partition** from the menu bar. Then, click **Merge** from the drop-down menu.
- Right click source partition and click **Merge** from the drop-up menu.



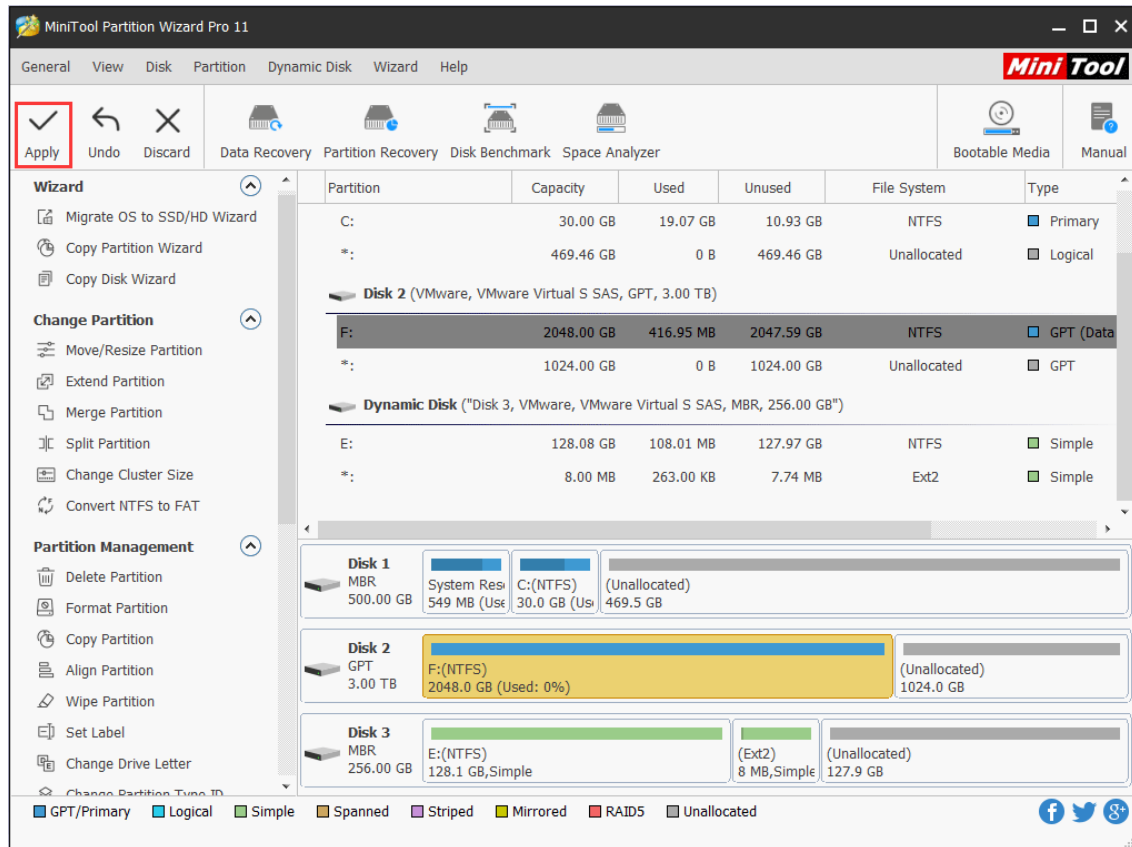
Step 2: In this interface, users can find the software has specified the selected partition to be expanded already. So users only need to click **Next** button to continue.



Step 3: Here, choose the partition which will be included in the previously chosen partition and name the folder which will contain the content of the selected partition. After that, click **Finish** button to go back to the main interface of the software.



Step 4: In the main interface, check the partition merging effect. If it is as expected, users can click **Apply** button in the upper left corner to confirm.



Tip: To merge C drive and other partition, for a successful boot, users are strongly suggested using [Extend Partition](#) feature of [MiniTool Partition Wizard Bootable Edition](#) to do this job.

18. Split partition

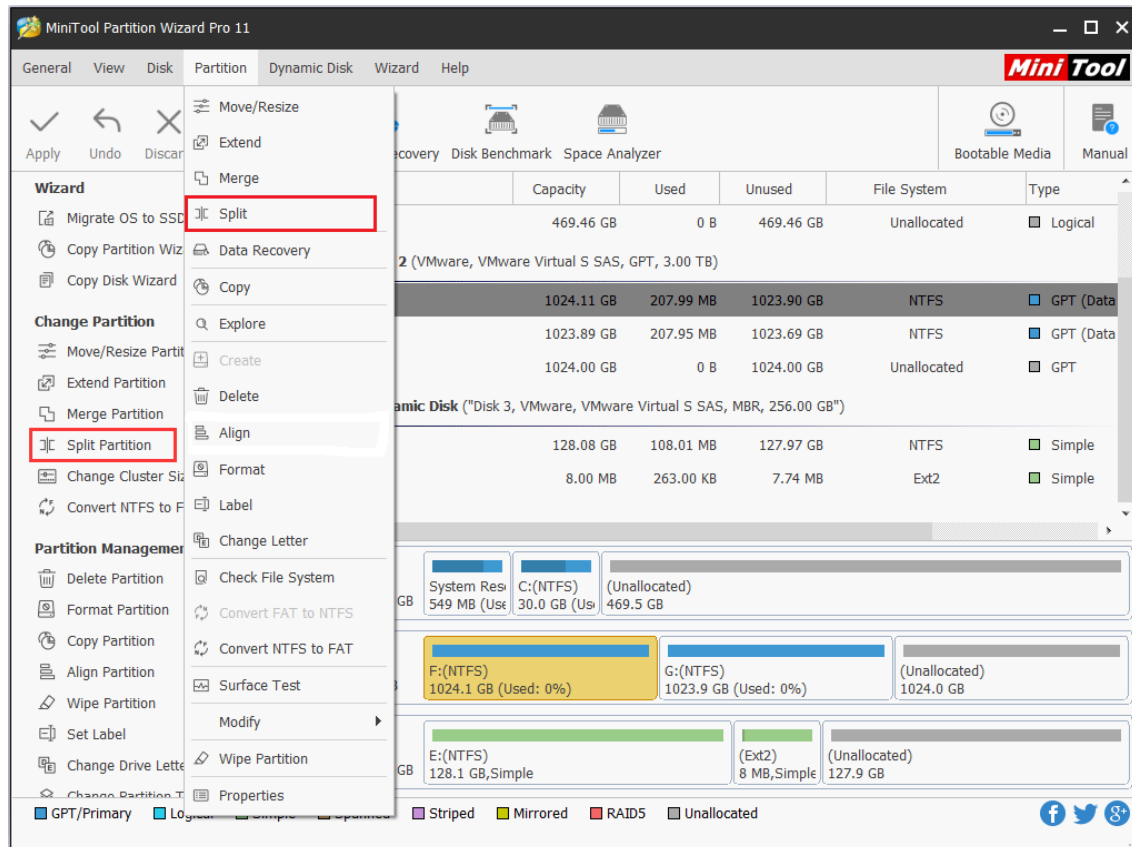
18.1 About Split Partition

Split Partition feature allows users to split one big partition into two smaller partitions without data loss. If users have got a big partition which has a lot of free space, they can use this feature to divide it into multiple partitions for a better data classification.

18.2 How to Split Partition

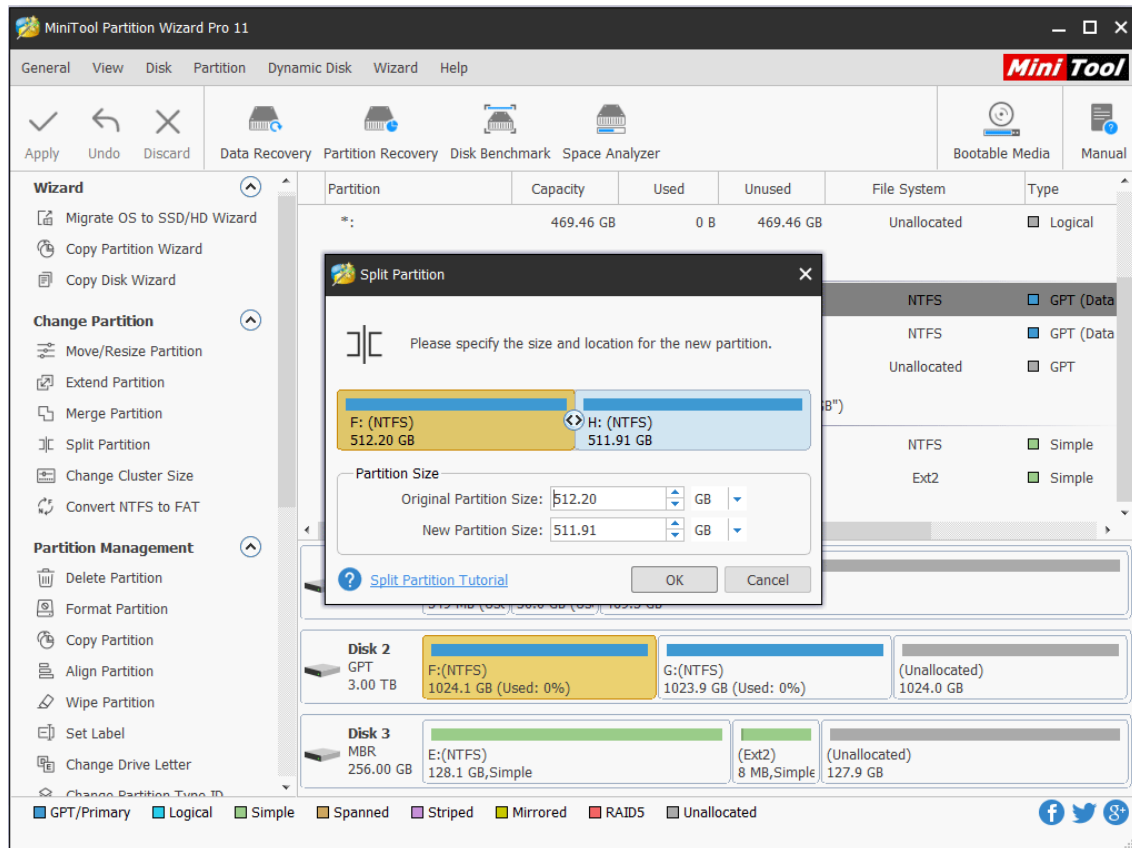
To successfully get a partition split with this partition manager, users need to strictly follow the MiniTool Partition Wizard tutorial below:

Step 1. From the main interface of this partitioning software, select the partition to split, and then click **Split Partition** from the action panel OR click **Split** from the drop-down list of **Partition** menu.

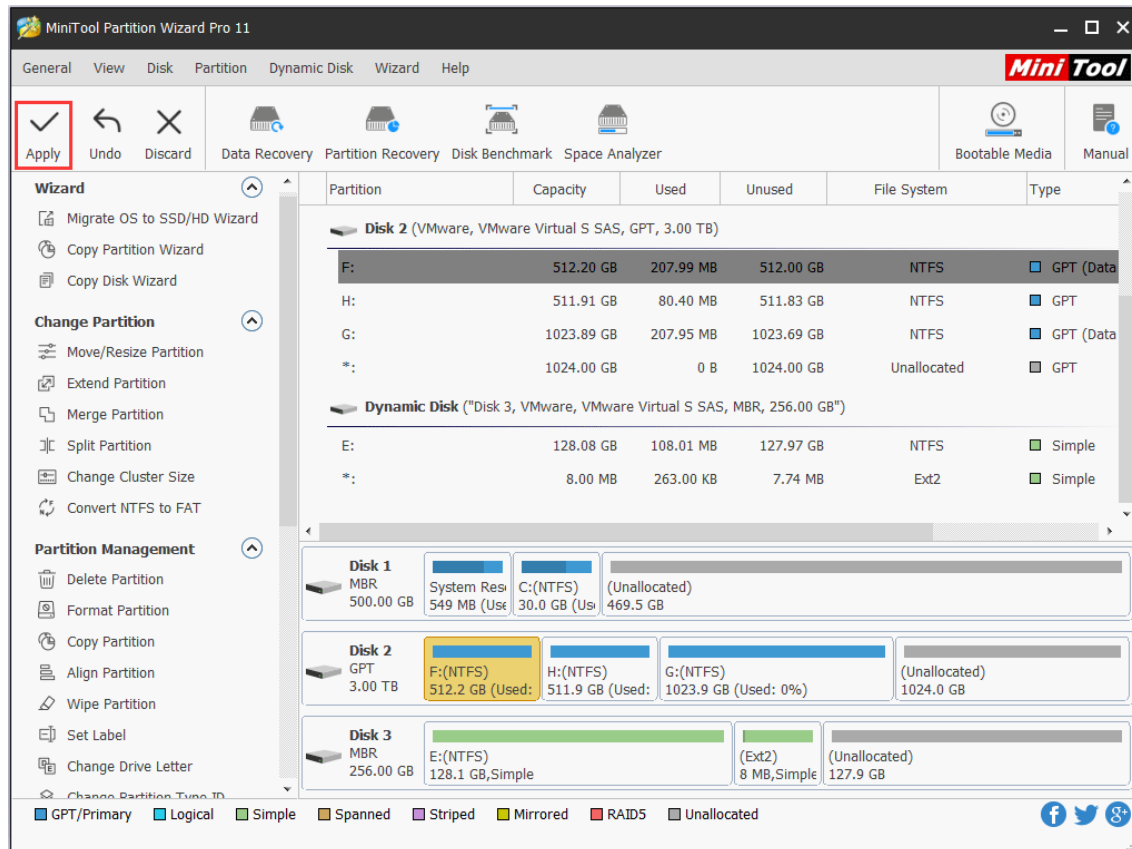


Step 2. Drag the slider bar leftwards or rightwards to determine the size of the original partition and new partition. After that, click **OK** button to go back to the main interface of the software.

Tip: Read the post [No Free MBR Slots](#) if MiniTool Partition Wizard cannot split the partition.



Step 3: Back to the main interface, users can see that original partition has been split into two partitions. If certain preview effect is satisfying, click **Apply** button to take effect.



19. Move/Resize Partition

19.1 About Move/Resize Partition

Move/Resize Partition is capable of changing partition size and location in Windows with ease. It helps:

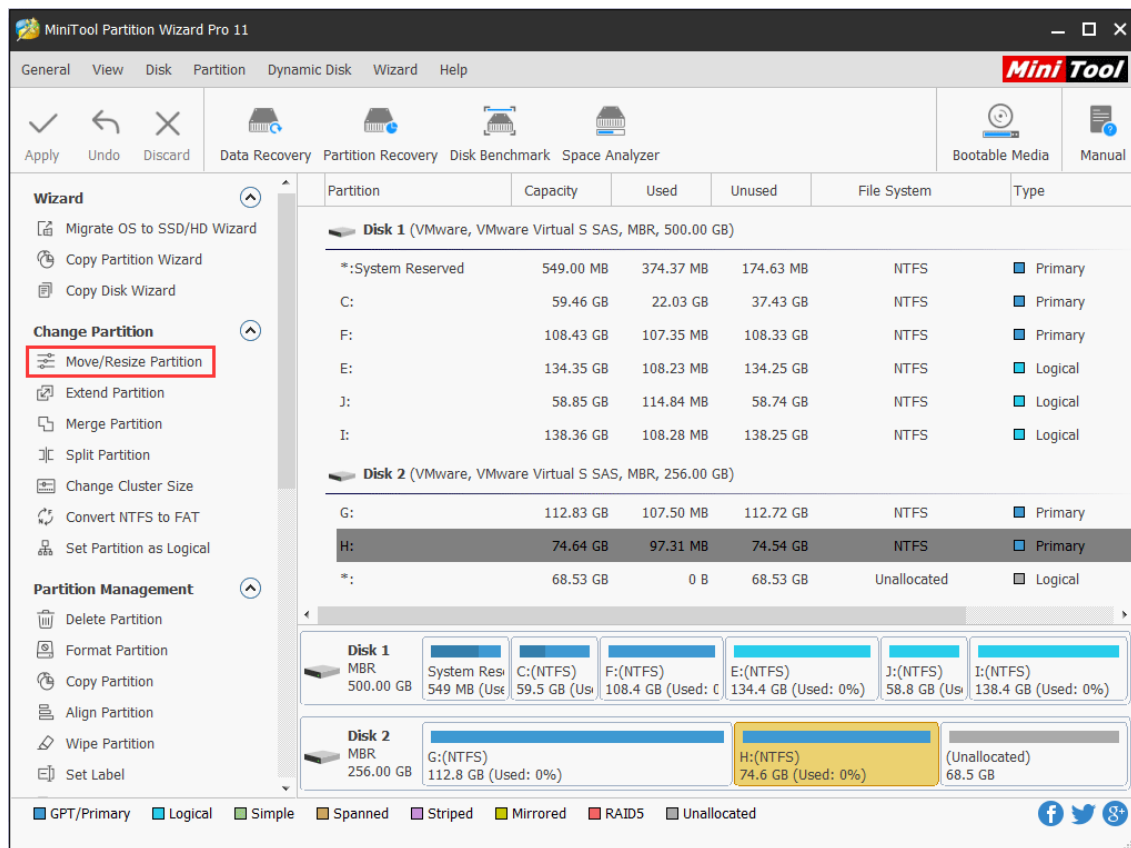
1. Enlarge a small partition or shrink a large partition when Windows Disk Management tool does not offer **Extend Volume** and **Shrink Volume** features.
2. Extend or shrink a FAT partition in Windows Vista, Windows 7, Windows Server 2008, etc.
3. Extend a partition to the left contiguous unallocated or free space.
4. Extend a primary partition to contiguous free space.
5. Move unallocated or free space to be contiguous to the partition users need to extend.

19.2 How to Move/Resize Partition

In general, **Move/Resize Partition** contains 3 operations – shrink partition, extend partition, and move partition. Let's see these operations in detail.

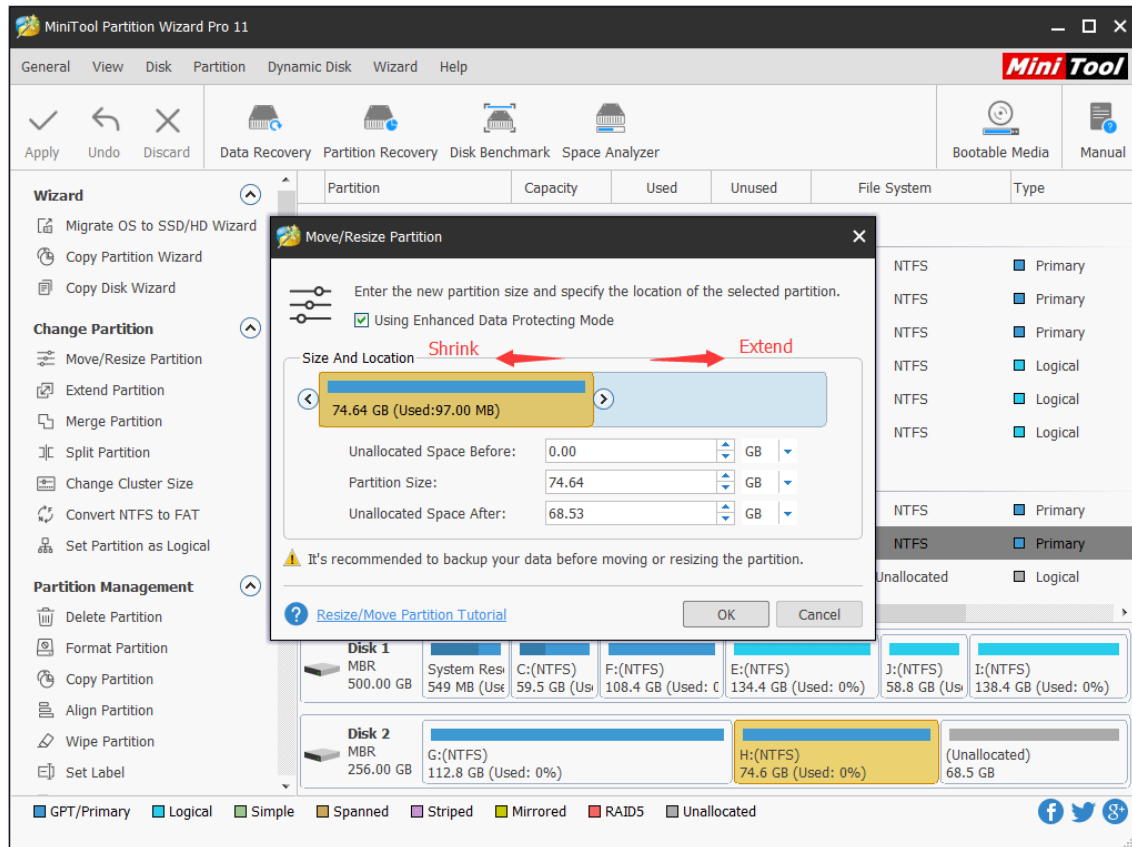
Step 1. After successful installation, please launch MiniTool Partition Wizard to get its main interface.

Step 2. Select the partition to operate and activate **Move/Resize Partition** from the left action panel or choose **Move/Resize** from right-click menu.

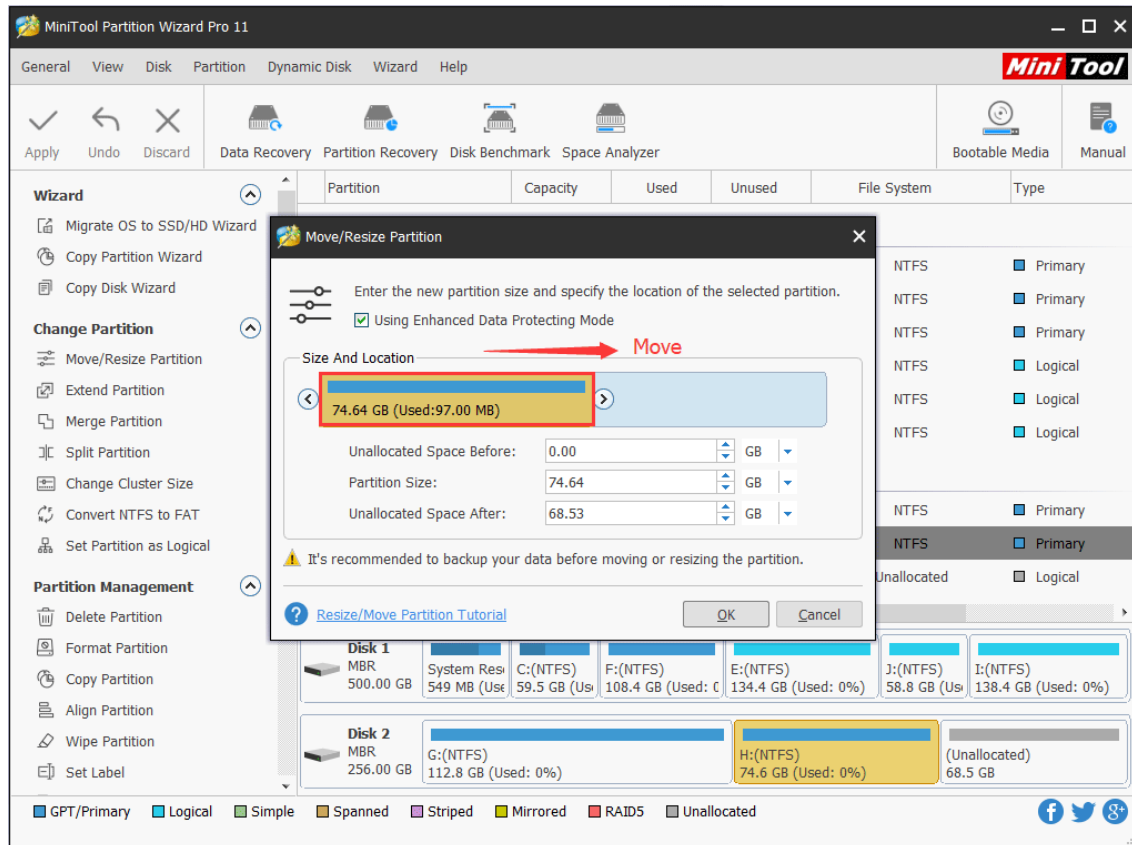


Step 3. The blue handle represents partition while the blank area means unallocated space. Do the followings and click **OK** to go back to the main interface.

- To shrink a partition, shorten the handle by dragging the triangles.
- To extend a partition, lengthen the handle to occupy more unallocated space.
- Alternatively, users can manually type specified partition size in MB, GB, or TB.

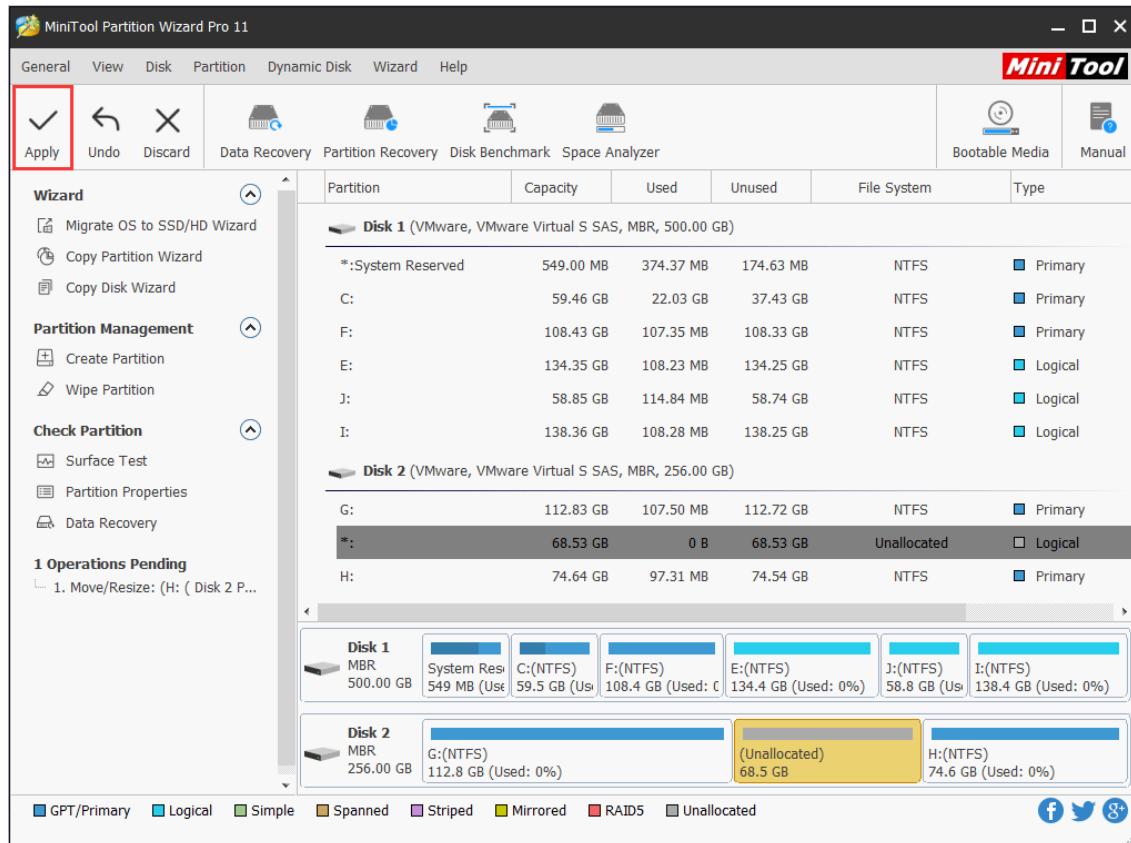


To move a partition, drag the whole partition handle towards unallocated space or manually define unallocated space before or after the partition.



Note: In Move/Resize Partition interface, users can see the option Using Enhanced Data Protecting Mode which is checked by default. Please keep it checked since it gives the strongest protection to our data.

Step 4. From the main interface, users can preview that the selected partition has changed its position. At this time, please click **Apply** button in the upper left corner to apply the change.



This is the end of the tutorial on **Move/Resize Partition** feature in MiniTool Partition Wizard.

20. Extend Partition

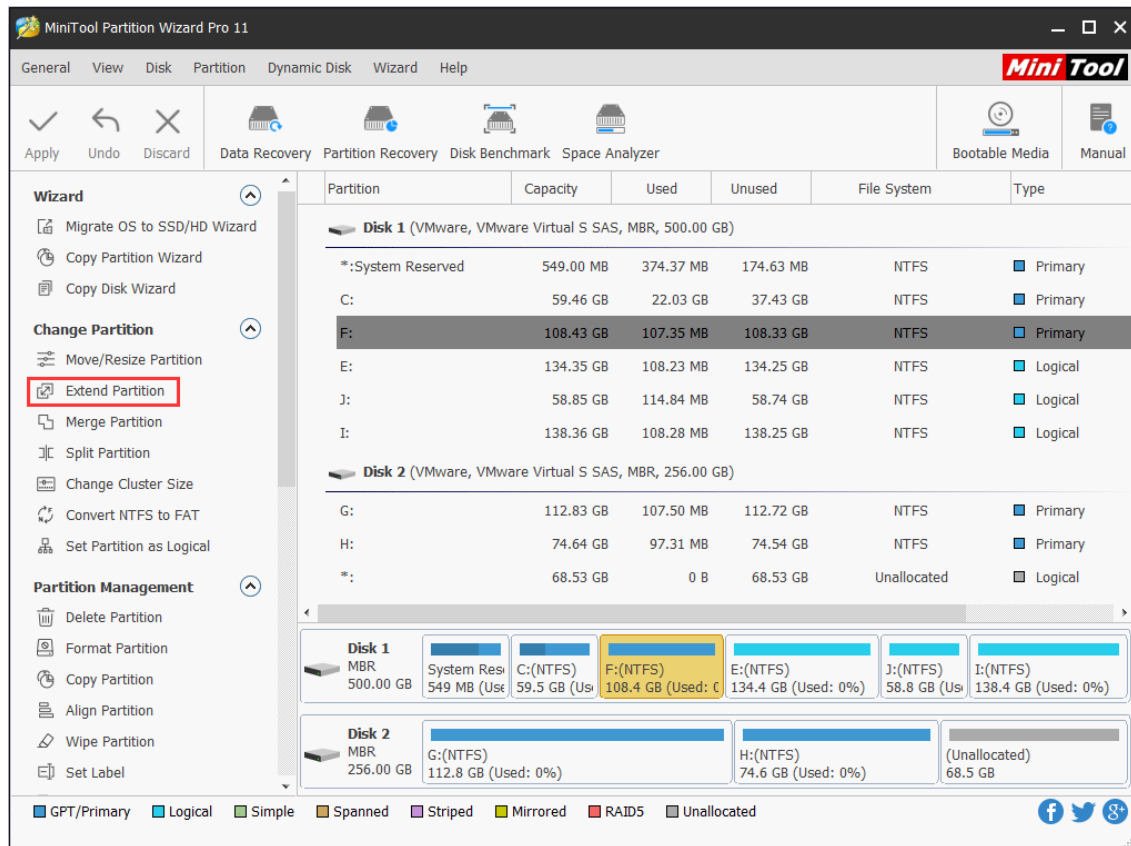
20.1 About Extend Partition

Extend Partition directly takes free space from any other existing partitions or unallocated space to enlarge a partition on the same disk while **Move/Resize Partition** requires contiguous unallocated space. Under the following 2 situations, **Extend Partition** is suggested.

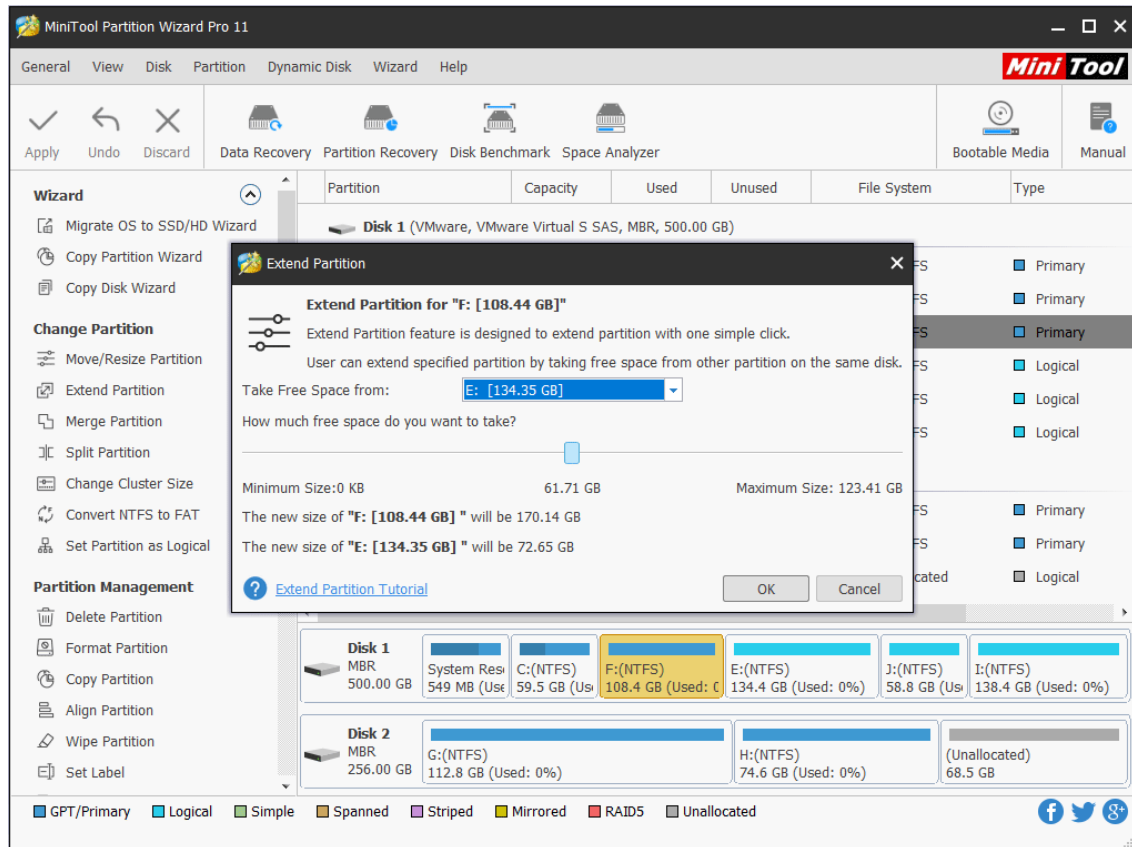
1. Extend a partition to non-contiguous unallocated or free space.
2. There is no unallocated or free space on the disk.

20.2 How to Extend Partition

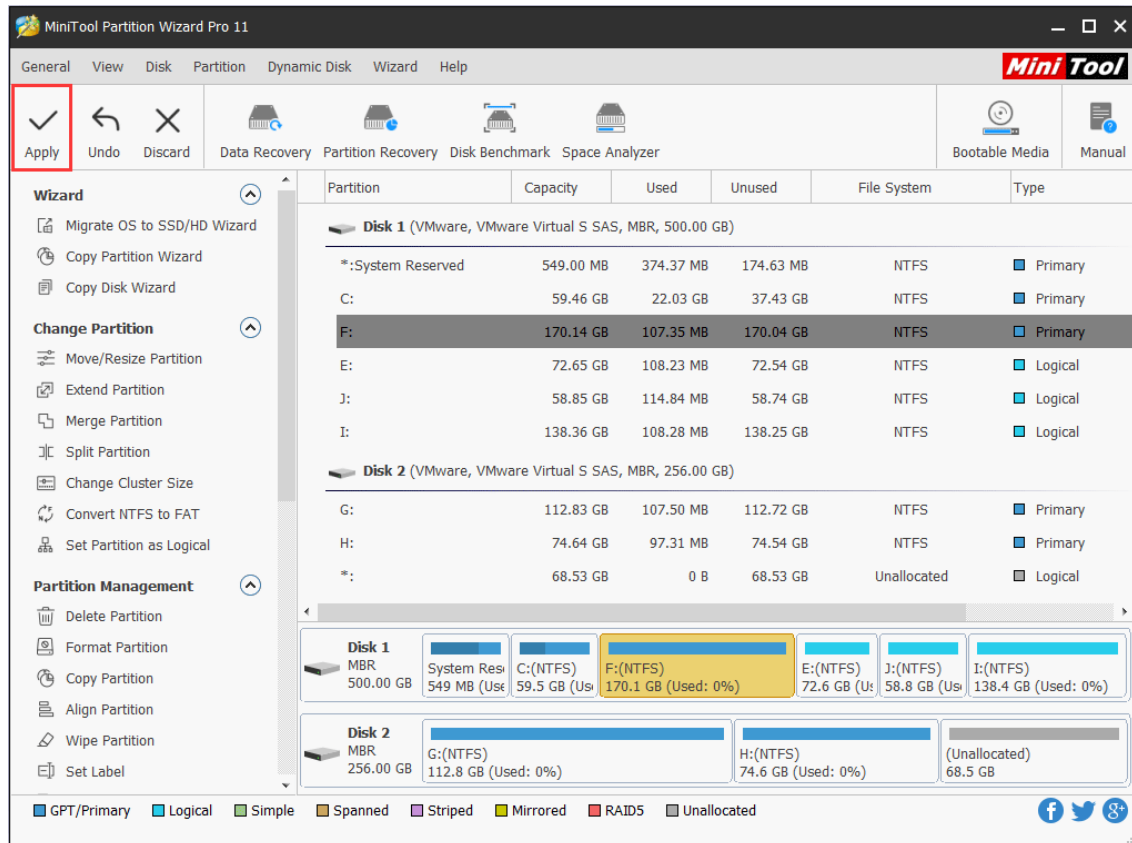
Step 1. Run MiniTool Partition Wizard to get its main interface. Then, select the partition which needs extending and choose **Extend Partition** from the left action panel or choose **Extend** from the right-click menu.



Step 2. Open the drop-down list of **Take Free Space from** and choose a partition or unallocated space to take free space. Then, drag the sliding handle leftwards or rightwards to decide how much space to take, with partition size changing intuitively. After that, click OK to continue.



Step 3. Click **Apply** button at the top to apply changes.



This is the end of MiniTool Partition Wizard Tutorial to **Extend Partition**.

21. Copy Partition

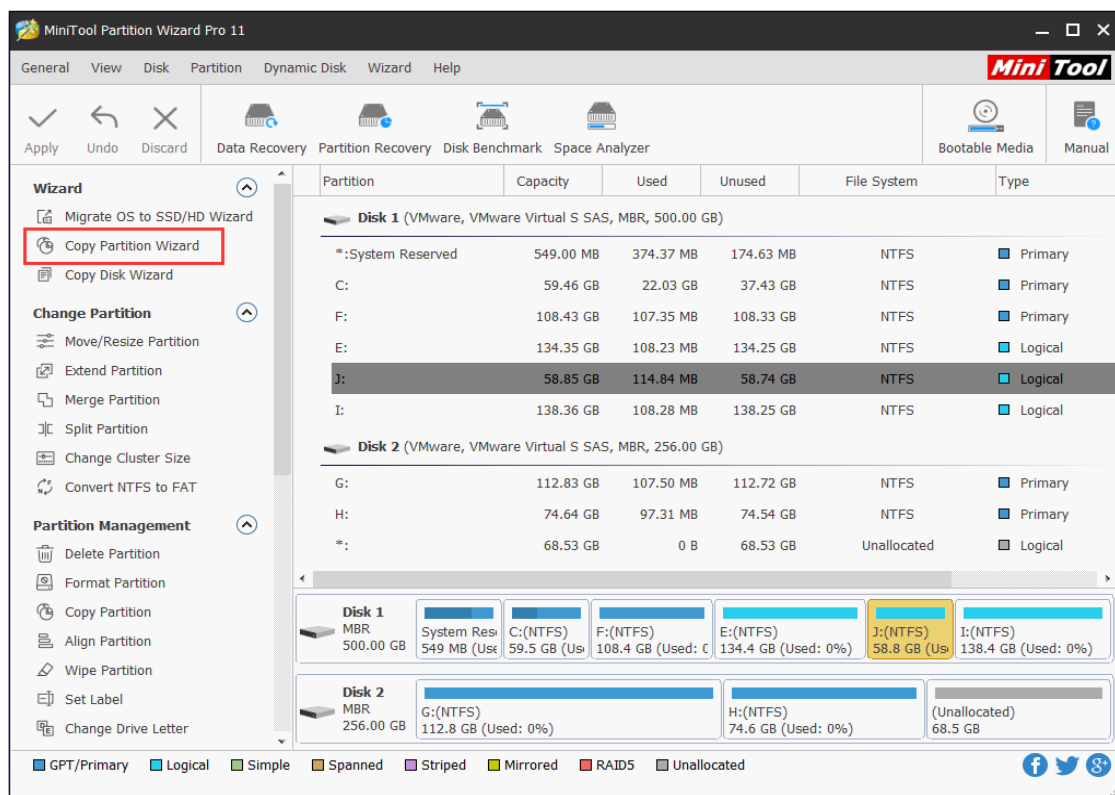
21.1 Copy Partition Wizard

Copy Partition Wizard feature copies all data from one partition to another without any data loss with ease. Compared with copying files directly, to copy partition helps users save much time. Therefore, when users plan to backup files saved in one partition, try copying the whole partition.

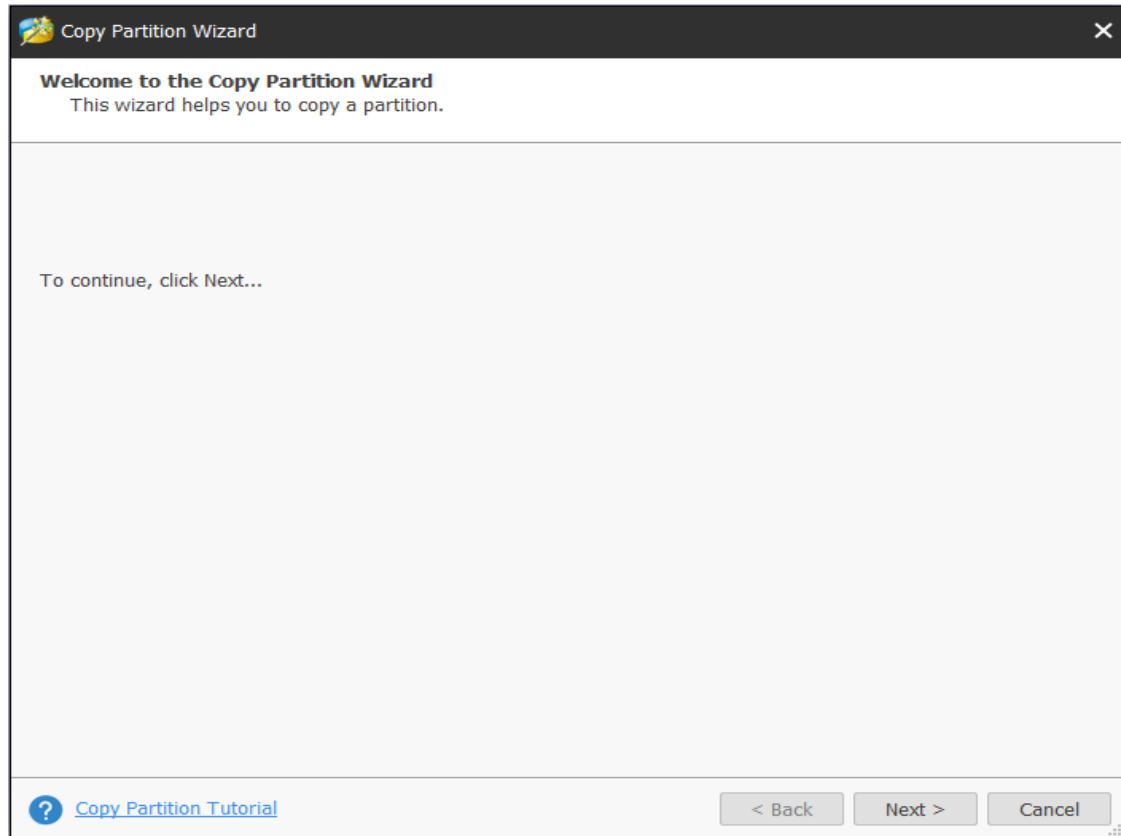
When MiniTool Partition Wizard is copying partition, data protection solutions such as power-off protection is activated automatically. Don't worry about data security even if power outage emerges without redundant power supply.

21.2 How to Copy Partition

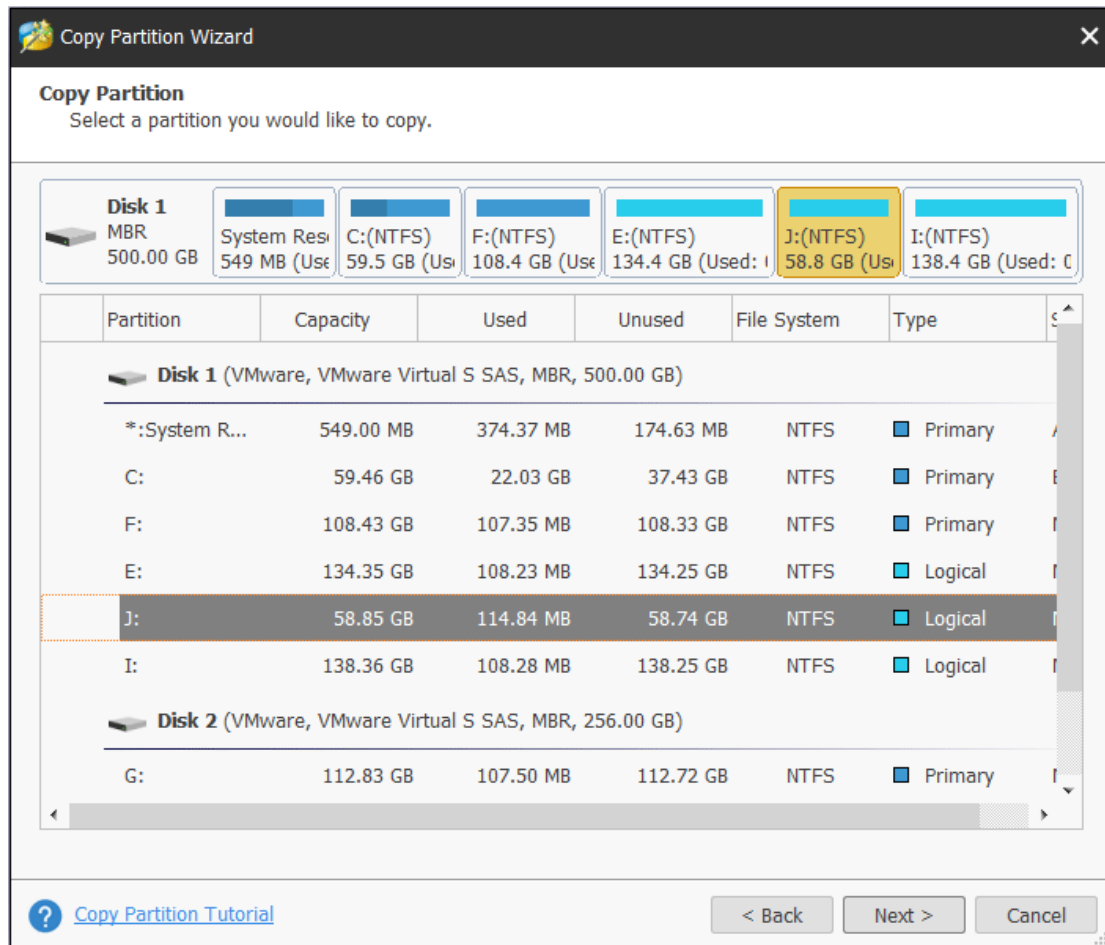
Step 1. Run MiniTool Partition Wizard to enter its main interface. Then, choose **Copy Partition Wizard** feature from the left action panel.



Step 2. Click **Next** button to continue.

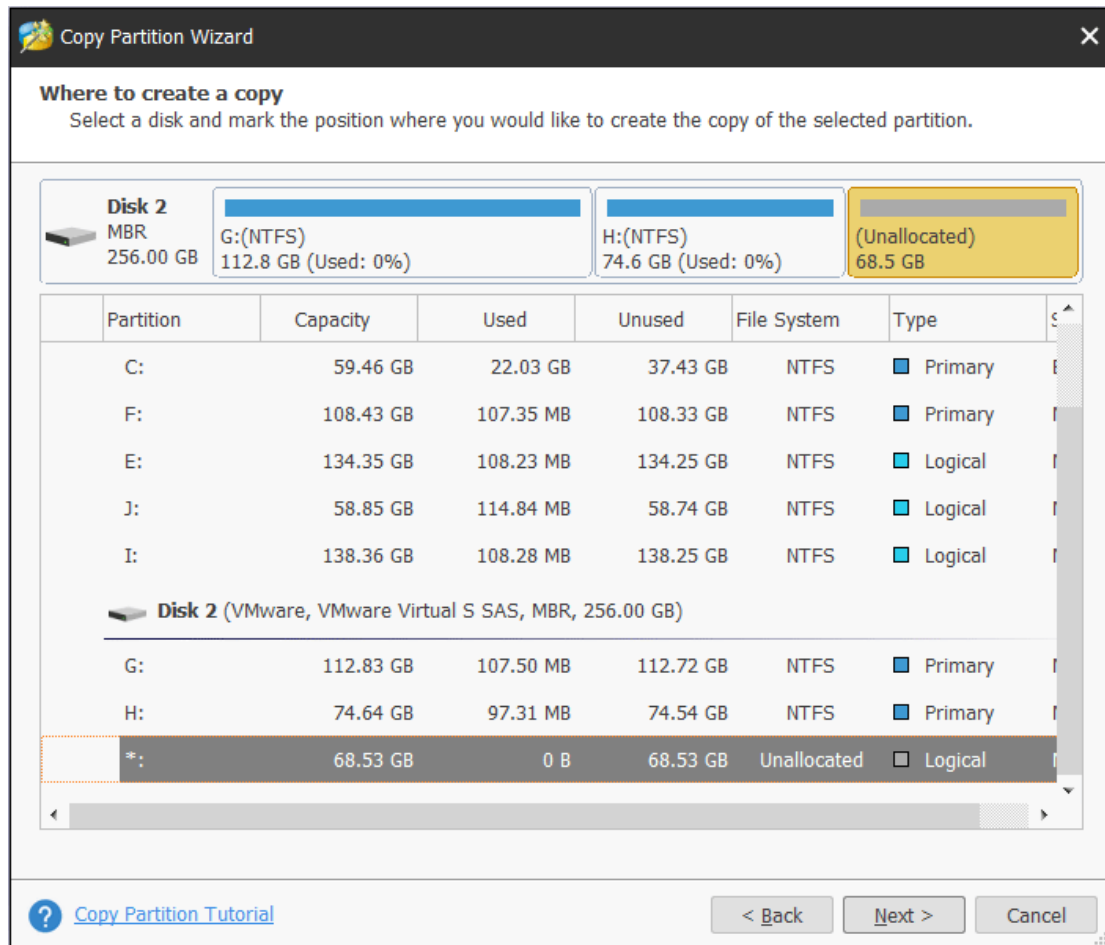


Step 3. Select the partition to copy.



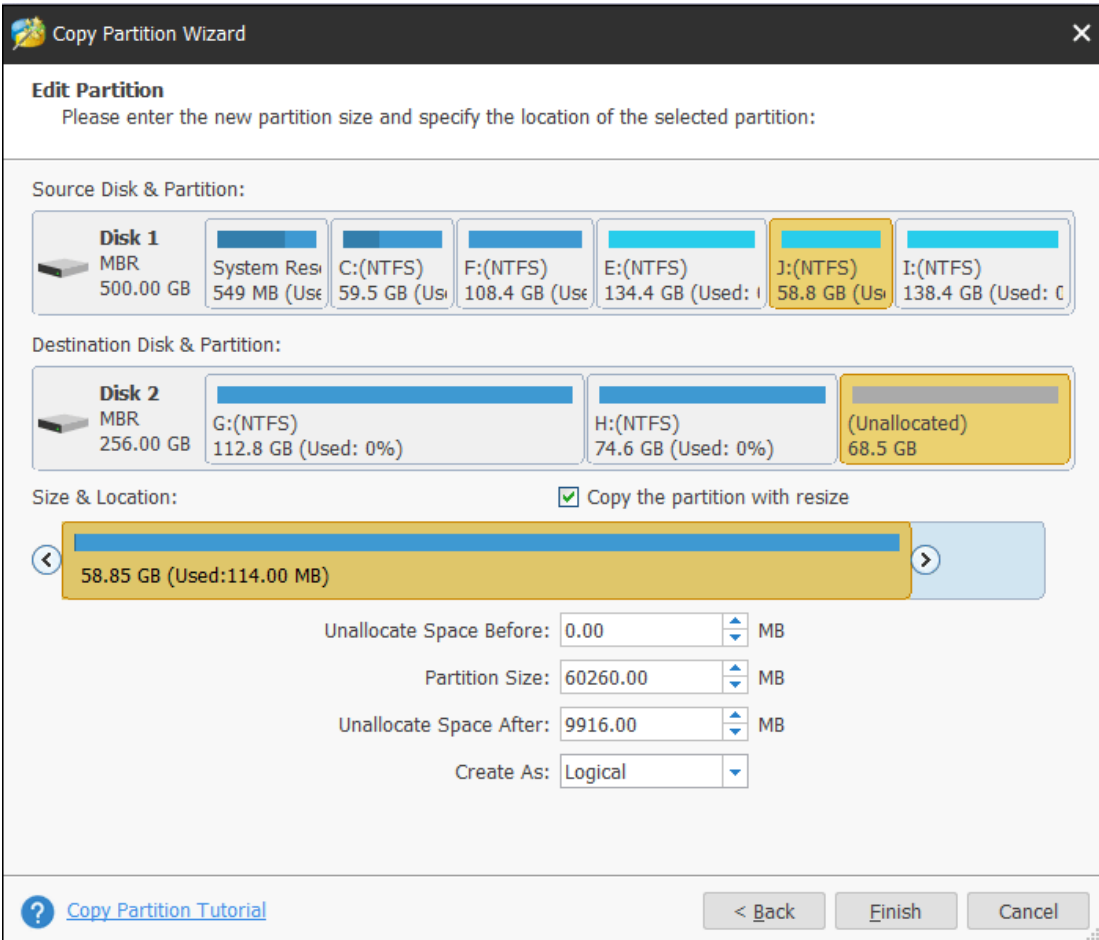
Step 4. Choose an unallocated space from partition list to save the copy of the selected partition and then click **Next**.

Note: Unallocated space should be large enough to hold all data on the source partition.



Step 5. Move the handle to enlarge or shrink the new partition. Alternatively, users can type exact partition size in MB. In addition, they can choose partition type (primary or logical) for the new partition. Then, click **Finish**.

Tip: The option Copy the partition with resize makes it possible to change partition size, so please keep it checked if users want to resize partition.



Copy Partition Wizard

Edit Partition
Please enter the new partition size and specify the location of the selected partition:

Source Disk & Partition:

Disk	MBR	Size	Partition	Size	Used
Disk 1	MBR	500.00 GB	System Res	549 MB	Used: 0%
			C:(NTFS)	59.5 GB	Used: 0%
			F:(NTFS)	108.4 GB	Used: 0%
			E:(NTFS)	134.4 GB	Used: 0%
			J:(NTFS)	58.8 GB	Used: 0%
			I:(NTFS)	138.4 GB	Used: 0%

Destination Disk & Partition:

Disk	MBR	Size	Partition	Size	Used
Disk 2	MBR	256.00 GB	G:(NTFS)	112.8 GB	Used: 0%
			H:(NTFS)	74.6 GB	Used: 0%
			(Unallocated)	68.5 GB	

Size & Location: ☒ Copy the partition with resize

58.85 GB (Used: 114.00 MB)

Unallocate Space Before: 0.00 MB

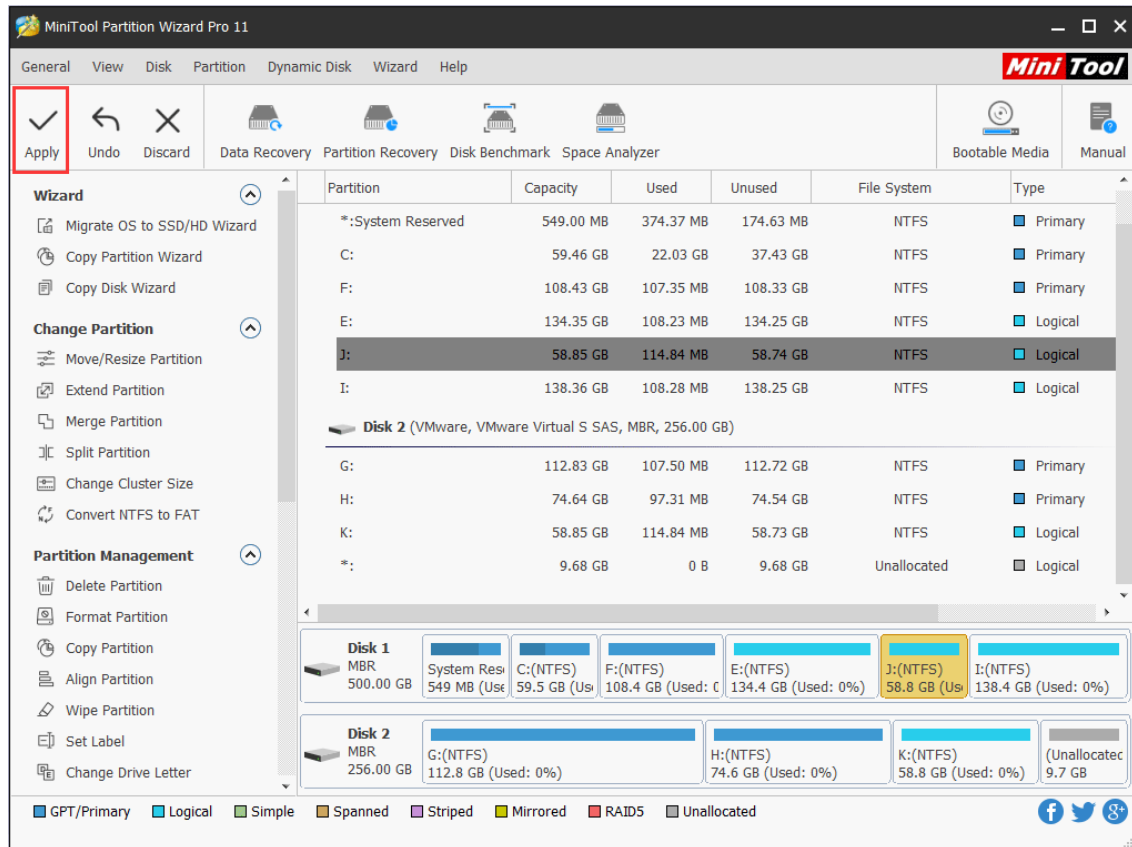
Partition Size: 60260.00 MB

Unallocate Space After: 9916.00 MB

Create As: Logical

[? Copy Partition Tutorial](#) < Back Finish Cancel

Step 6. Click **Apply** button to make changes performed.



Note: If users want to copy system partition, for a successful boot, it is recommended to use Copy Disk or Migrate OS to SSD/HD feature.

22. Wipe Partition

22.1 About Wipe Partition

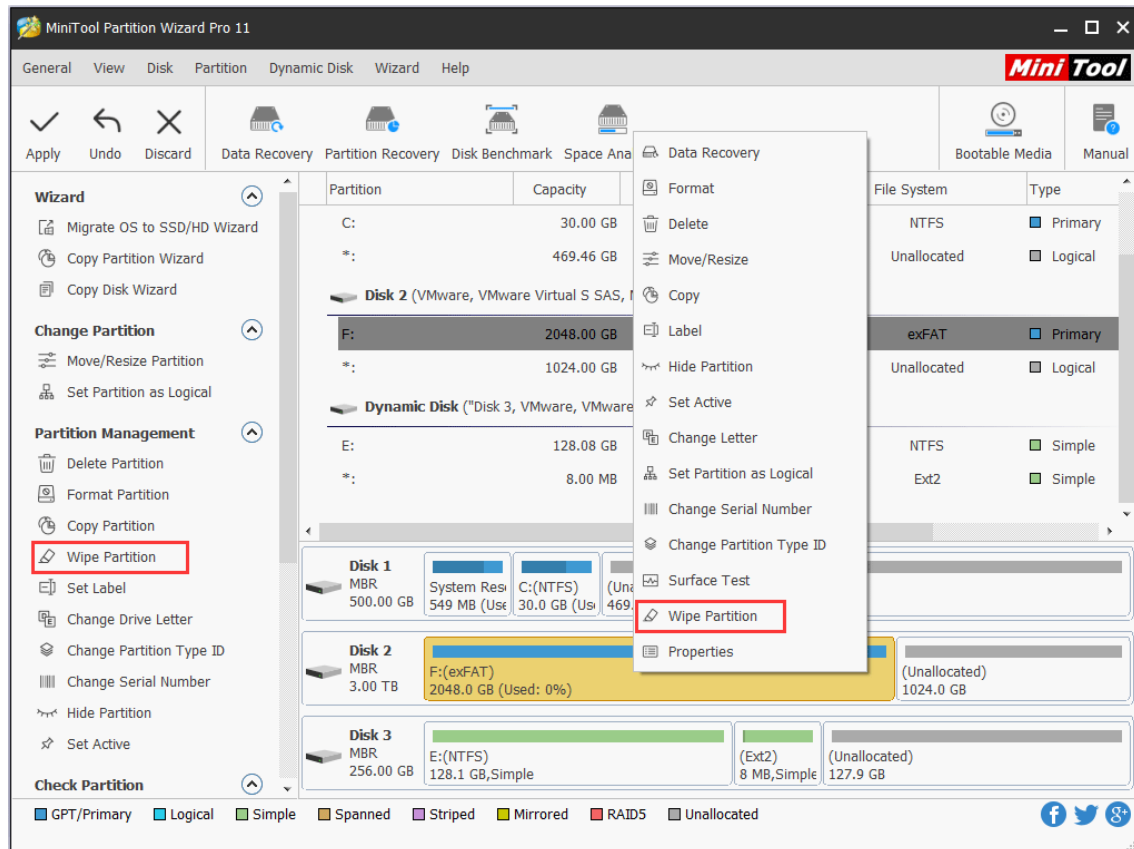
Wipe Partition feature in MiniTool Partition Wizard can erase all data on the specified partition permanently, and the erased data can't be recovered by any data recovery solution. Therefore, wiping partition is quite a good way to prevent privacy or confidential information from being leaked.

To wipe a whole disk, please refer to [Wipe Disk](#) feature.

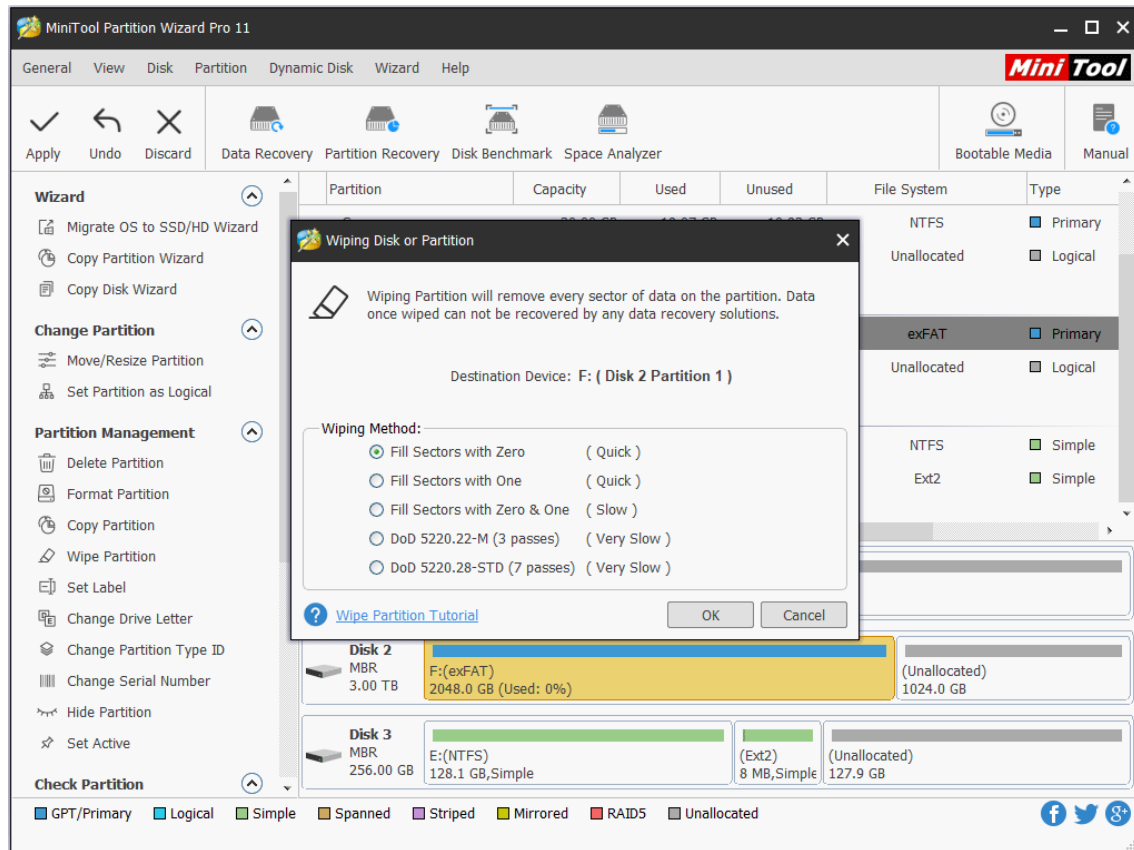
MiniTool Partition Wizard tutorial below will show you detailed steps.

22.2 How to Wipe Partition

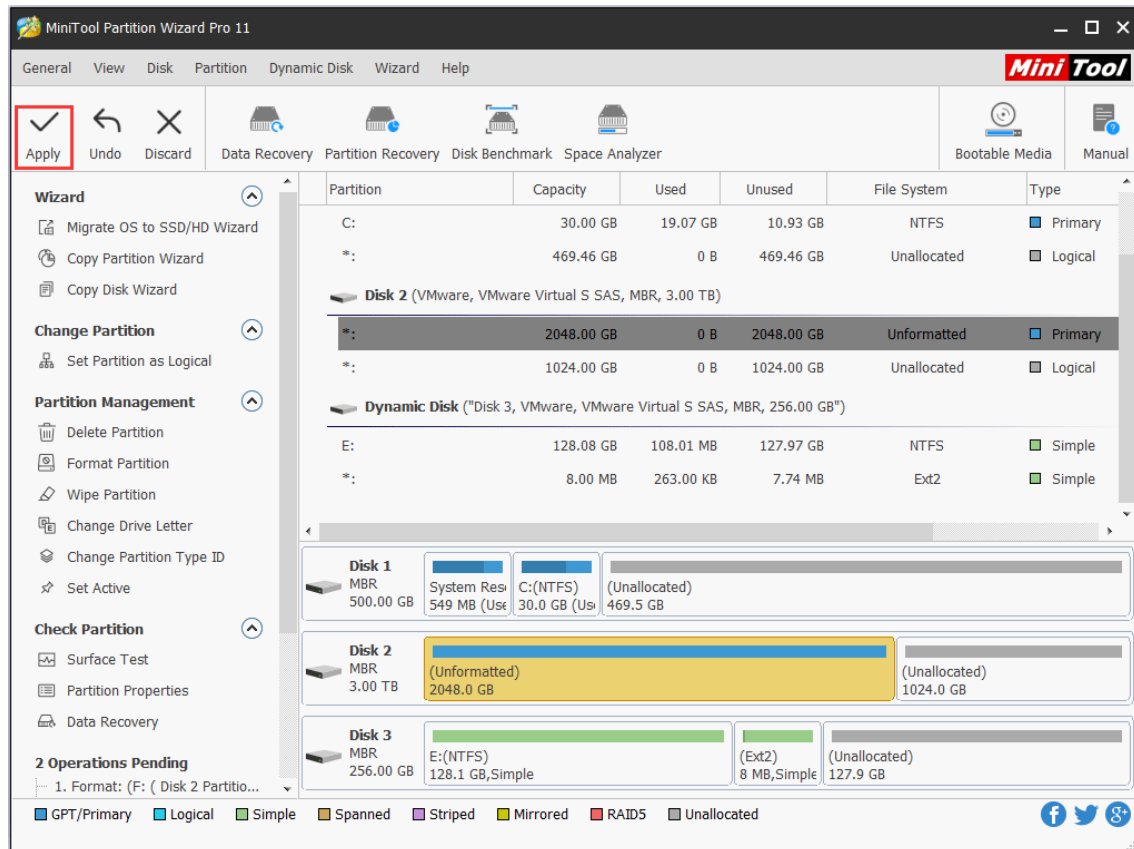
Step 1. Launch MiniTool Partition Wizard to get its main interface as follows. Then select the target partition and choose **Wipe Partition** from the left action panel or right-click menu.



Step 2. Select a wiping method and click **OK** to go back to the main interface. The more time wiping process takes, the higher security it enjoys.



Step 3. Users can preview that the target partition is shown as **Unformatted** state. Then click **Apply** to start wiping partition.



When finished, the target partition is shown as unformatted and has no drive letter. Then users can format it and add a drive letter for it with these two features: [Format Partition](#) and [Change Drive Letter](#).

23. Align Partition

23.1 About Align Partition

The **Align Partition** feature added in MiniTool Partition Wizard helps users align the specified partition in several simple steps.

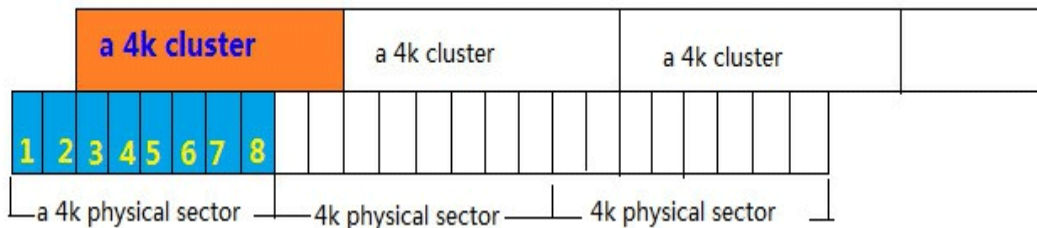
23.1.1 Why Align Partition

4K alignment is a quite important issue for hard disks which employ 4K sectors, including both Solid State Drive (SSD) and advanced formatted mechanical hard disk. And actually, it refers to the alignment between 4K physical sector and cluster.

A cluster is the smallest logical amount of disk space that can be allocated to hold a file. One cluster can only hold content of one file no matter how small the file is.

From Wikipedia

When we are creating partitions on hard disks which use 4K physical sector, the partition always does not start from the starting position of a physical sector, which means physical sector and cluster will be shifted.



As a result, reading data saved in one cluster will access 2 physical sectors, thus increasing access time or slowing down read speed. Similarly, writing a file will operate 2 physical sectors at least, which definitely will increase writing times and waste disk space. Therefore, it is very necessary to perform the 4K alignment.

23.1.2 When Do We Need to Align Partition

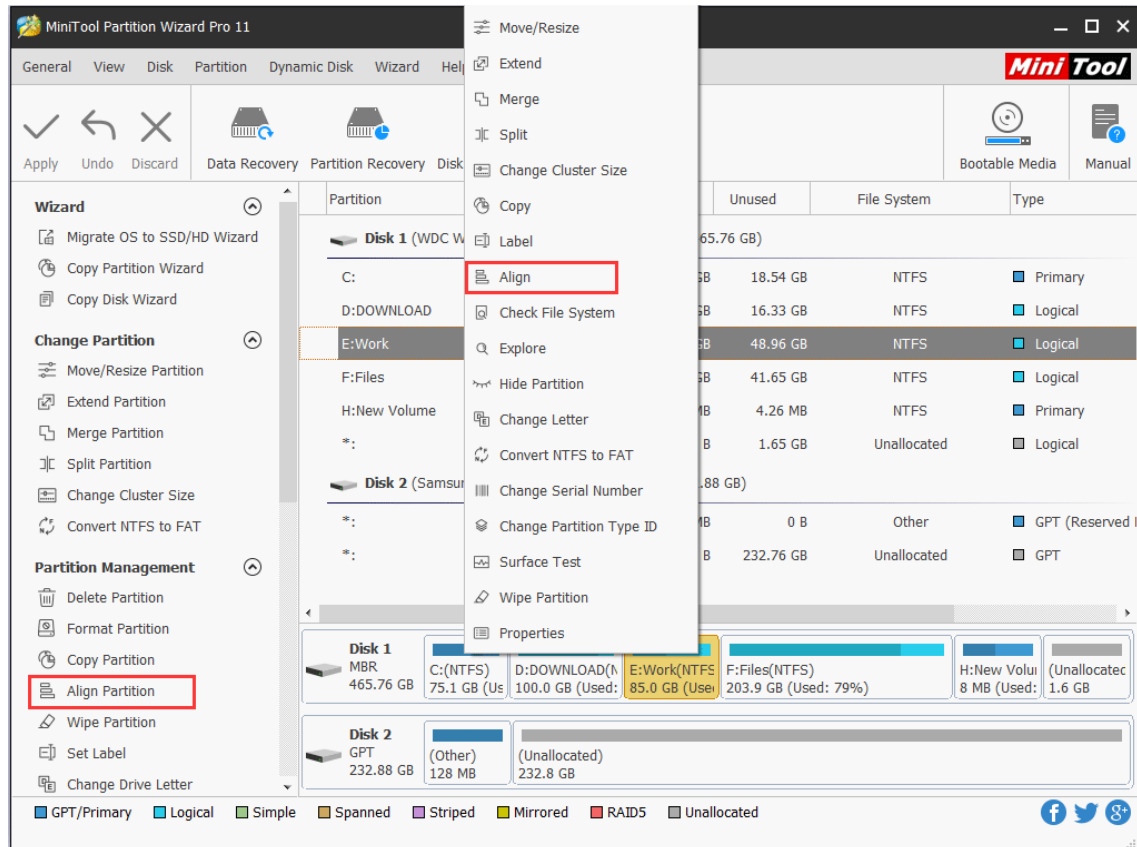
1. If users are creating partitions on SSD or advanced formatted HDD under old versions of Windows, including Windows XP, Windows Server 2003, Windows 2000, etc., partition alignment is required since these operating systems do not have such a function.
2. After copying a partition to SSD or advanced formatted HDD, or after changing the location and size of a partition, users are suggested to align partitions, even if they are running Windows Vista or more advanced Windows operating systems in which partitions are aligned automatically when they are creating or formatting partition.

For specific steps, please see MiniTool Partition Wizard Tutorial below.

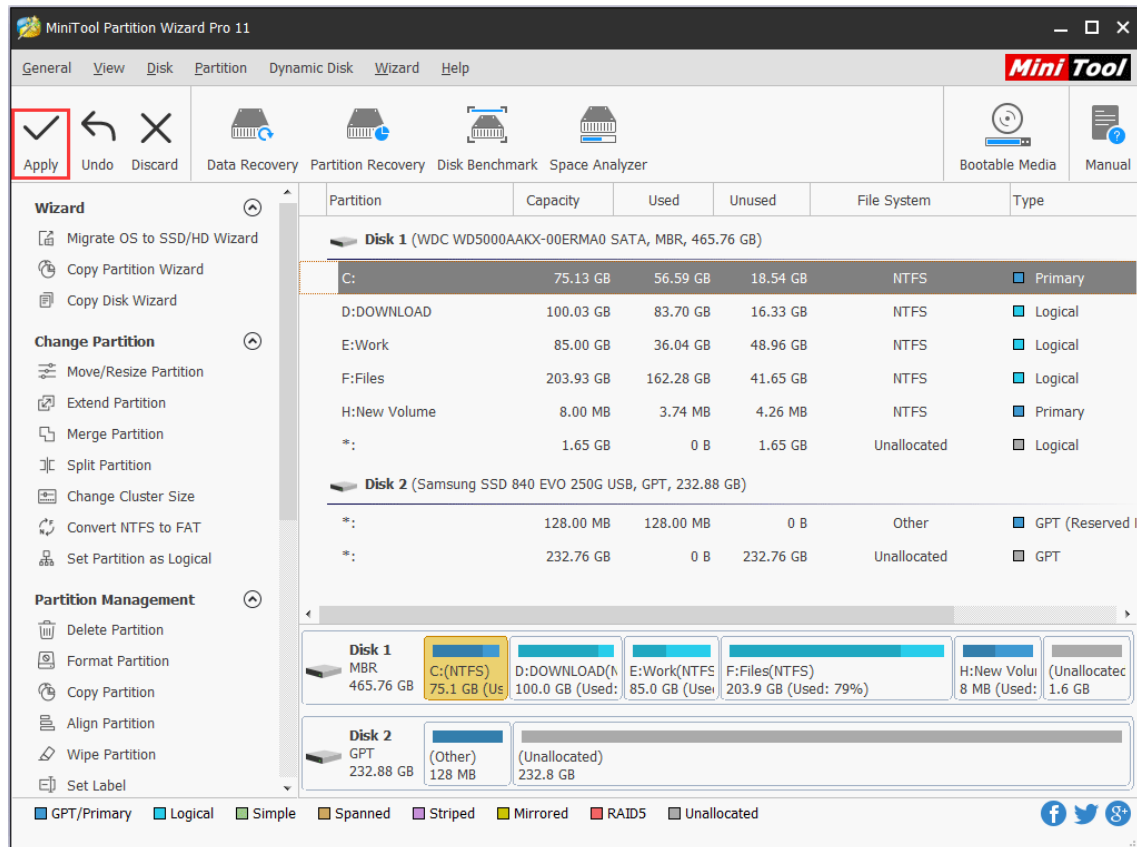
23.2 How to Align Partition

Step 1. Run MiniTool Partition Wizard to get its main interface.

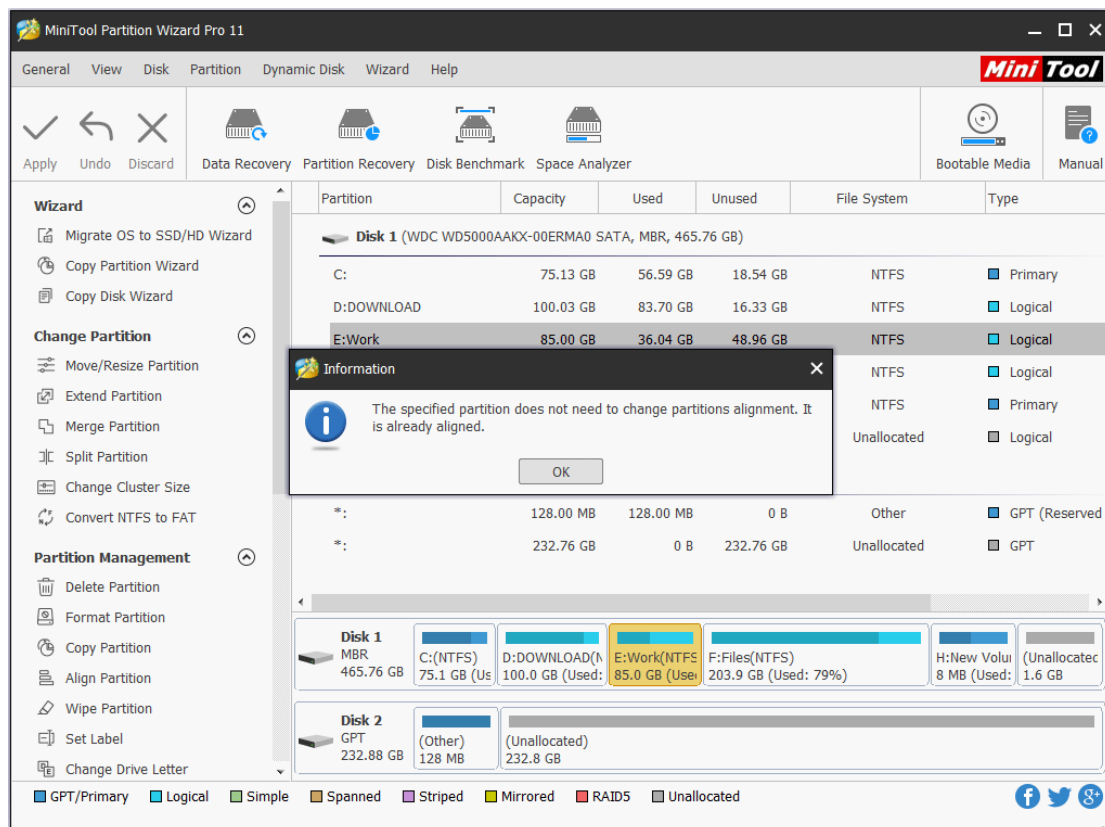
Step 2. Select the partition which needs aligning, and then choose **Align Partition** from the left action panel or select **Align** from right-click menu.



Step 3. If it is misaligned, users will see a pending operation on the left action pane. At this time, just click on **Apply** button to perform this operation.



But if the selected partition is already aligned, users will get the information below.



After that, partition alignment is completed via MiniTool Partition Wizard. It is so easy. However,

to align multiple partitions on the same hard disk, please use [Align All Partitions](#) feature.

24. Check Partition File System

24.1 About Check File System

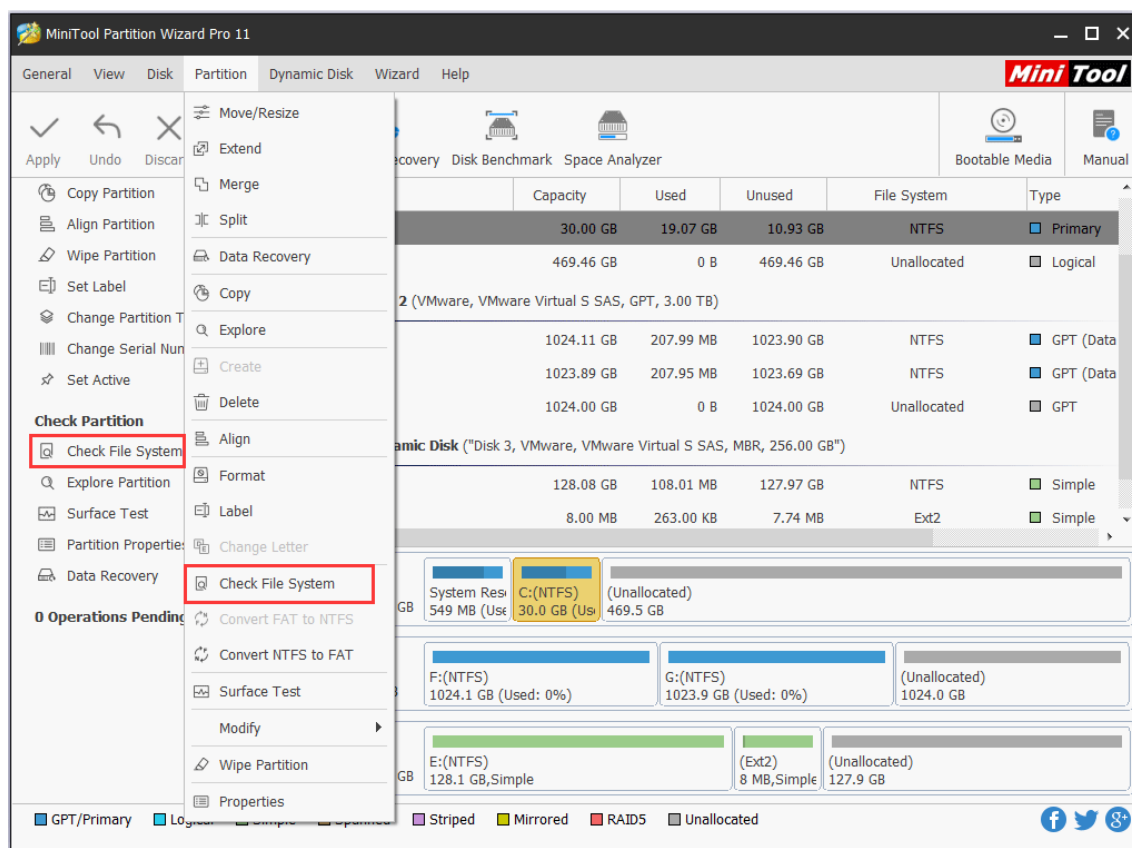
When running computer, users may receive a message that indicates there is a damaged [file system](#) or the partition need formatting before access which might be caused by abnormal shutdown. At this time, users may try to repair the error by employing the Check **File System** function which aims to checking and repairing some mistakes to ensure the integrity of the file.

Note: This function can only be used when the selected partition has a drive letter. For the partition without a drive letter, users need to appoint drive letter before they can use this function.

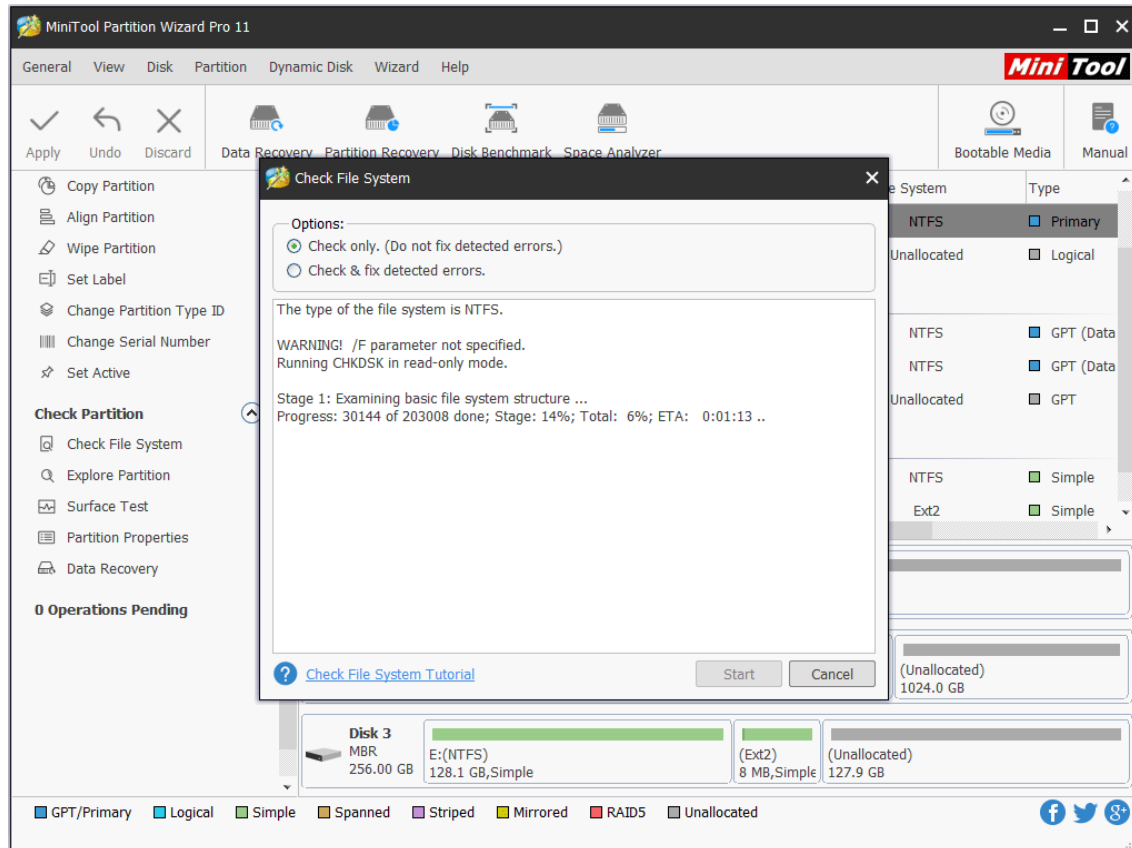
See the MiniTool Partition Wizard Tutorial to know how to complete this task.

24.2 How to Check File System

Step 1. Launch MiniTool Partition Wizard to its main interface. Then select the target partition, and choose **Check File System** from the action panel or from the **Partition** menu.



Step 2. A new window pops-up with two options: **Check only** and **Check & fix detected errors**. If users only want to check, select the former one; if users want to repair mistakes during the checking process, select the latter one. After that, click **Start** button and MiniTool Partition Wizard will check/fix file system immediately.



25. Change Drive Letter

25.1 About Change Drive Letter

Change Drive Letter feature is most commonly used in 2 cases:

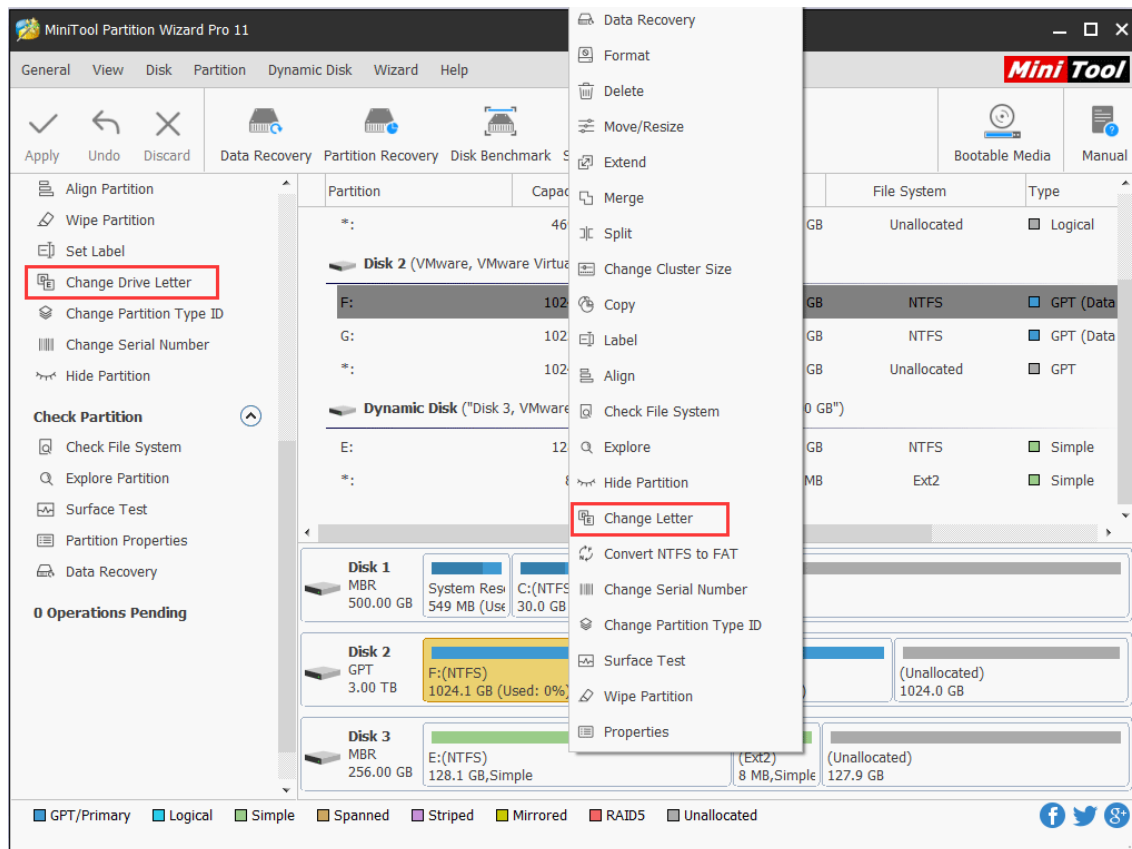
- The drive letters of the multiple partitions are not arranged in sequence.
- Without drive letter, a partition would not appear in File Explorer. Change Drive Letter is able to reassign drive letter to that partition to make it accessible.

25.2 How to Change Drive Letter

You can easily change [drive letter](#) for partitions with MiniTool Partition Wizard. Launch this partition manager to its main interface to change drive letter.

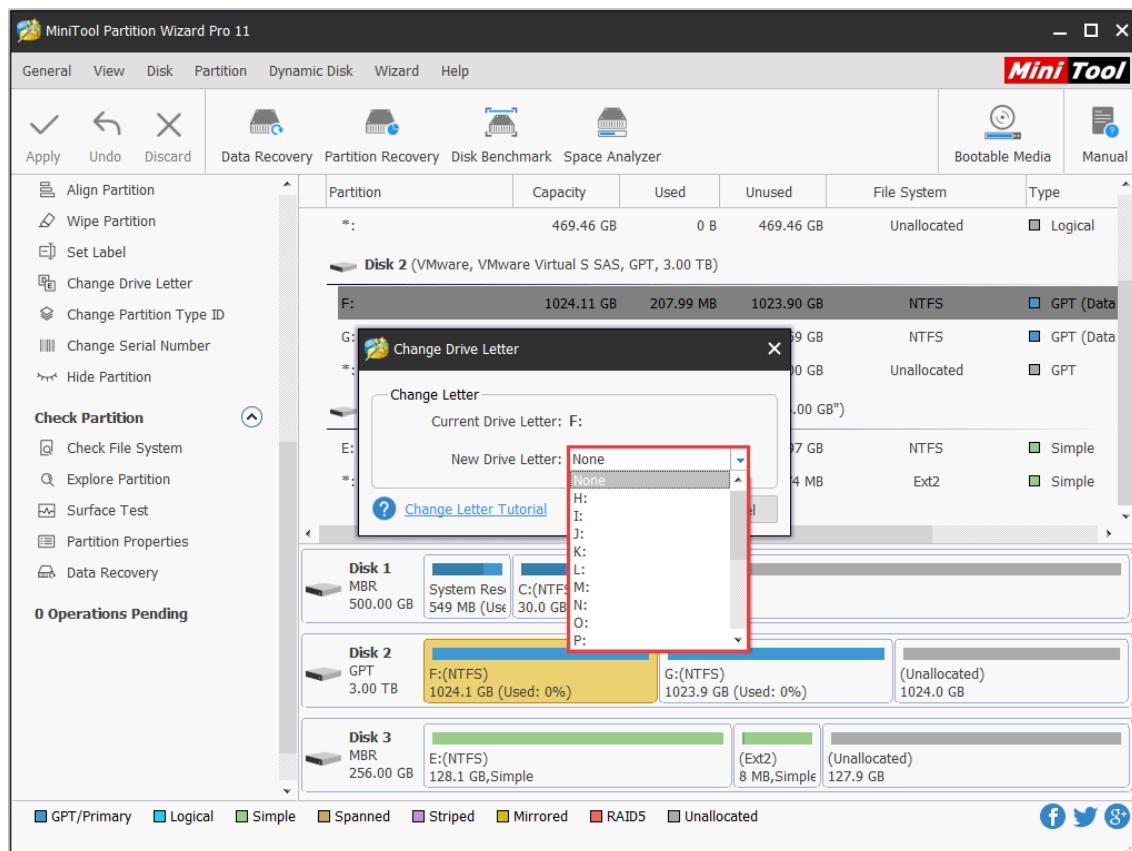
Step 1. Right-click on the target partition, and then select **Change Letter** in the pop-up menu. Or users can click **Change Drive Letter** feature from the left action pane after selecting the target

drive.

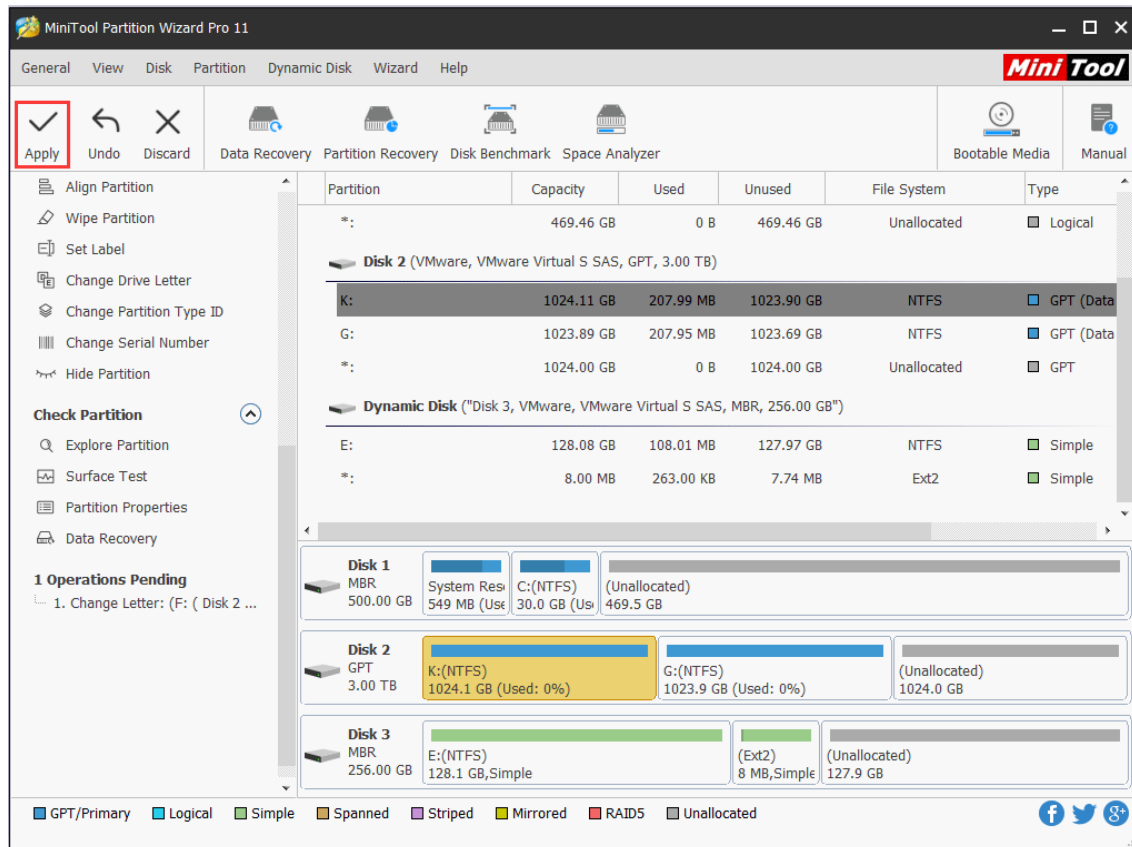


Note: MiniTool Partition Wizard doesn't allow changing drive letter of the system partition.

Step 2. Then choose a drive letter from the list. Click **OK** to go back to the main interface.



Step 3: Click **Apply** button to perform this operation.



26. Set Label

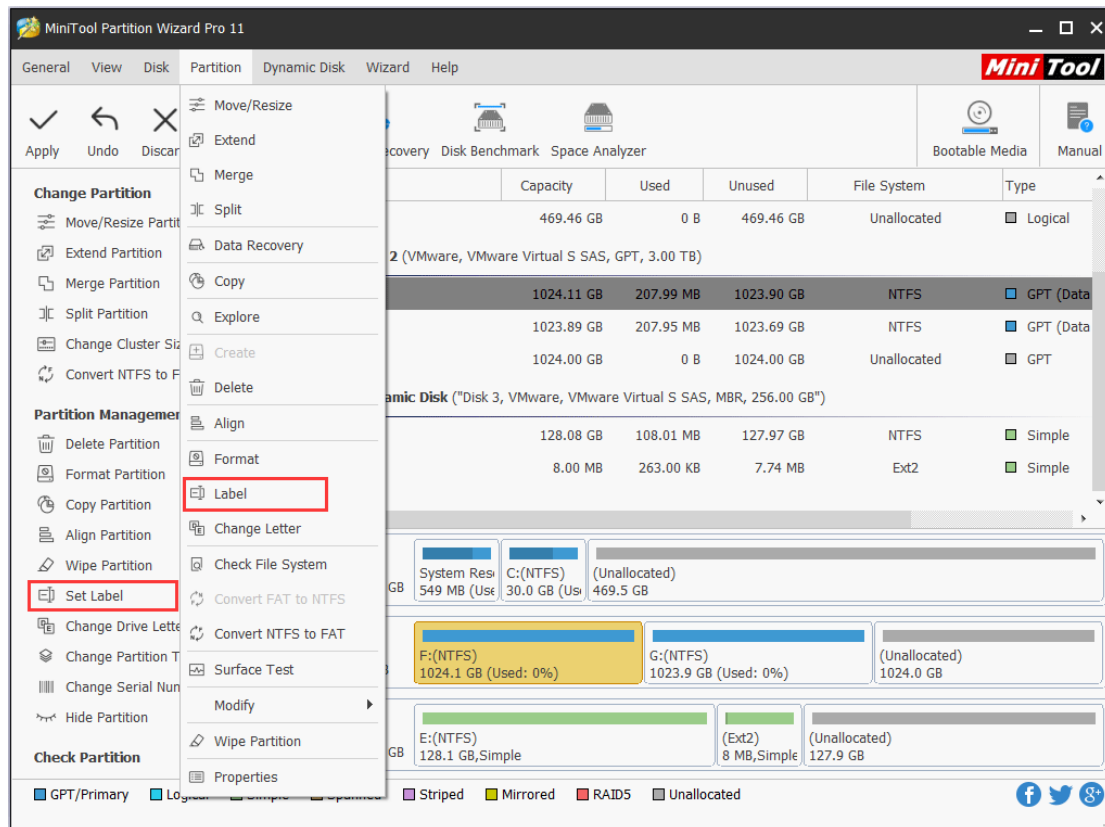
26.1 About Change Partition Label

Partition label is an optional name assigned to a partition to help users identify a certain partition quickly. Although partition label is not required, it makes it easier to keep track of what data is stored on each partition, especially when users have got many partitions.

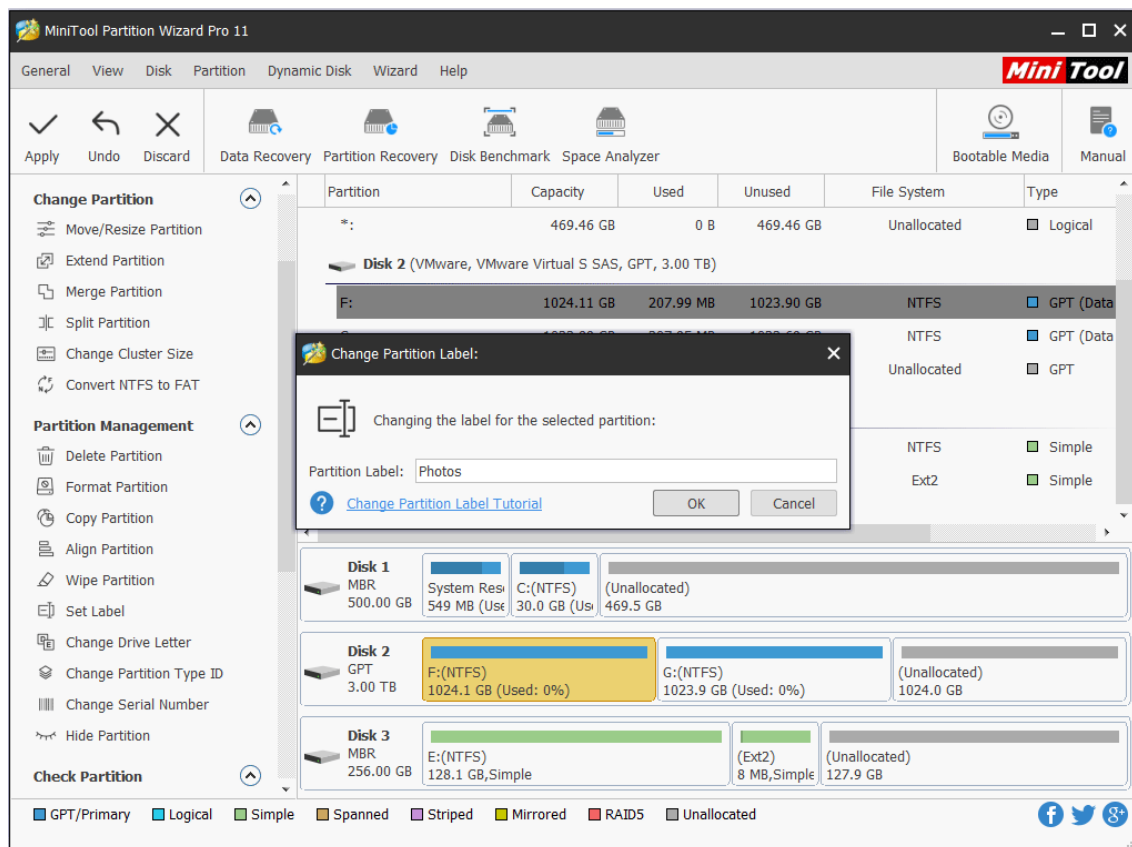
Once the data saved in a partition are not matched with the partition label (for instance, the partition which is used to store working files is labeled Game), users can change it.

26.2 How to Change Partition Label

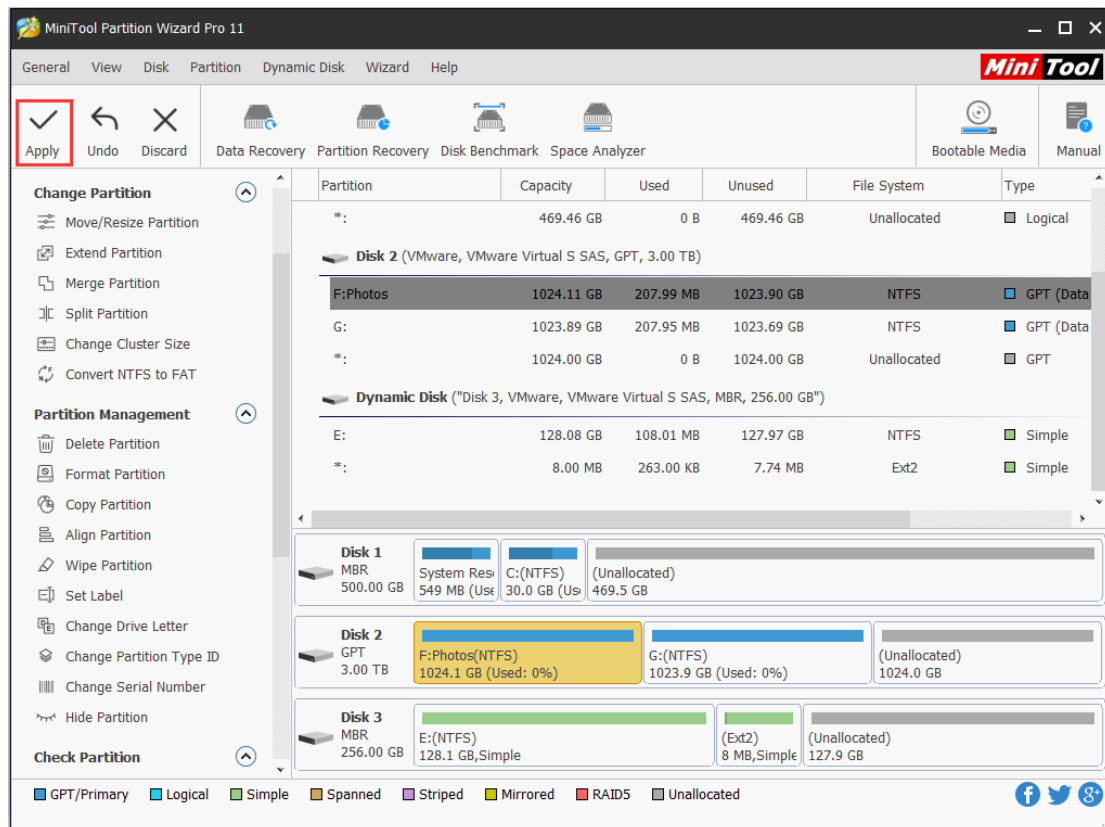
Step 1. Select the target partition, and click **Set Label** from the Partition Management group of the left action panel or click **Label** from the submenu of **Partition**.



Step 2. A dialog box appears. Now, users can label/relabel the selected partition, and then click **OK** button to go back to the main interface.



Step 3. Finally, click **Apply** to execute all changes.



27. Change Cluster Size

27.1 About Change Cluster Size

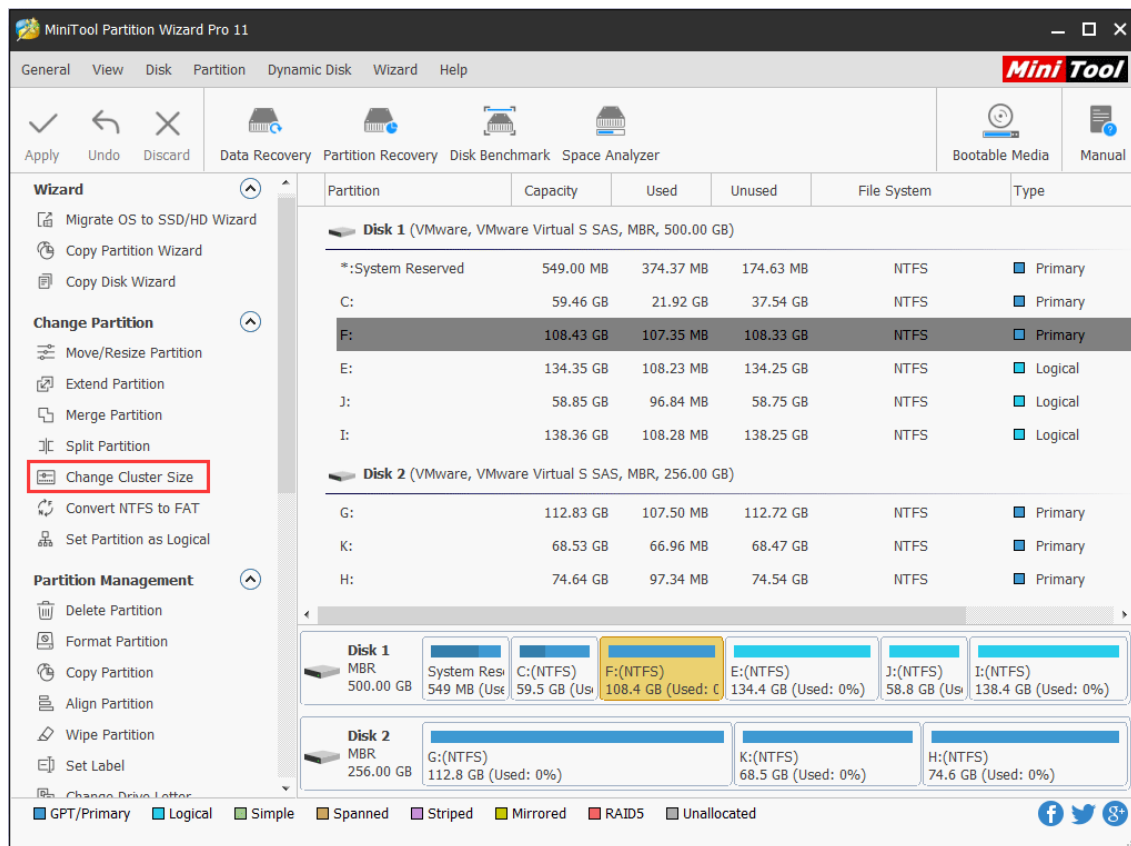
As we know, [cluster](#) is the smallest logical unit of disk space that can be allocated to hold and manage a file in Windows operating systems. One cluster can only hold one file, but one file can take up multiple clusters.

If users save large files to file system with small clusters, data read-write speed will be reduced. If they save small files to file system with large clusters, a lot of disk space will be wasted. Therefore, it is very necessary to change cluster size reasonably, and Change Cluster Size feature in MiniTool Partition Wizard can help do this operation with ease.

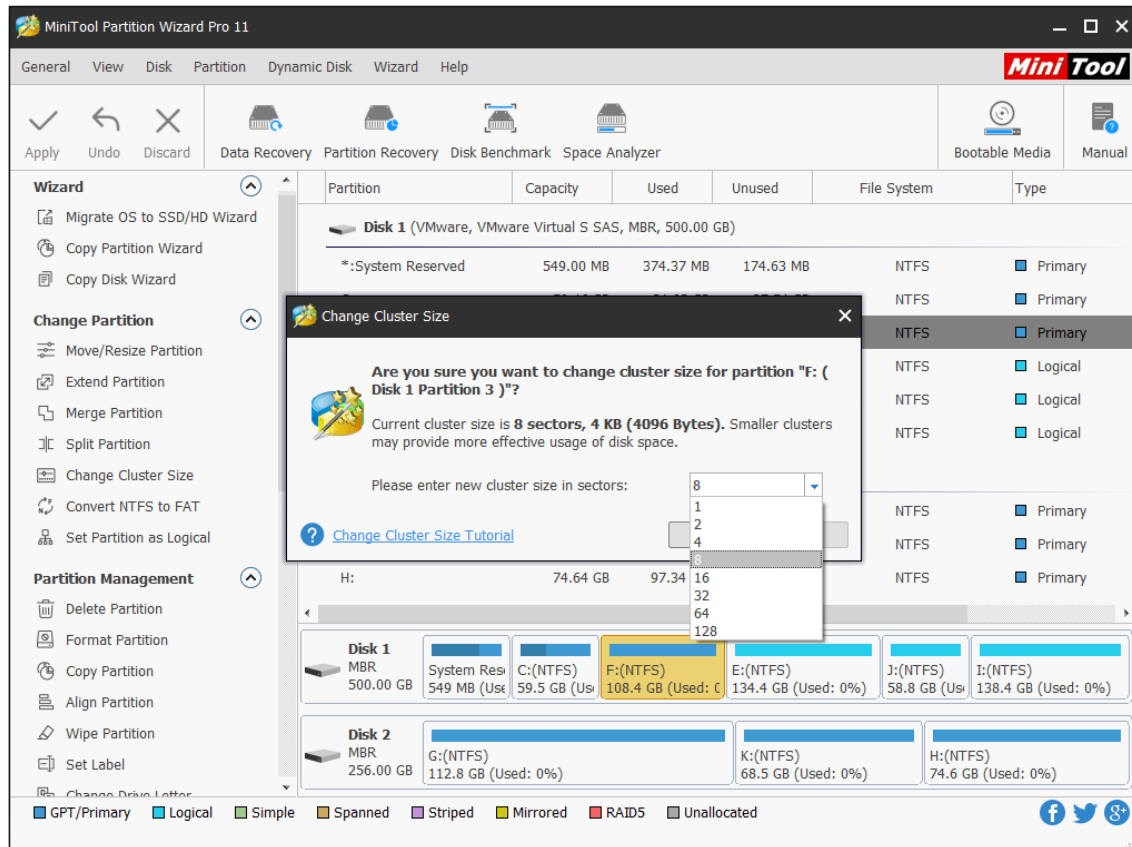
Note: MiniTool Partition Wizard Free Edition does not support this function. To use this function, users need to buy a professional edition or more advanced edition. View [Edition Comparison](#) to know more.

27.2 How to Change Cluster Size

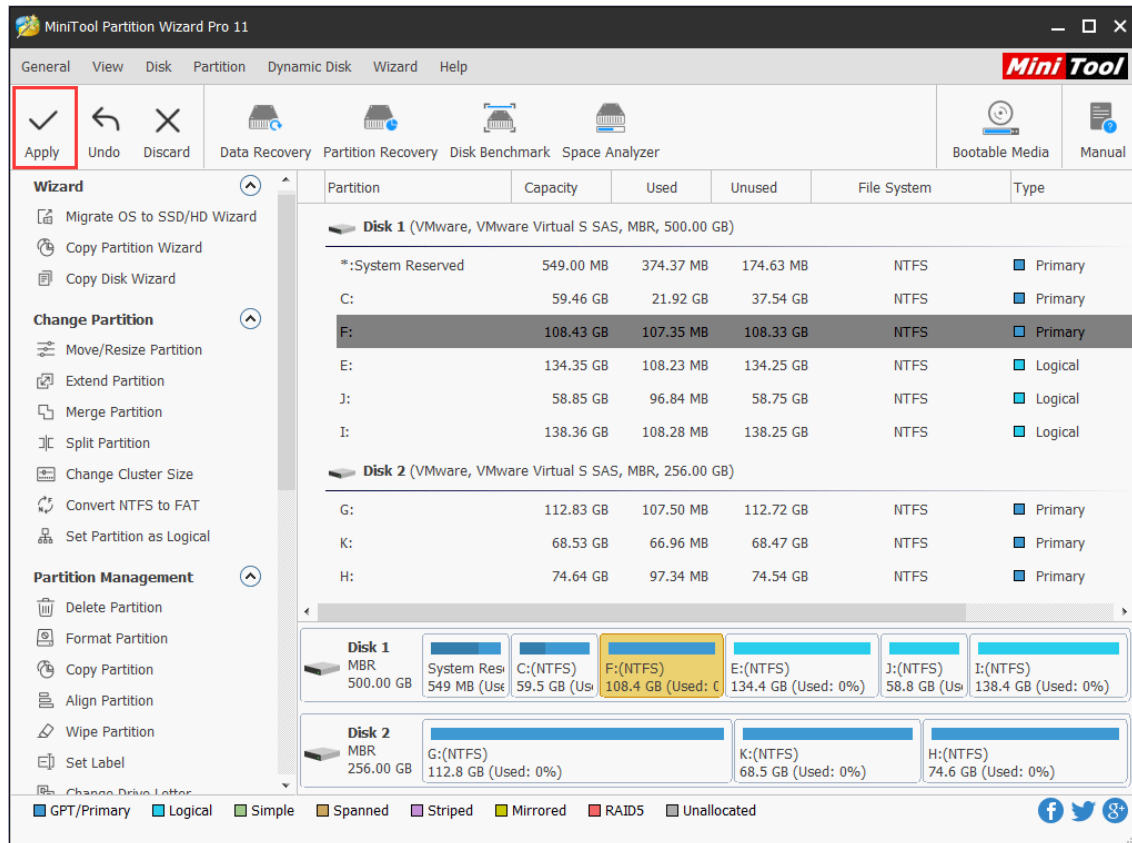
Step 1. Launch MiniTool Partition Wizard, then select the partition whose cluster size is not reasonable and choose **Change Cluster Size** from the left pane.



Step 2. Choose a suitable cluster size from the drop-down list and click **Yes** to go back to the main interface.



Step 3. Click **Apply** button on the top to perform pending operations.



Tricks

1. If the purpose of increasing cluster size is to break the 16TB partition size limit, users can extend this partition directly with the [Move/Resize Partition](#) or [Extend Partition](#) feature. During this process, MiniTool Partition Wizard will increase cluster size automatically. With the added free space, the program should complete the increasing faster.
2. If the partition doesn't have much free space left, MiniTool Partition Wizard may fail to change cluster size. In this case, we suggest extending the partition first, and then change cluster size manually.

28. Change Serial Number

28.1 About Change Partition Serial Number

Partition serial number is a unique number assigned to hard drive during the creation of file system. It originated in the 1950s in the mainframe computer operating system. In FAT and NTFS file systems, partition serial number is a feature used to determine if the disk is present in a drive, and to detect if it was exchanged with another one.

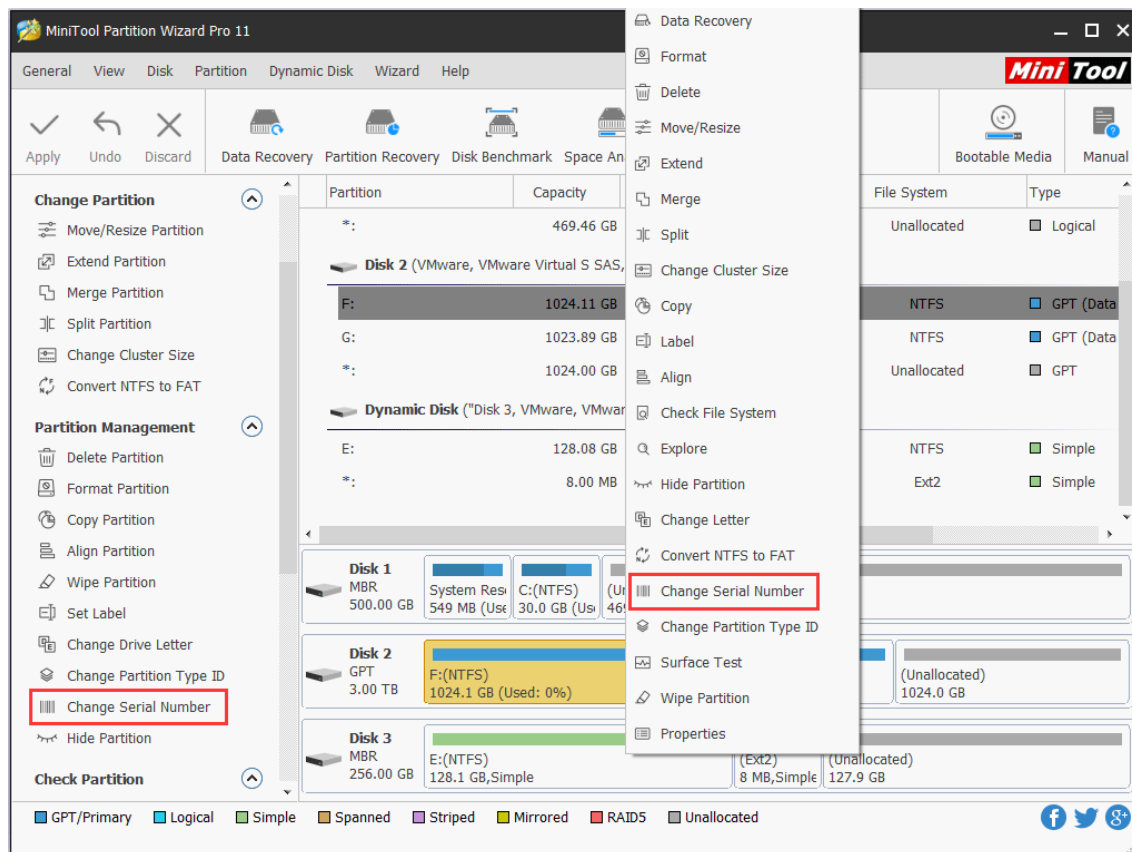
The serial number is a 32-bit number determined by the date and time on the real-time clock on the current computer at the time of a disk's formatting. If the serial number is discrete, users can change it. And, MiniTool Partition Wizard is the best choice to complete this operation.

Note: MiniTool Partition Wizard Free Edition does not support this function. To use this function, users need to buy a professional edition or more advanced edition. View [Edition Comparison](#) to know more.

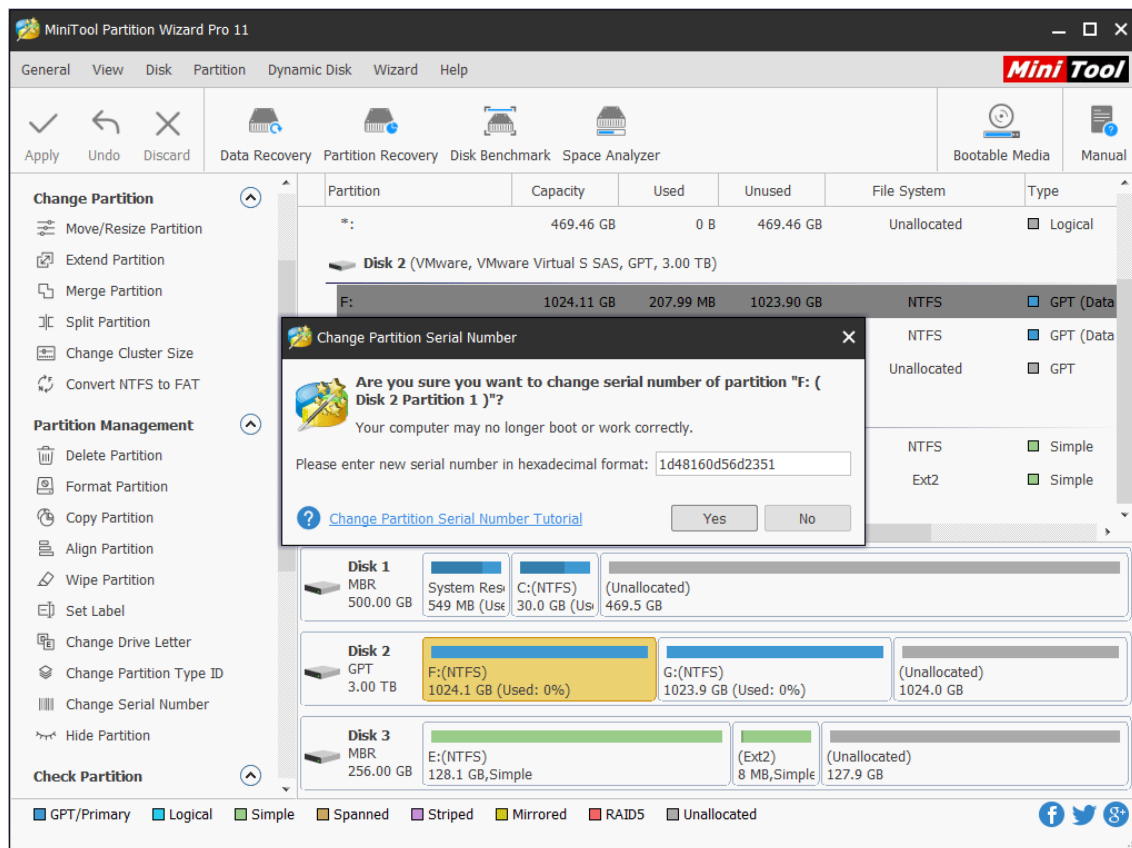
28.2 How to Change Partition Serial Number

MiniTool Partition Wizard Tutorial offers the detailed operation steps as follows:

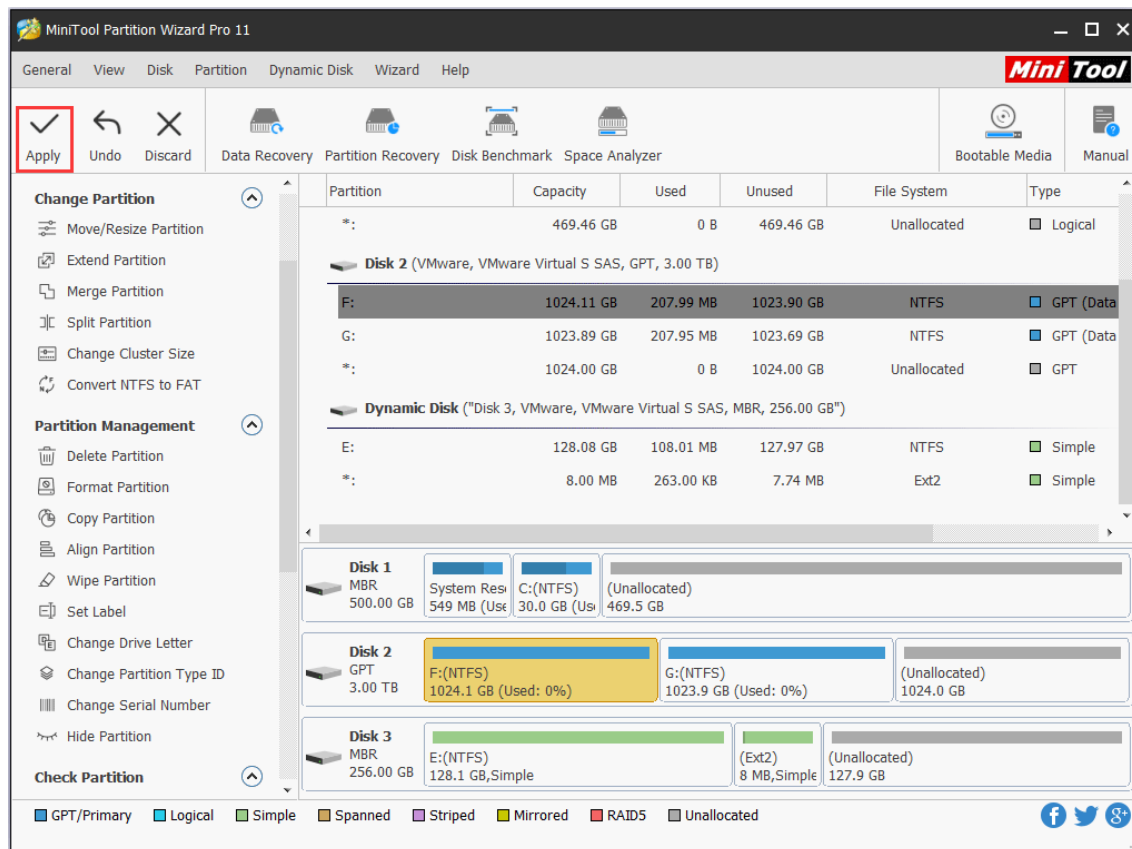
Step 1. Select the target partition, and then click **Change Serial Number** from the Partition Management group of the left action panel or from right-click menu.



Step 2. Input new serial number in the new window and click **Yes** to go back to the main interface.



Step 3. Click **Apply** button on the toolbar to execute this change.



When all operations are done, users can view new partition serial number by clicking the partition and choosing [Properties](#).

29. Change Partition Type ID

29.1 About Change Partition Type ID

For MBR-style partition, each partition has one partition type ID, so the system can tell the type of partitions by the ID. There are many partition type IDs, and the following IDs are frequently used:

- 0x07 NTFS
- 0x0B FAT32, used by DOS & Win95
- 0x0C FAT32 using LBA mode to access to FAT32 partition
- 0x01 FAT12
- 0x04 FAT16, less than 32 MB
- 0x06 FAT16, greater than 32 MB

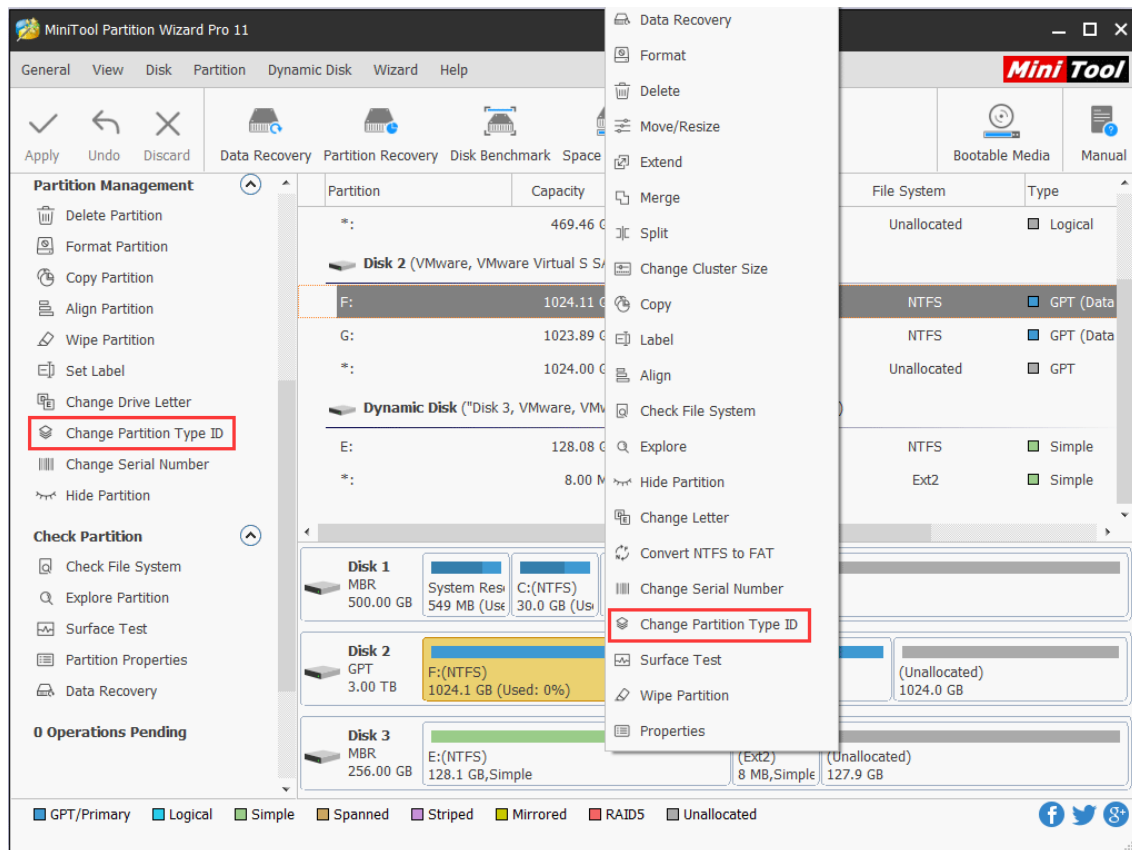
- 0x0E FAT16 using LBA mode to access to FAT16 partition

Usually GPT hard drive has EFI system partition or Microsoft reserved partition, which refers to the partition type ID. When there is a special need, users may want to change the partition type ID. MiniTool Partition Wizard provides users a feature to change type ID on GPT disk.

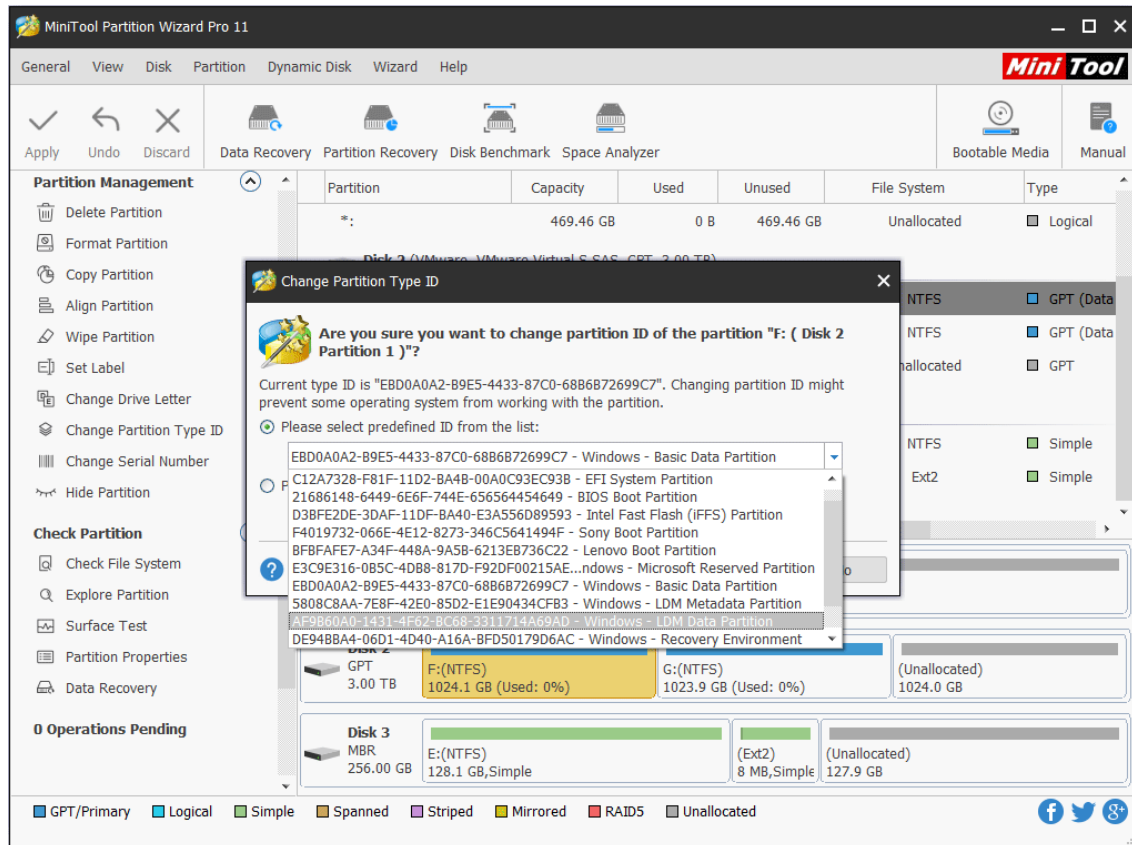
29.2 How to Change Partition Type ID

Change Partition Type ID is very simple. Only three steps are required to complete this job. The following is the MiniTool Partition Wizard tutorial.

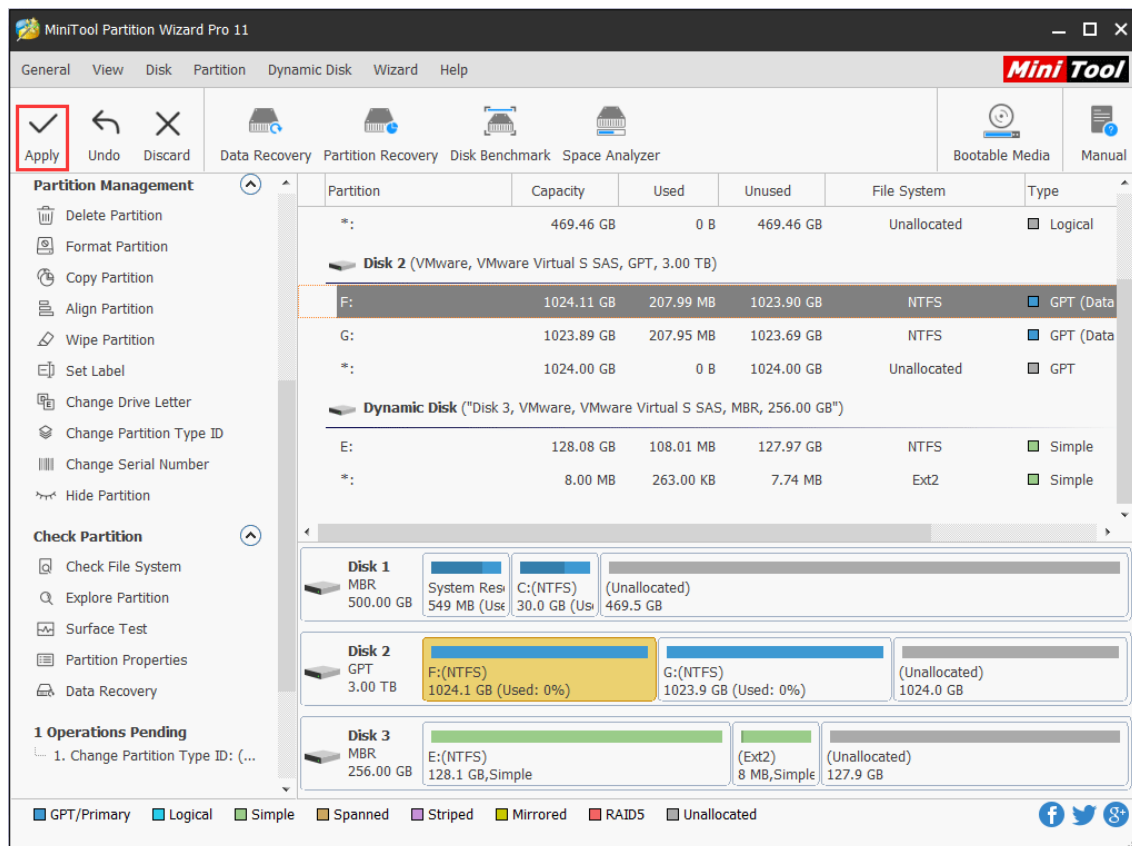
Step 1. Select or right-click the partition and click **Change Partition Type ID** from the action panel or pop-up menu.



Step 2. Choose a partition type ID from the list or enter ID manually according to actual need. And then click **Yes** button to go back to the main interface.



Step 3: Click **Apply** to execute this change.



30. Explore Partition

30.1 About Explore Partition

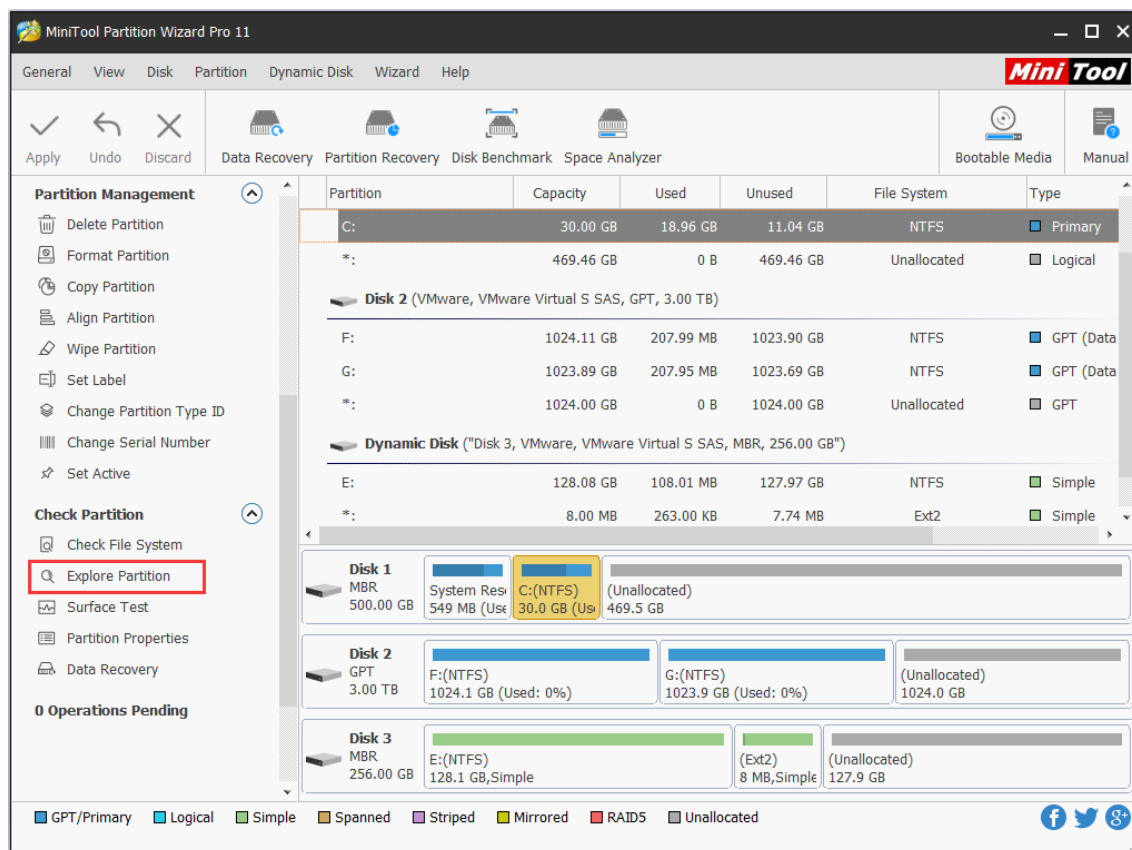
Explore Partition feature ensures that it is the partition users want to modify. For example, when users are managing partitions under boot mode, it is difficult to identify each partition because **drive letter** can be disordered.

Besides, it is convenient for you to explore partition at first and then manage it within the same utility even in Windows. So, how to explore partition? Please read this MiniTool Partition Wizard Tutorial.

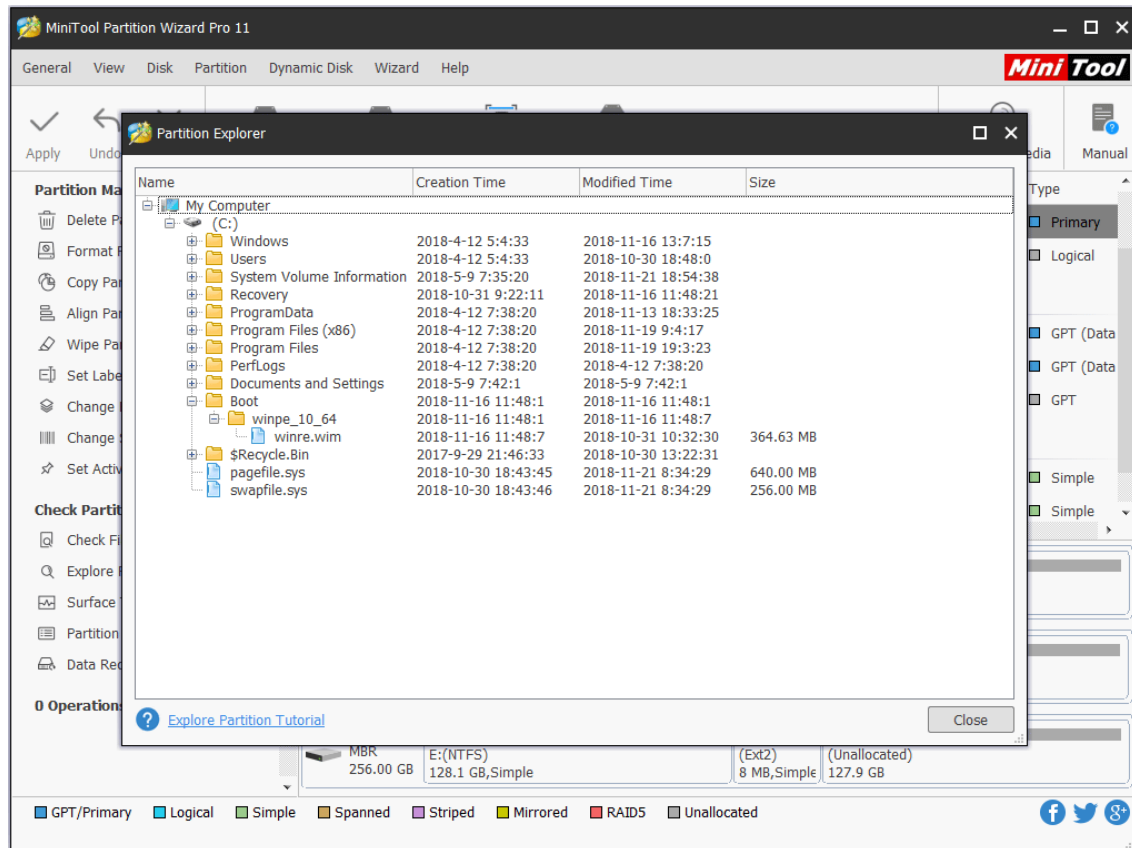
Note: MiniTool Partition Wizard only supports the exploration of FAT12, FAT16, FAT32, and NTFS partitions.

30.2 How to Explore Partition

Step 1. Select the target partition, and then choose **Explore Partition** from action panel.



Step 2. This software lists all files in this partition with a tree structure. There you can view File Name, File Size, Creation Time and Modified Time altogether.



31. Hide/Unhide Partition

31.1 About Hide/Unhide Partition

It is a common sense that lots of users are accustomed to store valuable photos, business documents and personal files to computer hard drives. In this case, many users don't want others to access their confidential files without permission.

At this time, they can choose to hide that partition, so that the files can never be seen by malicious people. Users themselves can't see the hidden partition in the computer, either. So if they need to make the partition accessible to all, they should unhide partition.

Common situations where users need to hide/unhide partition:

- If users have installed multiple operating systems on the same computer, they'd better hide the other [system partitions](#) for the sake of file integrity.
- Users might want to hide the disk partition which includes recovery tools or other kinds of significant files.

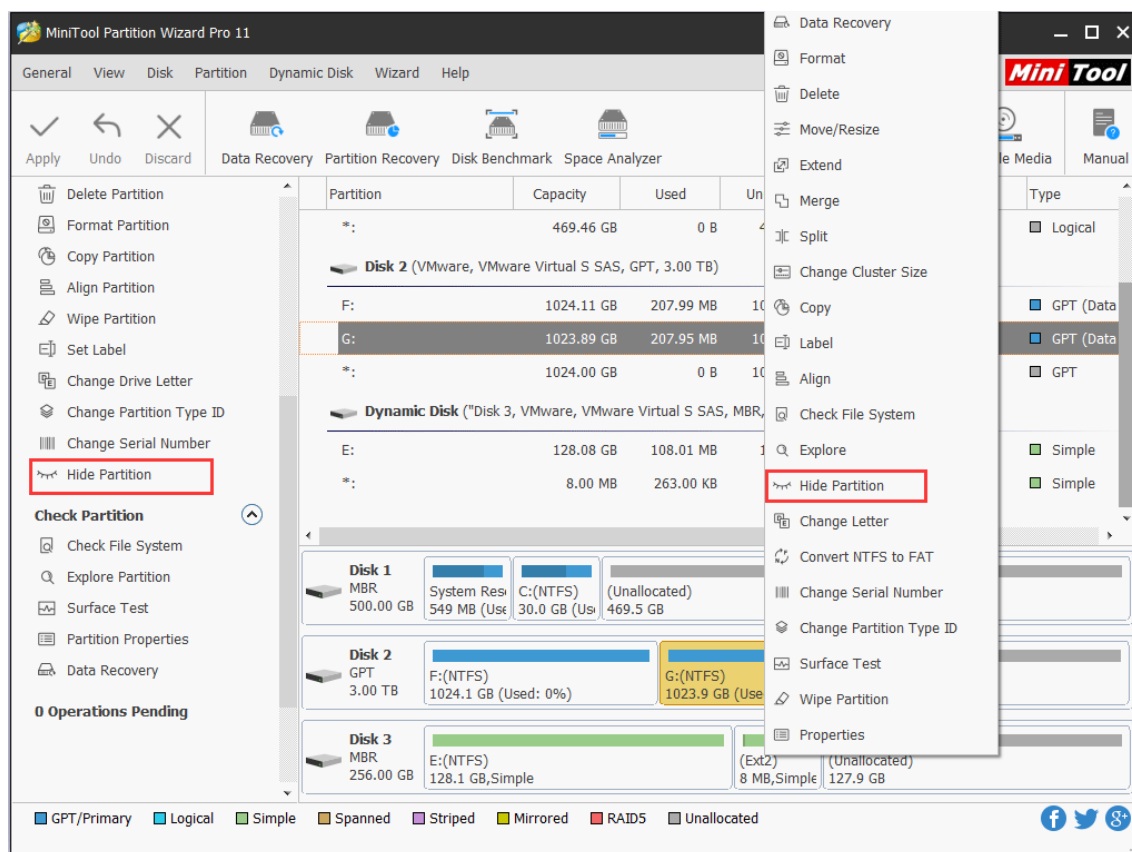
- To manage or use files in a hidden partition, users need to unhide the partition at first.
- If users want to share the files in a hidden partition with families or friends, they should unhide it.

31.2 How to Hide/Unhide Partition

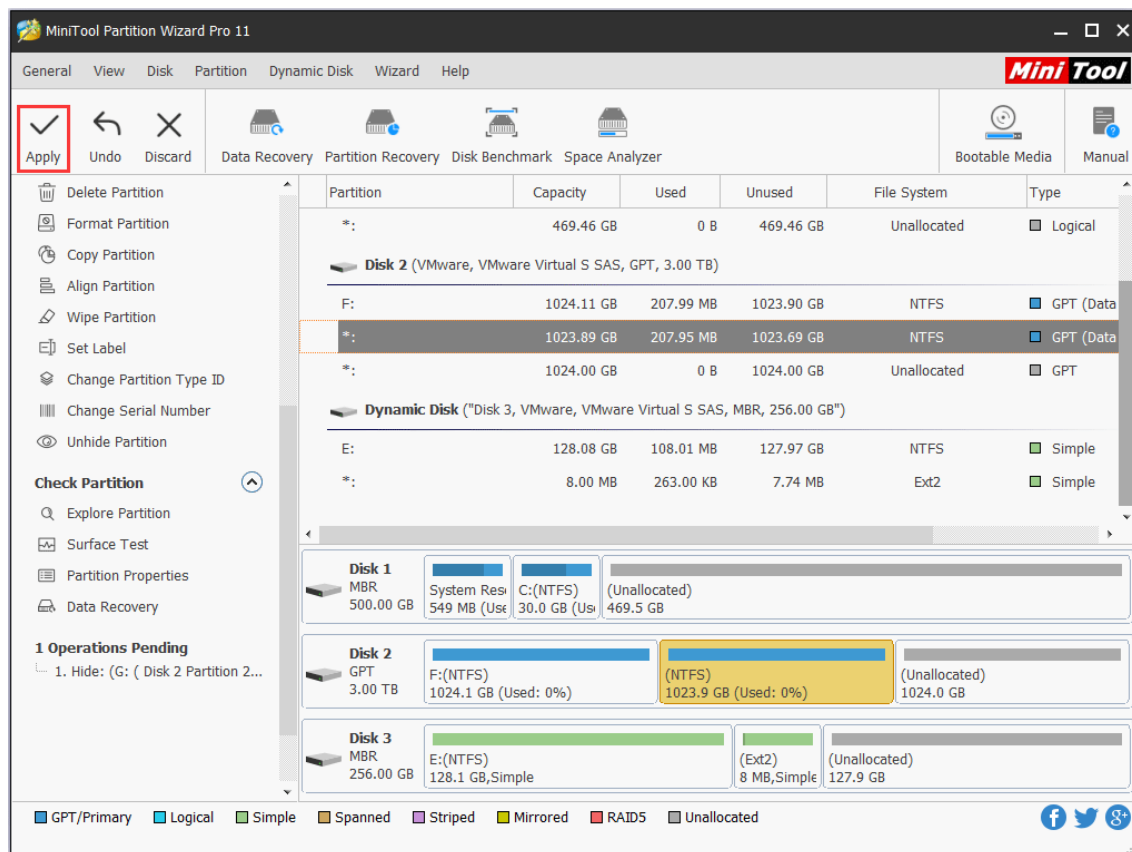
Lacking related experience and knowledge, ordinary users often don't have a clear idea of how to hide/unhide partition. MiniTool Partition Wizard offers a good way to help them hide/unhide partition conveniently and safely.

31.2.1 How to Hide Partition

Step 1. Open the software and enter its main interface. Then, select the target partition and choose **Hide Partition** from the left action panel or right-click menu.

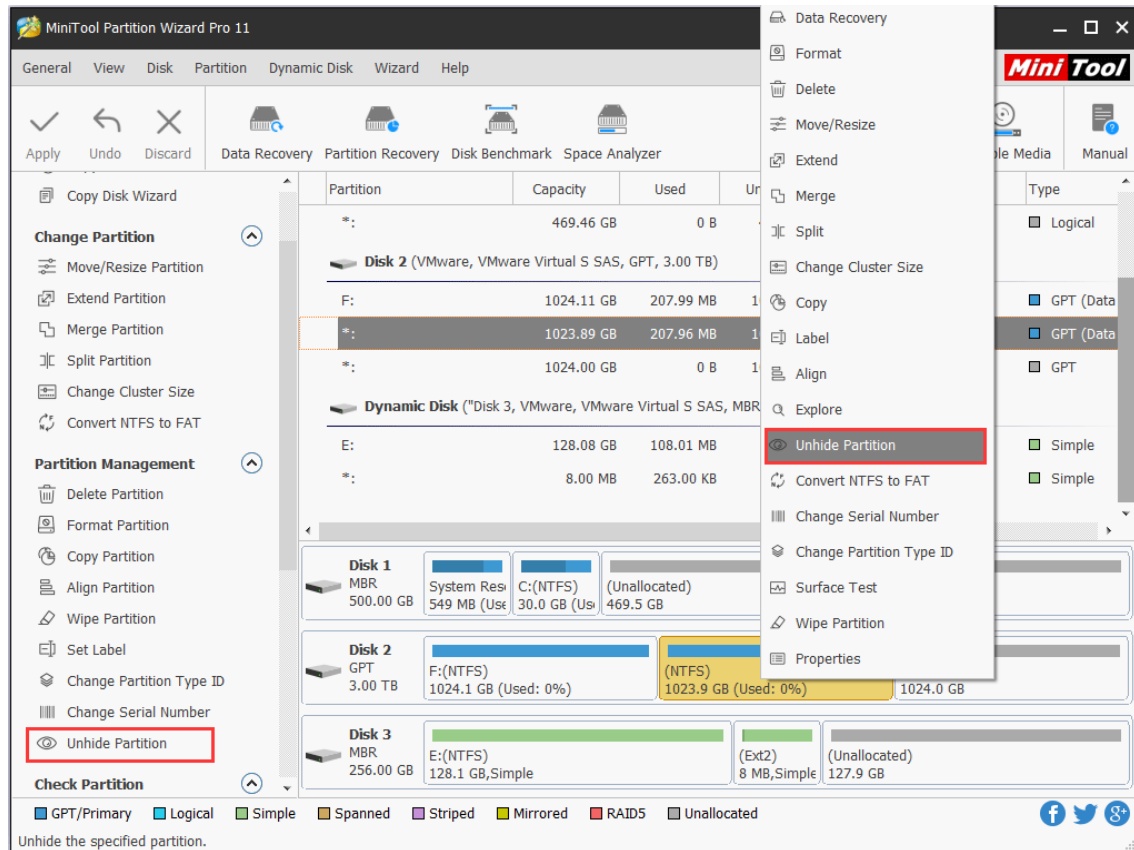


Step 2. Then the target partition is shown without partition letter on the interface. Click **Apply** to save the change.

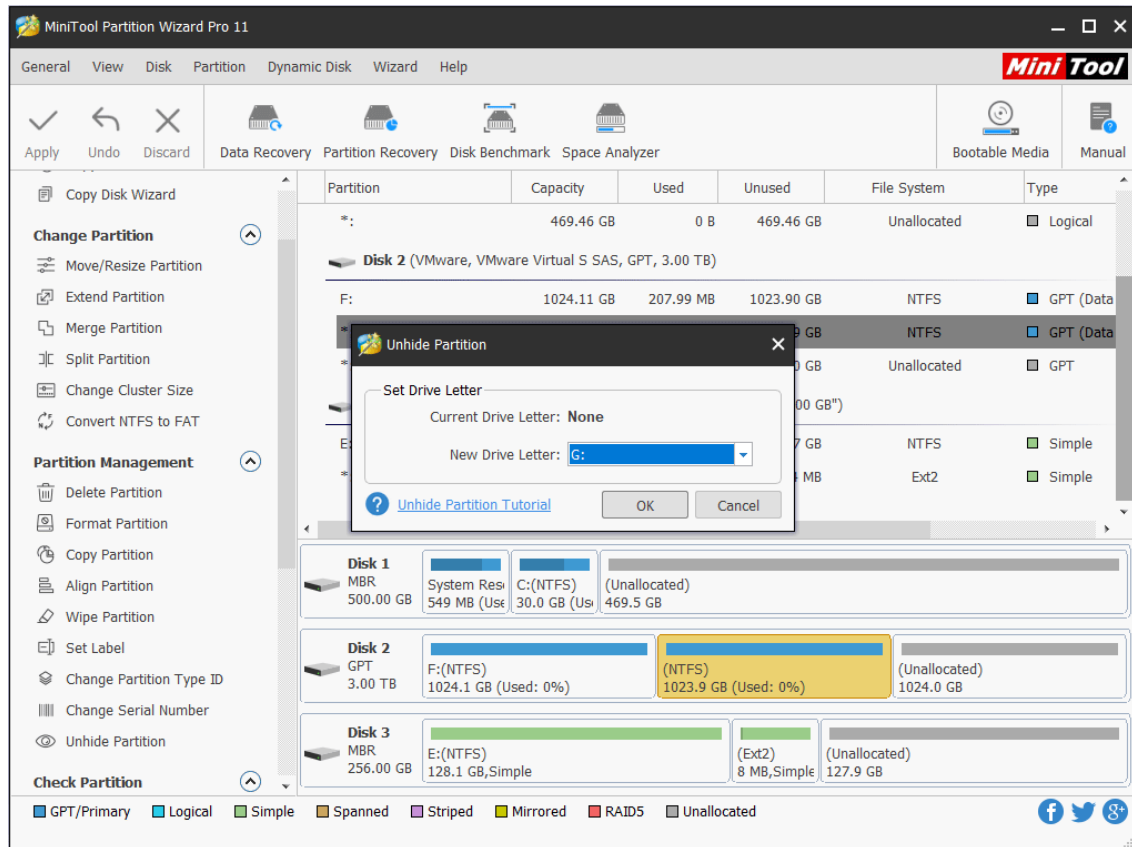


31.2.2 How to Unhide Partition

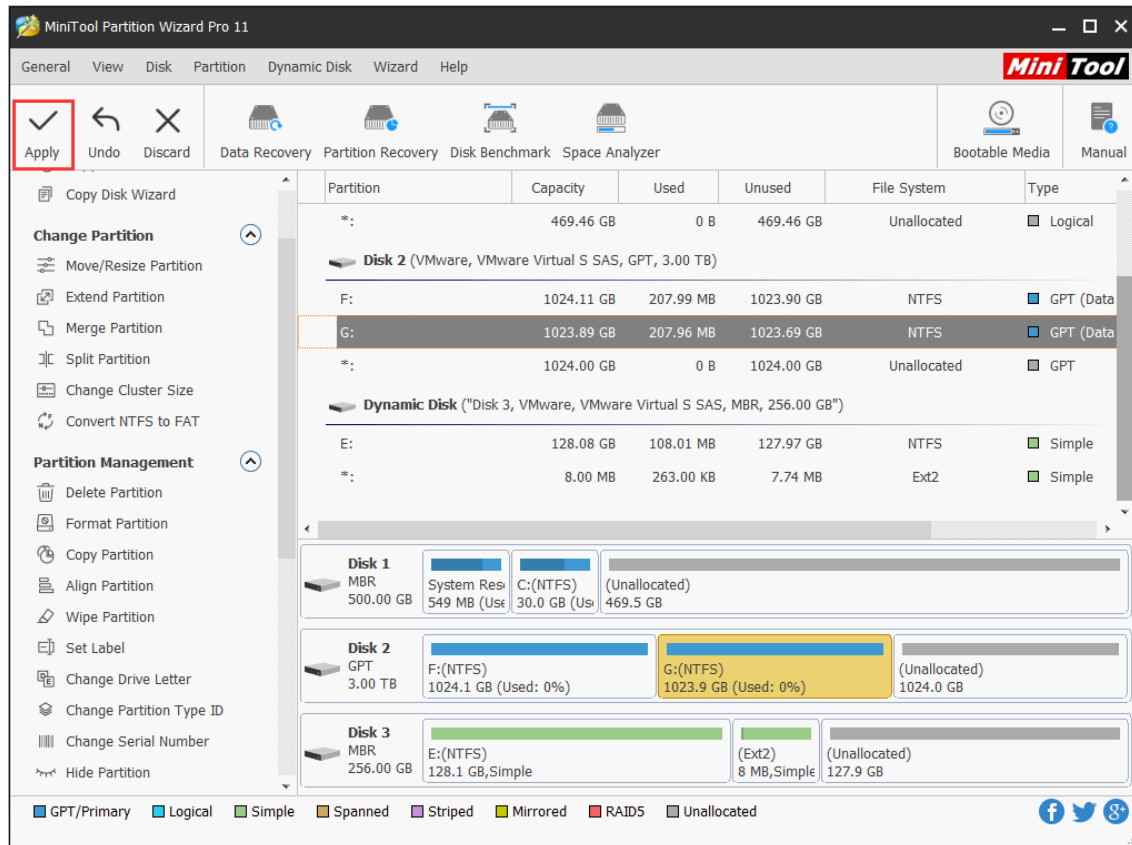
Step 1. Select the target partition and choose **Unhide Partition** from the left action panel or right-click menu.



Step 2. There will be a pop-out window which allows users to set a new drive letter to the target partition. Choose a letter and click on **OK** to back to the main interface.



Step 3. Here, the target partition is shown with the specified drive letter. Then, click on **Apply** to save the change.



32. Partition Surface Test

32.1 About Partition Surface Test

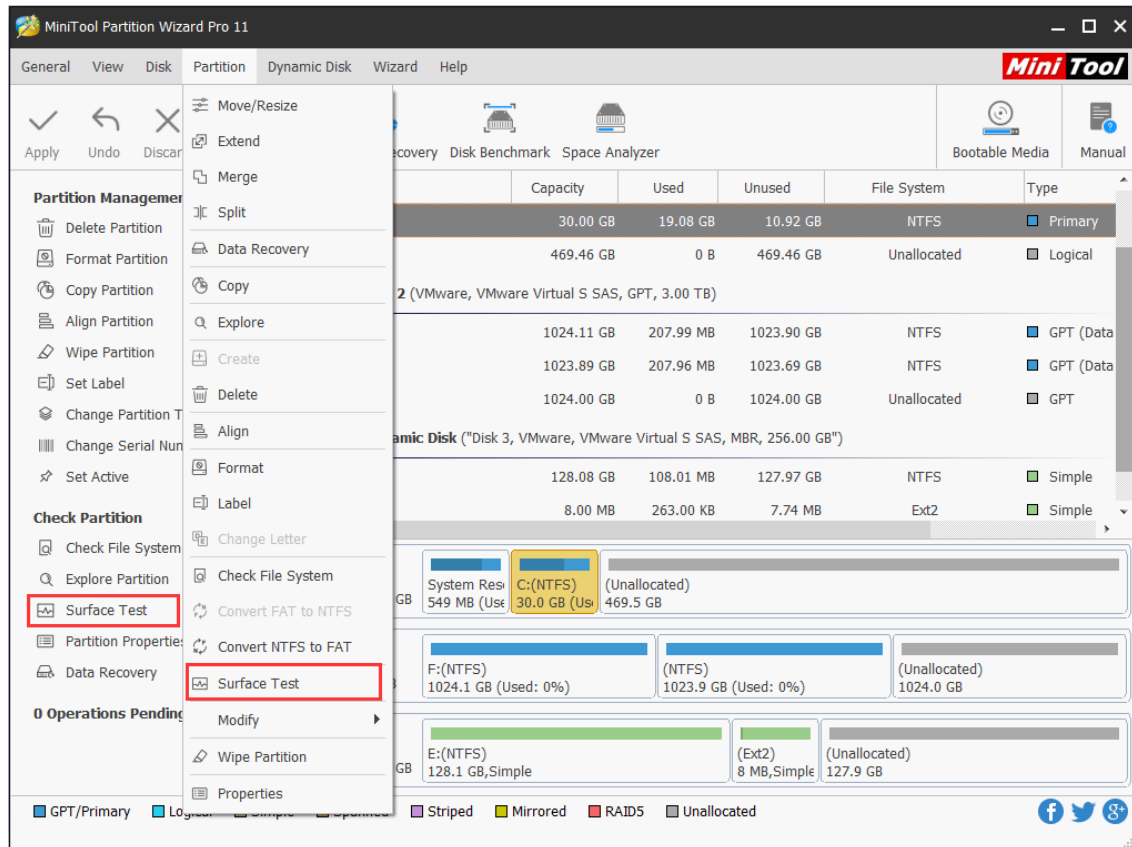
Sometimes, users have difficulty in managing partitions (such as create partition, extend partition, shrink partition and move partition). For example, the partition management tool runs quite slow or even stops running at a time point.

These might be caused by the [bad sectors](#) on partition. At this time, users need a partition surface test tool which can help confirm whether there are bad sectors on the target partition.

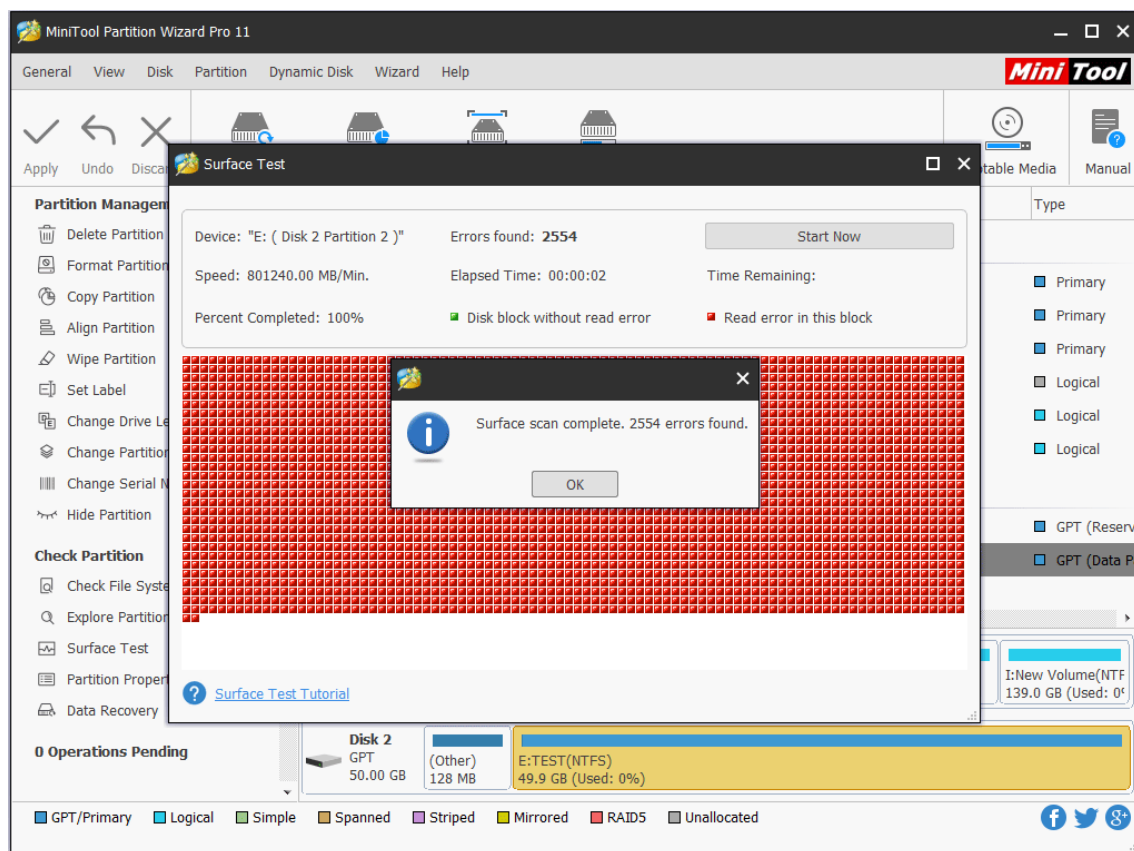
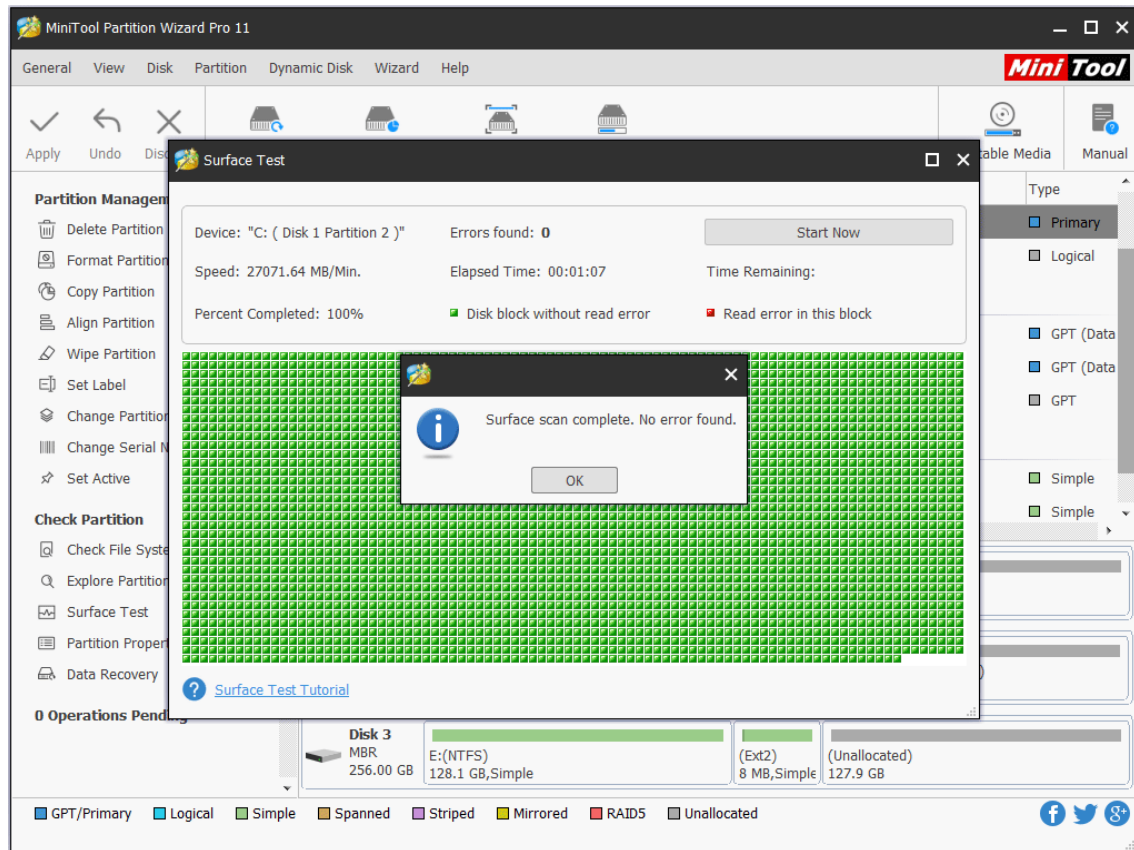
MiniTool Partition Wizard is strongly suggested here since it can scan each partition sector status by reading data from the sector. After scanning, partition block without reading error will be marked with green color, and partition block with reading error will be marked with red.

32.2 How to Perform Partition Surface Test

Step 1. Click the target partition to be checked and select **Surface Test** from the Check **Partition** group OR from the **Partition** menu.



Step 2. In the new window, click **Start Now** to begin partition surface test. Then, this software will show the result.



After viewing MiniTool Partition Wizard Tutorial above, users can easily make a partition surface test to check whether there are bad sectors on the partition.

33. Partition Properties

33.1 About Partition Properties

Users can check detailed information of the partitions with **Properties** function. For the partitions recognized by Partition Wizard, this function will show partition properties including detailed file system parameters.

Usage

- Used space
- Unused space
- Total space

Partition Information

- Partition Type ID
- Partition ID (only for partitions on GPT disk)
- File System
- Serial number
- First Physical Sector
- Last Physical Sector
- Total Physical Sector

File System Information

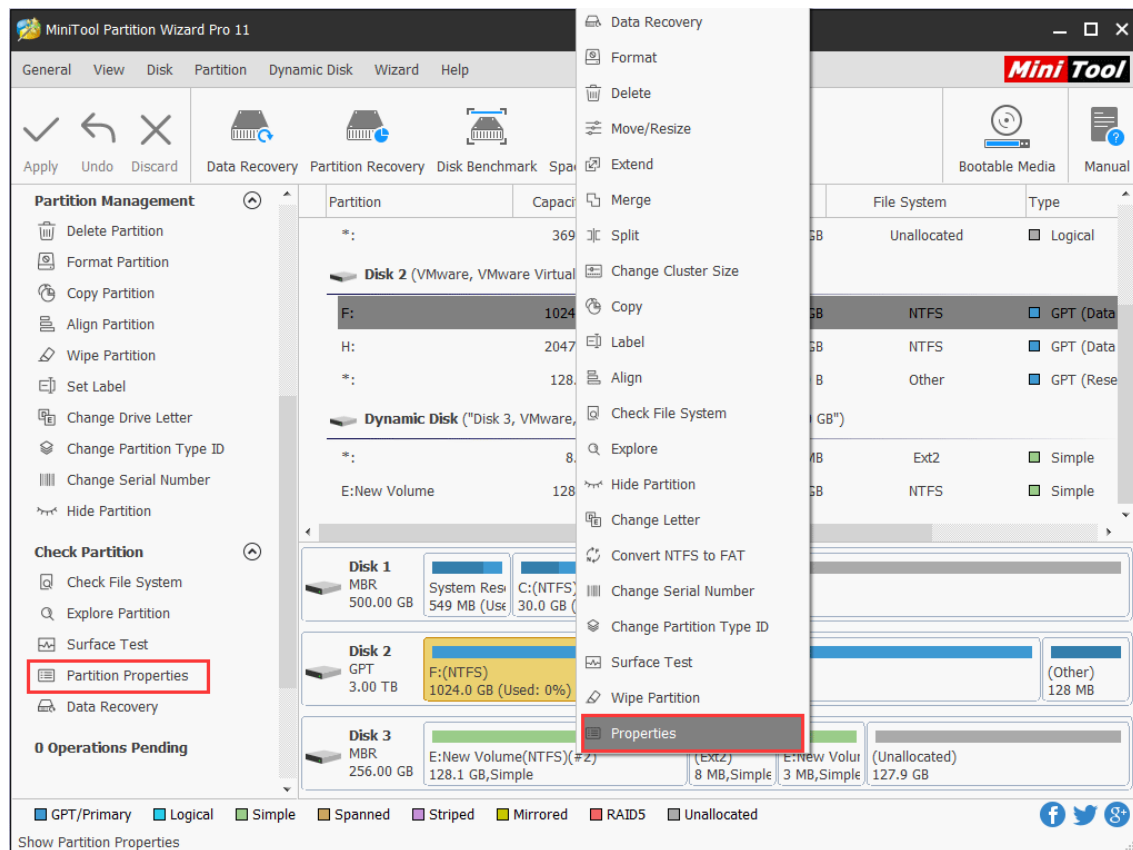
- Sector per Cluster
- Sector per File Record
- Sector per Index Record
- Logical Cluster Number of the \$MFT
- Logical Cluster Number of \$MFTMirr

What's more, Partition Wizard will also provide a pie chart of the partitions so that users can view

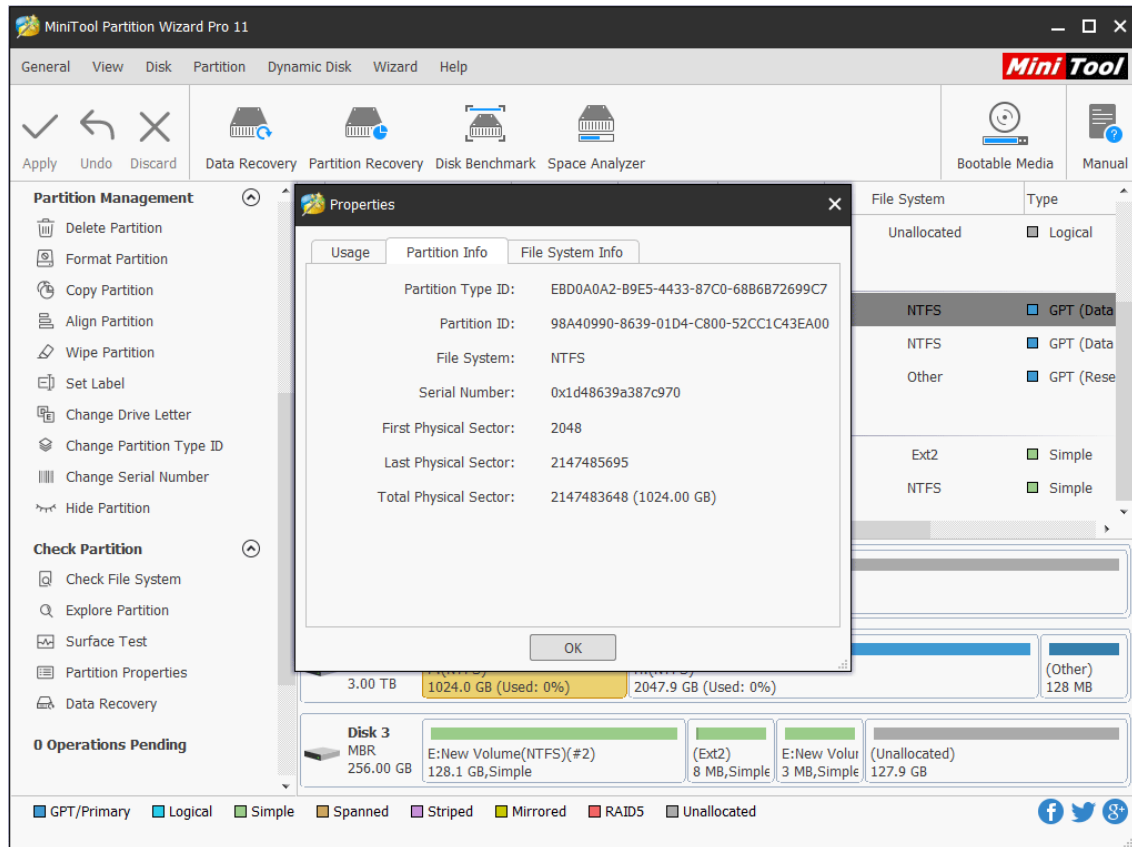
the present space of the partitions conveniently and intuitively.

33.1 How to View Partition Properties

Step 1. To use this function, right-click the target partition, and then select **Properties** feature to view partition properties.



Step 2. Then in **Partition Info** tab, users can view the detailed partition information.



Note: Only basic disk has Partition Type ID and Partition ID. For GPT basic disk, both are displayed. For MBR basic disk, only Partition Type ID can be viewed.

34. Data Recovery

34.1 About Data Recovery

Data Recovery is designed to recover files from the logically damaged partition, formatted partition, and RAW partition as well as to recover files mistakenly deleted from internal or external hard drives.

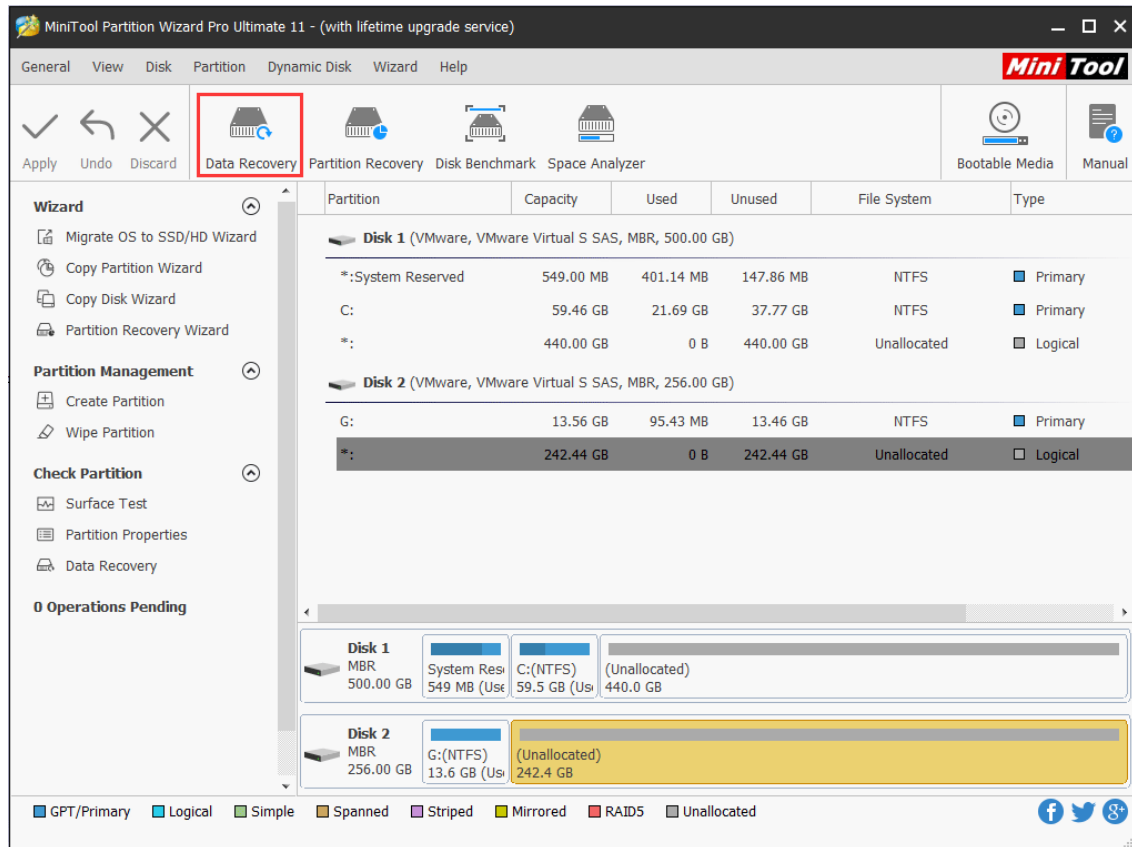
Besides, many computer users may have encountered partition loss due to some reasons like system update, hard drive failure, OS corruption, etc. And certainly, data in the partition is lost. Lost partition will be shown in the main interface of Data Recovery, and users can scan the lost partition to recover lost or deleted files after partition loss or deletion.

Note: Data Recovery feature is only available in MiniTool Partition Wizard Pro Ultimate and above edition. For more information, you can check [MiniTool Partition Wizard Edition Comparison](#).

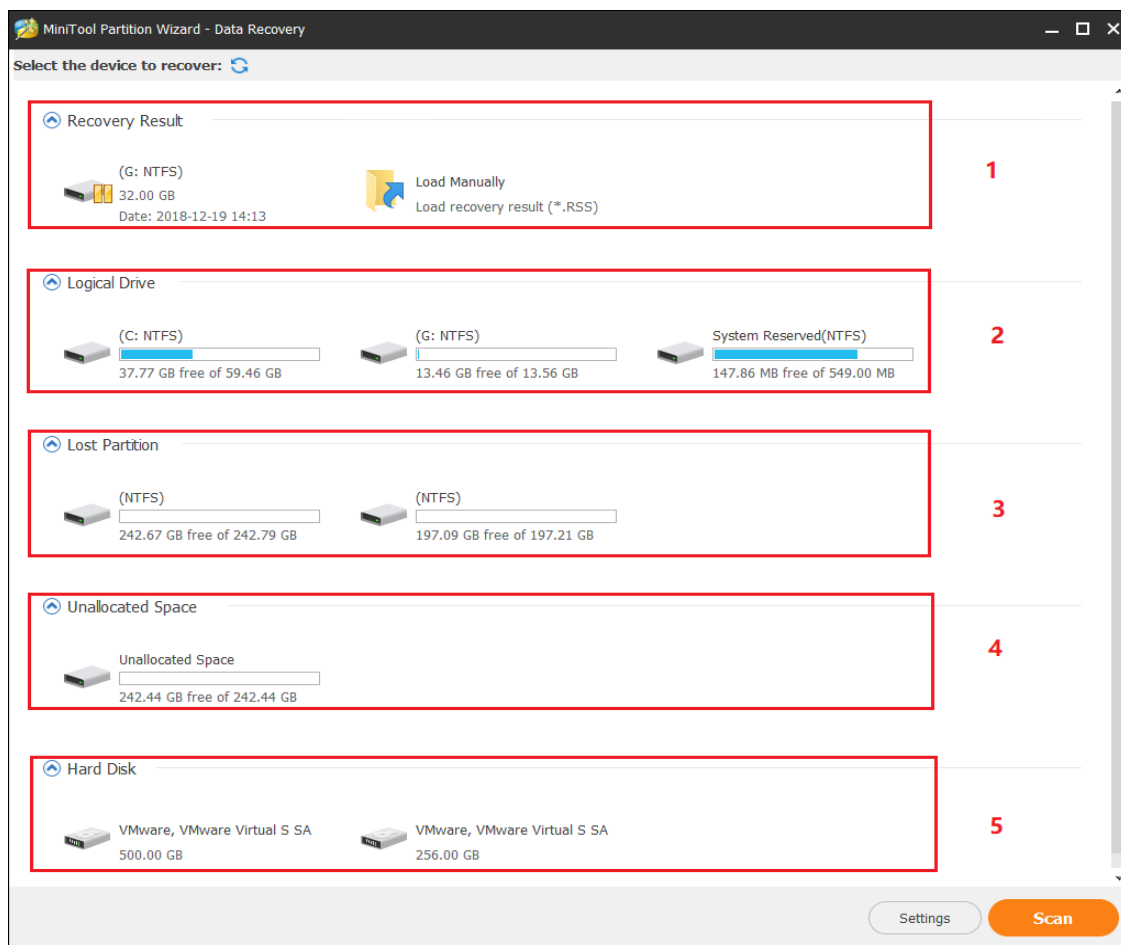
34.2 How to Recover Lost Data from Hard Drive

Step 1. Launch MiniTool Partition Wizard to get its main interface.

Step 2. To recover files from hard drive, click **Data Recovery** on the top Tool Bar.



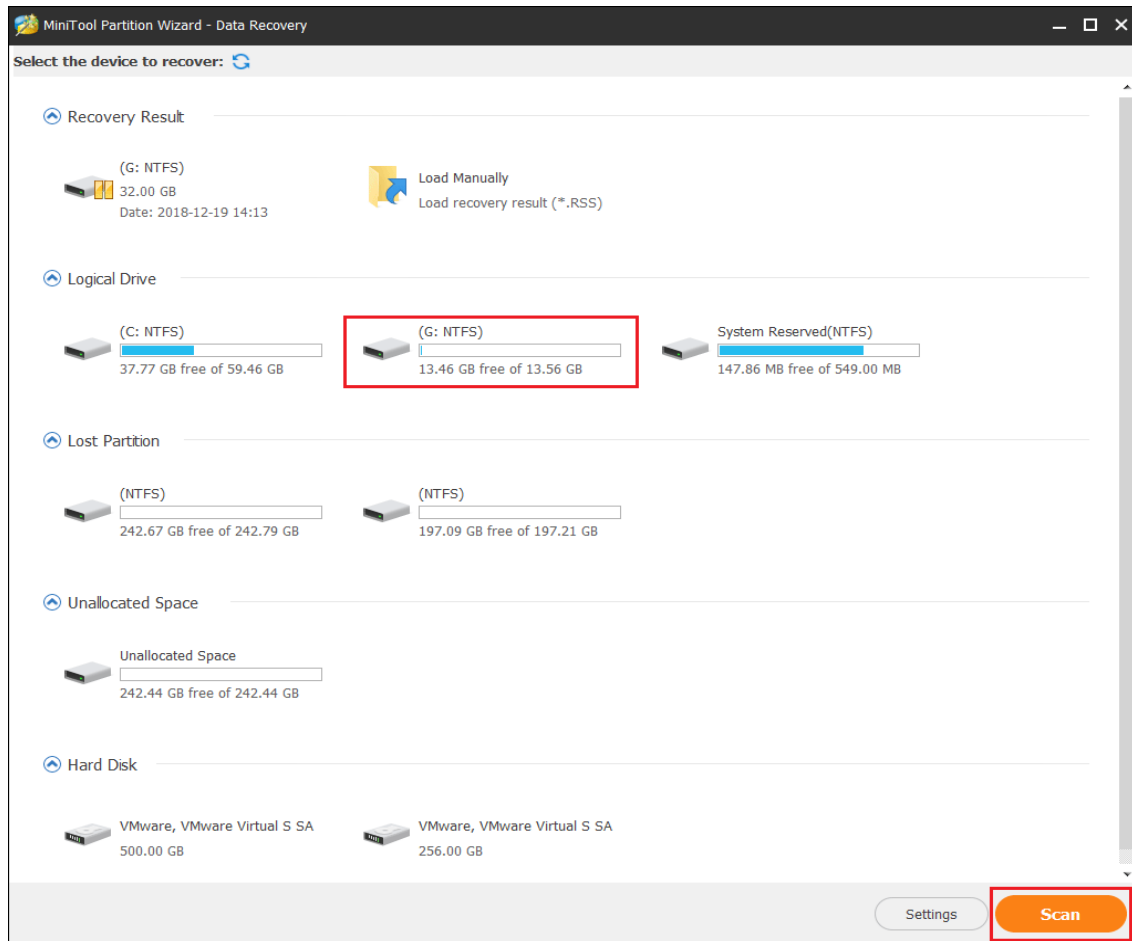
Step 3. After launching Data Recovery function, users will enter the following interface where all the detected disk partitions are arrayed by drive letters.



Here Data Recovery will list 5 parts, and every part is different from each other.

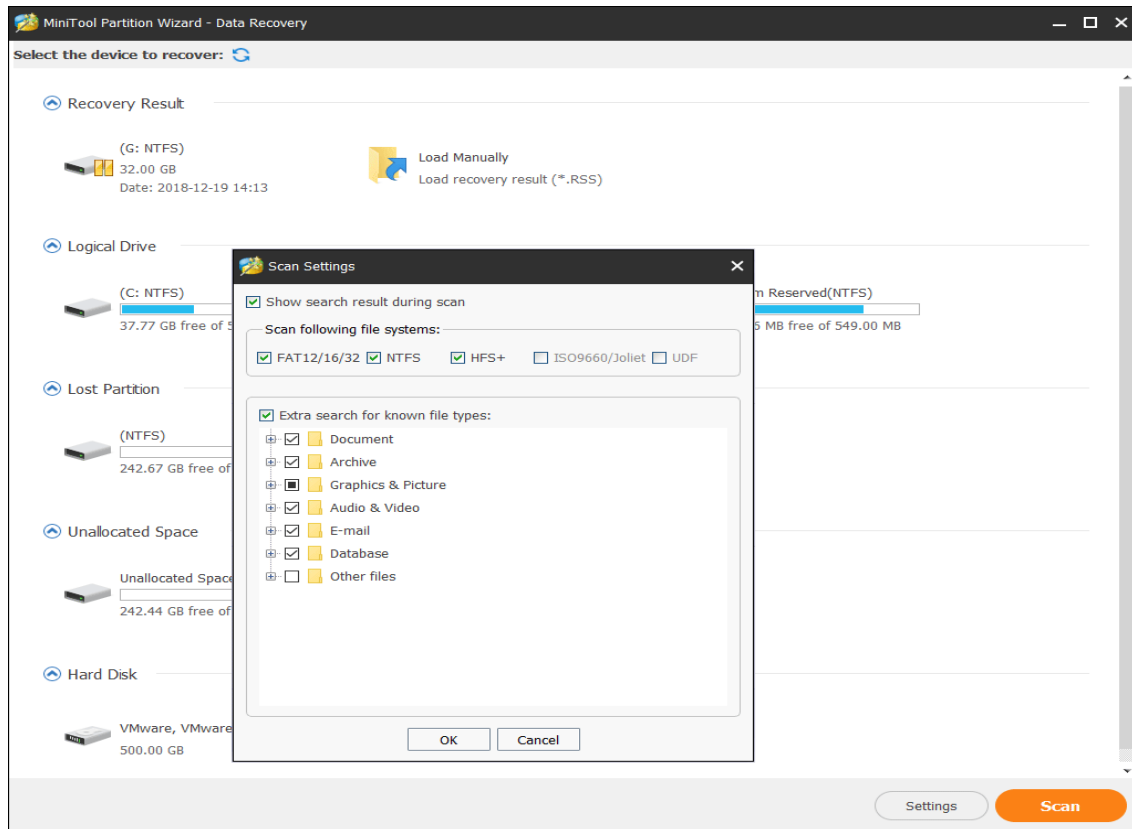
- **Recovery Result:** this section will show the last scanning result record and you can manually load scanning result to check recovered files directly.
- **Logical Drive:** this section will show all existing partitions on users' disk, including removable devices like USB drive. For partitions that do not have drive letters, they are arranged at the end of the list.
- **Lost Partition:** this section will show all lost partitions detected by Data Recovery, and then users can retrieve data from lost partitions.
- **Unallocated Space:** this section will show all unallocated spaces on users' computer.
- **Hard Disk:** this section will list all hard disks on the computer. Users can also select a hard disk to scan.

Then, Users can select a partition and click **Scan**. Here I take partition G as an example.



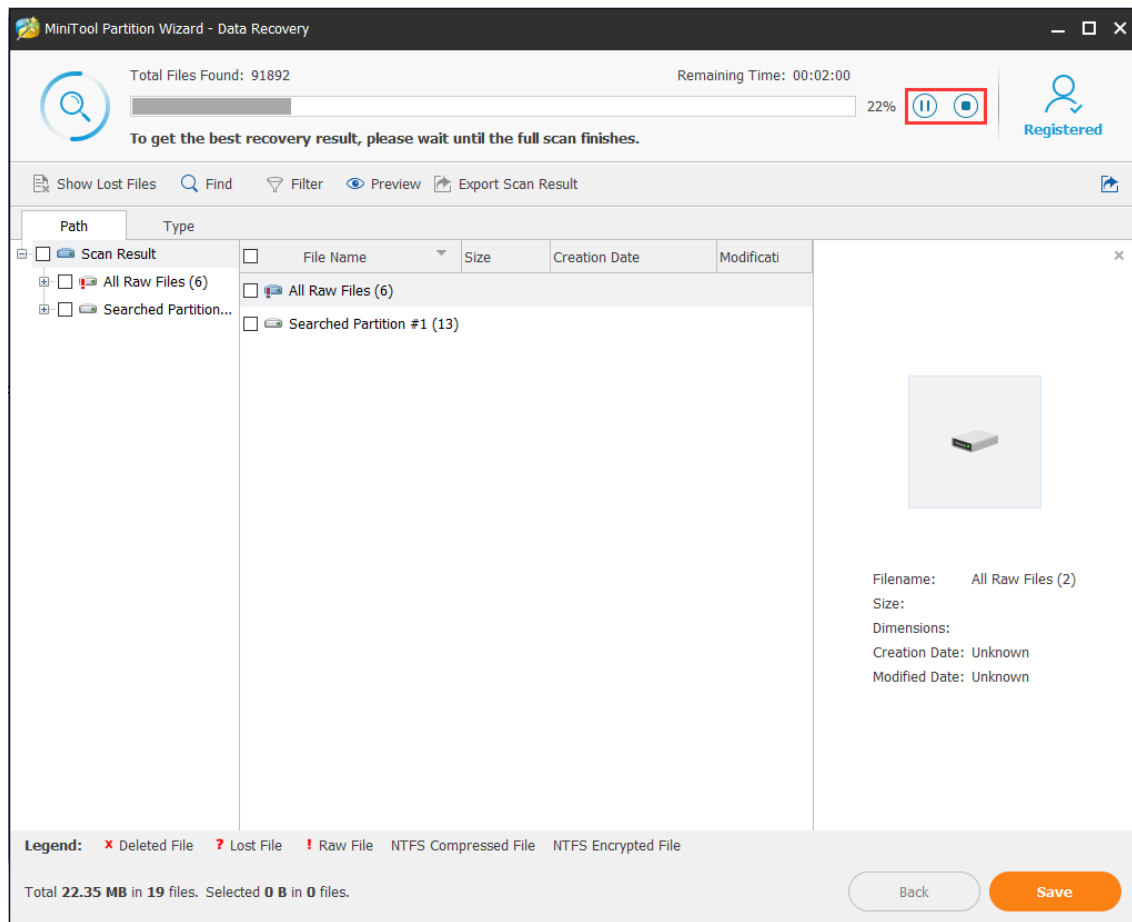
Kindly reminder:

If the target partition is not listed, please click the refresh icon on the top to refresh this interface.
If users want to recover some specified file types on certain partitions, use **Settings** option near the **Scan** button to help. This way can save some scanning time.

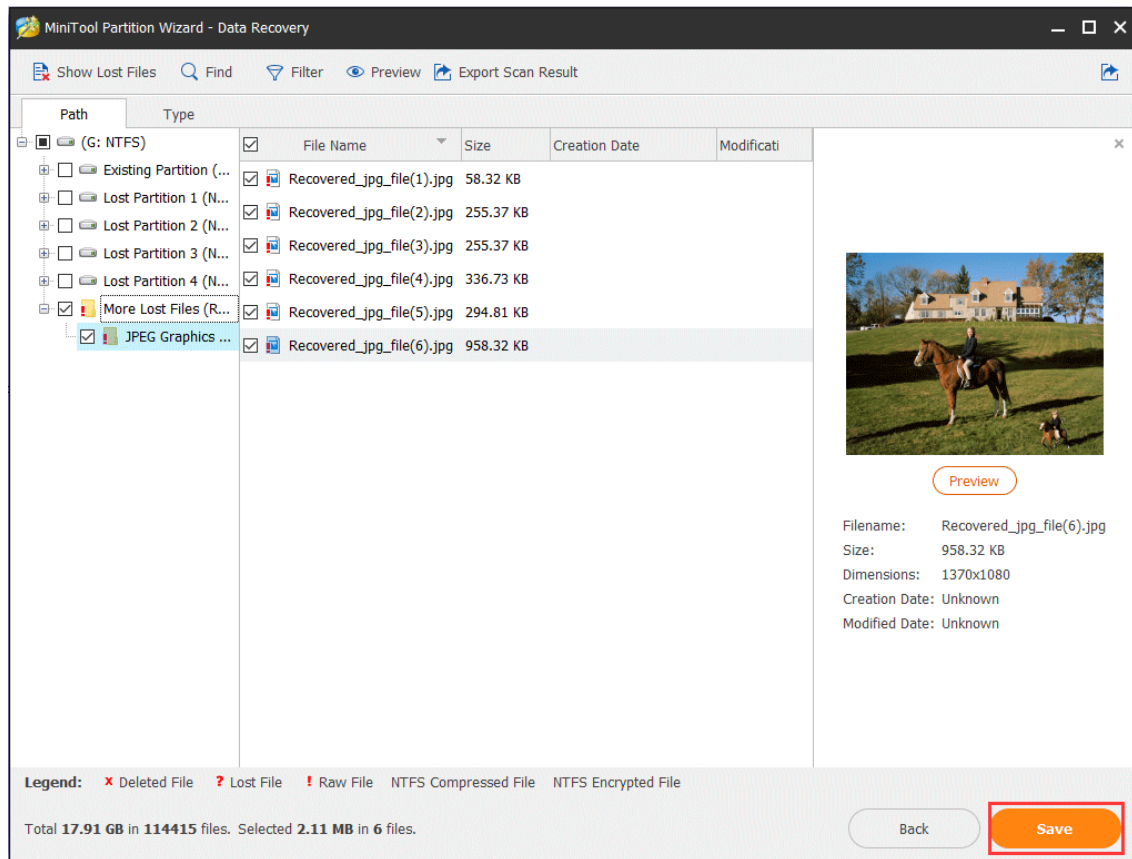


Step 4. See! This software is scanning the selected partition. And it can find the lost or deleted files while scanning. If users have found crucial data, they can click icons in the red box to pause or stop the scan process for instant data recovery.

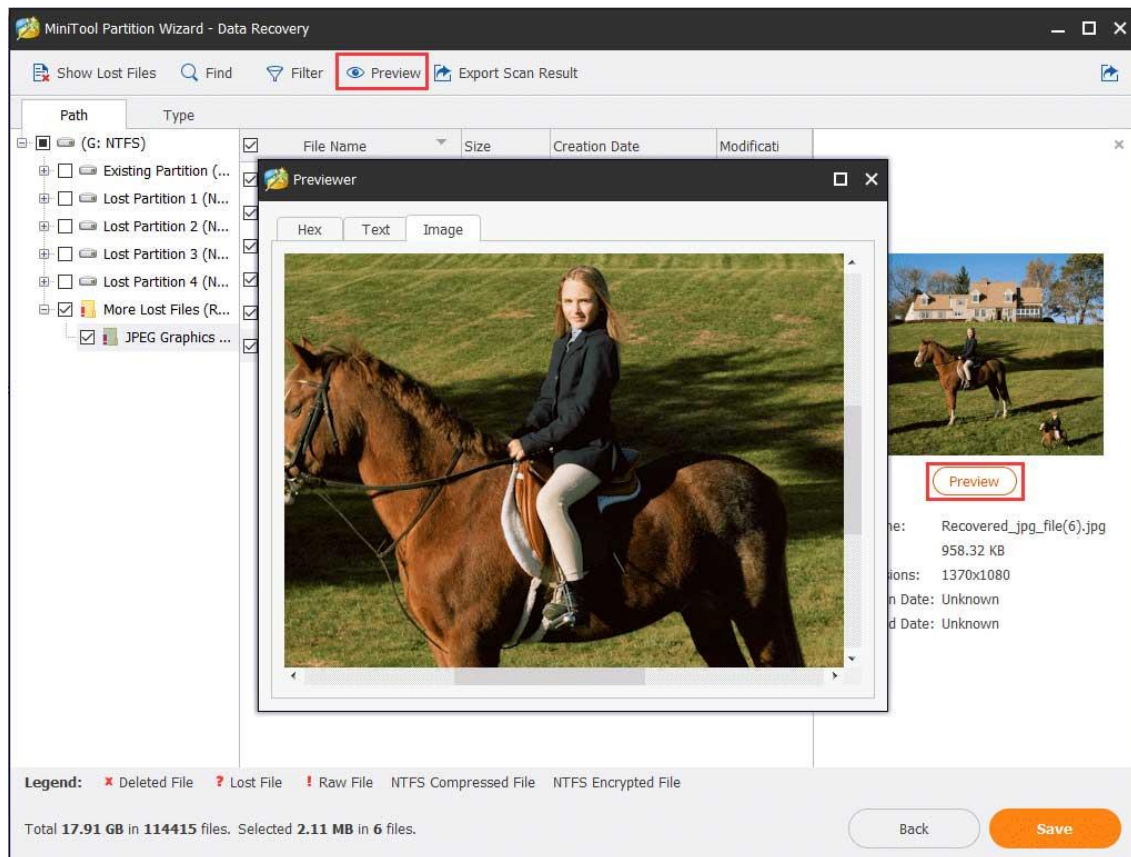
Note: Right-click a partition and choose **Data Recovery** from the pop-up Windows will get the following interface directly.



Step 5. After completing the scan, users need to find files they need. Then, check some items and click **Save** button.



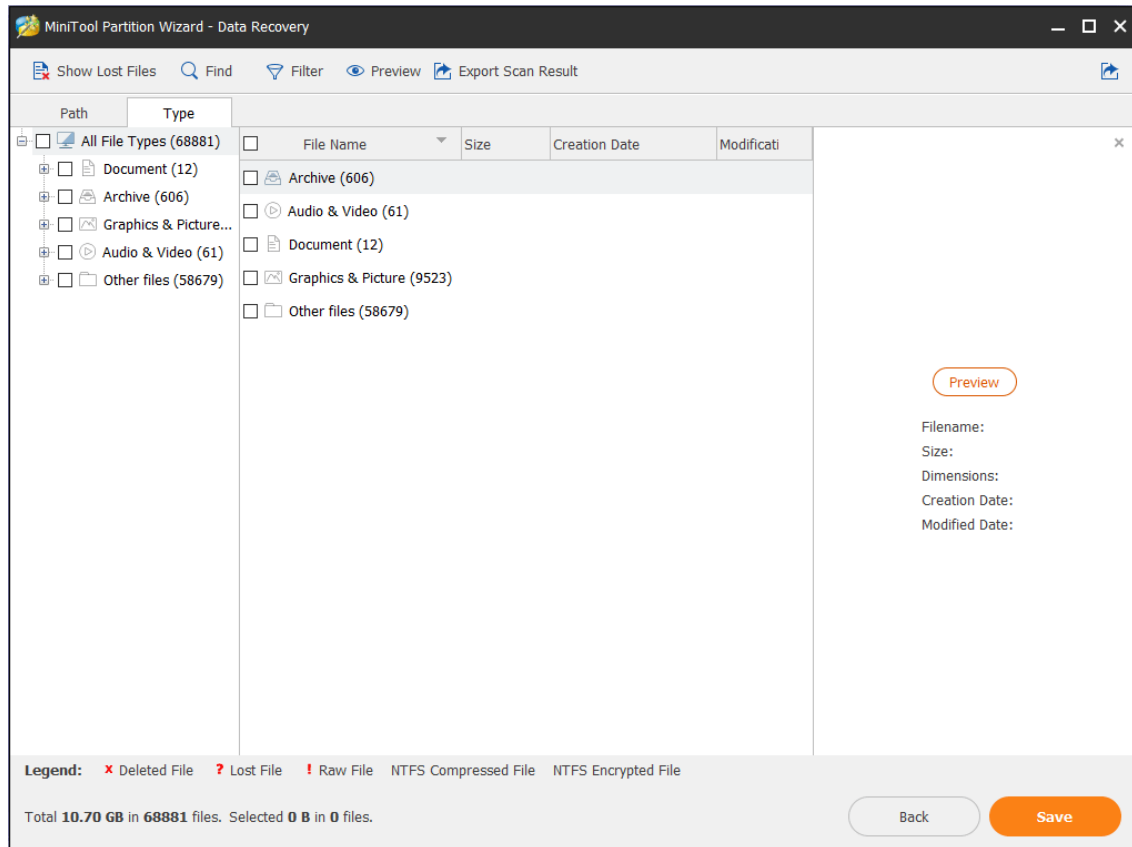
Tip: This software allows previewing a picture or .txt file which should be smaller than 20MB.



Besides, to quickly find needed files, MiniTool Partition Wizard's Data Recovery offers the following options to users, which can help to find needed files very quickly.

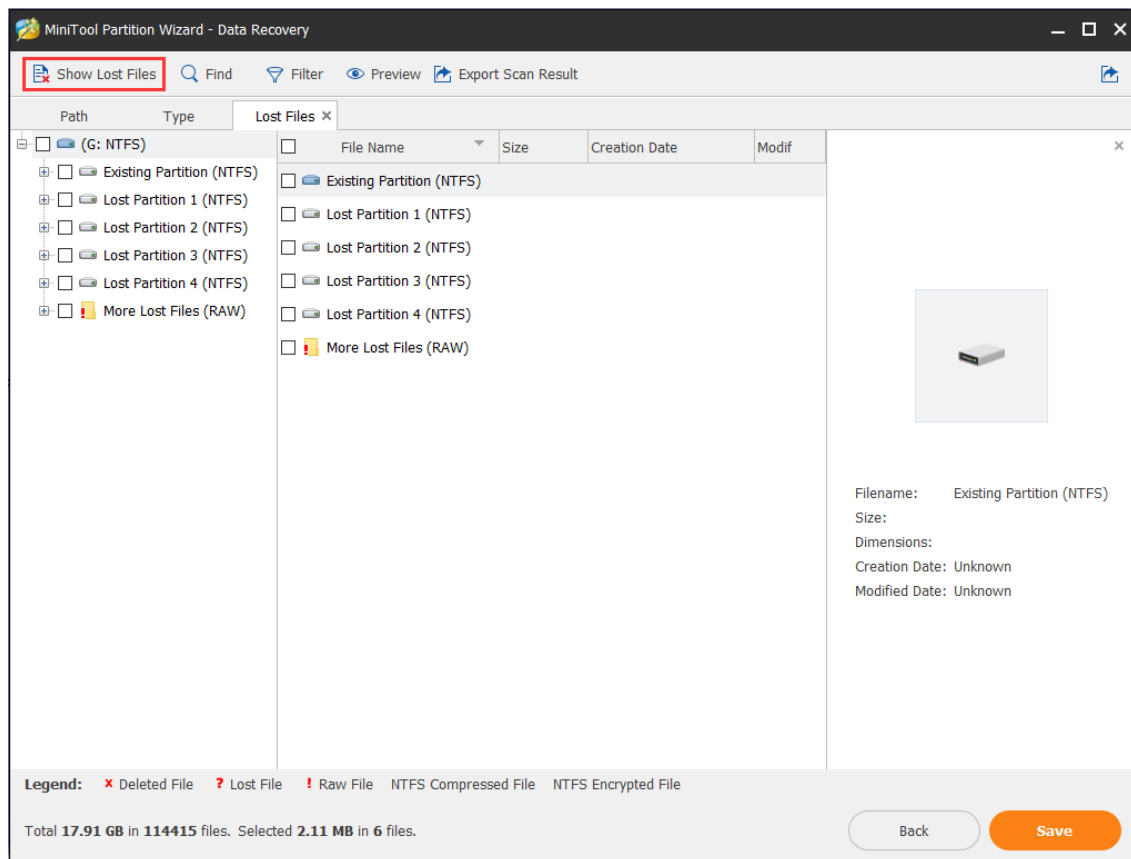
Type

In type section, all the founded files will be displayed by file type. Just unfold a file type and choose certain items of this type to recover.



Show Lost Files

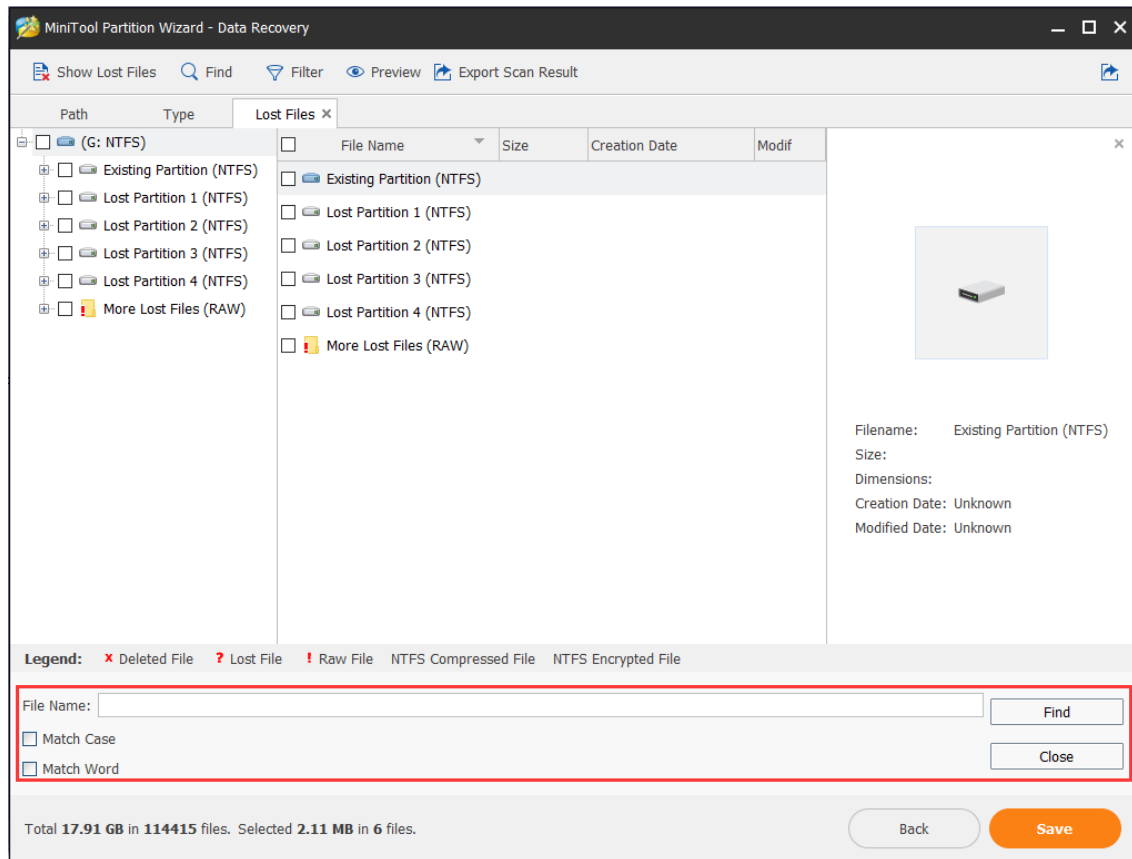
This option helps users find the lost files quickly. Just click **Show Lost Files** button to make the software only show you the lost files.



Find

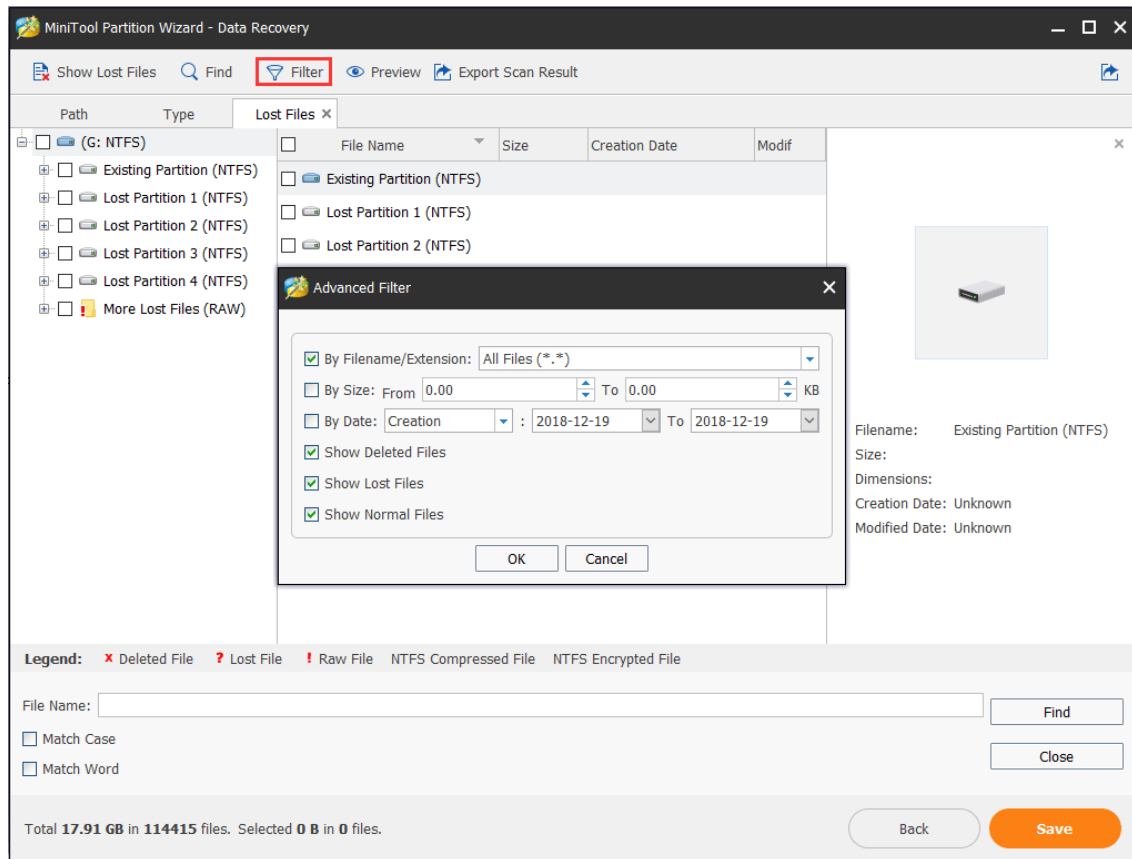
This option allows users to input the specific file name so as to quickly find the needed file. Just click **Find** button, type the file name and click **Find** finally. For an exact search, users can check **Match Case** or **Match Word**.

- The **Match Case** option requires users to pay attention to the capital and small letter of file name.
- The **Match Word** option requires users to type the complete file name including file extension.
- If there is more than one file that matches the searching condition, after clicking **Find** button, users can click **Find Next** button to check whether it is the one you want.

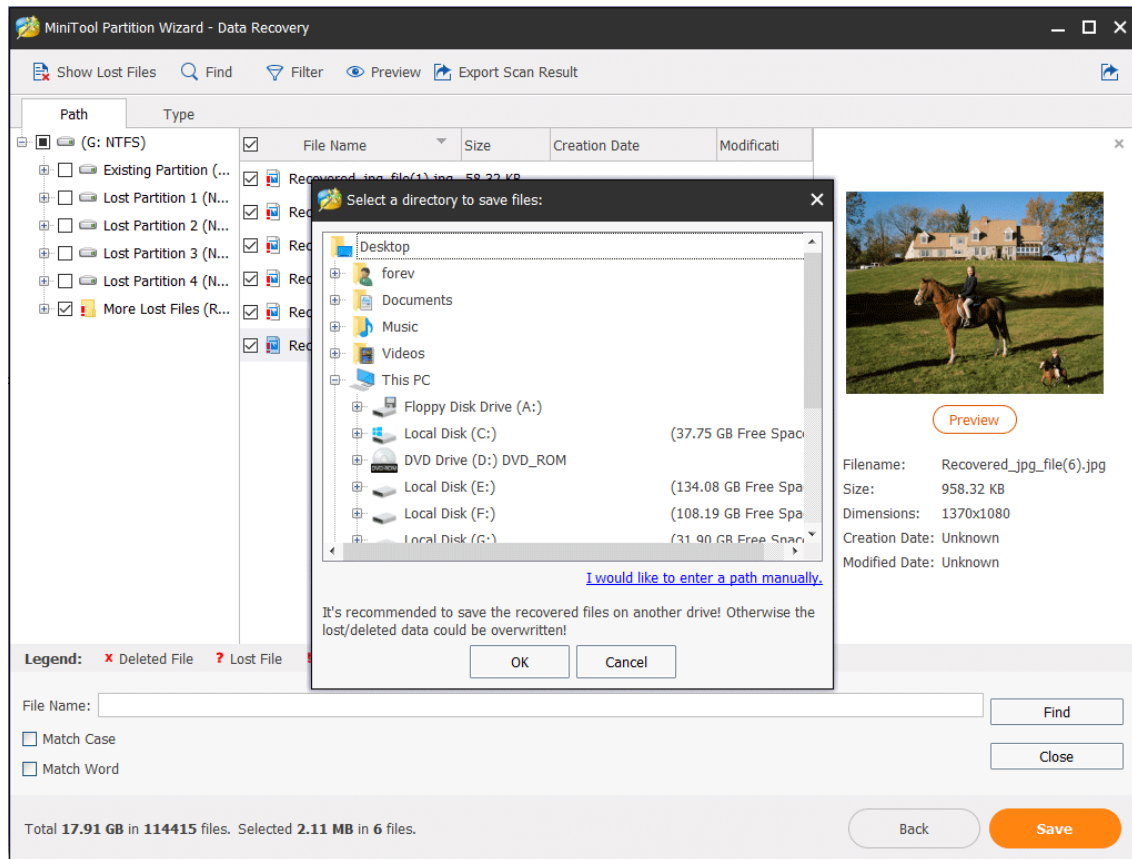


Filter

This **Filter** option enables users to search files by filename/extension, file size, creation or modification date. Besides, users can also choose to show deleted, lost or normal files according to their needs. Just click **Filter** button, and make some advanced settings in the pop-up window.

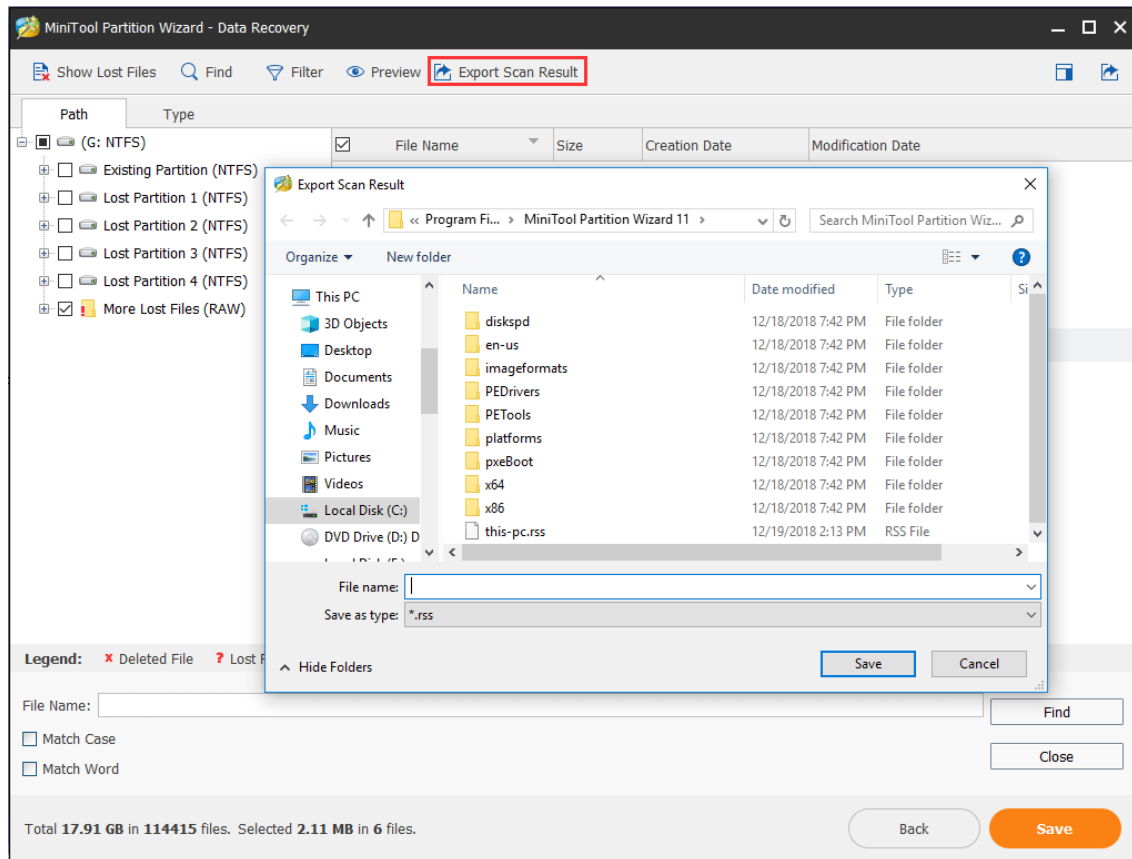


Step 6. Finally, choose a directory to save selected files. **It is recommended to save the recovered files on another drive. Otherwise, the lost/deleted data could be overwritten.**

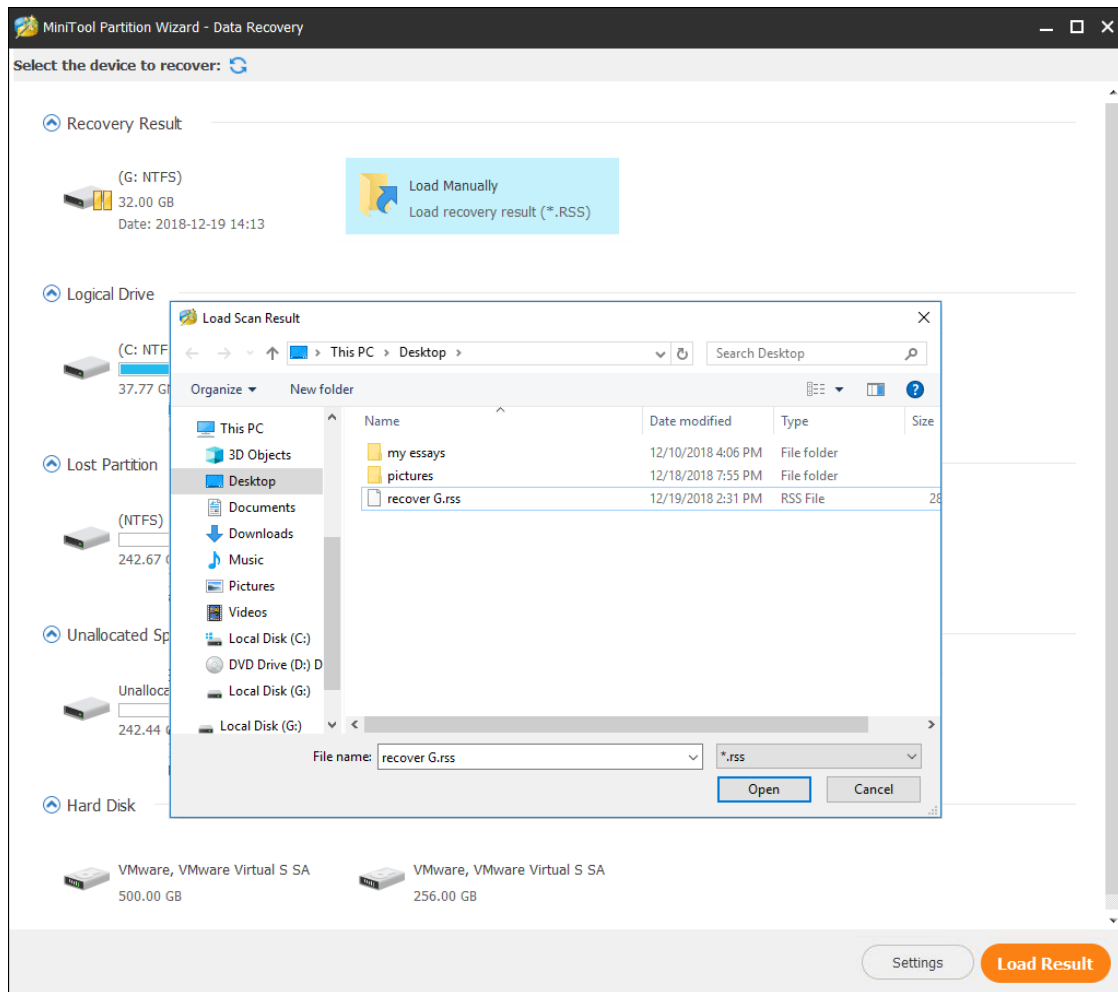


Kindly reminder:

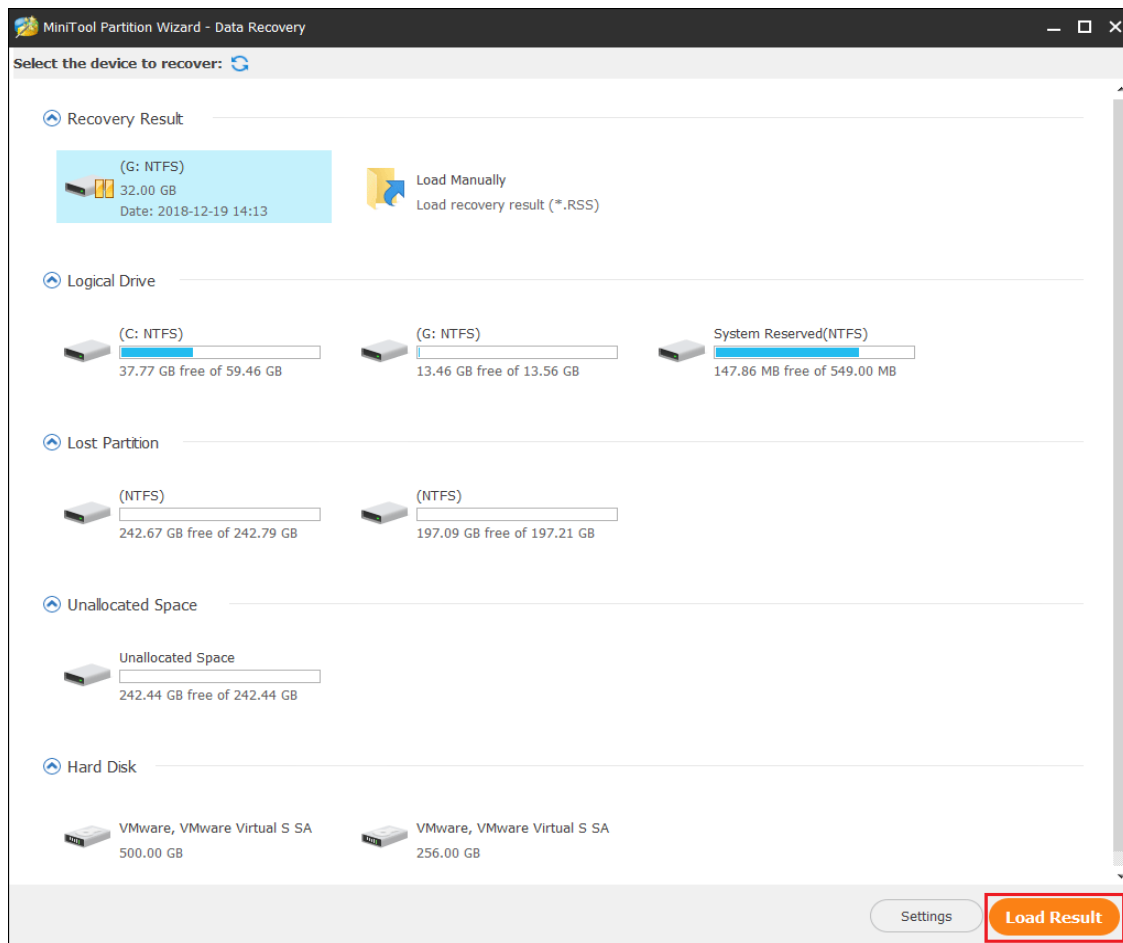
If users don't want to perform the recovery operation right now or have some problems when using this software, **Export Scan Result** option helps them to export the scan result to avoid a new scan. Click this feature, add a file name for the **.rss** file and export it to a location.



Next time when users open Data Recovery, just use **Load Manually** feature on the main interface to upload the scan result directly so that they don't need to rescan the drive for recovery.



Apart from that, Data Recovery will keep the last time scanning result. Click the partition you scanned last time in the **Recovery Result** section and then choose **Load Result**, users will get the last time scanning result.



35. Disk Benchmark

35.1 About Disk Benchmark

Benchmarking has been a popular way to test disk speed for years. It is the process of running software to measure the transfer speeds under various disk access scenarios like sequential and random, and showing the results in MBps that summarize the speed characteristics of a disk.

What are sequential and random read/write?

Sequential read/write is a disk access pattern whereby large contiguous blocks of data are read from OR written to adjacent locations on the surface of a storage device. Conversely, random read/write is another disk access pattern whereby data are read from OR written to nonadjacent locations on the surface of a storage device.

There are multiple SSD benchmark tools available which can be easily obtained to run hard drive benchmark. And today, MiniTool Partition Wizard is the very choice as it allows users to quickly take the most common measurements on HDD/SSD with little configuration.

35.2 How to Perform SSD Benchmark Using MiniTool Partition Wizard

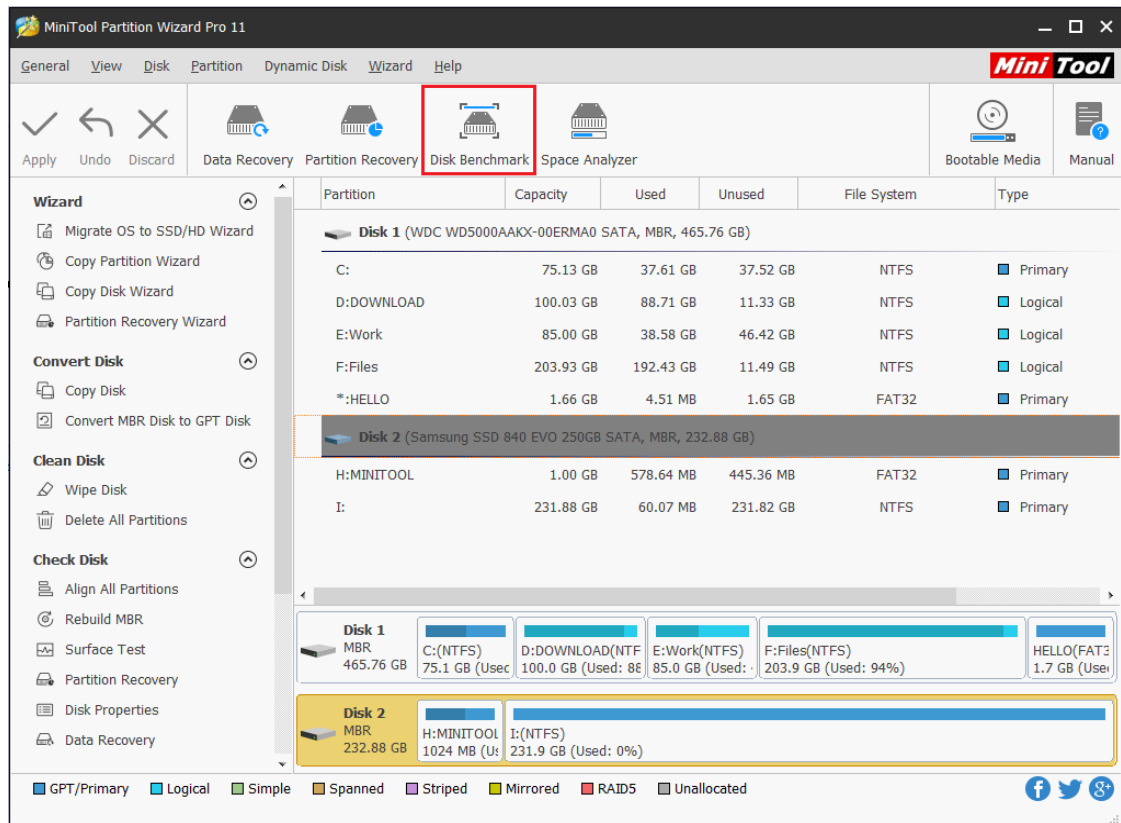
Disk benchmark feature of MiniTool Partition Wizard is designed to measure storage performance using variable transfer sizes and test lengths for both sequential and random read/write speeds. Several options are available for users to customize the hard drive performance test:

- Transfer sizes from 1KB to 2048KB
- Transfer lengths from 100MB to 4096MB
- Supports a variety of queue depths (queue number) from 1 to 512
- Supports a variety of thread numbers from 1 to 64
- Allows continuous sequential & random read/write testing
- Non-destructive performance measurement on formatted drives
- Shows results with clear and intuitive graphics

With this hard drive benchmark tool, users can test any manufacturer' RAID controllers, storage controllers, hard drives and SSD drives.

Tip: Tests are likely to take a long time to complete especially when the transfer size has a large span. MiniTool Partition Wizard will create a temporary file during the testing process which will get deleted when finished.

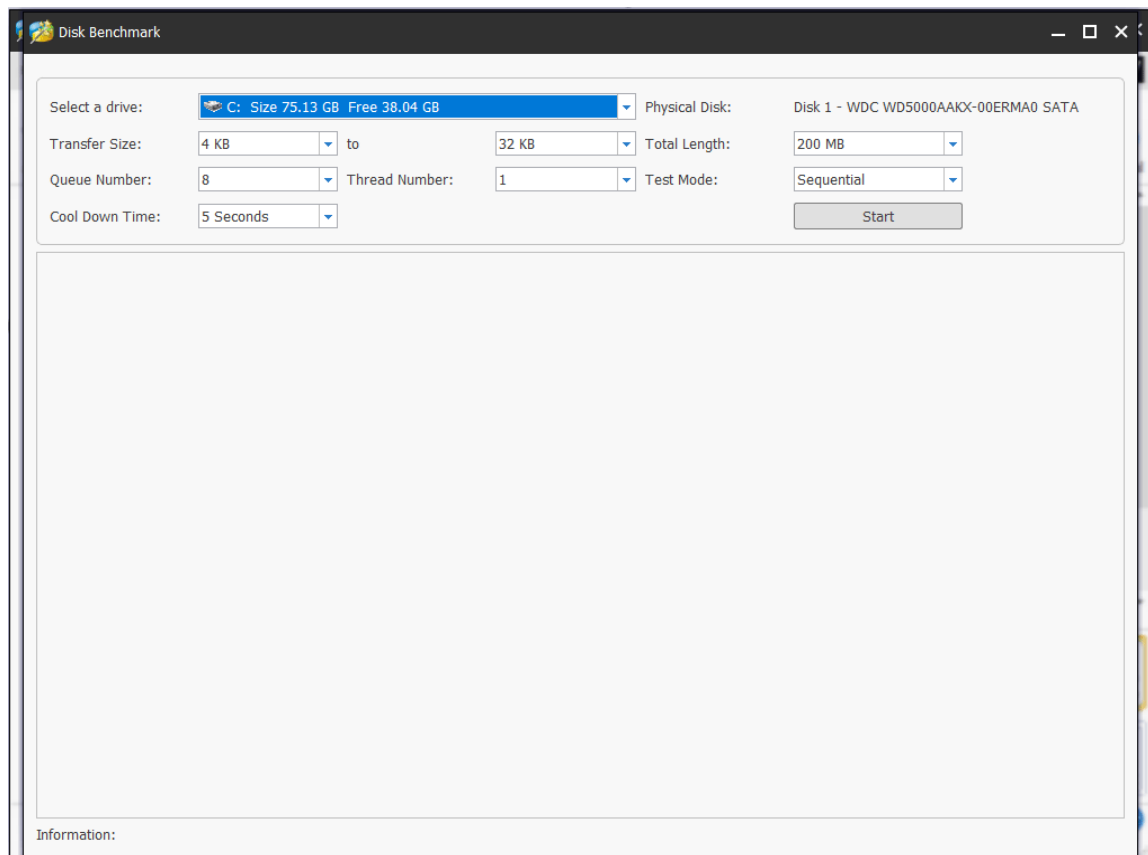
Step 1. Run MiniTool Partition Wizard to get the main interface. Then from the toolbar, select **Disk Benchmark**.



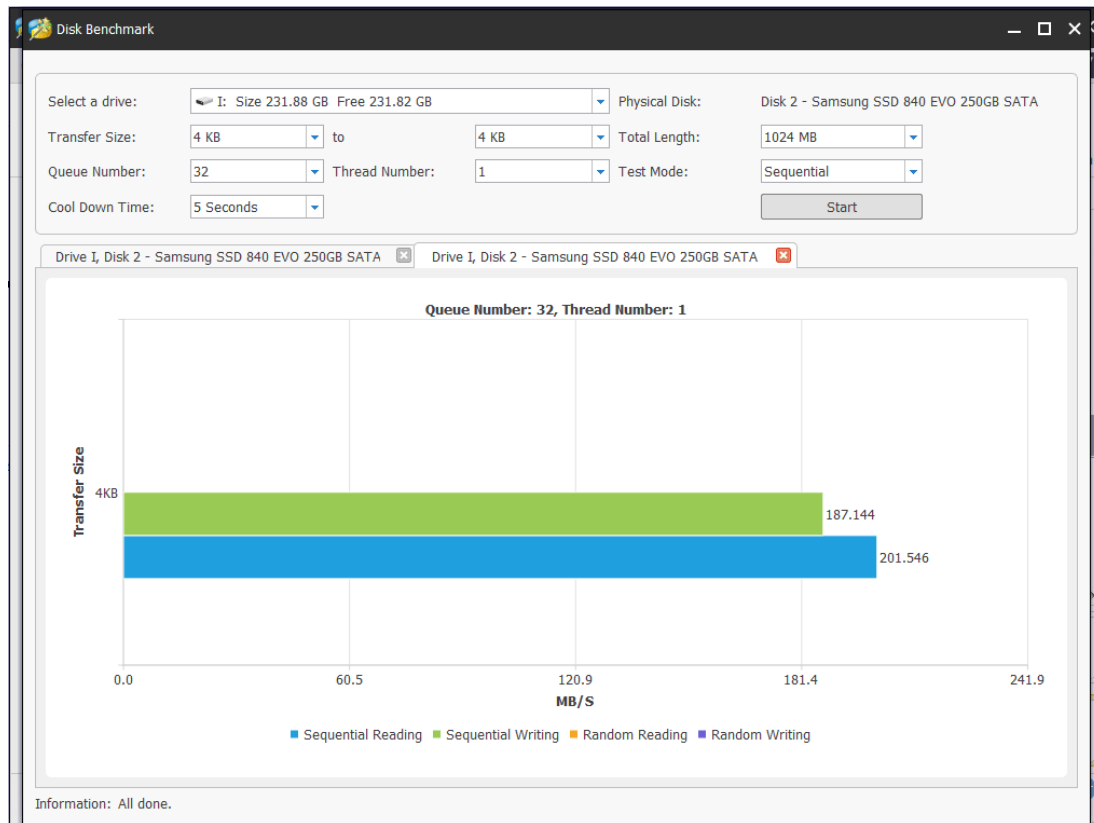
Step 2. Now in the **Disk Benchmark** window, configure the following parameters before hitting the **Start** button.

- **Select a Drive:** select a partition to start the benchmarking. While Disk Benchmark is able to measure the performance of both basic disks and dynamic disks, users need to know that a drive letter is essential (click [here](#) to view the best way to add drive letter).
- **Physical Disk:** show users the disk module of the selected drive.
- **Transfer Size:** the size of data transmitted at one time which ranges from 1KB to 2048KB.
- **Total Length:** the total amount of data to be transferred which ranges from 100MB to 4096MB.
- **Queue Number:** queue up a bunch of asynchronous read/writes in the drive, and the drive does them as quickly as it can.
- **Tread Number:** set up how many threads to be used to finish the disk speed test.
- **Test Mode:** choose a mode to test, which can be Sequential, Random, and Sequential & Random.
- **Cool Down Time:** set up the cool down time to reduce the hard drive temperature before it continues with the next test.

Tip: For 4KiB read/write test (the speed at reading/writing small files of 4 KB in size), choose two 4KB in the Transfer Size interval.



Step 3. Wait patiently until Disk Benchmark finishes the hard drive speed test and shows users a complete graphical result.



35.3 What Kind of Performance Should Users Expect?

While it is easy to obtain the hard drive performance numbers, users may find it hard to learn more. For instance, **what is the standard read/write speed for today's SSD? Does the drive tested hit the score?** With those in mind, MiniTool goes one step further to help users understand their drive performance better.

35.3.1 Average Read/Write Speed for SATA Solid State Drive (SSD)

As users know, SSD enjoys fast read/write speed. But how fast indeed can it go? Usually, SSD connected with SATA interface brings 500MB/s around read speed. What's more, if the SSD is equipped with [PCIe](#), the transferring speed is more outstanding.

Here MiniTool shows the performance of the most popular (SATA) SSDs on the market. These data are for reference only. Since test environment can vary, users may expect different benchmarking results even testing with the same storage device.

Explanations for the following entries:

- Seq Q32T1: Sequential (Block Size=128KiB) Read/Write with 32 Queues & 1 Thread

- 4K Q8T8: Random 4KiB Read/Write with 8 Queues & Threads
- 4K Q32T1: Random 4KiB Read/Write with 32 Queues & 1 Thread
- 4K: Random 4KiB Read Write with single Queue & Thread
- Total Length: 1GB for all devices

Samsung 860 Evo	Read (MB/S)	Write (MB/S)
Seq Q32T1	563.501	495.867
4KB Q8T8	405.233	362.609
4KB Q32T1	390.353	362.32
4KB	47.7528	139.121
Toshiba TR200	Read (MB/S)	Write (MB/S)
Seq Q32T1	560.268	504.617
4KB Q8T8	275.237	229.539
4KB Q32T1	342.833	366.976
4KB	26.641	88.713

Crucial MX500	Read (MB/S)	Write (MB/S)
Seq Q32T1	555.658	507.542
4KB Q8T8	404.746	365.86
4KB Q32T1	176.128	163.233
4KB	25.917	62.285
WD Blue 3D NAND	Read (MB/S)	Write (MB/S)
Seq Q32T1	564.233	533.038
4KB Q8T8	393.42	347.369
4KB Q32T1	221.17	203.644
4KB	36.5327	144.971
SanDisk Ultra 3D	Read (MB/S)	Write (MB/S)

Seq Q32T1	556.011	534.322
4KB Q8T8	399.526	349.126
4KB Q32T1	290.034	271.837
4KB	41.125	100.424
Kingston A400	Read (MB/S)	Write (MB/S)
Seq Q32T1	428.238	506.563
4KB Q8T8	337.743	352.52
4KB Q32T1	287.268	277.044
4KB	30.453	96.652
Gigabyte UD Pro	Read (MB/S)	Write (MB/S)
Seq Q32T1	564.651	525.247

4KB Q8T8	329.906	306.728
4KB Q32T1	287.66	265.448
4KB	35.022	116.946

Tip: For overall responsiveness and most gaming applications, 4K is more user-focused in disk performance test.

35.3.2 Possible Causes for Abnormal Testing Result

If the hard disk speed test shows much different results from the above data, here are 2 possible causes:

- The Solid State Disk (SSD) is connected via USB interface which definitely affect the SSD speed test. If this is true, users are likely to see a 50 MB/s around speed.
- The Hard Disk Drive (HDD) is badly fragmented. Fragmentation causes the hard drive to perform extra work that affects disk performance. [Defragmenting hard drive](#) should help improve performance.

36. Space Analyzer

When a hard drive is running out of space, users may wonder which file is taking up too much space. Here is a simple way to find this out – using MiniTool Partition Wizard's Space Analyzer function.

36.1 About Space Analyzer

Space Analyzer is a utility newly embedded in MiniTool Partition Wizard. This hard drive

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analyzer enables users to scan a hard drive and give users a better view of the hard drive space usage. Besides, this feature is useful for disk cleanup when [hard drive is full](#) and helps convert NTFS to FAT when receiving [file is too large for the destination file system](#) error.

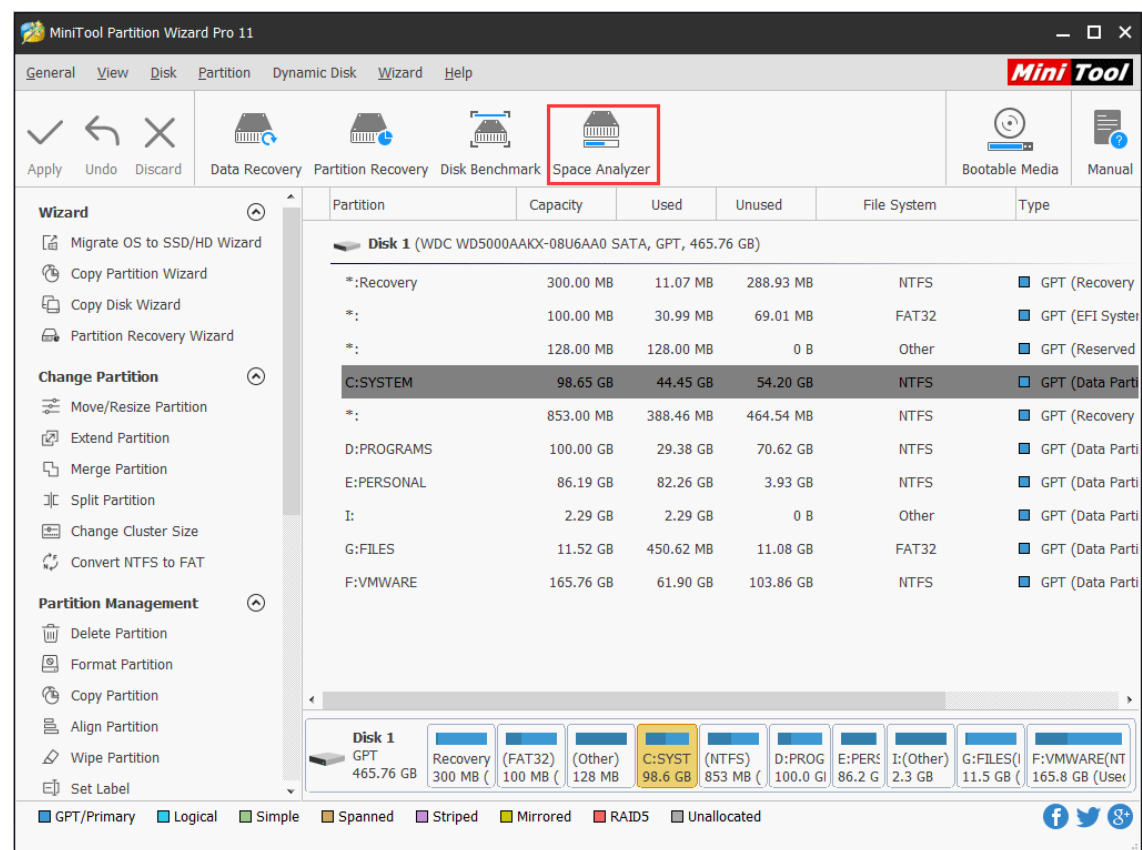
After Space Analyzer analyzes the hard drive and directories and lets users understand which files and folders are occupying more space on the drive, users can manually explore files and delete unnecessary files and applications in Space Analyzer.

The hard drive space analyzer supports all kinds of hard drives like SSD, HDD, external hard drives and other removable devices like USB flash drive. Then how to use the disk space analyzer? This tutorial will show detailed steps with screenshots given.

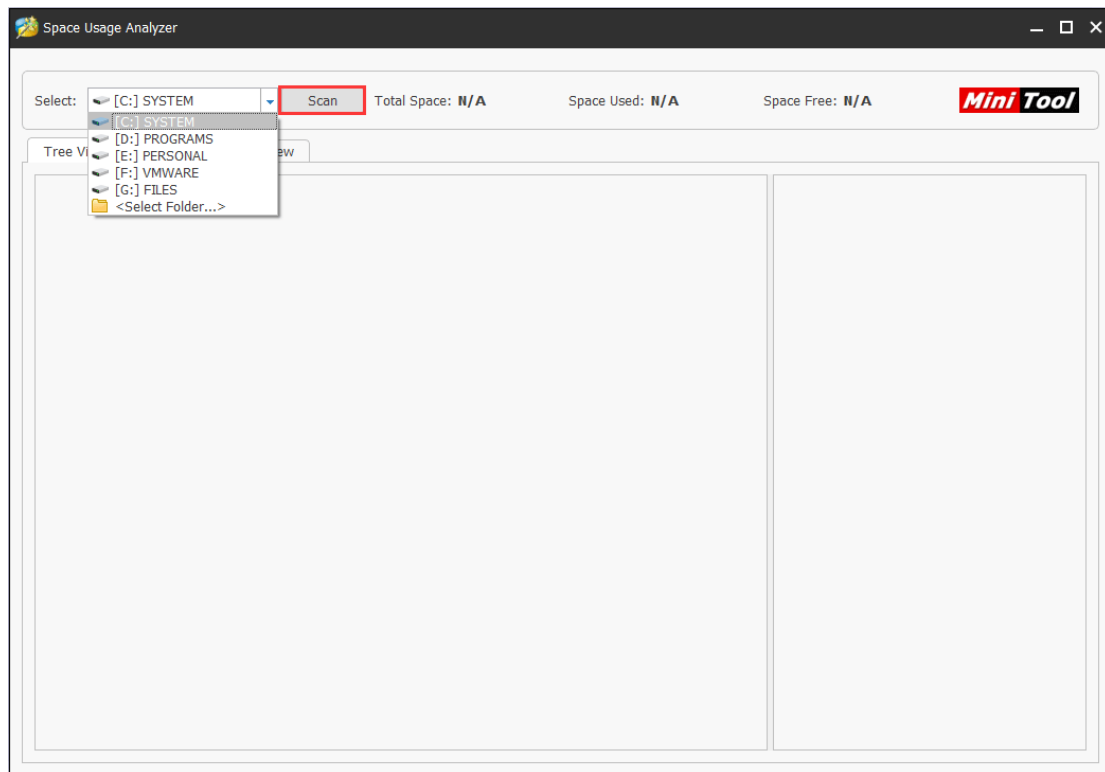
36.2 How to Use Space Analyzer?

Step 1. Launch MiniTool Partition Wizard to get its main interface.

Step 2. Select the **Space Analyzer** feature on the top toolbar to launch the disk usage analyzer.

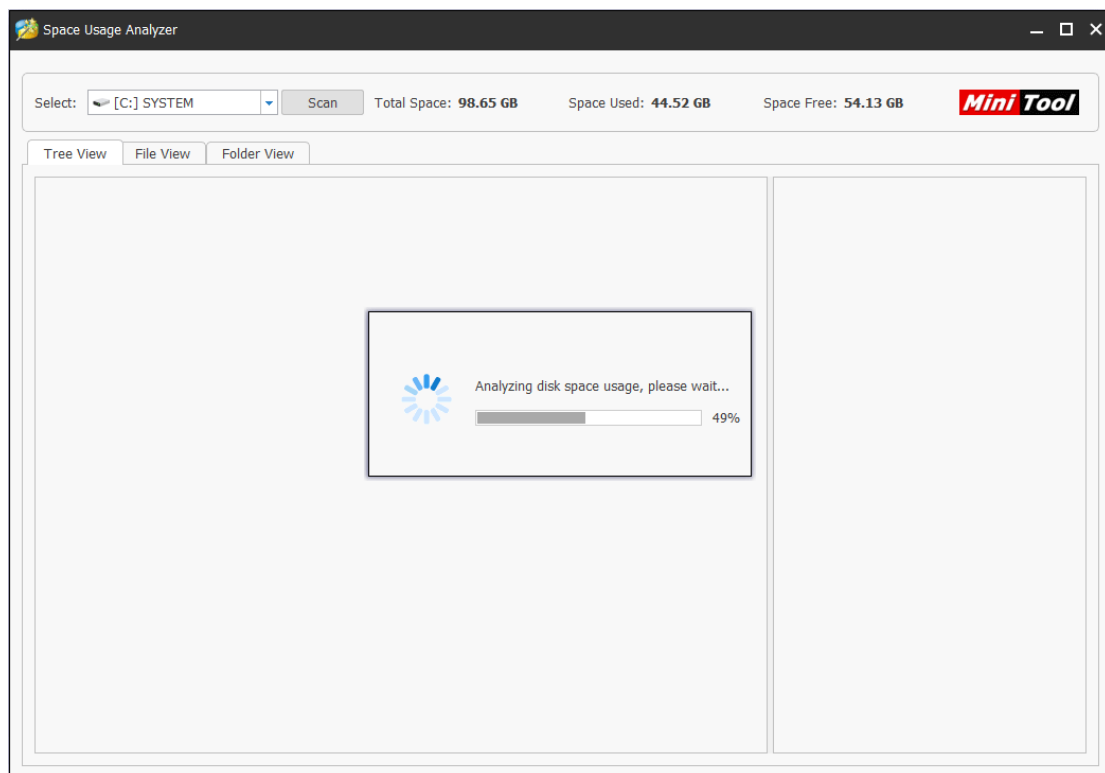


Step 3. Choose a partition to scan from the drop-down menu and click **Scan**.



Step 4. Wait for the completion of the scanning. And users can see the scanning partition's **Total Space**, **Space Used** and **Space Free** on the top of the page.

Depending on the number of files in the hard drive that should be analyzed, the disk usage analysis process may take from a couple of minutes to hours for files of different size and number.

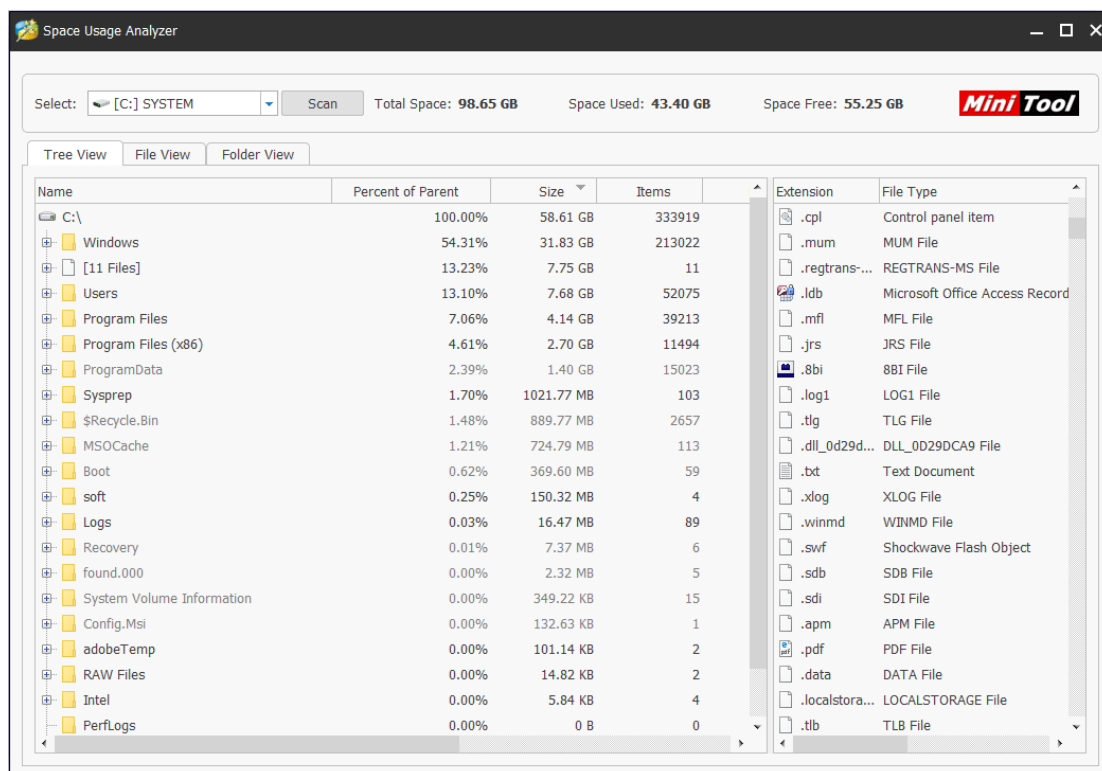


Step 5. After the scanning is completed, space analyzer provides you with three ways to view disk space usage.

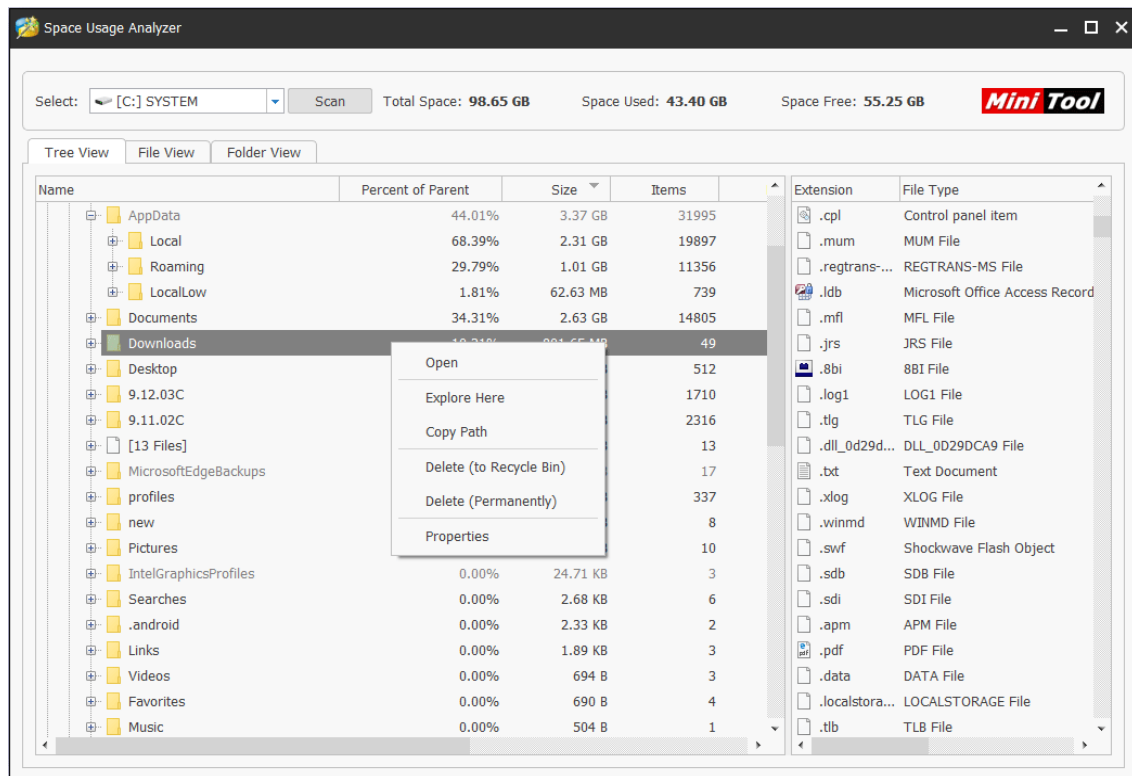
Tree View:

Tree View presents users a hierarchical view of files and folders in the hard drive that has been analyzed. Each folder can have a number of subfolders. On the Tree View tab, a folder can be expanded to several subfolders and collapsed to hide subitems.

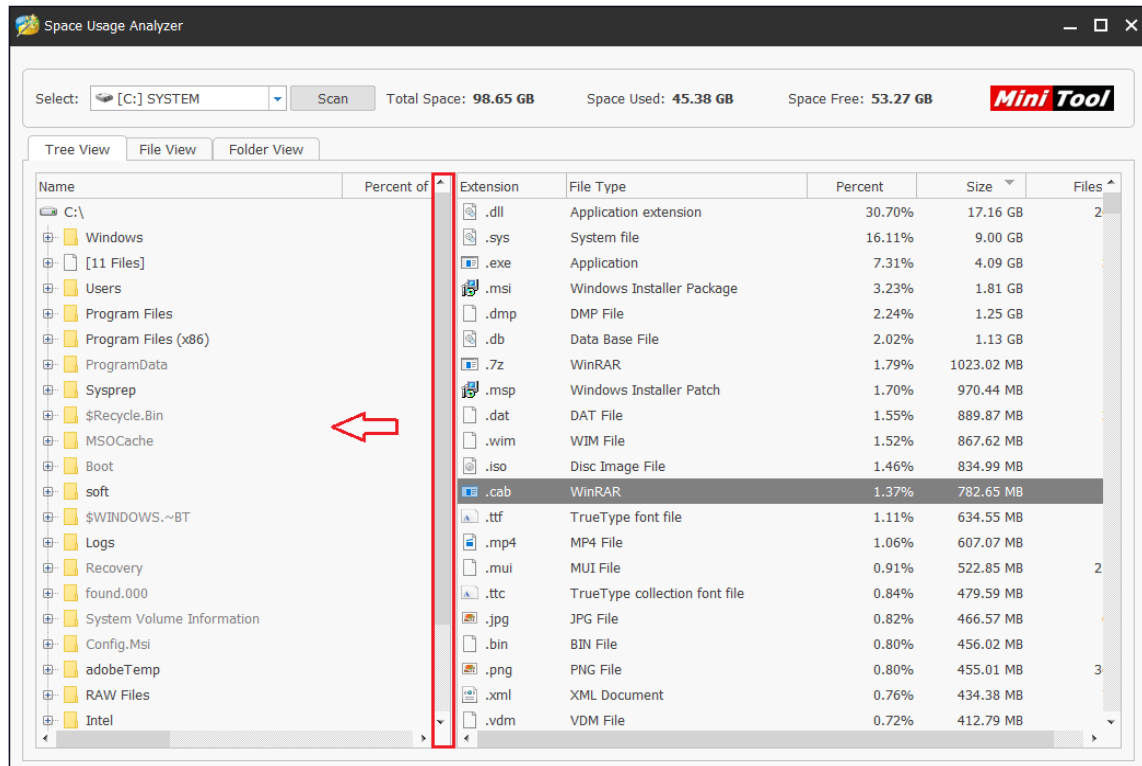
Note: Files grayed out are hidden files, which are invisible in This PC.



Users can expand these folders and right-click to **open**, **explore**, **copy path**, **delete to recycle bin**, **delete permanently** or **check its property**. Besides, copy a file or folder's path and paste it to This PC can find the folder out with its specific location and get a view of files in this folder.



Here you might have noticed that the interface is divided into two parts, drag the column leftwards, you can see more detailed information.



At this part, files are in a descending order according to their filename extension. And you can check which kind of files take too much space from the **Size** column. Double click them, you will

get into the interface of this kind of files. You can delete unnecessary one to free up some space.

Space Usage Analyzer

Select: [C:] SYSTEM Scan Total Space: 98.65 GB Space Used: 45.38 GB Space Free: 53.27 GB MiniTool

Tree View File View Folder View

File Search Filter: *.exe Apply Clear ☒ Match file name only ☐ Match entire path

Name	Percent of Drive	Size	Last Change	Attribute
C:\Program Files (x86)\vmware\VMware-workstation-full-12.0.0-2985596.exe	0.51%	292.11 MB	2015-09-15 09:06:33	A
C:\soft\p3_k31579006_bn8hOTYIoFGEtFExIo_v12.1.exe	0.26%	150.00 MB	2013-12-17 03:24:53	AN
C:\Windows\System32\MRT.exe	0.23%	130.90 MB	2018-12-12 02:28:40	AC
C:\Windows\System32\MRT-KB890830.exe	0.22%	127.14 MB	2018-06-13 03:26:51	AC
C:\Sysprep\GoRuntimeFiles\GoRuntime_DotNetFramework_4.0_4.5.exe	0.21%	117.90 MB	2013-10-11 02:36:41	A
C:\Users\qing\Downloads\pw103-free (7).exe	0.14%	81.22 MB	2018-09-17 07:32:53	A
C:\Users\qing\Downloads\pw103-free.exe	0.14%	81.22 MB	2018-09-17 07:16:28	A
C:\\$Recycle.Bin\S-1-5-21-970760613-1795818291-1852268456-1001\ROIWLN...	0.14%	79.67 MB	2018-12-04 02:10:42	A
C:\Users\qing\Downloads\pw103-free (1).exe	0.14%	78.31 MB	2018-12-12 10:29:06	A
C:\Users\qing\Documents\Tencent Files\1210480215\FileRecv\pw1023.exe	0.14%	77.50 MB	2018-07-09 08:24:50	A
C:\Users\qing\Downloads\pw1023.exe	0.14%	77.50 MB	2018-08-21 03:42:46	A
C:\Users\qing\Downloads\pw102-free.exe	0.14%	77.33 MB	2018-09-03 06:28:30	A
C:\Users\qing\Downloads\mtsbsetup_free.exe	0.13%	76.88 MB	2018-07-26 04:41:26	A
C:\Users\qing\Downloads\mtsbsetup_trial.exe	0.13%	75.22 MB	2018-07-26 05:54:41	A
C:\Users\qing\Documents\Tencent Files\1210480215\FileRecv\pw102-free (1).exe	0.13%	72.18 MB	2018-07-06 05:59:12	A
C:\Users\qing\Downloads\QQ9.0.8.exe	0.13%	72.06 MB	2018-12-04 08:32:54	A
C:\Users\qing\Documents\Tencent Files\2277148409\FileRecv\pw102-free-2017...	0.12%	71.22 MB	2017-07-25 05:03:25	A
C:\\$Recycle.Bin\S-1-5-21-970760613-1795818291-1852268456-1001\SR4W5I38...	0.10%	54.87 MB	2018-11-19 05:10:45	A
C:\\$Recycle.Bin\S-1-5-21-970760613-1795818291-1852268456-1001\SR8G64X5...	0.09%	51.51 MB	2018-11-13 00:29:17	A

Note: Here you can see that some files have different color and some may be grey out. That's because they have different file attributes.

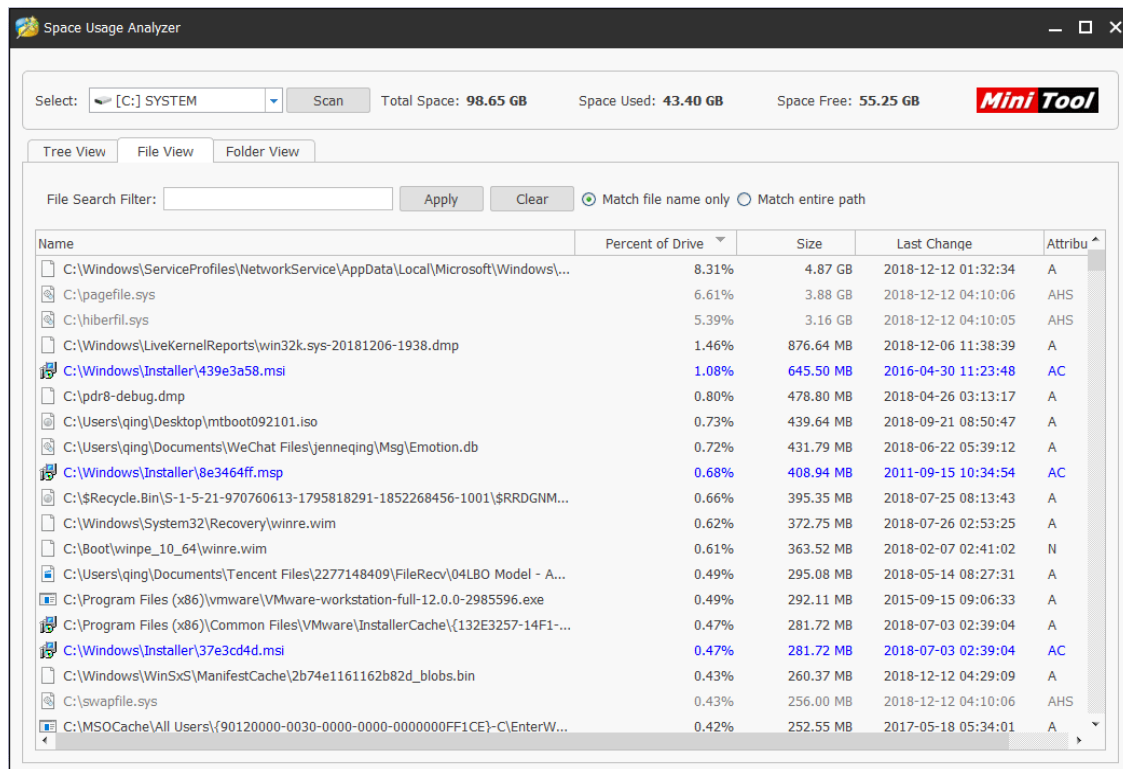
File attributes are pieces of information relevant to every file and directory that includes additional data about the file itself or its contents. Attributes can be in files, directories, volumes and certain system objects. They are used by the operating system and software applications to define file system behavior.

Under the Attributes column, you can see there are some upper case letters, which represents the file's attribute. Here are some commonly seen file attributes. You can have a look.

- **A: Archive**
- **C: Compressed**
- **D: Directory**
- **E: Encrypted**
- **H: Hidden**
- **I: Not Content Indexed**
- **L: Reparse Point**
- **N: Normal**
- **O: Offline**
- **P: Sparse (Pinned)**
- **R: Read-Only**
- **S: System**
- **T: Temporary**

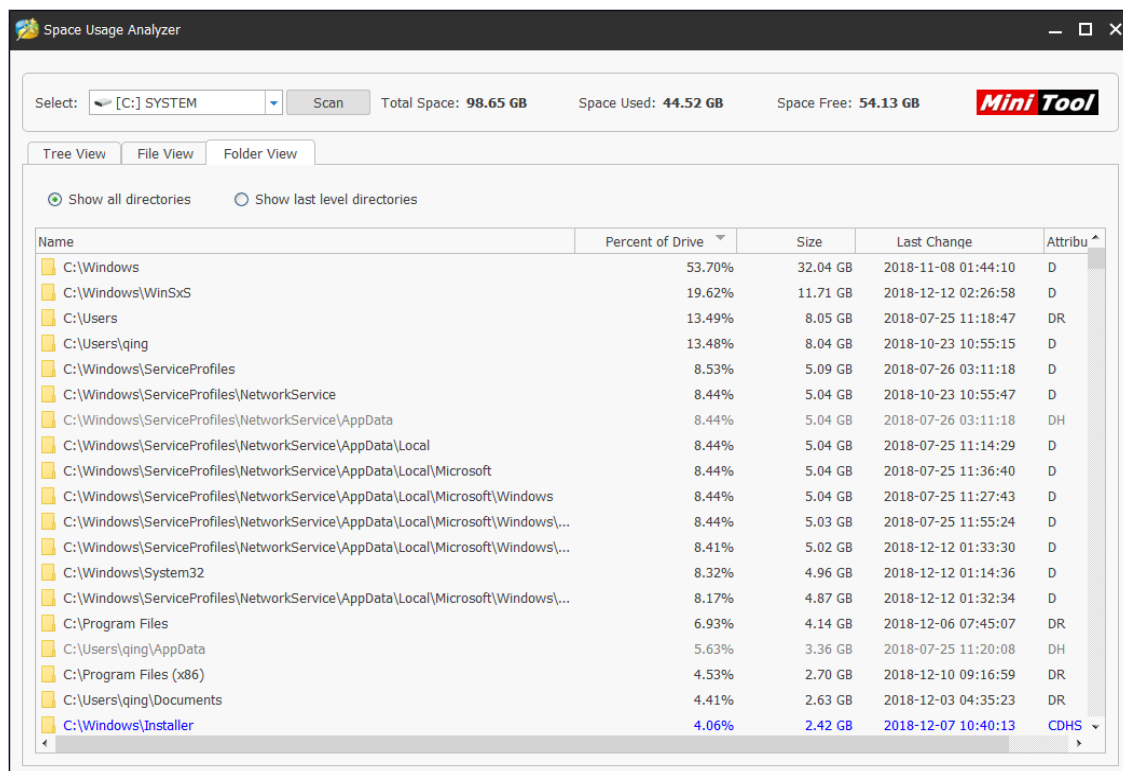
File View:

File View will display all the files in a descending order according to file size. On the File View tab, users can use **File Search Filter** to check a specific file's size. With **Match file name only** option checked, users can input file name to find the file they want. And **Match entire path** option requires users to input the entire path correctly.



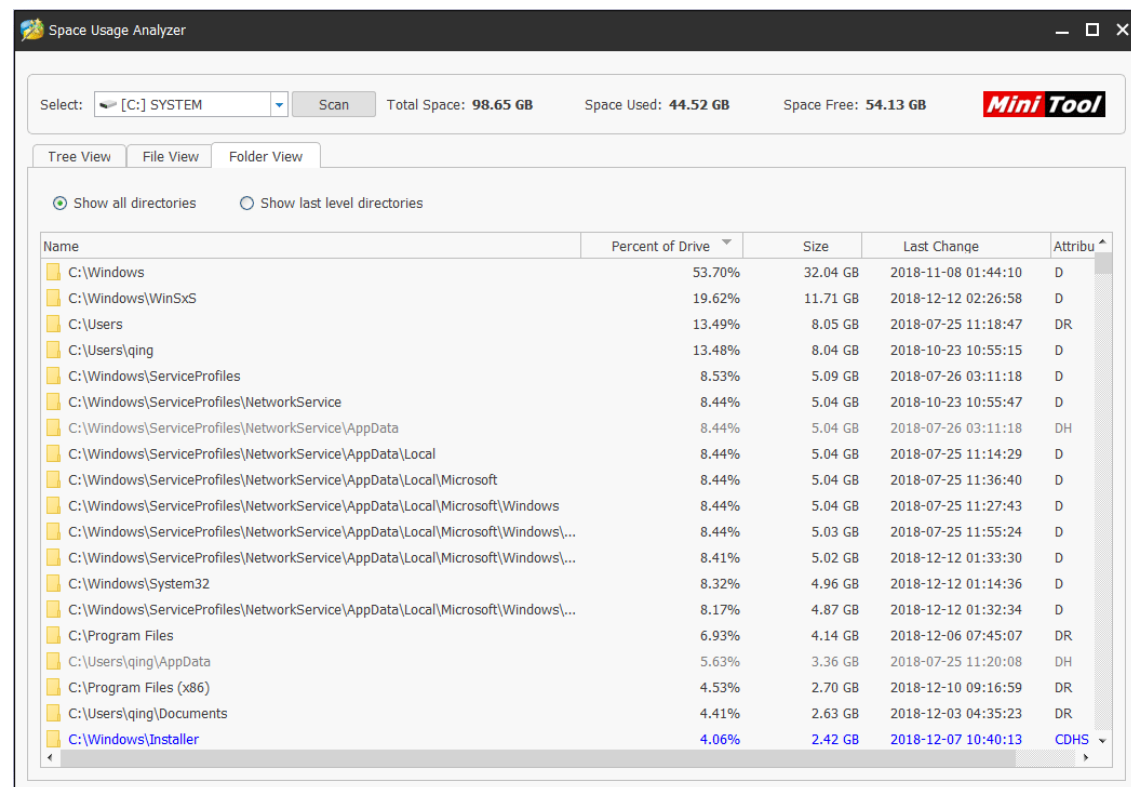
Folder View:

Folder View will list all files in folders. On the Folder View tab, users can check **Show all directories**, which will list all folders and show which directory is taking too much space.



And **Show last level directories** will only navigate folders to the last level and presents more

detailed information for each folder.



The screenshot shows the MiniTool Space Usage Analyzer interface. At the top, it displays the selected drive as [C:] SYSTEM, with a total space of 98.65 GB, 44.52 GB used, and 54.13 GB free. Below this, there are tabs for Tree View, File View, and Folder View. The Folder View is selected, showing a list of folders and their space usage. The table has columns for Name, Percent of Drive, Size, Last Change, and Attribute.

Name	Percent of Drive	Size	Last Change	Attribute
C:\Windows	53.70%	32.04 GB	2018-11-08 01:44:10	D
C:\Windows\WinSxS	19.62%	11.71 GB	2018-12-12 02:26:58	D
C:\Users	13.49%	8.05 GB	2018-07-25 11:18:47	DR
C:\Users\qing	13.48%	8.04 GB	2018-10-23 10:55:15	D
C:\Windows\ServiceProfiles	8.53%	5.09 GB	2018-07-26 03:11:18	D
C:\Windows\ServiceProfiles\NetworkService	8.44%	5.04 GB	2018-10-23 10:55:47	D
C:\Windows\ServiceProfiles\NetworkService\AppData	8.44%	5.04 GB	2018-07-26 03:11:18	DH
C:\Windows\ServiceProfiles\NetworkService\AppData\Local	8.44%	5.04 GB	2018-07-25 11:14:29	D
C:\Windows\ServiceProfiles\NetworkService\AppData\Local\Microsoft	8.44%	5.04 GB	2018-07-25 11:36:40	D
C:\Windows\ServiceProfiles\NetworkService\AppData\Local\Microsoft\Windows	8.44%	5.04 GB	2018-07-25 11:27:43	D
C:\Windows\ServiceProfiles\NetworkService\AppData\Local\Microsoft\Windows\...	8.44%	5.03 GB	2018-07-25 11:55:24	D
C:\Windows\ServiceProfiles\NetworkService\AppData\Local\Microsoft\Windows\...	8.41%	5.02 GB	2018-12-12 01:33:30	D
C:\Windows\System32	8.32%	4.96 GB	2018-12-12 01:14:36	D
C:\Windows\ServiceProfiles\NetworkService\AppData\Local\Microsoft\Windows\...	8.17%	4.87 GB	2018-12-12 01:32:34	D
C:\Program Files	6.93%	4.14 GB	2018-12-06 07:45:07	DR
C:\Users\qing\AppData	5.63%	3.36 GB	2018-07-25 11:20:08	DH
C:\Program Files (x86)	4.53%	2.70 GB	2018-12-10 09:16:59	DR
C:\Users\qing\Documents	4.41%	2.63 GB	2018-12-03 04:35:23	DR
C:\Windows\Installer	4.06%	2.42 GB	2018-12-07 10:40:13	CDHS

37. Migrate OS to SSD/HD

37.1 About Migrate OS to SSD/HD

In today's era, computer hard drive is not only the medium to store and exchange data, it also provides an entertaining way. Users can download good music tracks and movies to the hard drive so as to listen to or watch them whenever they want.

As the size of files stored on the hard drive is increasing, the running speed and responding speed of computer will be greatly affected. Meanwhile, the appearance of [SSD](#) offers users a wonderful experience in speed. So to replace the old hard drive with a new SSD or migrate OS to new SSD becomes the first choice to improve computer performance and speed.

In addition, some large-scale online games are required to download to hard drive. This can easily make the old hard drive run out of space in a short time. The most direct and effective way to deal with this situation is also to replace the old hard drive with a new larger SSD or HD.

In both cases, if users don't want to reinstall Windows and programs or don't want to lose anything, we highly suggest using **Migrate OS to SSD/HD** feature of MiniTool Partition Wizard to do this, which is an easy and safe process.

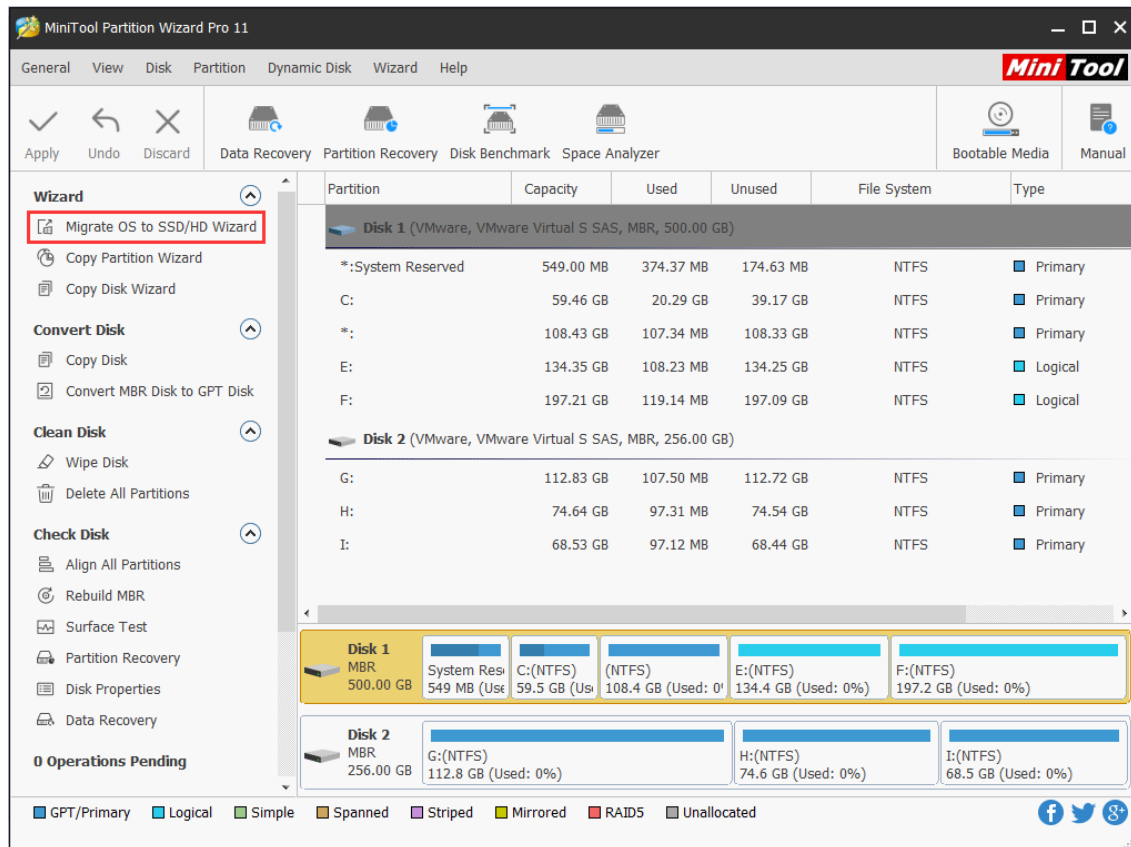
Below is a detailed MiniTool Partition Wizard tutorial on OS migration.

Note: The migration process of Partition Wizard will destroy all data in users' target disk, so users would better transfer data to another device or make a backup in advance. Yet, it doesn't have any effect on the data in the original disk.

37.2 How to Migrate OS to SSD/HD

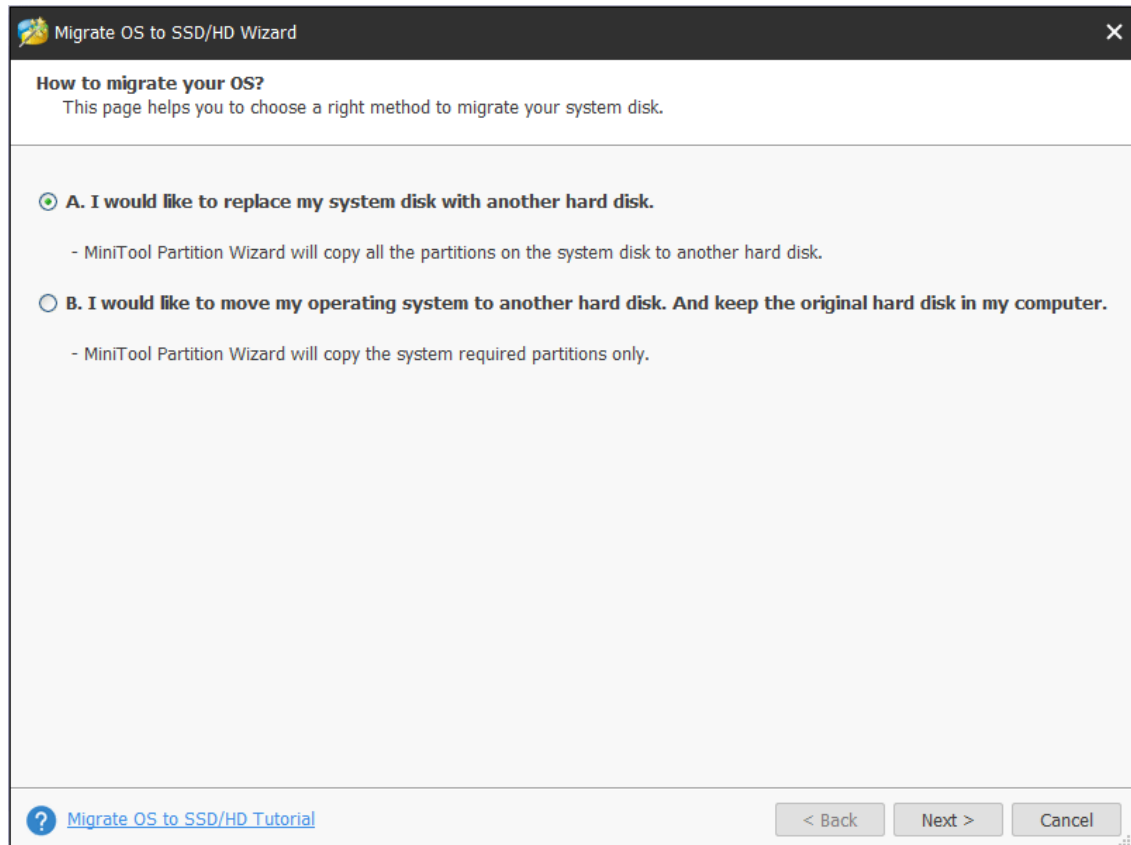
Step 1. Launch MiniTool Partition Wizard to get its main interface.

Step 2. Click on **Migrate OS to SSD/HD** in the toolbar.

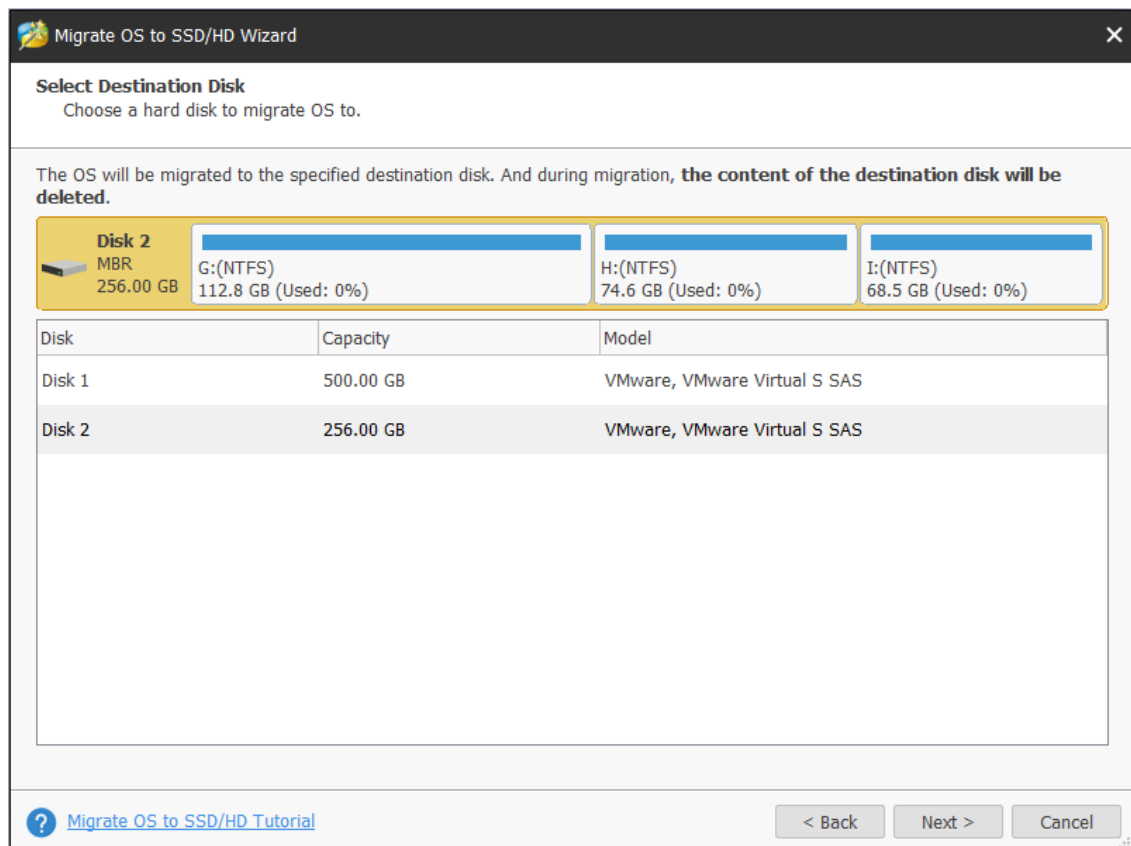


Step 3. Choose a right method to migrate system disk and click **Next**.

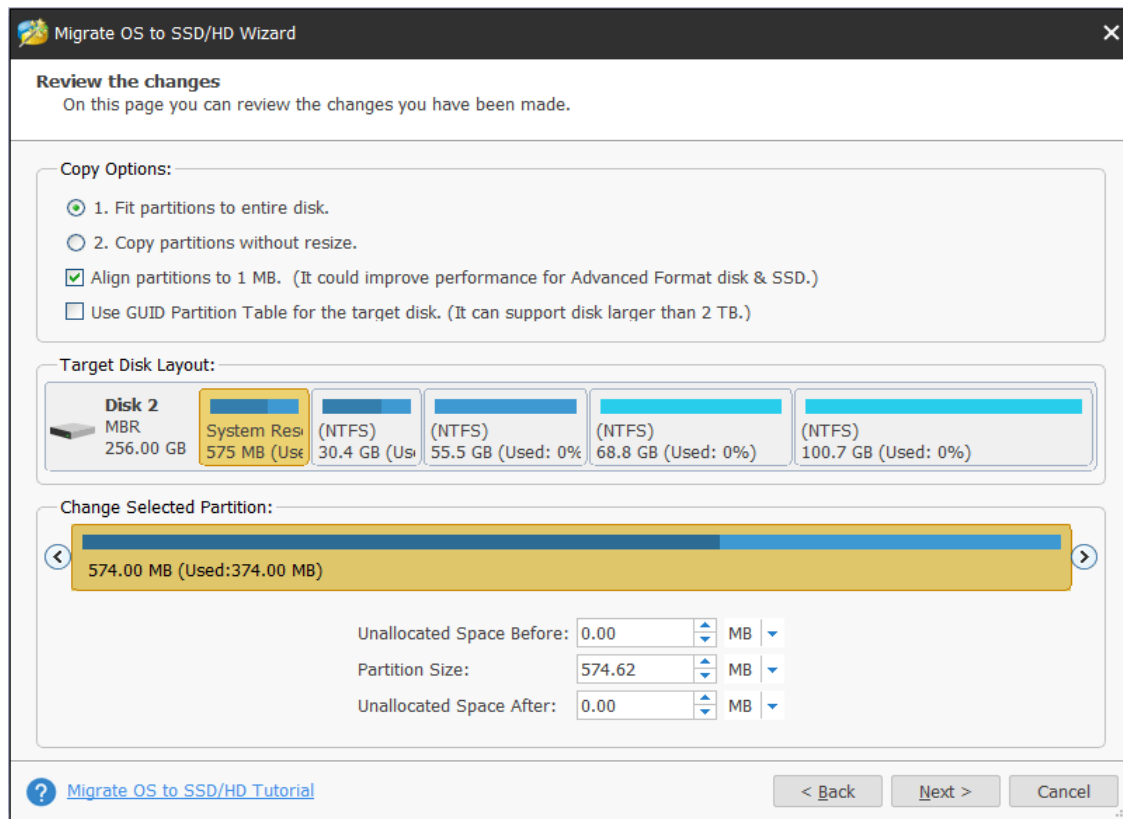
Option A. To Replace the System Disk



Firstly, please select the target disk to migrate system disk to and click **Next**.



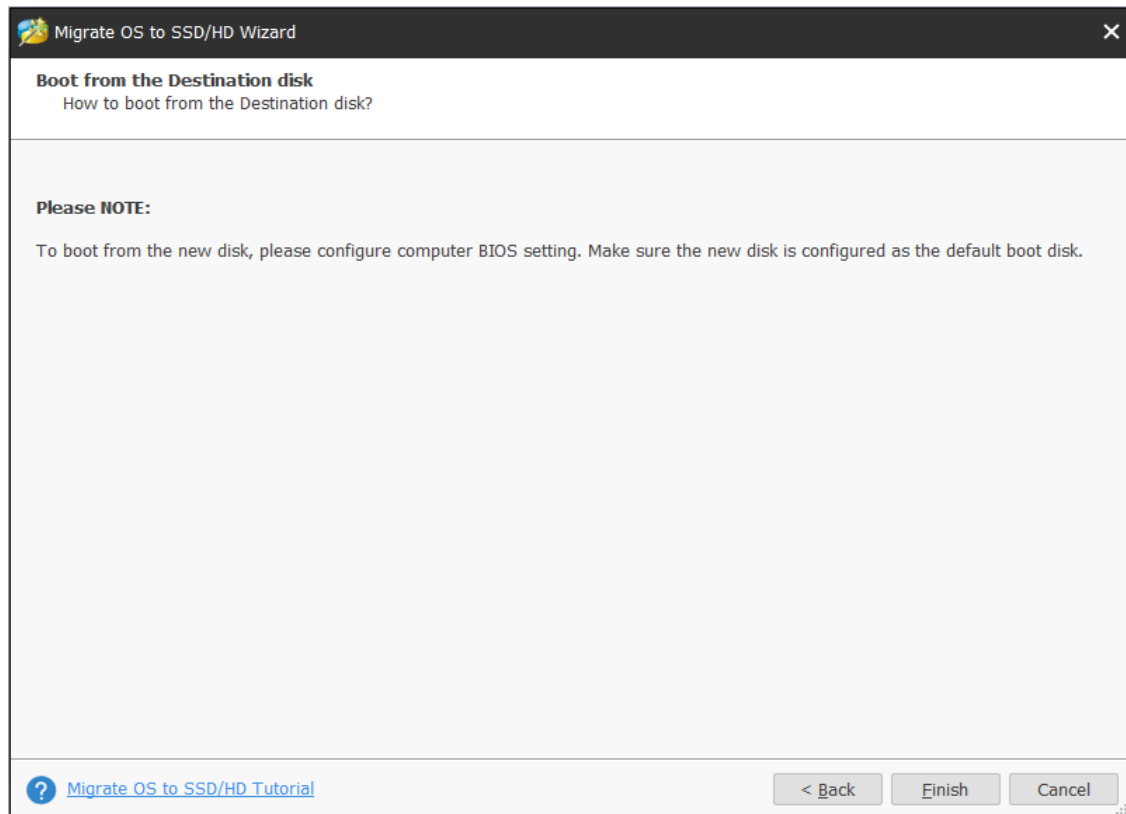
Then, choose a copy option. Alternatively, users can manually edit partition size by inputting exact partition size in MB, GB, or TB.



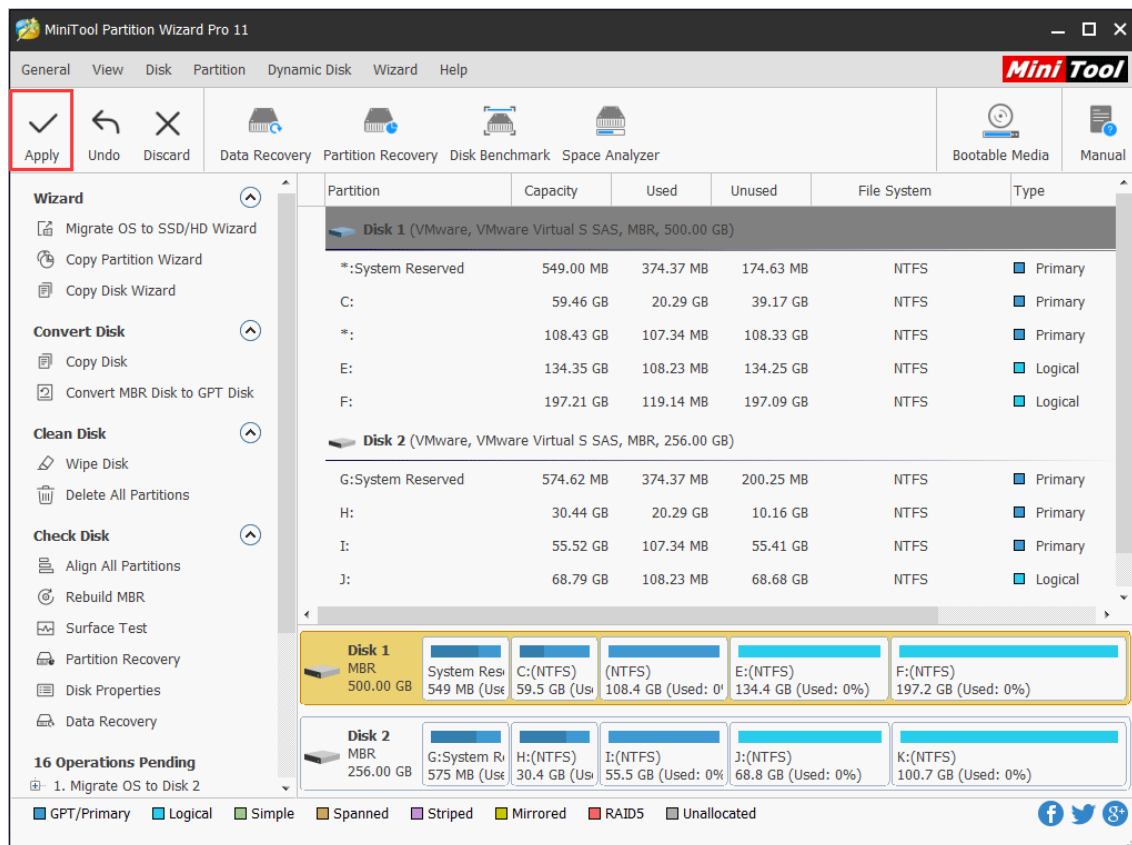
Tricks:

- **Align partitions to 1MB** could help improve performance for SSD and advanced format disks, so please keep it checked if users are using such devices.
- Checking **Use GUID Partition Table for the target disk** makes it possible to use all space of hard disk larger than 2TB, but UEFI boot should be enabled in BIOS.
- MiniTool Partition Wizard Free Edition doesn't support migrating OS on [MBR](#) disk using GUID Partition table for the target disk.
- If users want to migrate Windows which is installed on a GPT disk, they will not see the option **Use GUID Partition Table for the target disk**.

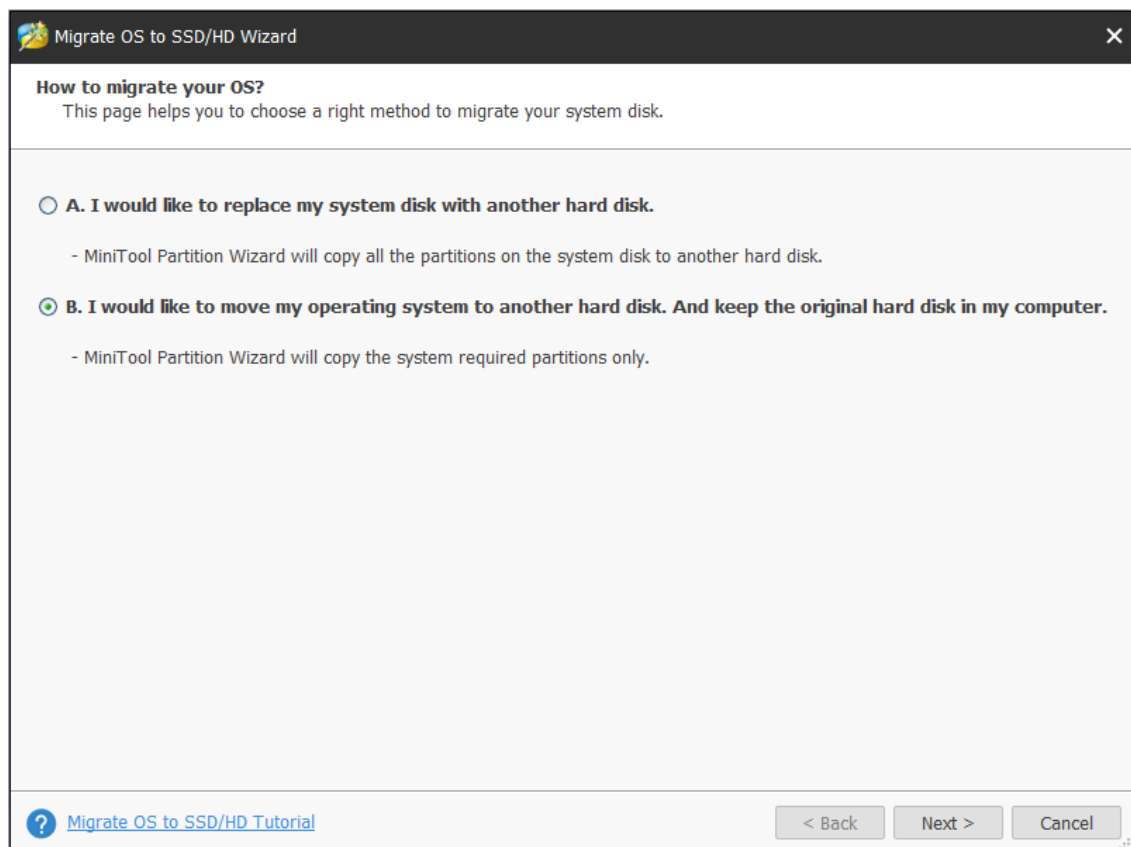
Next, read a popup note and click **Finish** to continue.



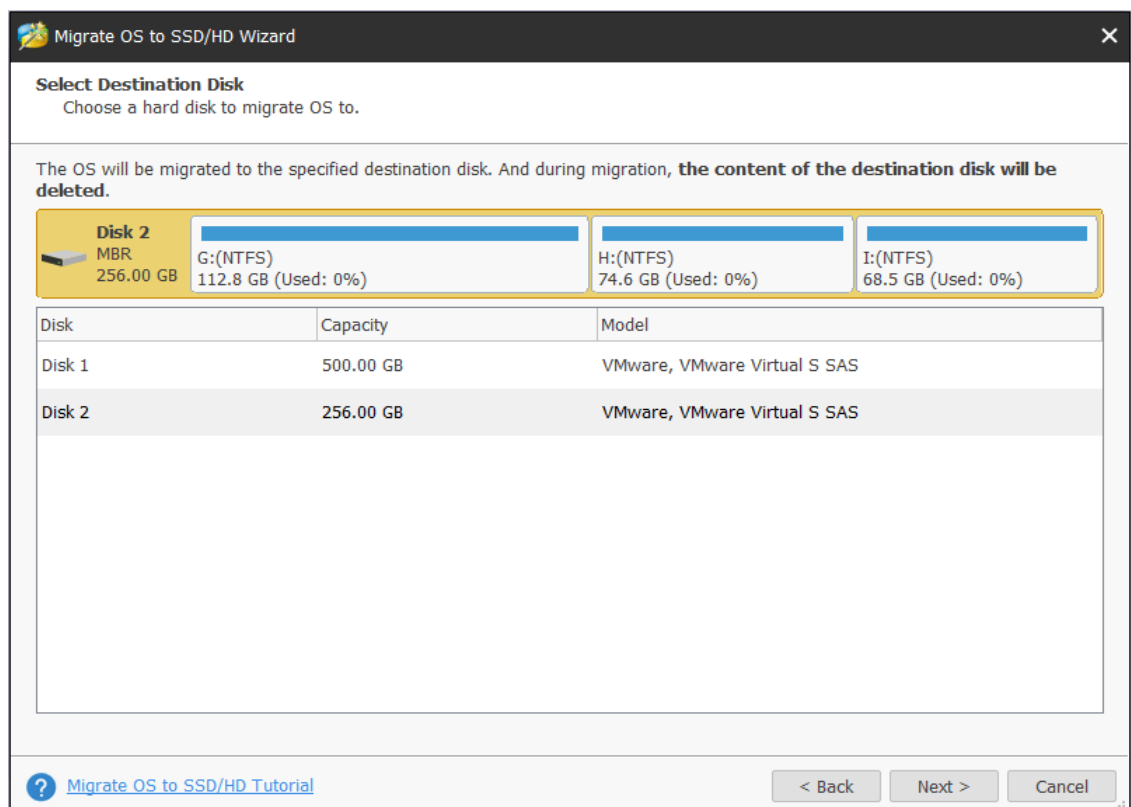
At last, click **Apply** button to execute pending operations and tap **Yes** in pop-up prompt window to allow changes.



Option B. To Migrate Windows Only



Here, users also need to select the target disk to transfer Windows 10 to and click **Next**.



Then, select a copy option and click **Next**.

The screenshot shows the 'Review the changes' step of the 'Migrate OS to SSD/HD Wizard'. The window title is 'Migrate OS to SSD/HD Wizard'. The main heading is 'Review the changes' with a subtext 'On this page you can review the changes you have been made.'.

Copy Options:

- ☒ 1. Fit partitions to entire disk.
- ☐ 2. Copy partitions without resize.
- ☒ Align partitions to 1 MB. (It could improve performance for Advanced Format disk & SSD.)
- ☐ Use GUID Partition Table for the target disk. (It can support disk larger than 2 TB.)

Target Disk Layout:

Disk 2 (MBR, 256.00 GB) contains a 'System Reserve' partition (2.3 GB, Used) and a large NTFS partition (253.7 GB, Used: 7%).

Change Selected Partition:

A partition of 2.29 GB (Used: 374.00 MB) is selected. Below it, the following values are shown:

Unallocated Space Before:	0.00	GB
Partition Size:	2.29	MB
Unallocated Space After:	0.00	GB

At the bottom, there is a link 'Migrate OS to SSD/HD Tutorial' and buttons '< Back', 'Next >', and 'Cancel'.

Next, read the boot note and click **Finish**.

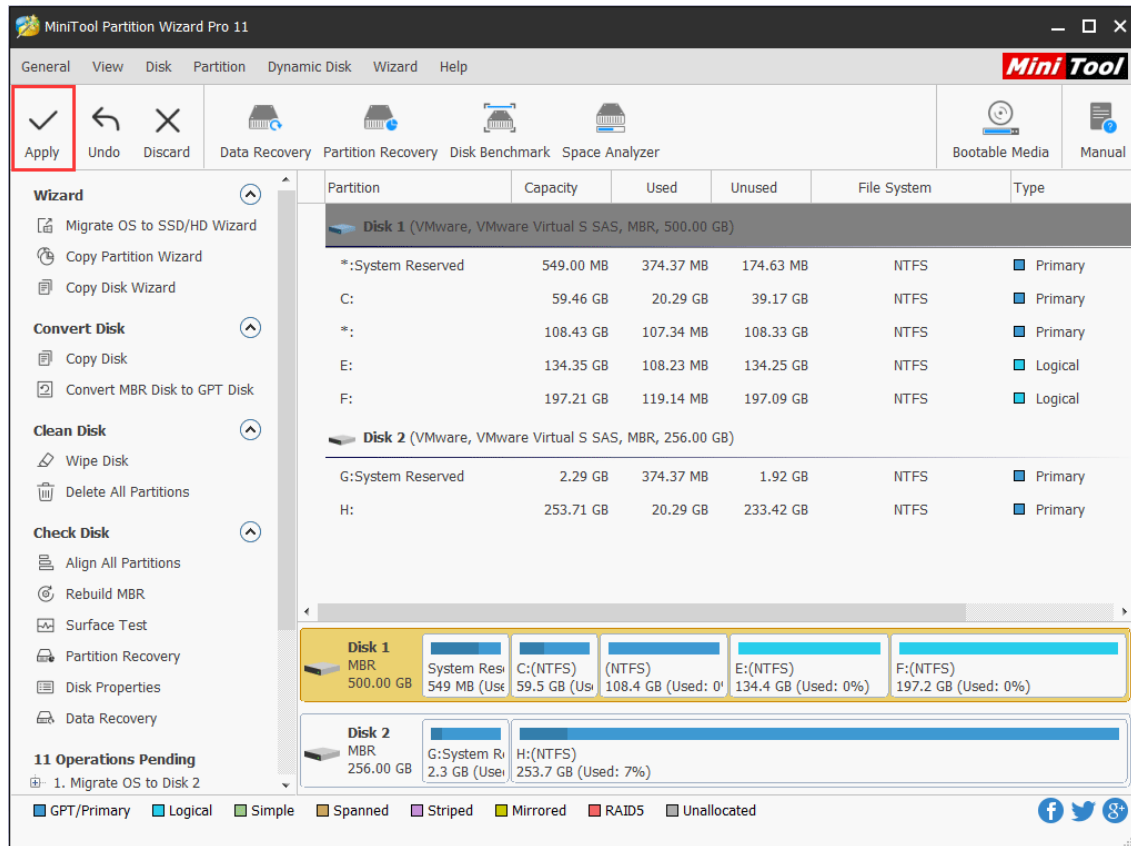
The screenshot shows the 'Boot from the Destination disk' step of the 'Migrate OS to SSD/HD Wizard'. The window title is 'Migrate OS to SSD/HD Wizard'. The main heading is 'Boot from the Destination disk' with a subtext 'How to boot from the Destination disk?'.

Please NOTE:

To boot from the new disk, please configure computer BIOS setting. Make sure the new disk is configured as the default boot disk.

At the bottom, there is a link 'Migrate OS to SSD/HD Tutorial' and buttons '< Back', 'Finish', and 'Cancel'.

At last, click **Apply** button in the toolbar to execute pending operations and tap **Yes** in the pop-up prompt window to allow changes.



38. Partition Recovery

38.1 About Partition Recovery

[Hard disk partitions](#) may get lost or disappear due to one of these factors: mistaken deletion, virus attack, wrong ghost, sudden power outage, incorrect partitioning, and so on. In these cases, Partition Recovery is quite a good solution to dealing with partition loss, recovering lost partitions and data altogether.

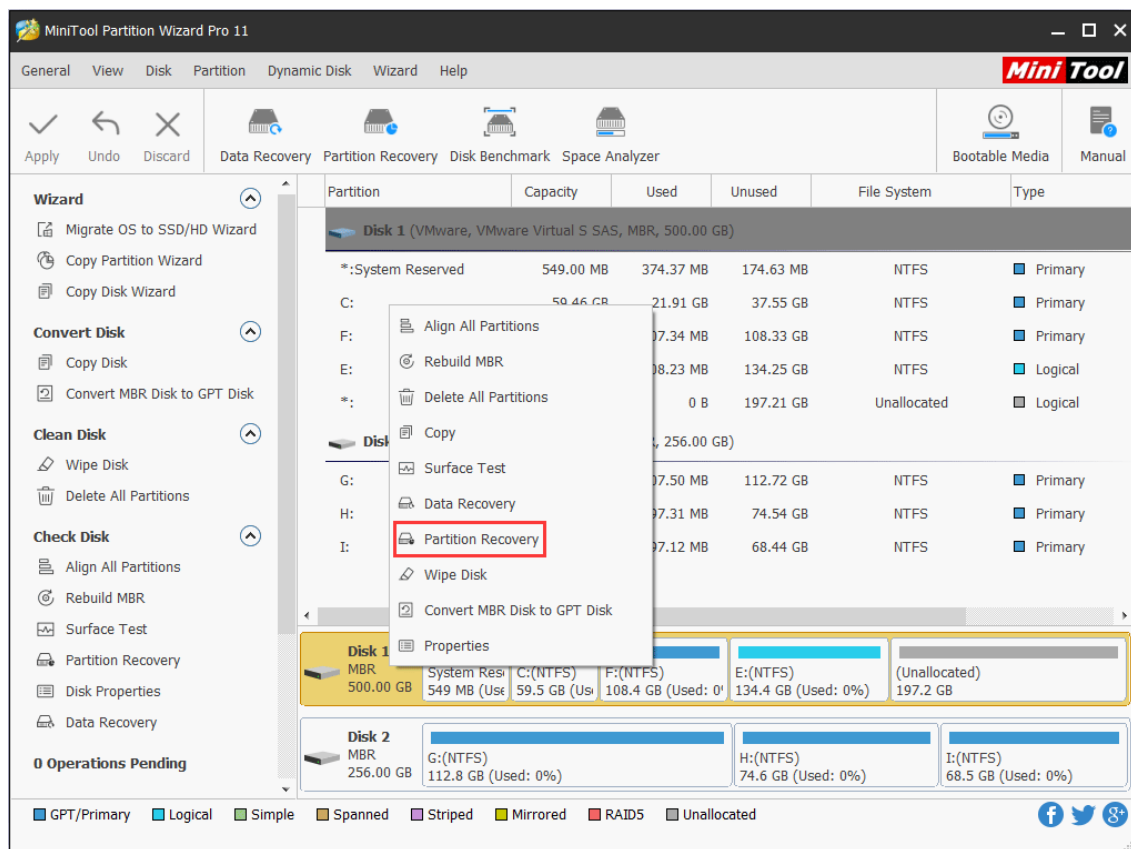
MiniTool Partition Wizard is a partition recovery software that can recover lost/deleted partitions as long as new partition hasn't been created. The tutorial below shows detailed steps on how to recover lost/deleted partitions easily.

Note: MiniTool Partition Wizard Free Edition does not support this function. To use this function, users need to buy a professional edition or more advanced edition. View [Edition Comparison](#) to know more.

38.2 How to Recover Lost Partition

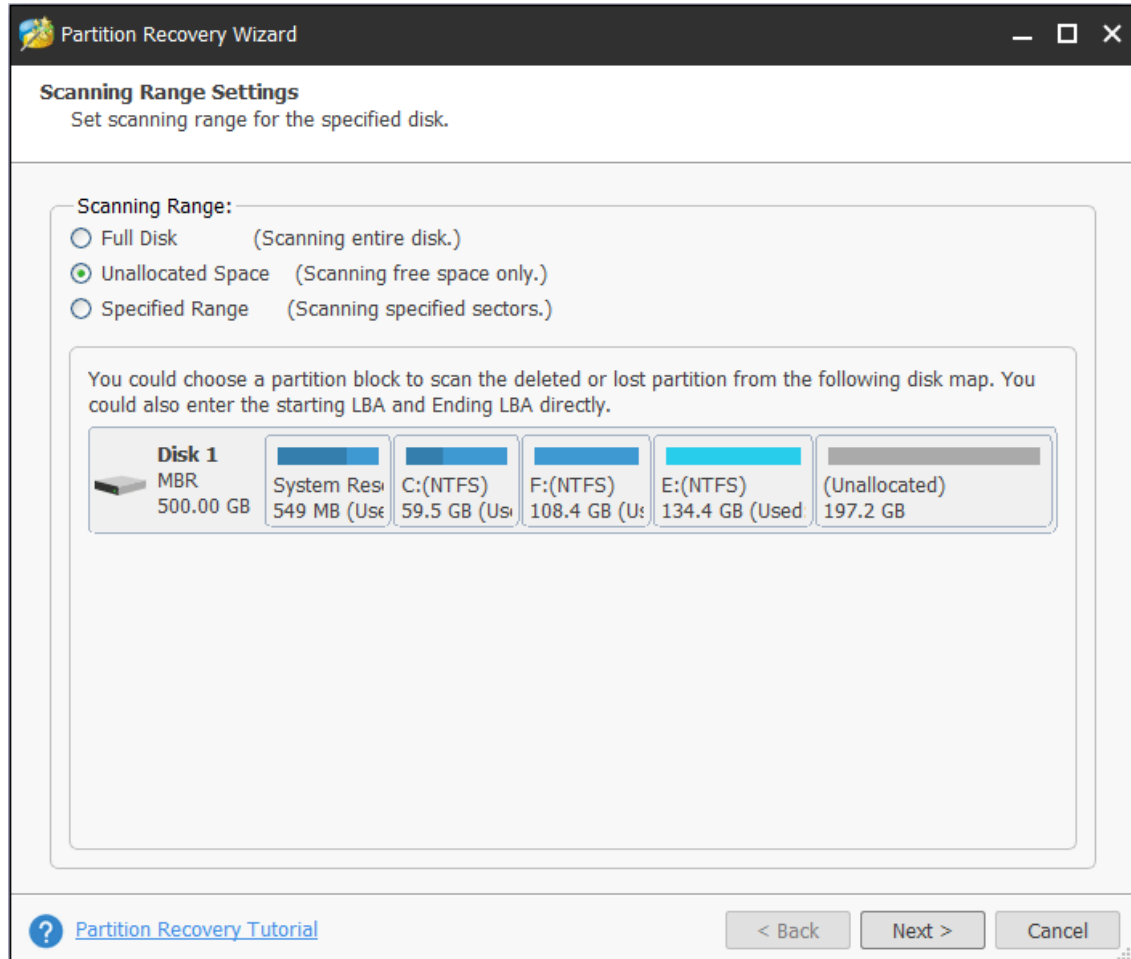
Step 1. Launch MiniTool Partition Wizard to get its main interface.

Step 2. Right-click the disk where partition loss appears and directly choose **Partition Recovery** from the pop-up window.

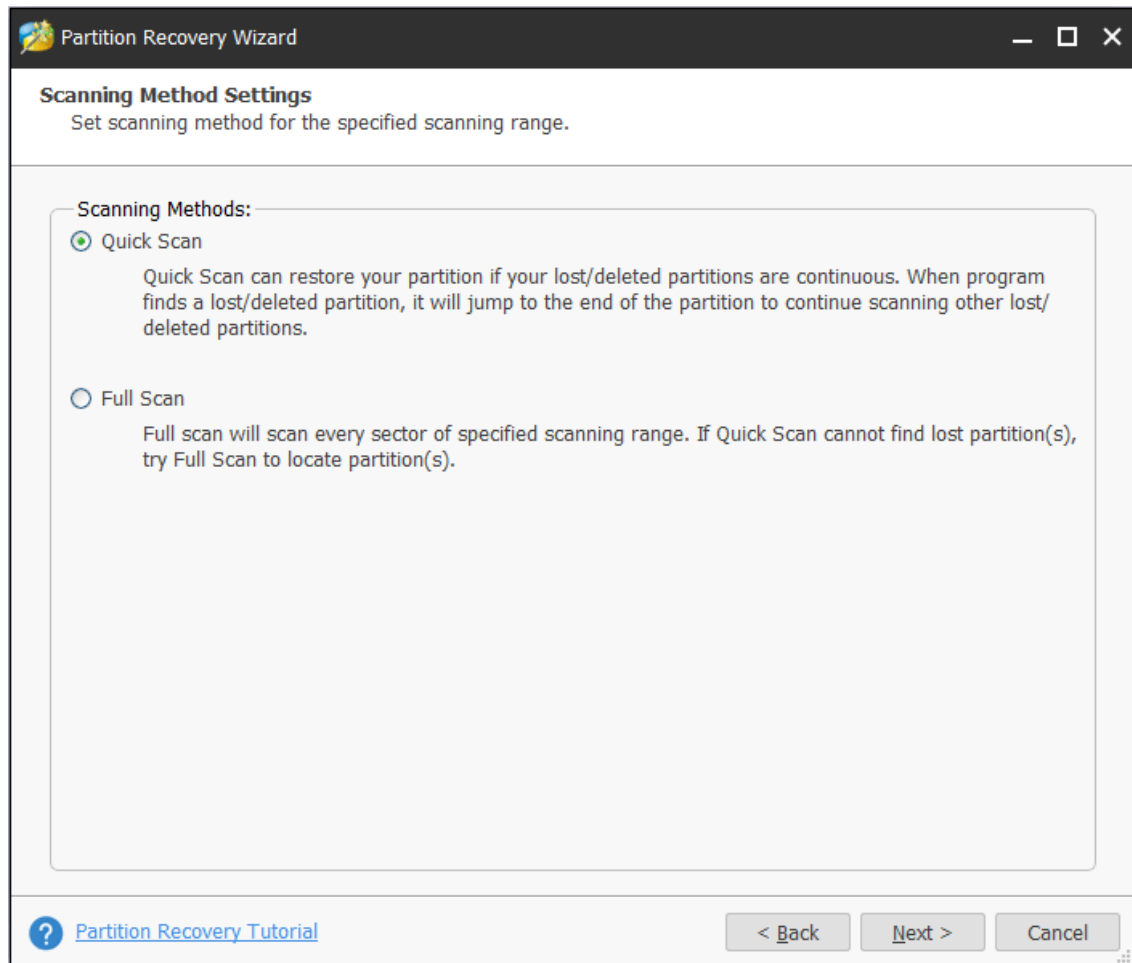


Note: If it is a GPT disk that encounters partition loss, and it turns to an MBR disk after partition loss, please convert MBR disk to GPT first, and then employ the Partition Recovery feature.

Step 3. Choose a scanning range from **Full Disk**, **Unallocated Space**, and **Specified Range**, and then click on **Next** button.

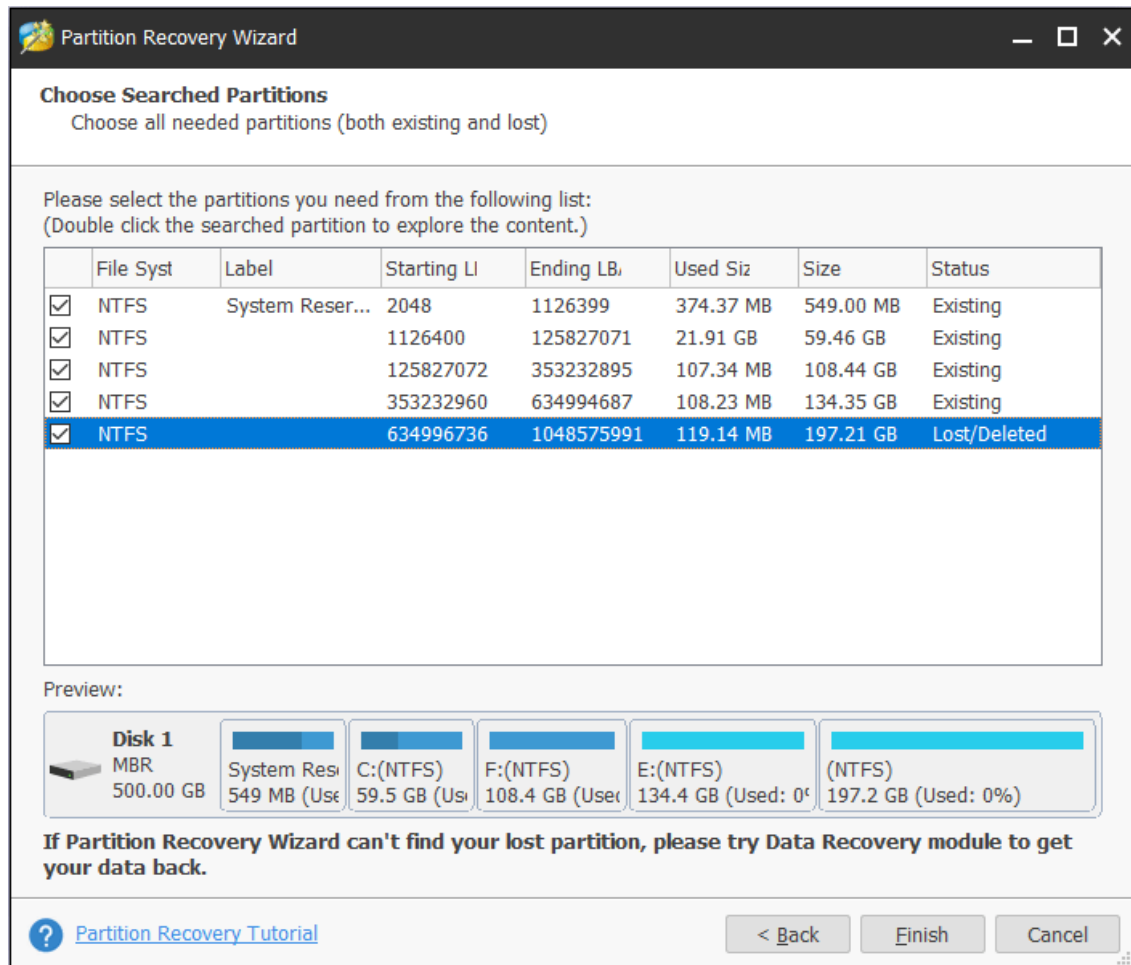


Step 4. Set a scanning method to scan the specified range and click **Next**.

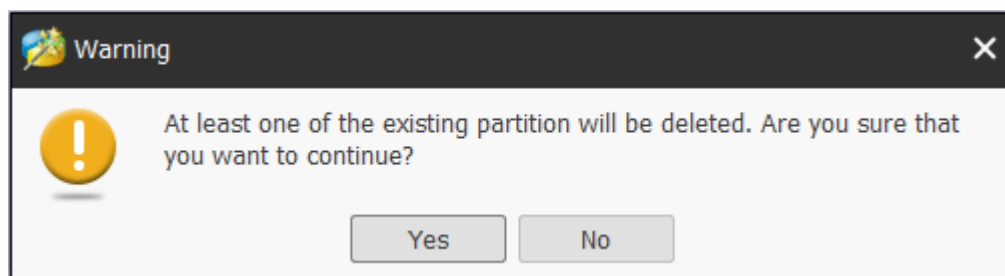


Step 5. Check all needed partitions, including existing partitions and deleted/lost partitions, and then click **Finish** button.

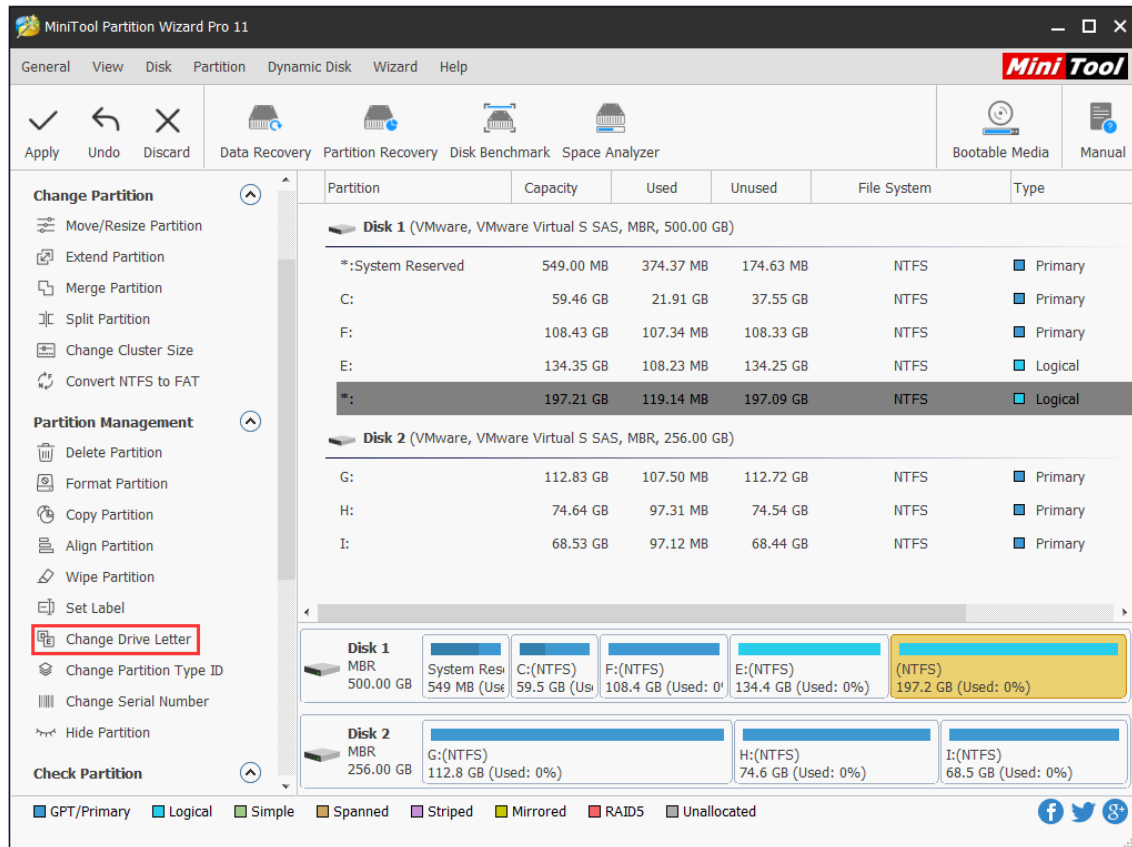
Note: The existing partitions will be checked by default, so users just need to manually check Lost/Deleted partition.



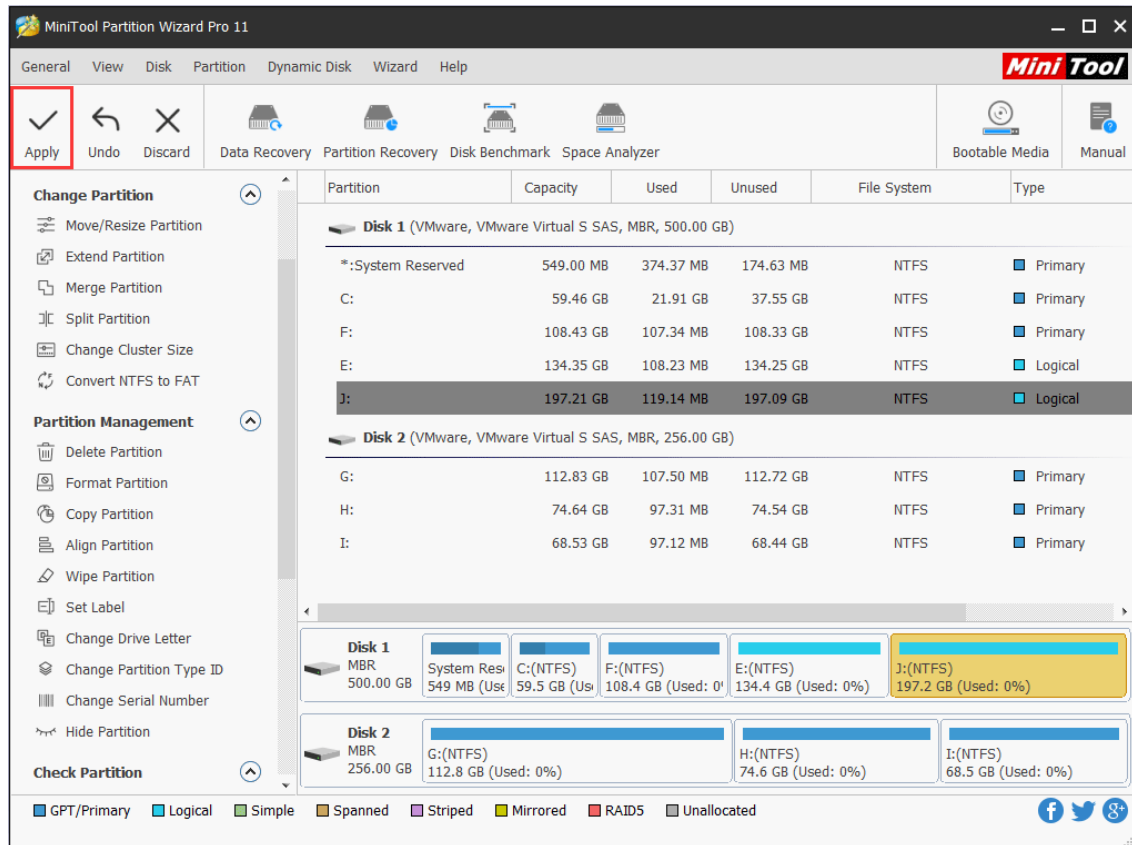
Please make sure all needed partitions have been checked. Otherwise, users will receive the following warning message and some useful partitions will be deleted.



Step 6. Assign a letter for the recovered partition(s) using [Change Drive Letter](#) feature if users want to see it in Windows Explorer.



Step 7. Then click **Apply** button on the top to perform partition recovery.



If Partition Recovery doesn't work, users can try the **Data Recovery** function in MiniTool Partition Wizard. Here are their differences.

Partition Recovery	Data Recovery
<ul style="list-style-type: none">● Rebuild partition table.● Recover lost/deleted partition as well as data in it.● Allow previewing data structure.● All data will be recovered.	<ul style="list-style-type: none">● Recover lost/deleted data from Recycle Bin/lost partition/damaged partition and CD/DVDs.● Allow previewing data structure as well as some types of files.● Allow scanning specified file types and only recover data users selected.

39. Copy Disk

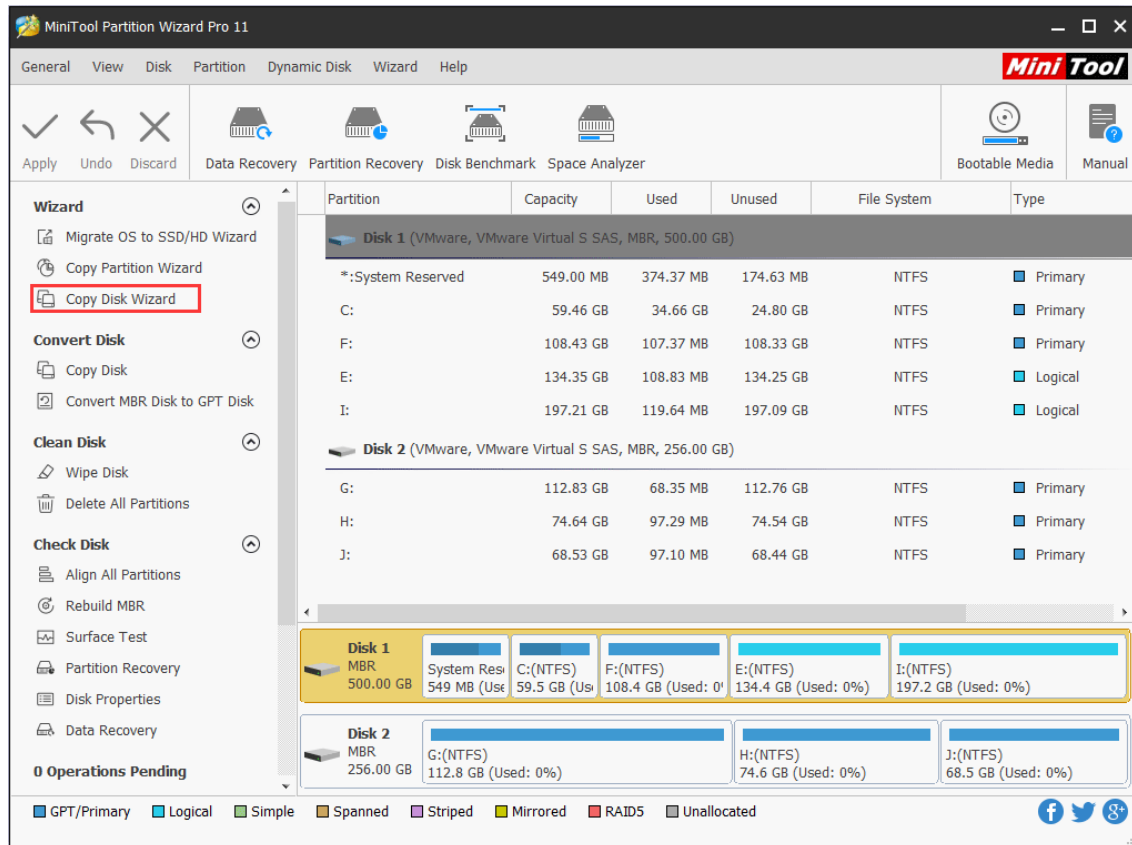
39.1 Copy Disk Wizard

Copy Partition Wizard feature copies all data from one partition to another without any data loss with ease. Compared with copying files directly, to copy partition helps users save much time. Therefore, when users plan to backup files saved in one partition, try copying the whole partition.

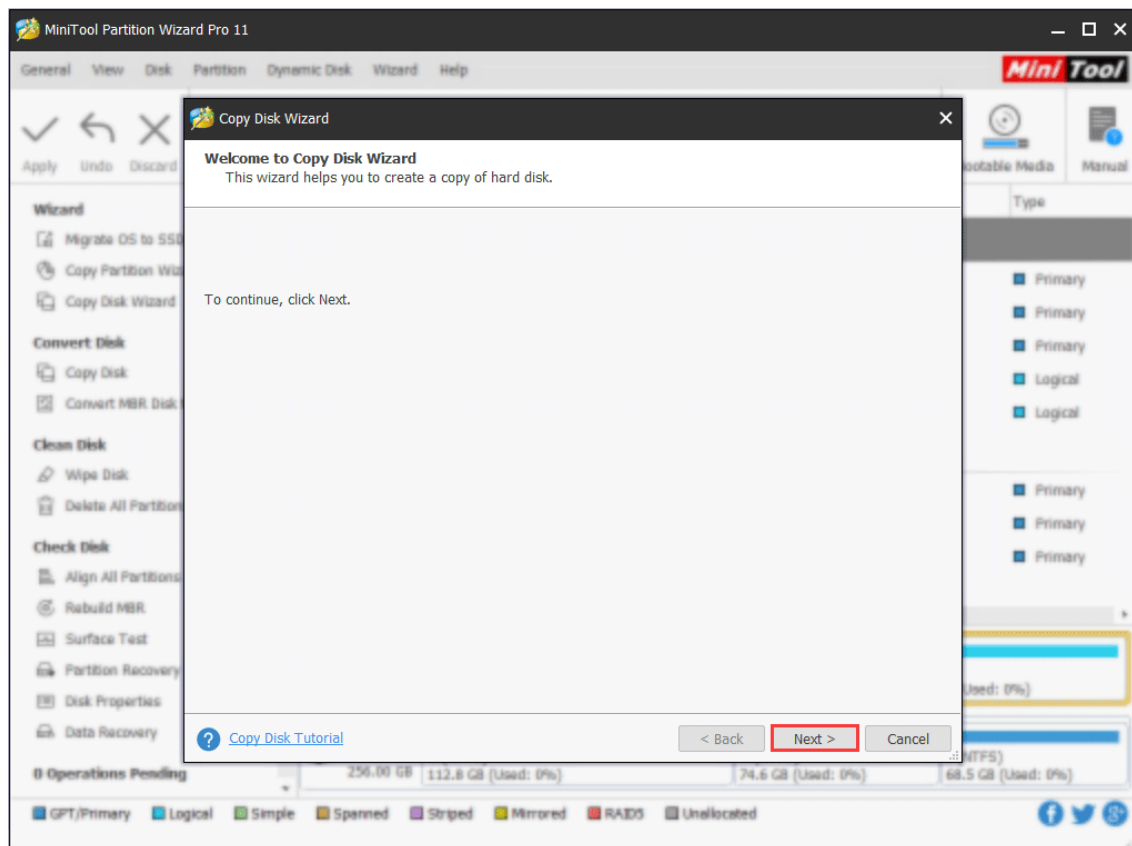
When MiniTool Partition Wizard is copying partition, data protection solutions such as power-off protection is activated automatically. Don't worry about data security even if power outage emerges without redundant power supply.

39.2 How to Copy Partition

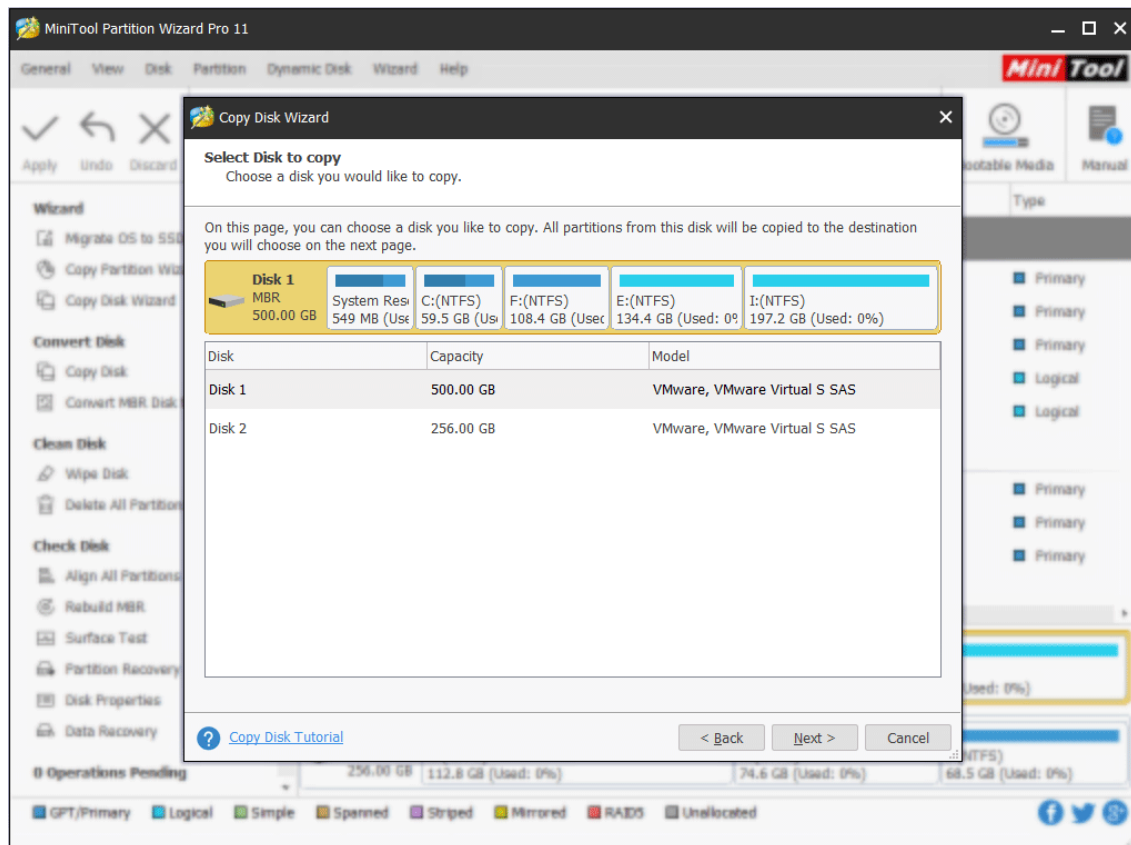
Step 1. Run MiniTool Partition Wizard to get its main interface, directly choose the **Copy Disk Wizard** from the toolbar.



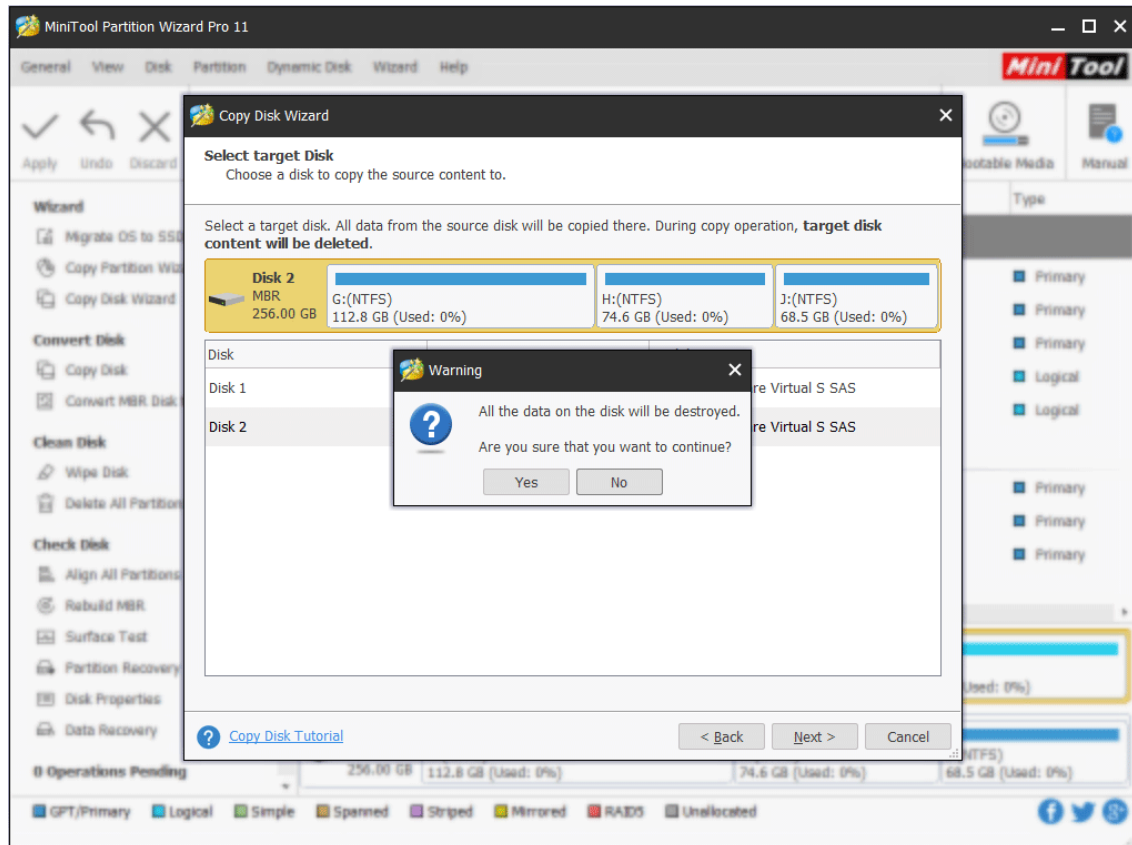
Step 2. Click Next to continue.



Step 3. Select the disk users would like to copy and click **Next**.

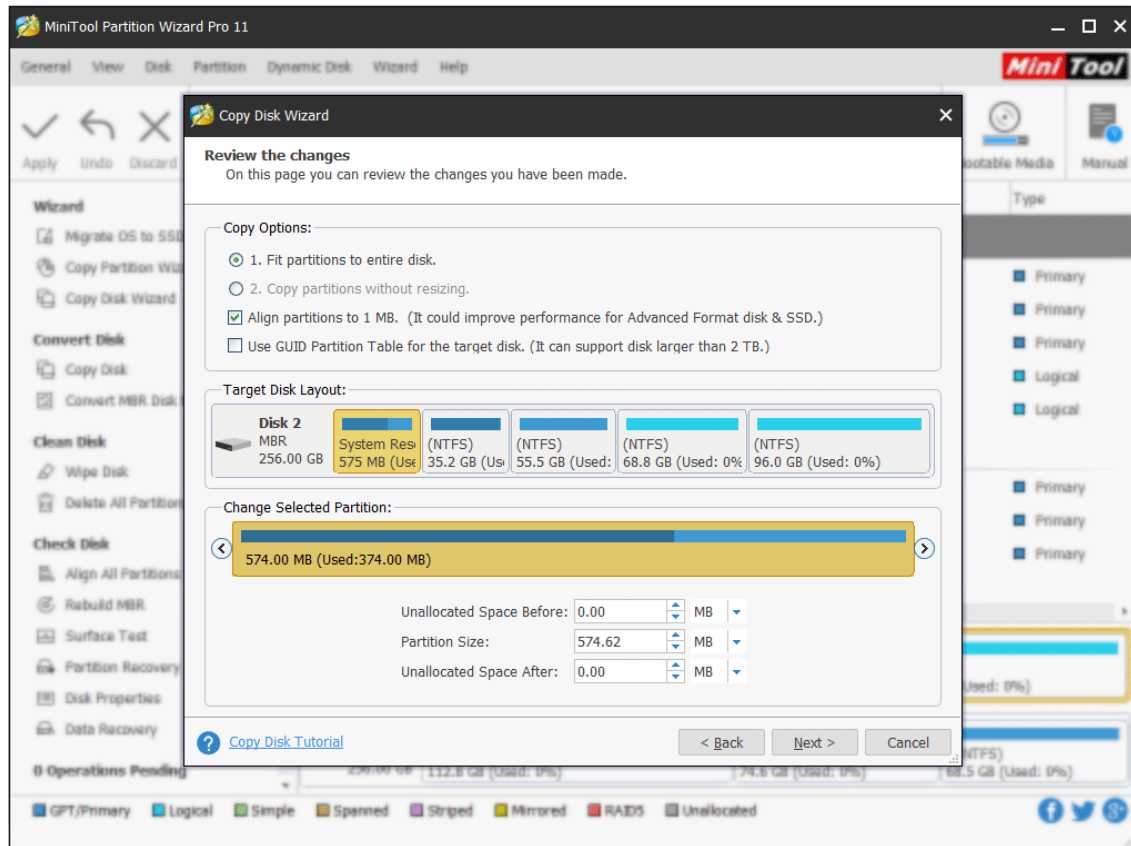


Step 4. Choose a target disk where the copy will be stored and click **Next** to continue. Then click **Yes** to continue.



Note: Please backup important data on the target disk in advance because all its data will be deleted during copy operations.

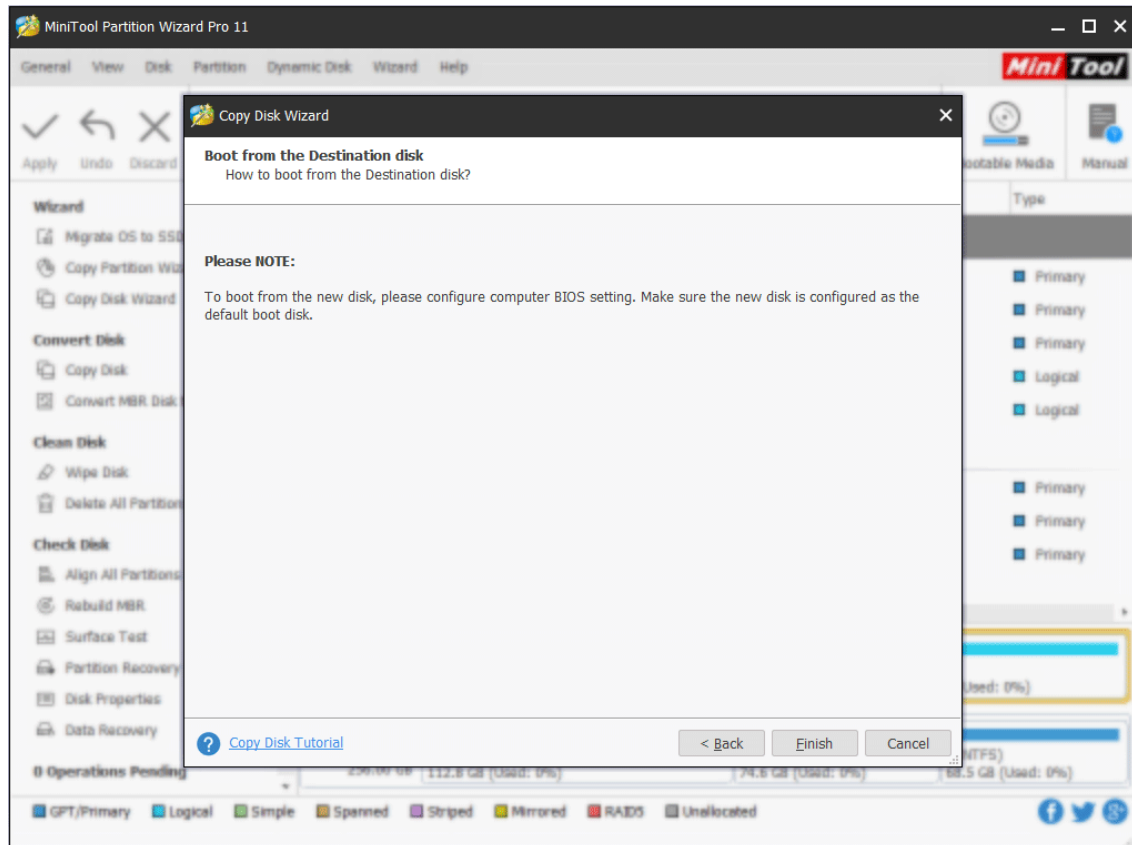
Step 5. Choose a copy method and click **Next**.



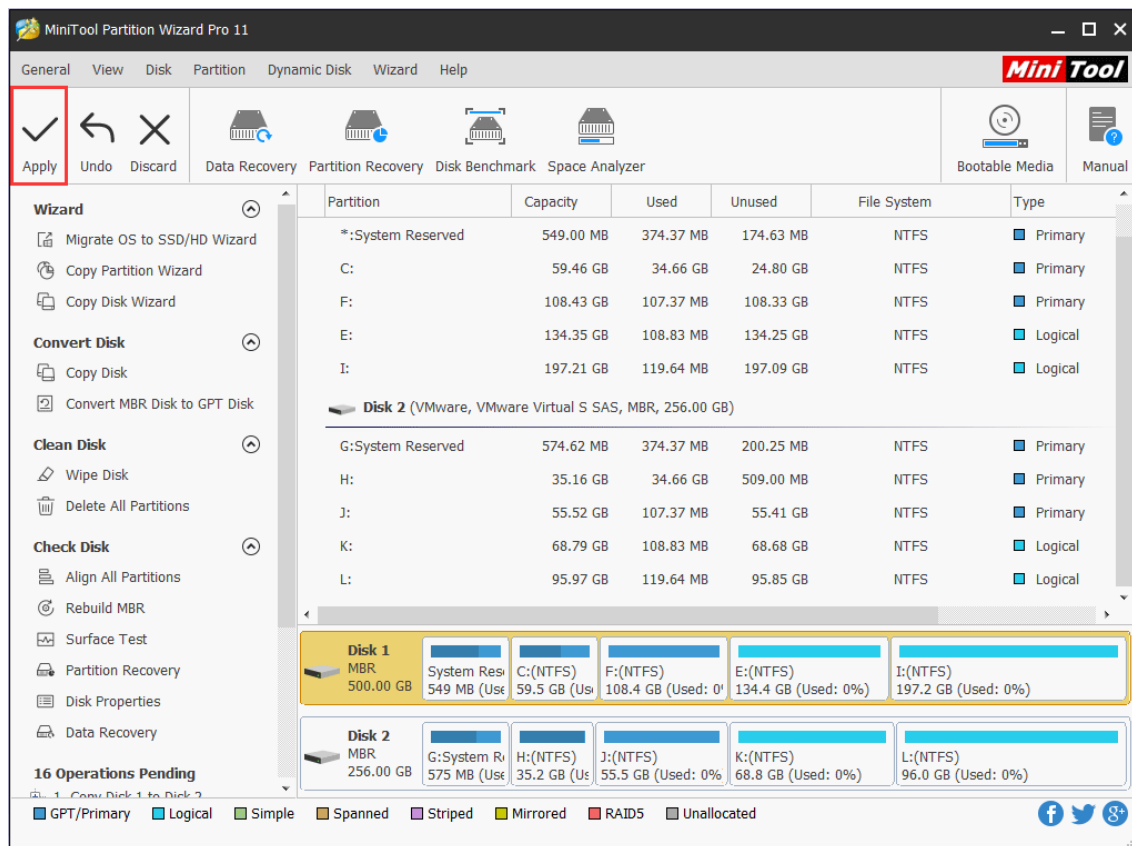
Attention:

1. For SSD users, it is highly recommended to **Align partitions to 1MB** option, which can improve disk performance.
2. If users want to copy disk to GPT disk, **Use GUID Partition Table for the target disk** option is limited in Free Edition of MiniTool Partition Wizard, but the Professional Edition or an advanced one is available.

Step 6. Read the note carefully which shows how to boot from the target disk, and click **Finish** to go back to the main interface.



Step 7. Click **Apply** to execute all changes.



40. Rebuild MBR

40.1 About Rebuild MBR

[MBR](#) (Master Boot Record) is a special type of loader code at the very beginning of computers' hard disk. It contains an operating system bootloader and the storage device's [partition table](#). When DOS reads hard disk, MBR will help to check whether the partition is legal and locate the partition boot information.

And, the loader code is variable. Thus, users can boot MBR from multiple operating systems. It can be found in FDISK program. MBR will pass the control over to the certain operating system which has been registered in the partition table.

However, MBR could be damaged due to various attack, mistaken operation, or sudden power failure. Once MBR is damaged, users may encounter boot problems such as MBR error 3 and see Windows black screen.

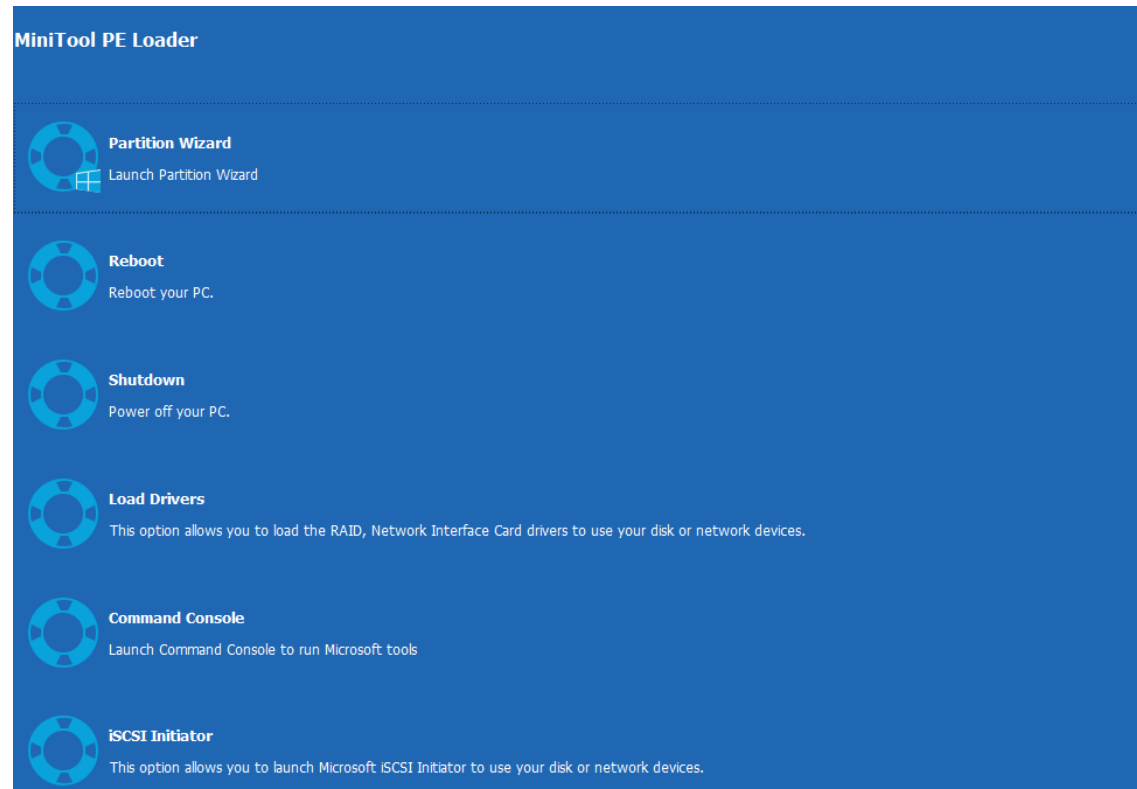
Rebuild MBR of MiniTool Partition Wizard helps rebuild MBR in quite simple operations even if Windows cannot boot. That is because this partitioning program offers a bootable disc to boot computer without Windows.

40.2 How to Rebuild MBR

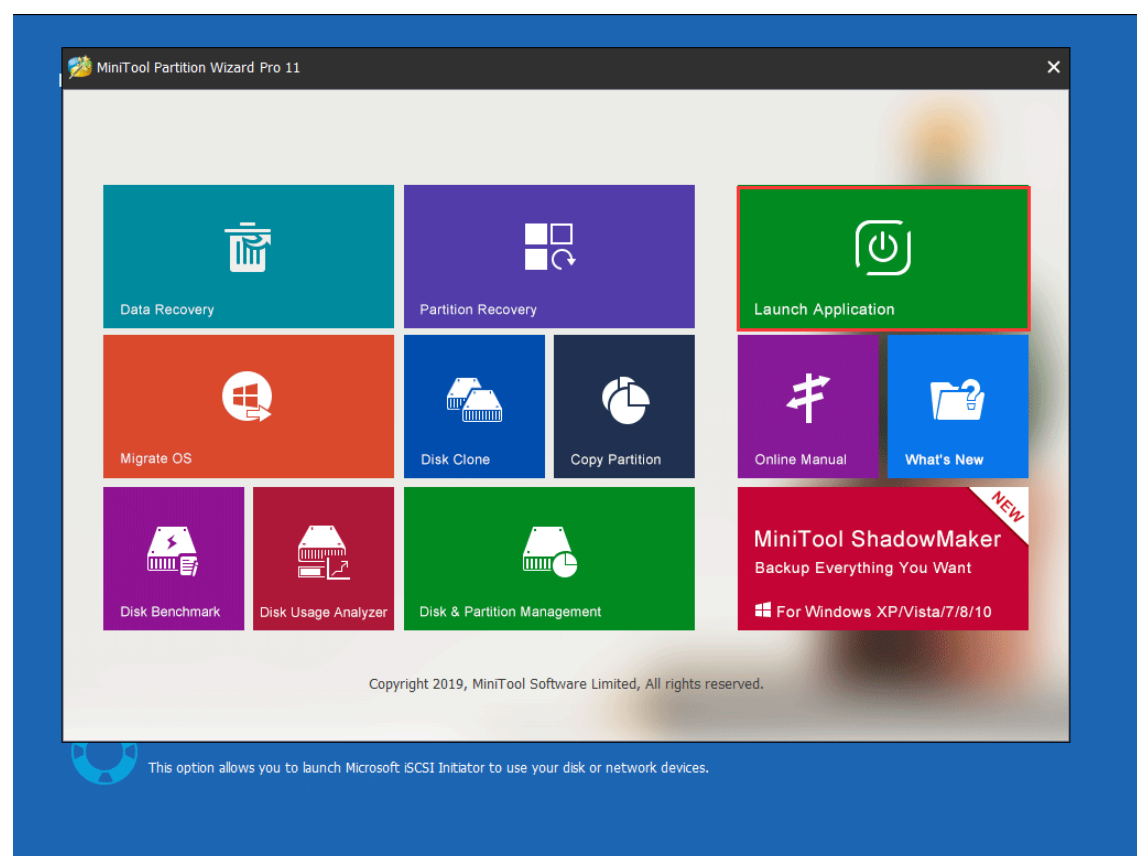
Since Windows cannot boot, users can use the **Bootable Media Builder** feature to [create bootable CD/DVD/USB flash drive](#) or build an ISO image of a bootable disc. After that, [use the bootable disk to start computer](#) to get the following window.

Kindly reminder: the free edition of MiniTool Partition Wizard doesn't provide Bootable Media Builder.

Step 1. Please choose the first option **Partition Wizard** to enter the main interface of MiniTool Partition Wizard.



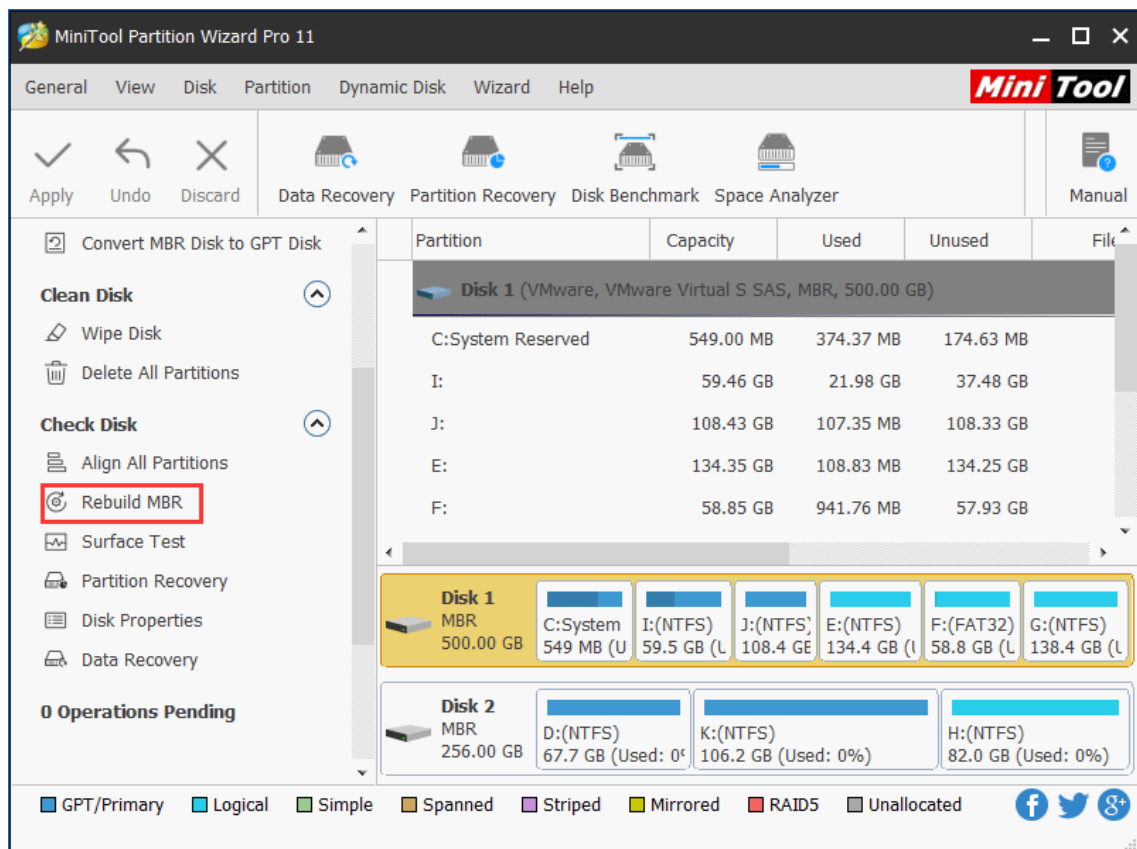
Step 2. Launch MiniTool Partition Wizard.



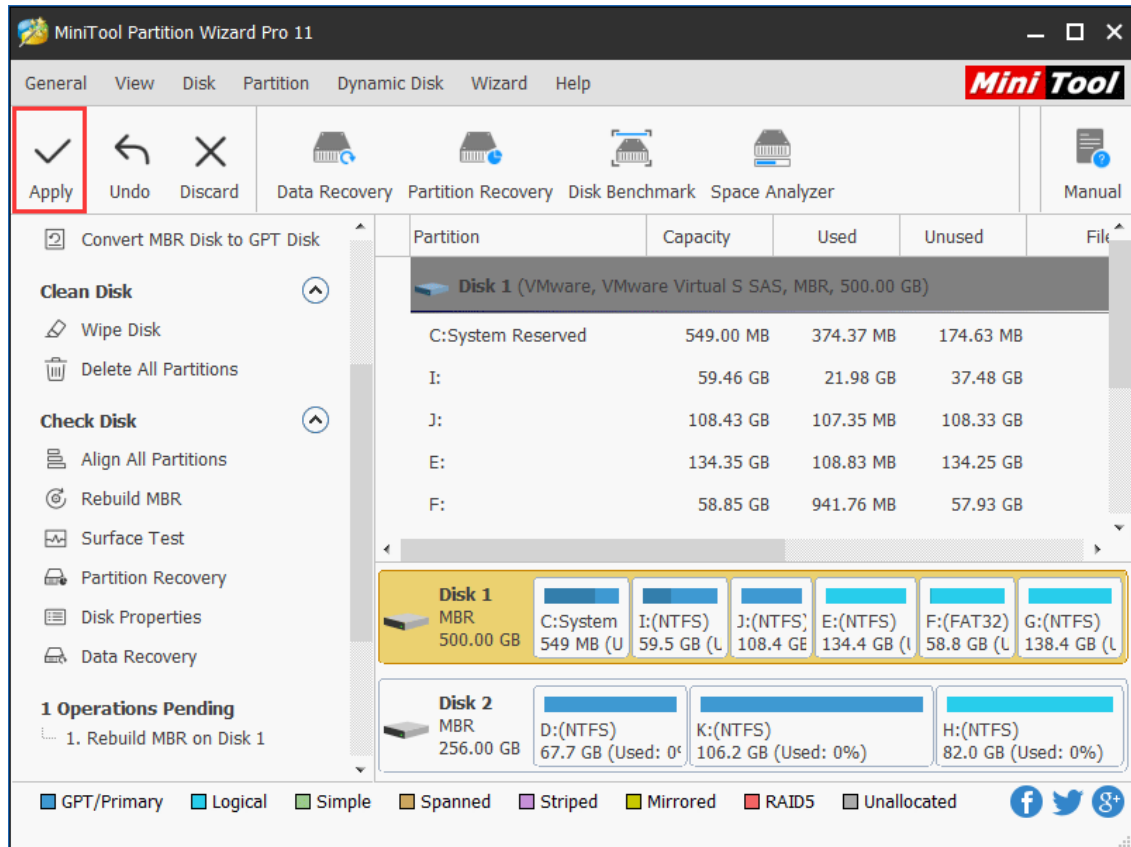
Step 3. Select the system disk which is suffering MBR damage and click **Rebuild MBR** from the

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left panel.



Step 4. At last, click **Apply** button to apply the change.



And after application, users need to quit from MiniTool Partition Wizard bootable disc and boot from the local hard drive

41. Delete All Partitions

41.1 About Delete All Partitions

Delete All Partitions feature provided by MiniTool Partition Wizard can remove multiple partitions off at a time. If users have got multiple partitions to delete, Delete All Partitions feature is labor-saving.

Note: Do not operate disk containing boot partition, otherwise boot failure may appear.

41.2 How to Delete All Partitions

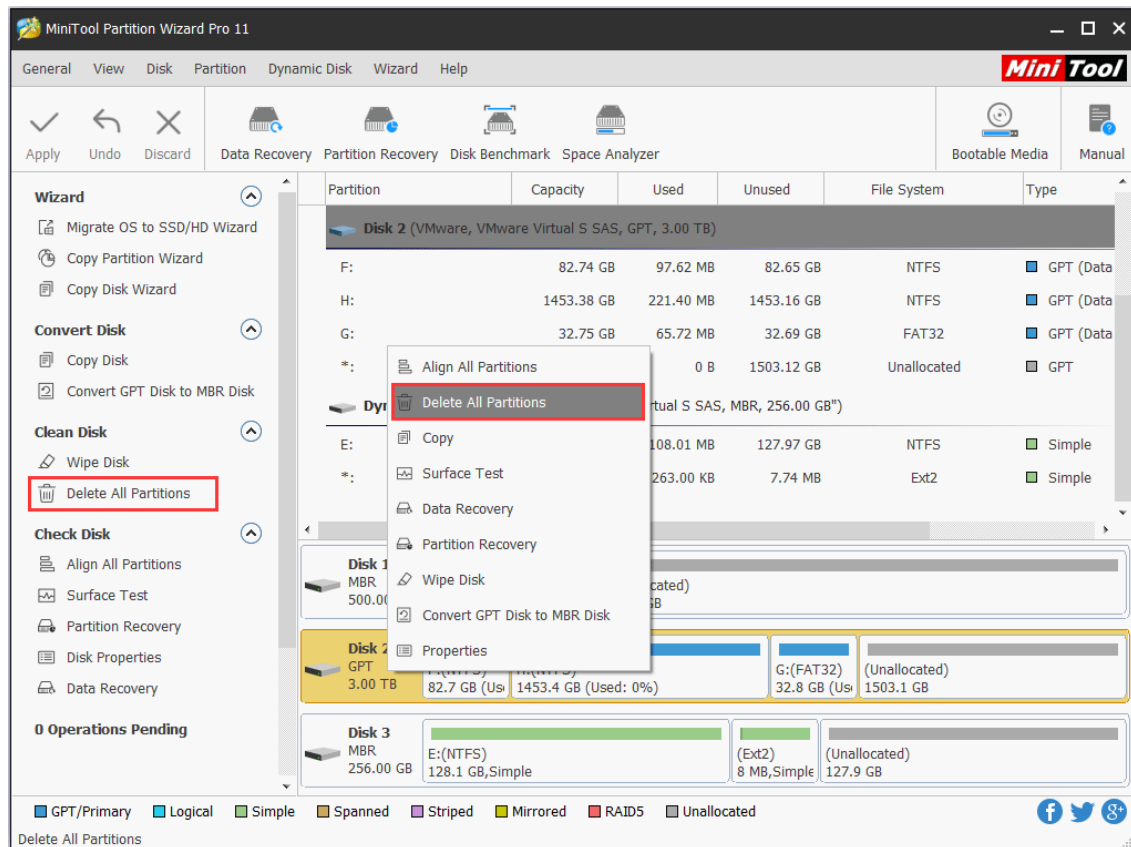
Users can follow the MiniTool Partition Wizard tutorial on how to delete all partitions below:

Step 1. Select a way to activate certain feature according to preference:

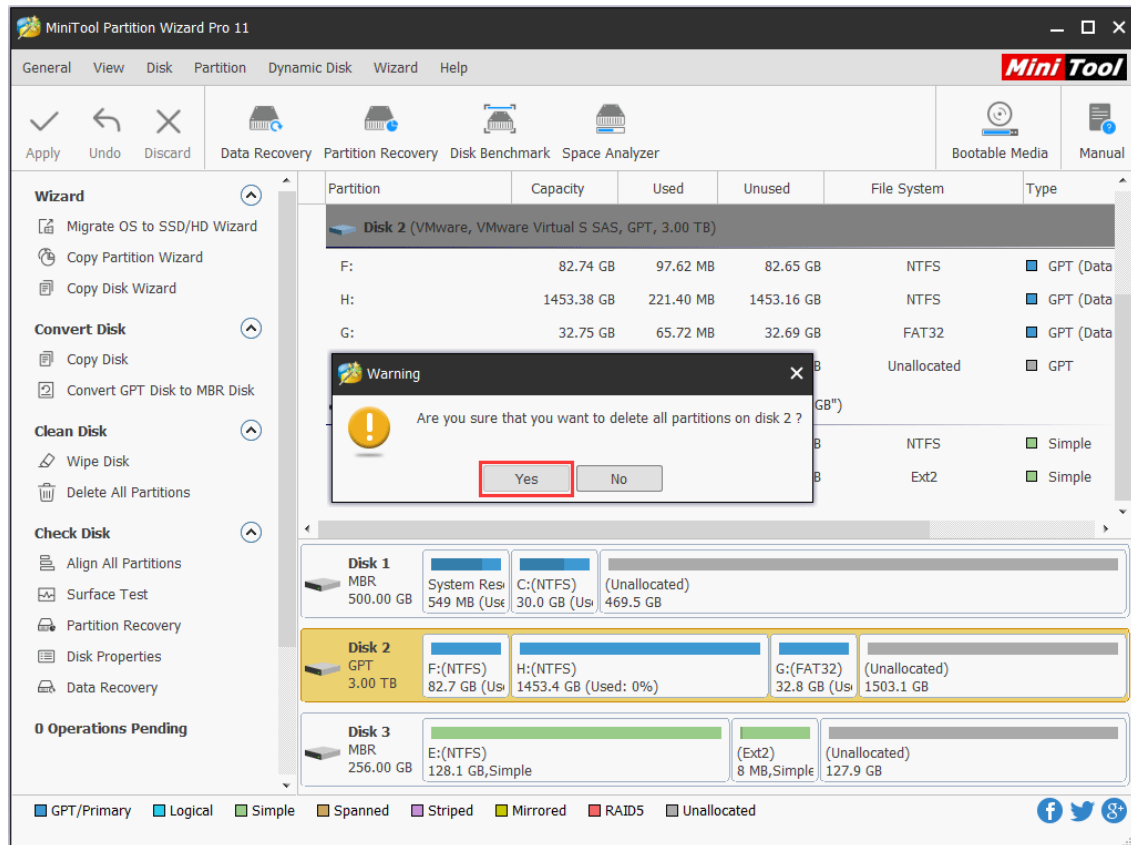
- Strategy A: Choose the disk whose partitions need to be deleted and click **Delete All**

Partitions from left action panel.

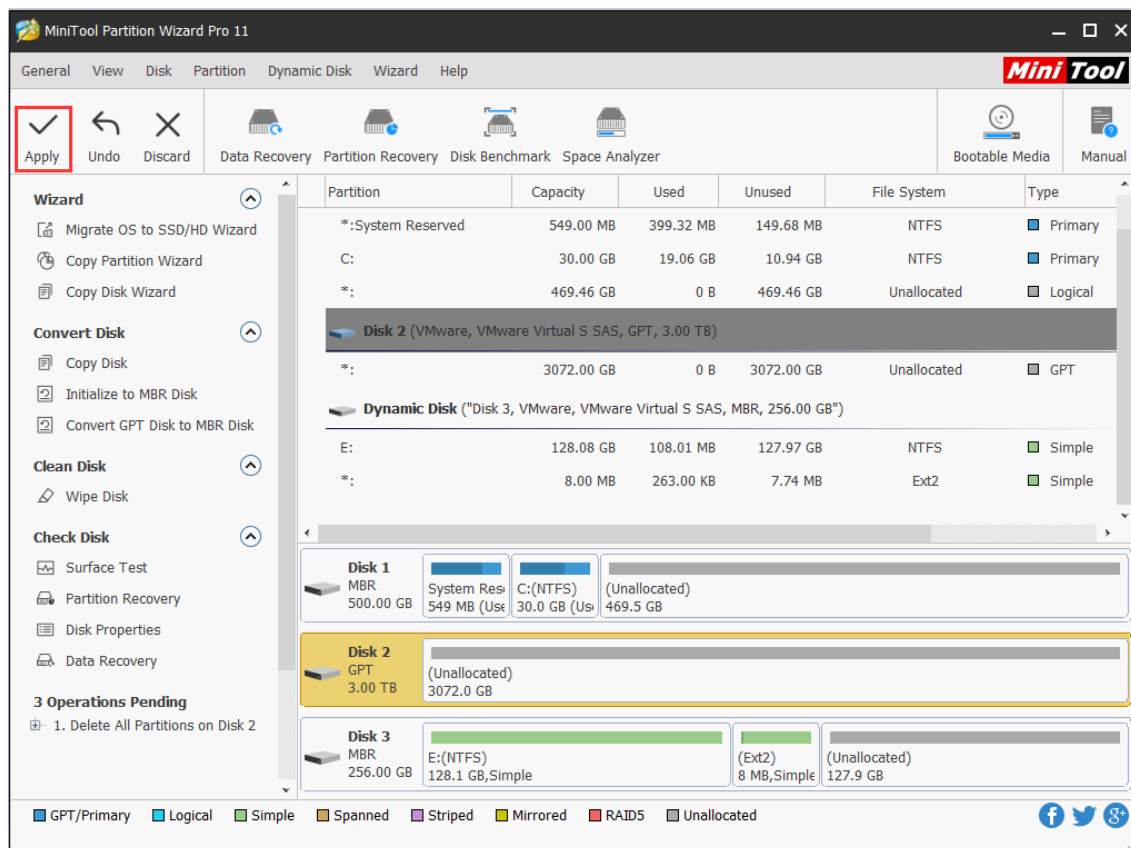
- Strategy B: Choose target disk and click **Disk** in menu. After that, click **Delete All Partitions** from dropdown menu.
- Strategy C: Right click the target disk and then click **Delete All Partitions** from pop-up context menu.



Step 2. In this interface, click **Yes** button to let the software execute partition deleting command.



Step 3. At last, click **Apply** to execute pending operations.



42. Align All Partitions

42.1 About Align All Partitions

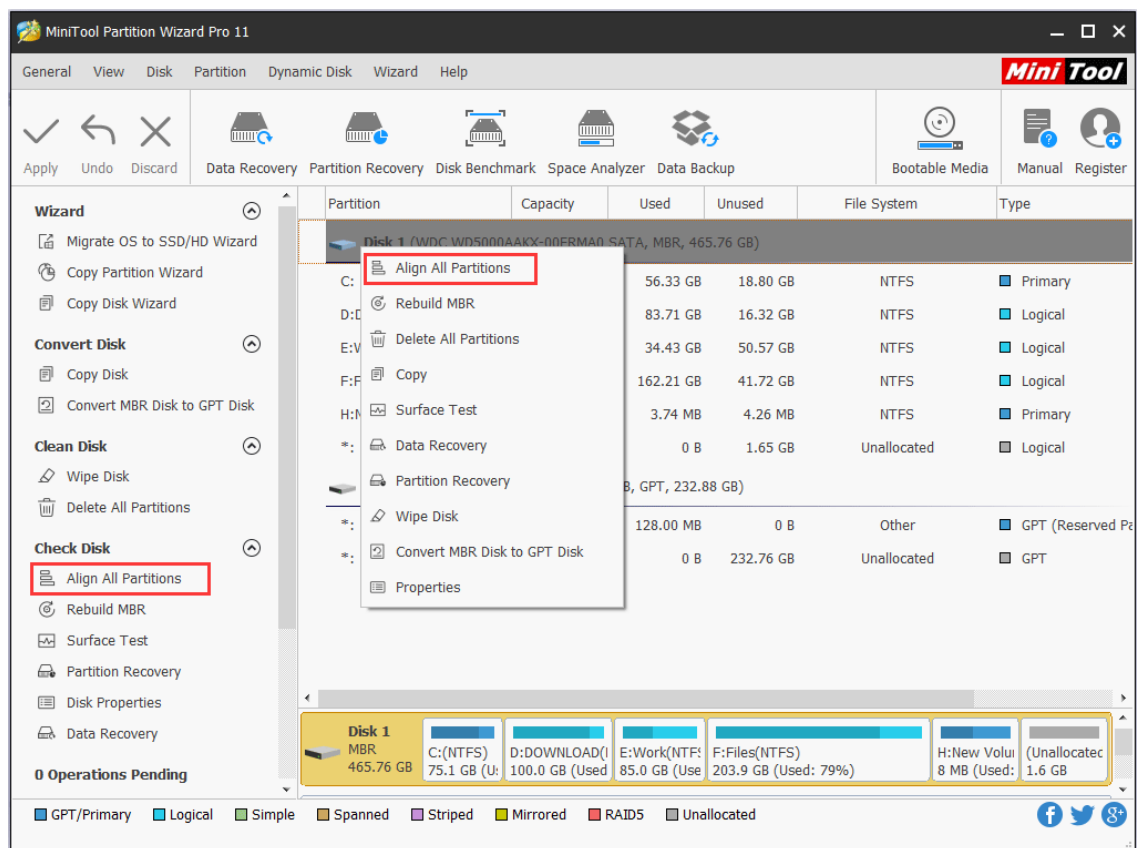
Unlike Align Partition which just aligns a single partition, **Align All Partitions** feature aligns all hard drive partitions on an SSD disk or advanced format HD in one step. If users take one of the following operations, it is very necessary to align all partitions:

- Copy an [advanced format](#) HD or SSD to another advanced format HD or SSD.
- Change size or move location of multiple partitions.

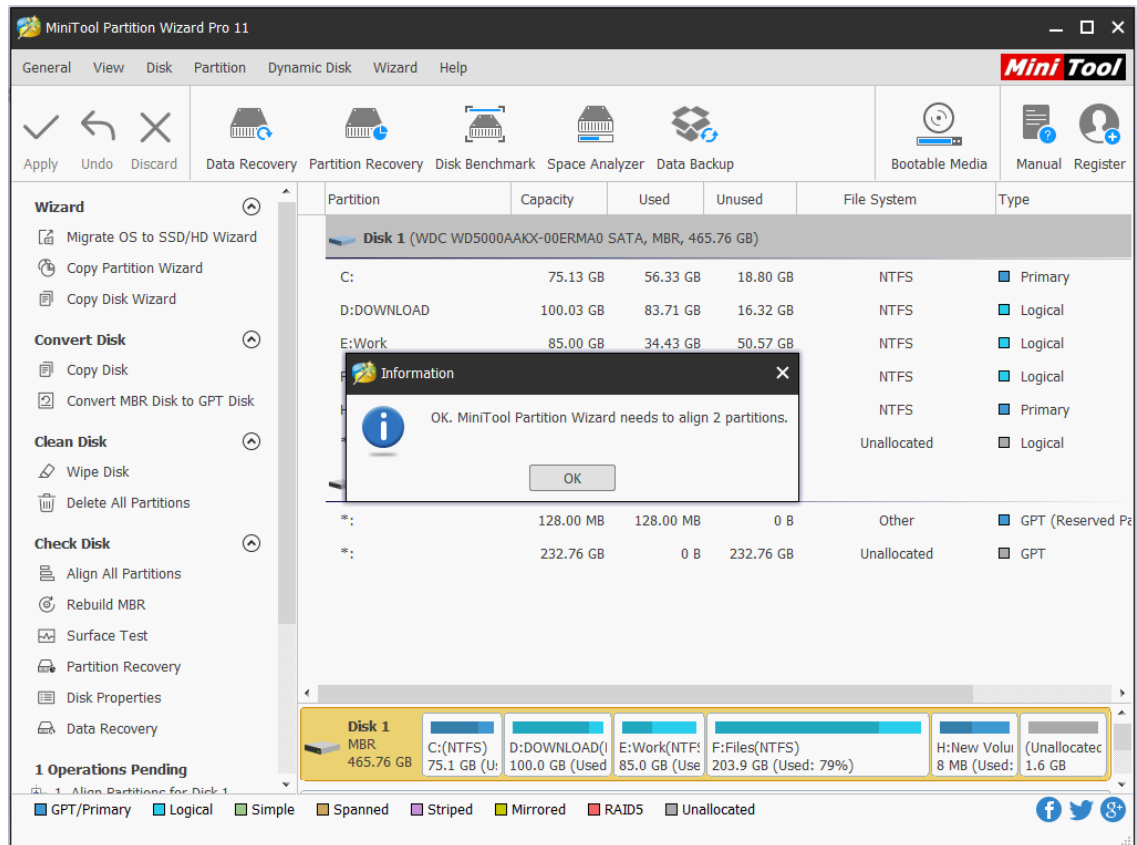
42.2 How to Align All Partitions

Step 1. Run MiniTool Partition Wizard to get the main interface.

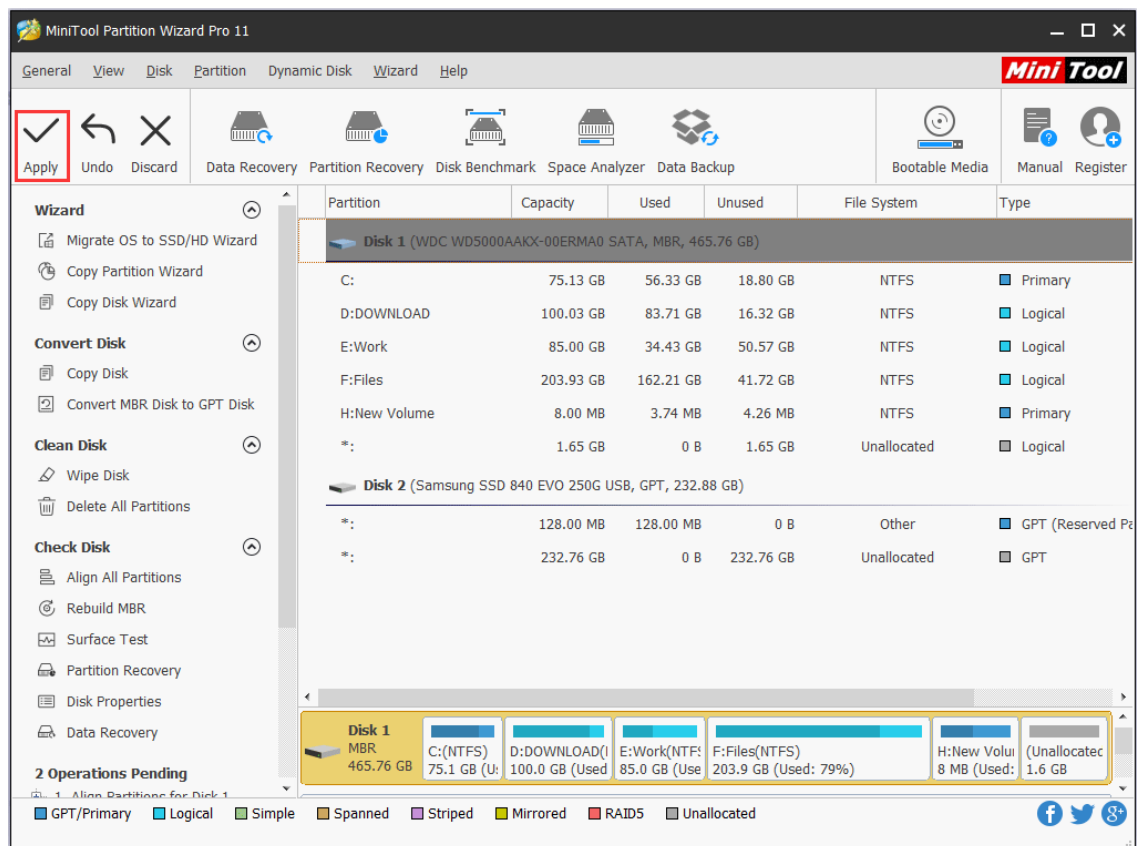
Step 2. Select the disk which needs aligning and choose **Align All Partitions** feature from the left action panel or from the right-click menu.



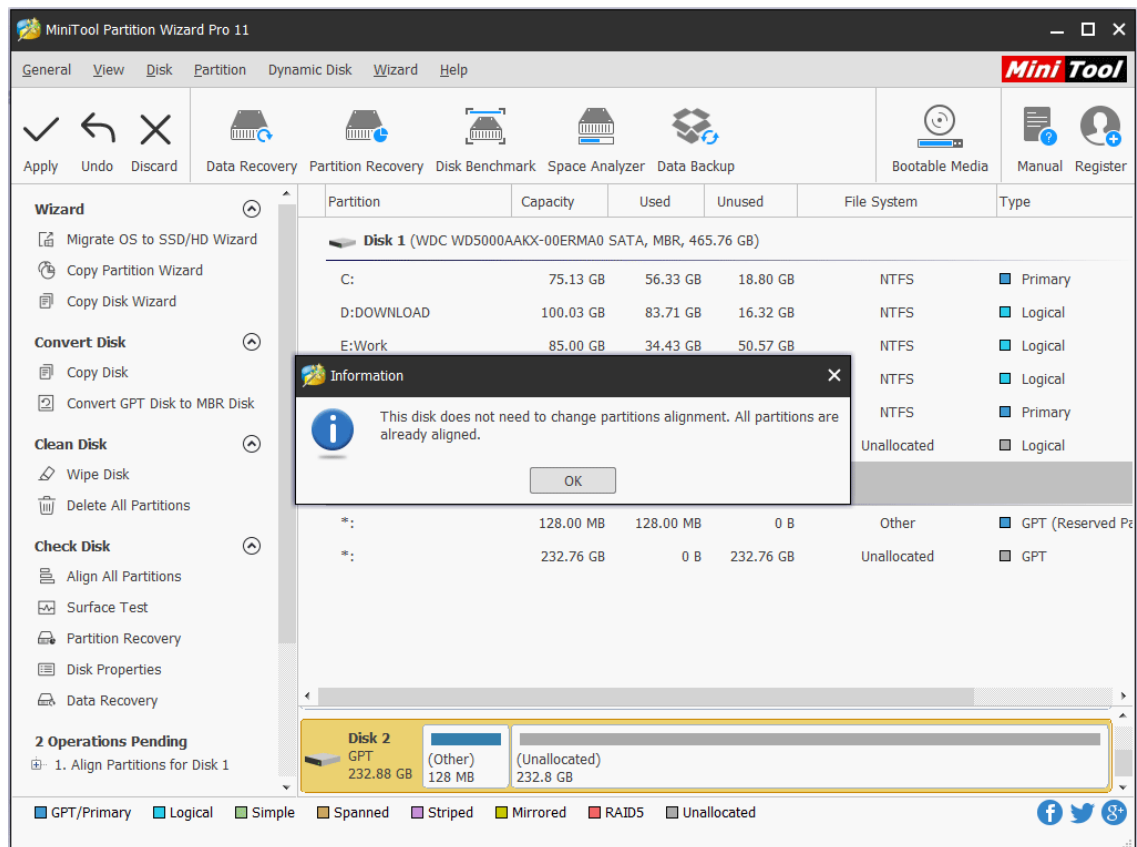
Step 3. If Partition Wizard detects misaligned partition(s), it will show how many partitions to align in total. Just confirm the operation by clicking **OK** button.



Step 4. Click on **Apply** button on the top left corner to perform all operations.



Tip: If all partitions on the disk are already aligned, users will receive the following information. Just click OK to end the operation.



43. Wipe Disk

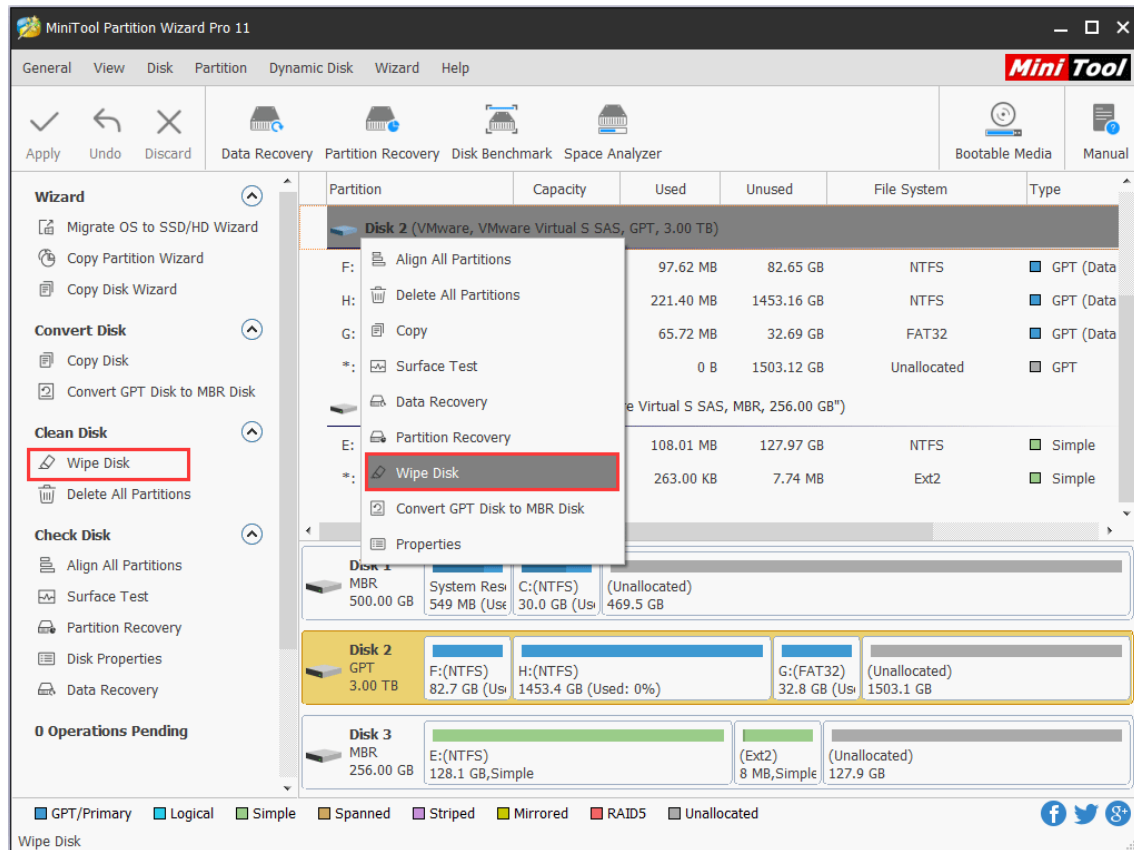
43.1 About Wipe Disk

Wipe Disk can destroy all information in selected disks safely and permanently. This function can ensure the security of users' privacy as well as unwanted data, and prevent someone from recovering those data.

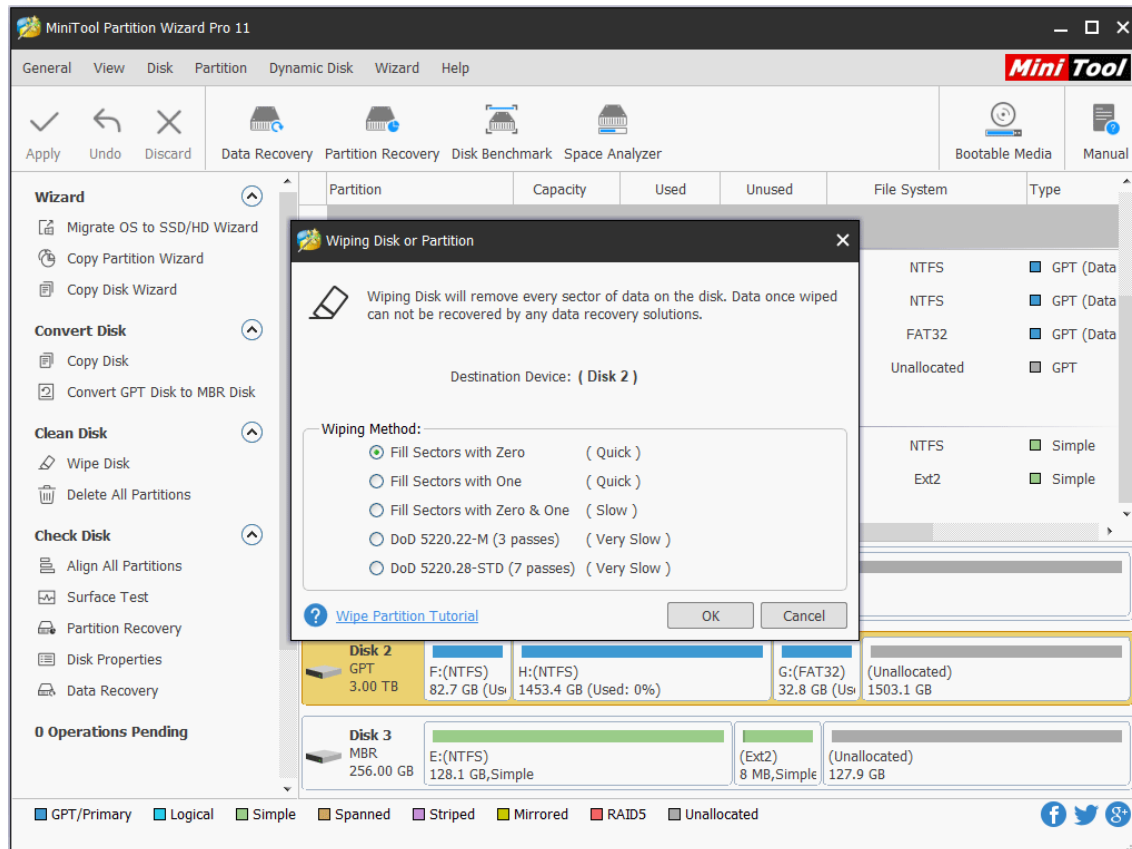
Once the Wipe Disk operation is carried out by MiniTool Partition Wizard, the data will not be recovered by any [data recovery software](#). If users employ the method of DoD 5220.28-STD, the data can't be recovered by any data recovery solutions.

43.2 How to Wipe Disk

Step 1. Launch the program to enter its main interface shown below. Then select the disk which needs to be wiped and choose **Wipe Disk** from the left action panel or from the right-click menu.



Step 2. Choose one of the five wiping methods listed on the pop-out window and click **OK**. Different wiping methods cost different time and bring different security. To be specific, the more time it costs, the higher security you enjoy.



Step 3. Now users can see the selected disk becomes unallocated, which means it will be wiped thoroughly. At this time, please click **Apply** button on the top to perform all changes.

44. Disk Surface Test

44.1 About Disk Surface Test

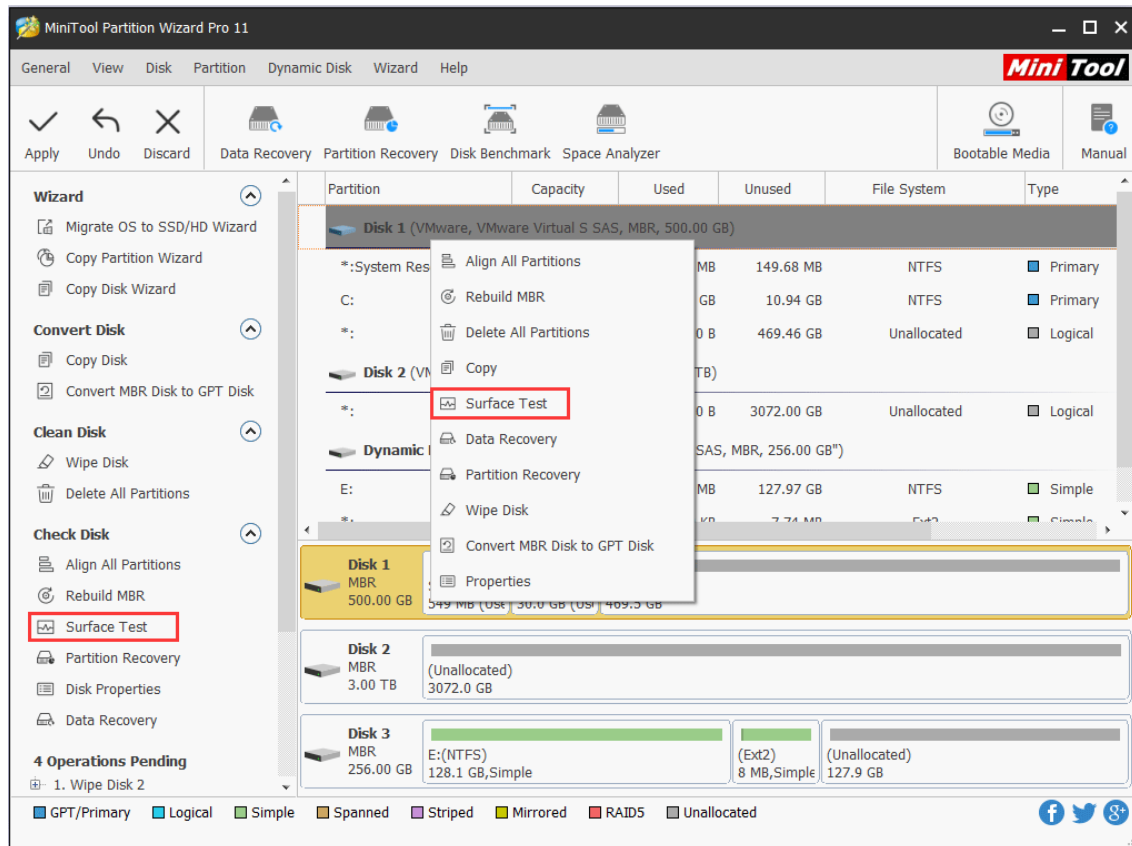
Sometimes, when performing some specific operations or open some files, the computer is significantly running slow or the disk is ticking. Such problems might occur when there are some [bad sectors](#) on the hard disk. Nevertheless, how to confirm whether there is bad sector?

MiniTool Partition Wizard can help users in this case since it provides **Disk Surface Test** function to scan each sector status by reading data from the sector. After scanning, disk block without reading error will be marked with green color, and disk block with reading error will be marked with red.

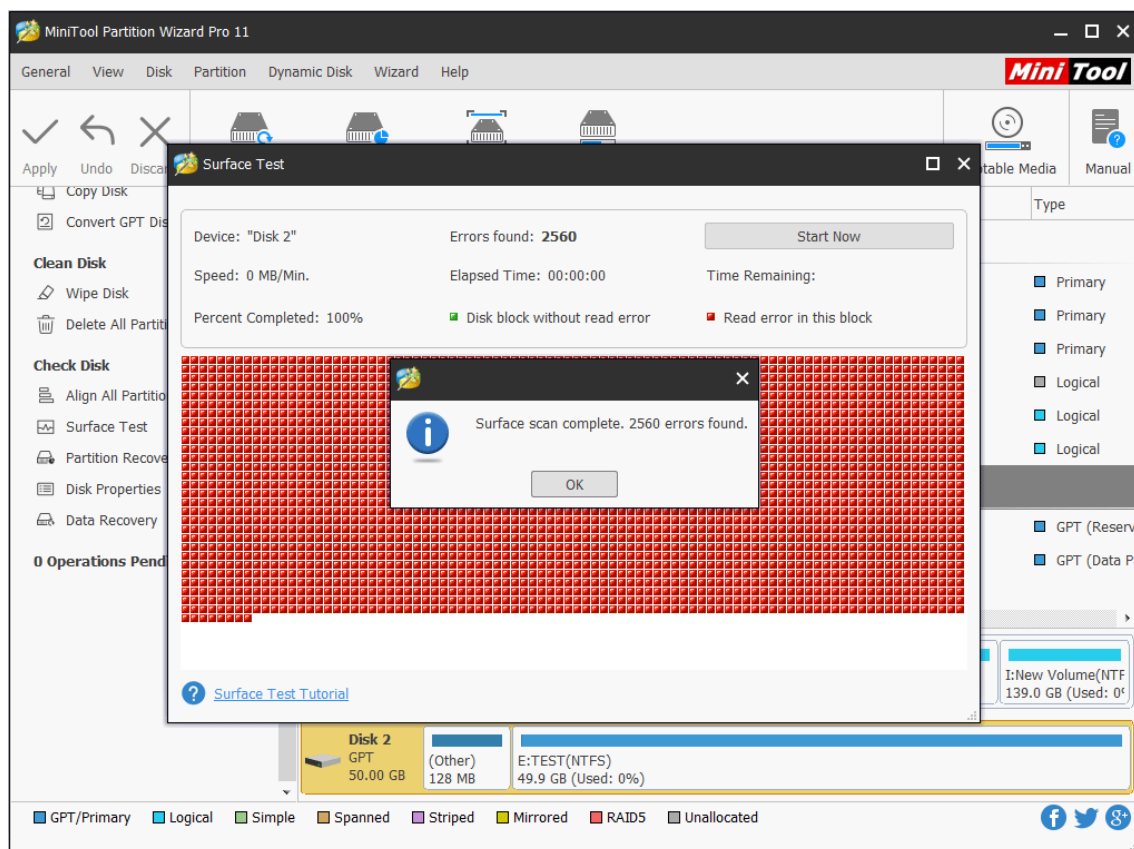
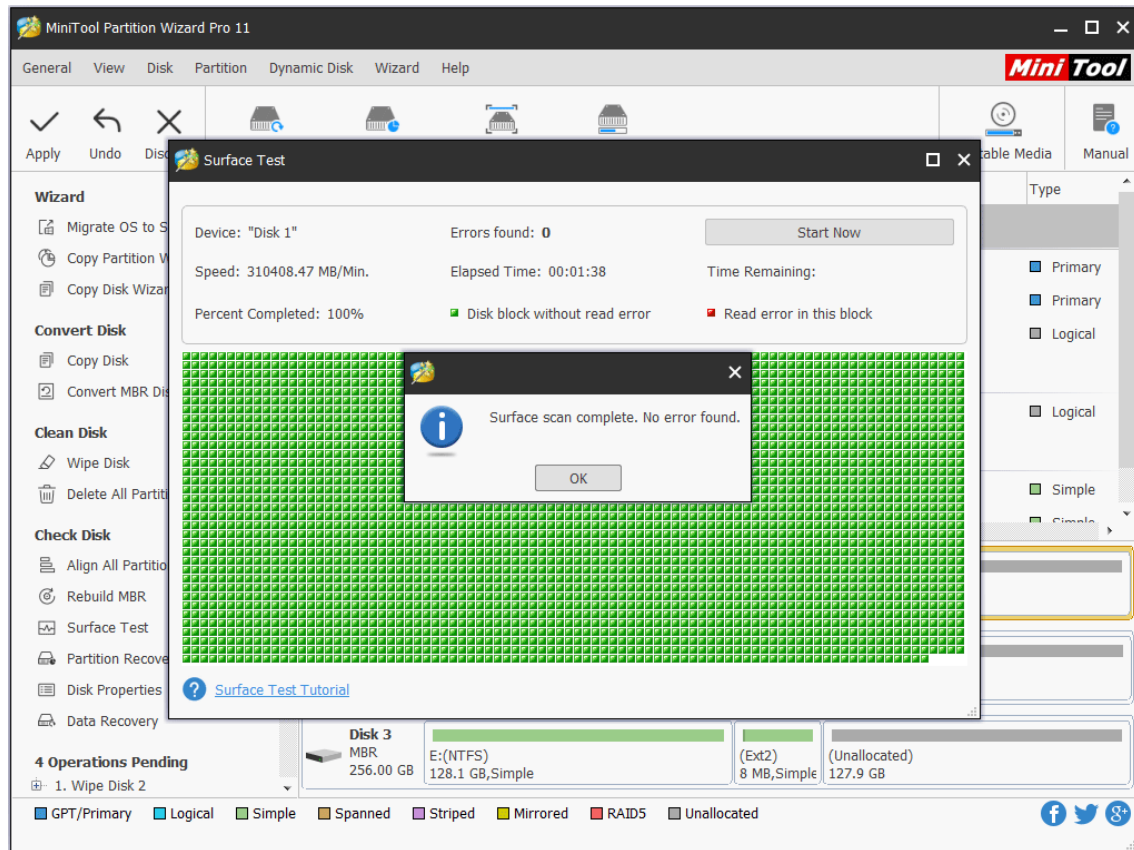
If there are some bad sectors, please first transfer all data on this disk out and then use specific software to shield bad tracks. After shielding, if there are still red disk blocks, users have to turn to professionals to repair the physical bad sectors.

44.2 How to Make Disk Surface Test

Step 1. Click the target disk to select **Surface Test** from the left action panel, or right-click the target disk at first, and then select Surface Test from the drop-down menu.



Step 2. Click **Start Now** button in the new window to start disk surface test. Then, this software will automatically test the disk surface and show the result.



45. Disk Properties

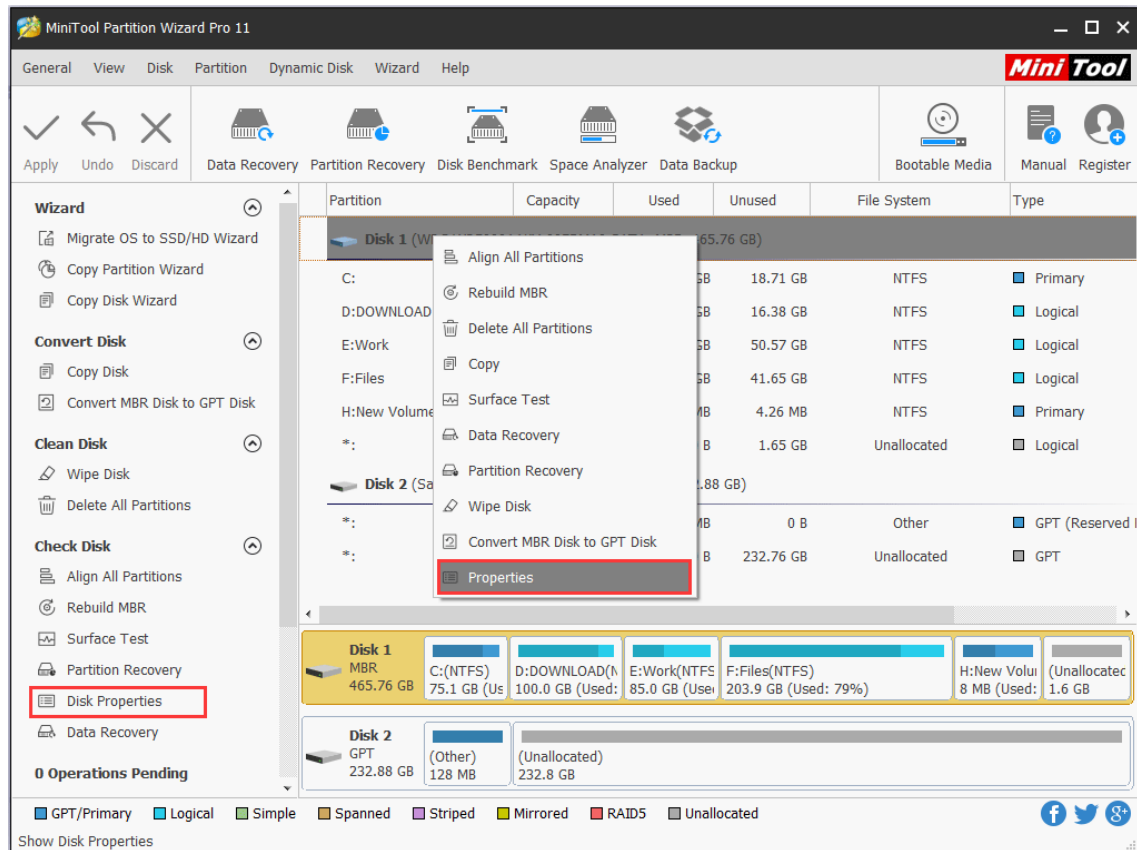
45.1 About Disk Properties

Disk Properties reveals the physical information of the chosen disk. And MiniTool Partition Wizard shows these items in Disk Properties:

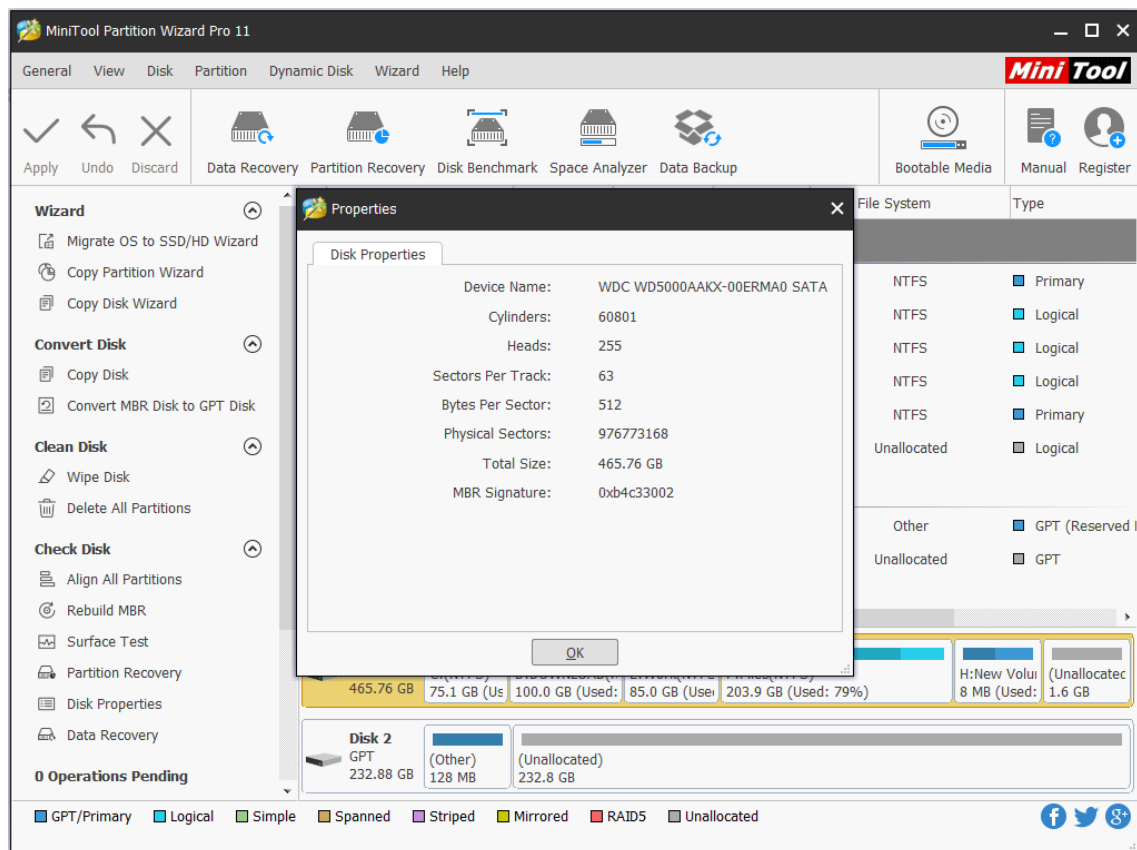
- Device Name
- Cylinder
- Heads
- Sectors Per Track
- Bytes Per Sector
- Physical Sectors
- Total Size
- MBR Signature (for MBR disk)/GPT GUID (for GPT disk)

45.2 How to View Disk Properties

Step 1. Select a disk, then click **Disk Properties** from the action panel or directly right-click the disk and choose **Properties** from the context menu.



Step 2. Then users are able to view the detailed properties of the selected disk.



46. Create Volume

46.1 About Create Volume

With the help of **Create Volume** feature offered by MiniTool Partition Wizard, users can create dynamic disk volumes including Simple Volume, Spanned Volume, Striped Volume (Raid 0), Mirrored Volume (Raid 1) and Raid-5 Volume. Different volumes need different preconditions.

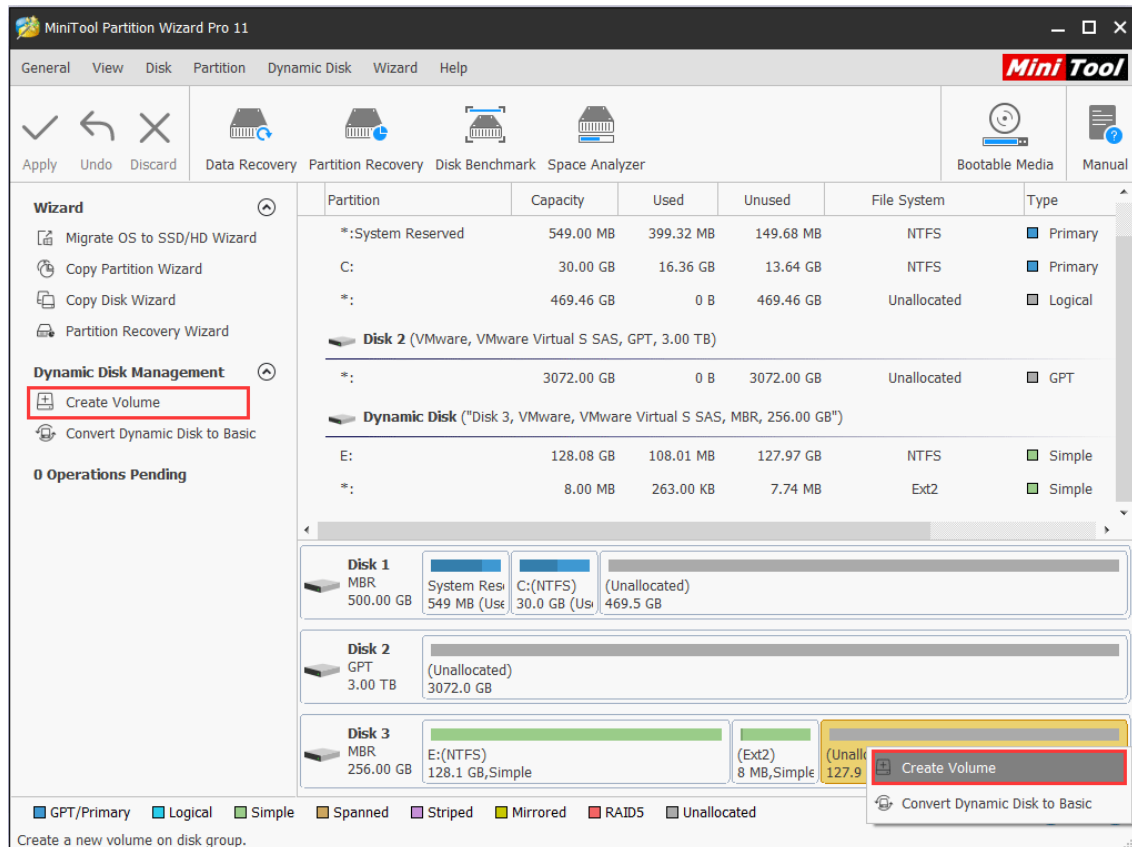
- **Simple Volume:** A [simple volume](#) is a dynamic volume that is made up of disk space from a single dynamic disk.
- **Spanned Volume:** A [spanned volume](#) is a dynamic volume consisting of disk space on more than one physical disk. At least two dynamic disks are required in addition to the startup disk to create a spanned volume.
- **Striped Volume (Raid 0):** A [striped volume](#) is a dynamic volume that stores data in stripes on two or more physical disks. Striped volumes offer the best performance of all the volumes that are available in Windows, but they do not provide fault tolerance.
- **Mirrored Volume (Raid 1):** A [mirrored volume](#) provides an identical twin of the selected volume. All data written to the mirrored volume is written to both volumes, which results in disk capacity of only fifty percent.
- **Raid-5 Volume:** Three hard drives, which can be IDE, SCSI or mixed structure, are entailed. All disks relevant to RAID-5 volume must be dynamic disks and operating system boot files and system files must be stored on another volume.

Note: MiniTool Partition Wizard Free Edition does not support this function. To use this function, users need to buy a professional edition or more advanced edition. View 0 to know more.

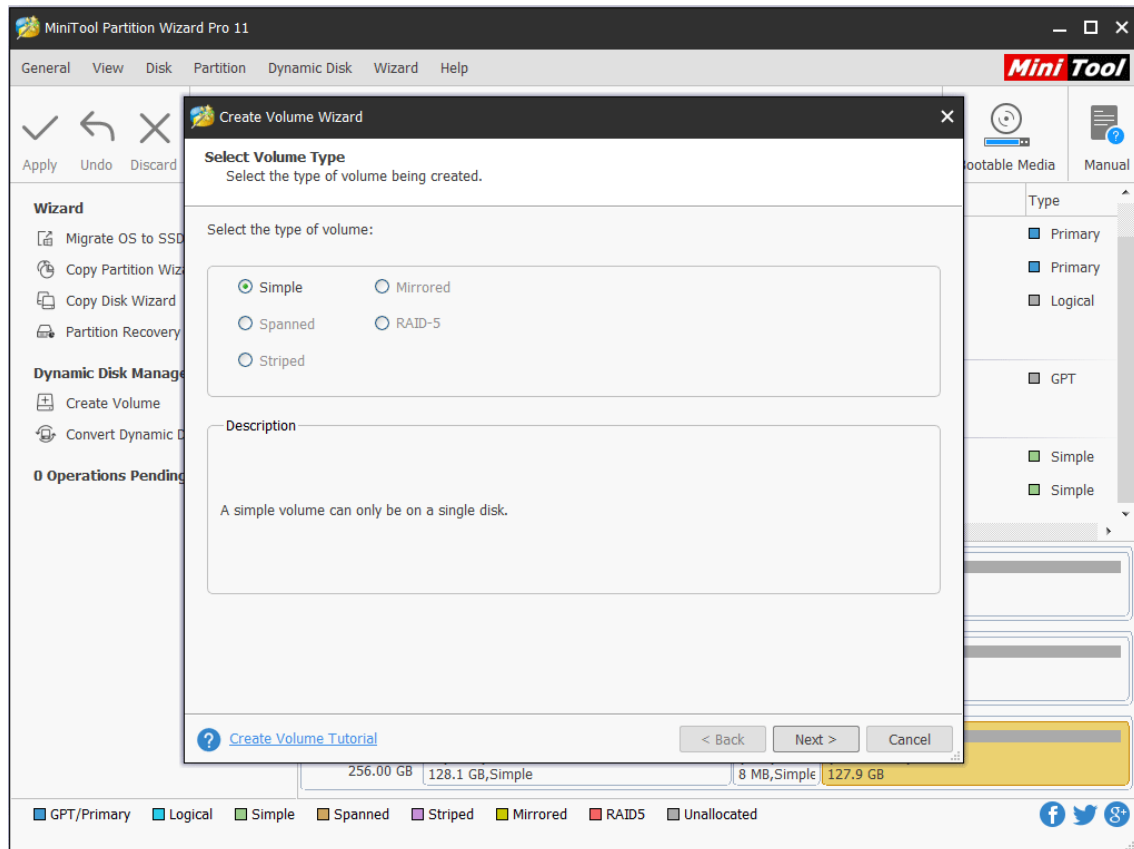
46.2 How to Create Volume

To create dynamic volume, view the MiniTool Partition Wizard tutorial below:

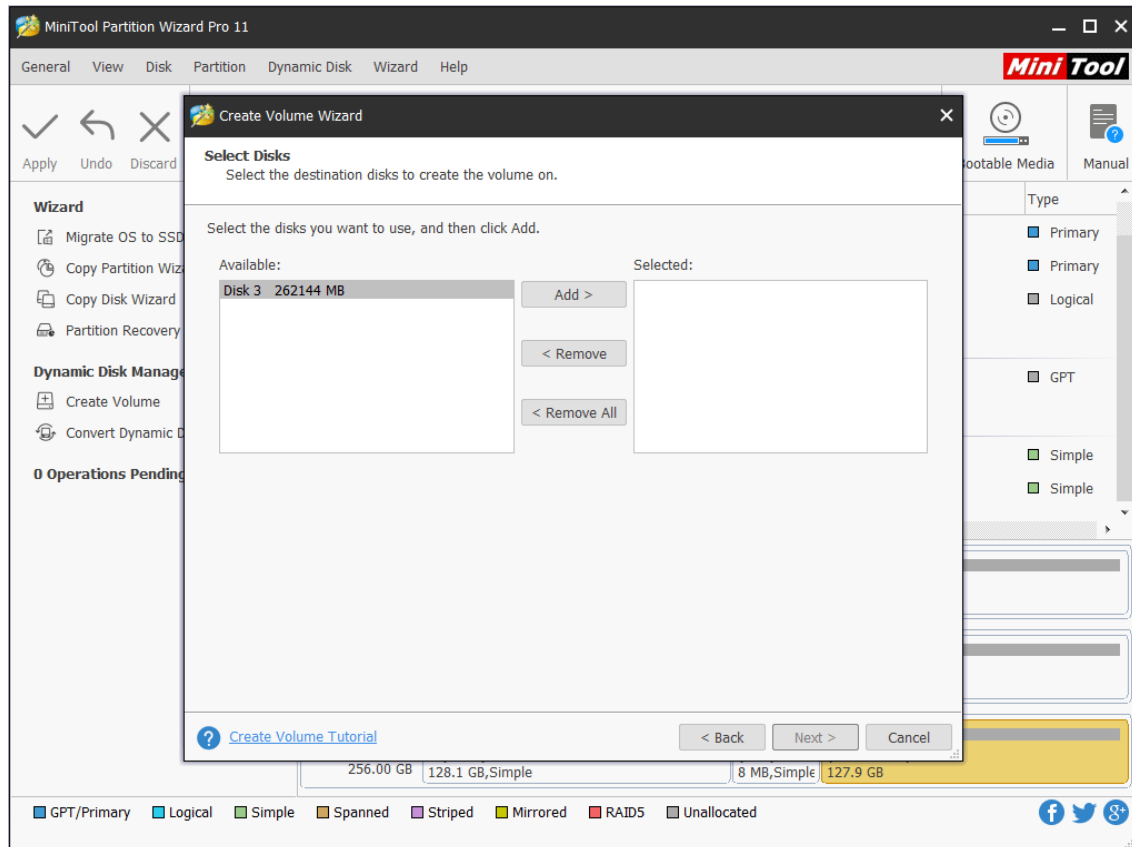
Step 1. Select the segment of free space in dynamic disk and click **Create Volume** from the left action panel or select **Create Volume** from right-click menu.



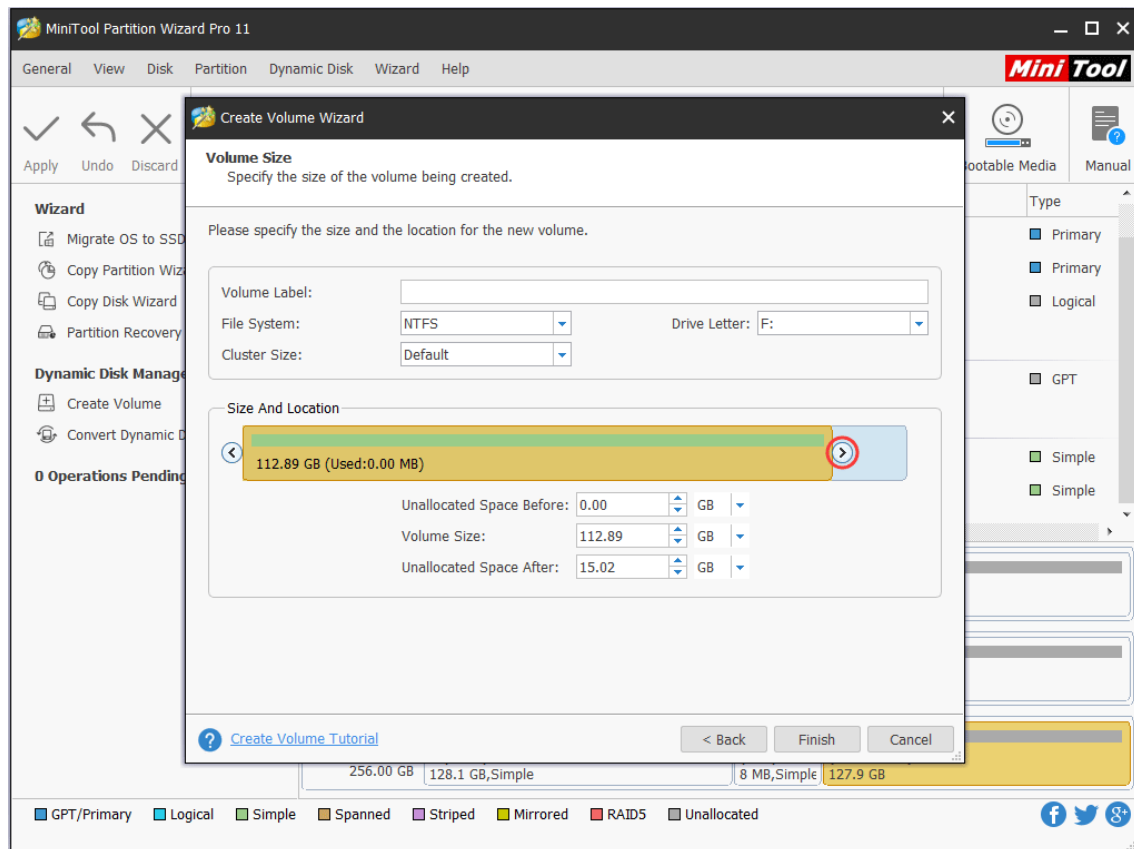
Step 2. Choose the type of volume to be created in the popup window. The powerful partition manager can list out all supported types according to the practical situation (those that do not meet the requirement will turn grey). Select the available one and click **Next** button to enter the following interface.



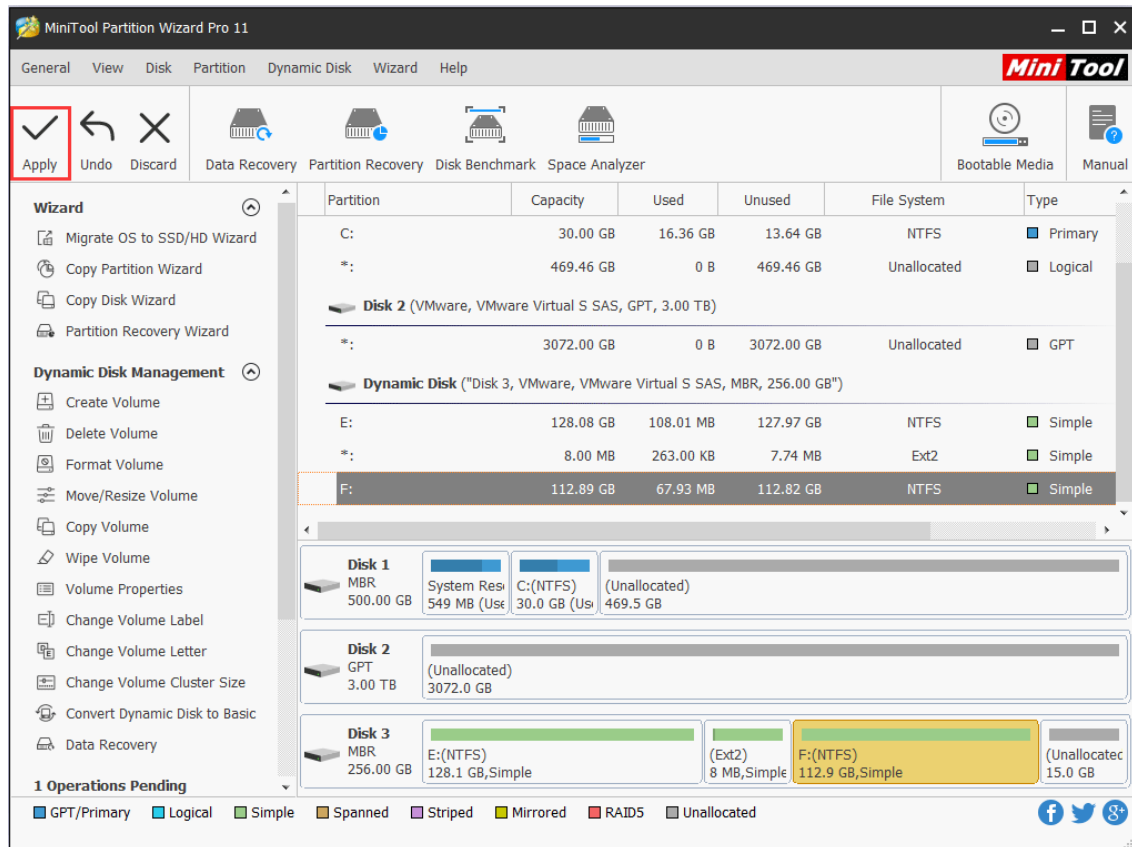
Step 3. Select the destination disk where volume is to be created by only choosing the corresponding disk and then clicking **Add** option to add this disk to the right box. After that, click **Next** button to continue:



Step 4. Set relevant parameters including Volume Label, File System, Driver Letter, [Cluster Size](#) and Volume Size/Volume Location for the newly created volume and then click **Finish** button to return to the main interface of the software.



Step 5. Then a new volume appears in the chosen dynamic disk. To validate this operation, please click **Apply** button in the upper left corner.



47. Delete Volume

47.1 About Delete Volume

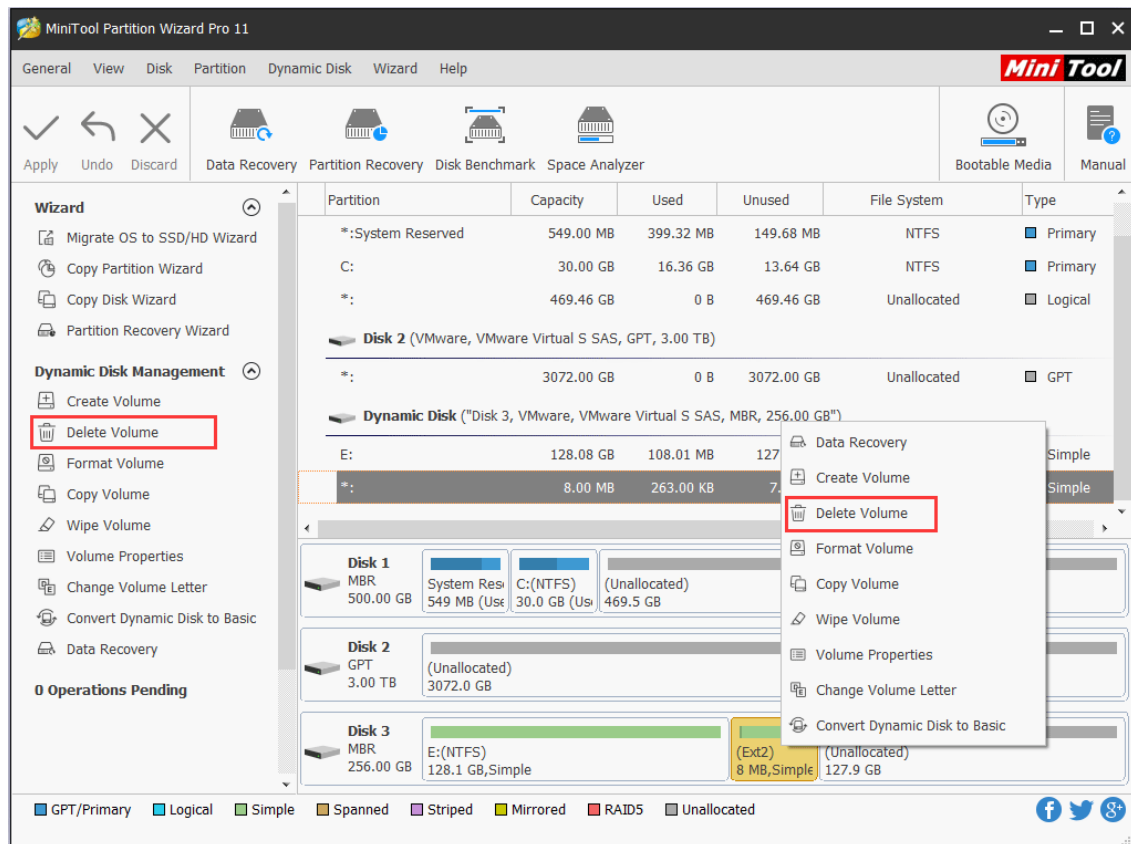
If a dynamic volume is no longer in need, users can make use of **Delete Volume** feature to acquire more unallocated space by removing the volume. Users can follow the MiniTool Partition Wizard tutorial below to remove the target volume.

Warning: All data in the selected volume (including all volumes slices) will be deleted when deleting a volume. Thus, be sure it is necessary to perform volume deletion.

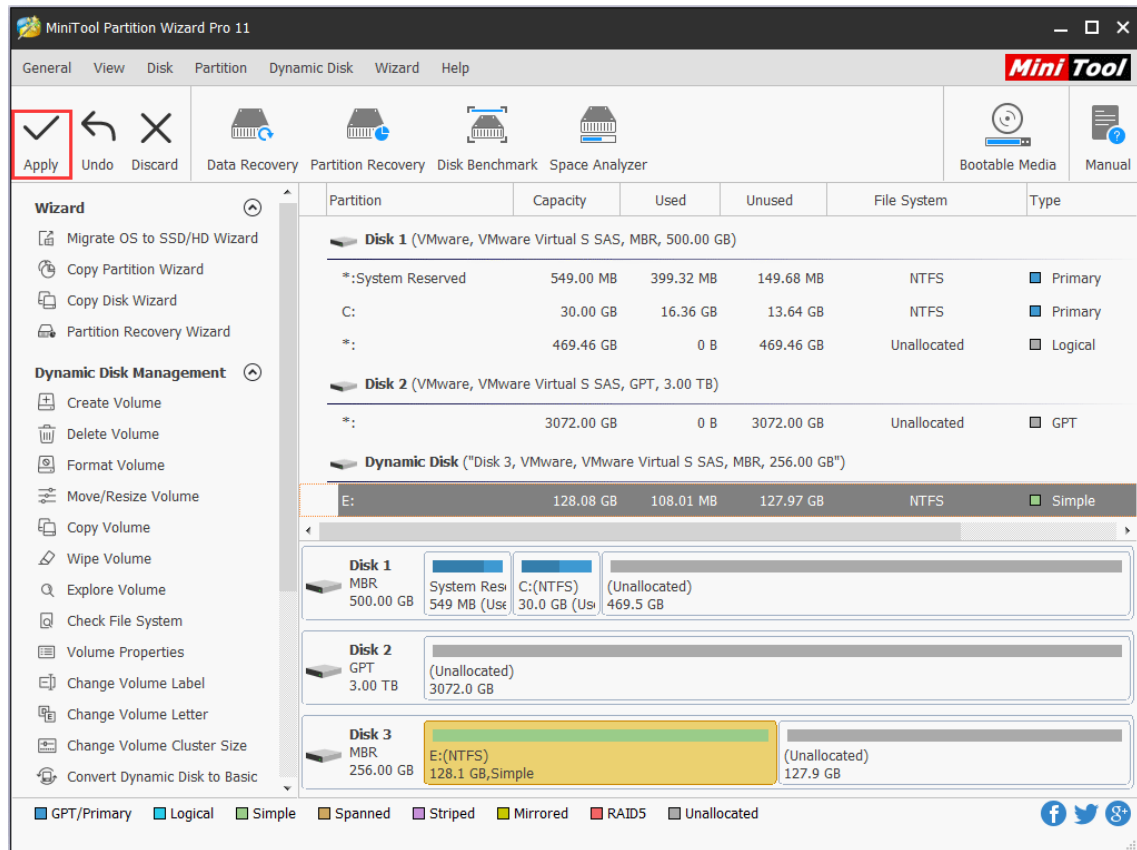
Note: MiniTool Partition Wizard Free Edition does not support this function. To use this function, users need to buy a professional edition or more advanced edition. View [Edition Comparison](#) to know more.

47.2 How to Delete Volume

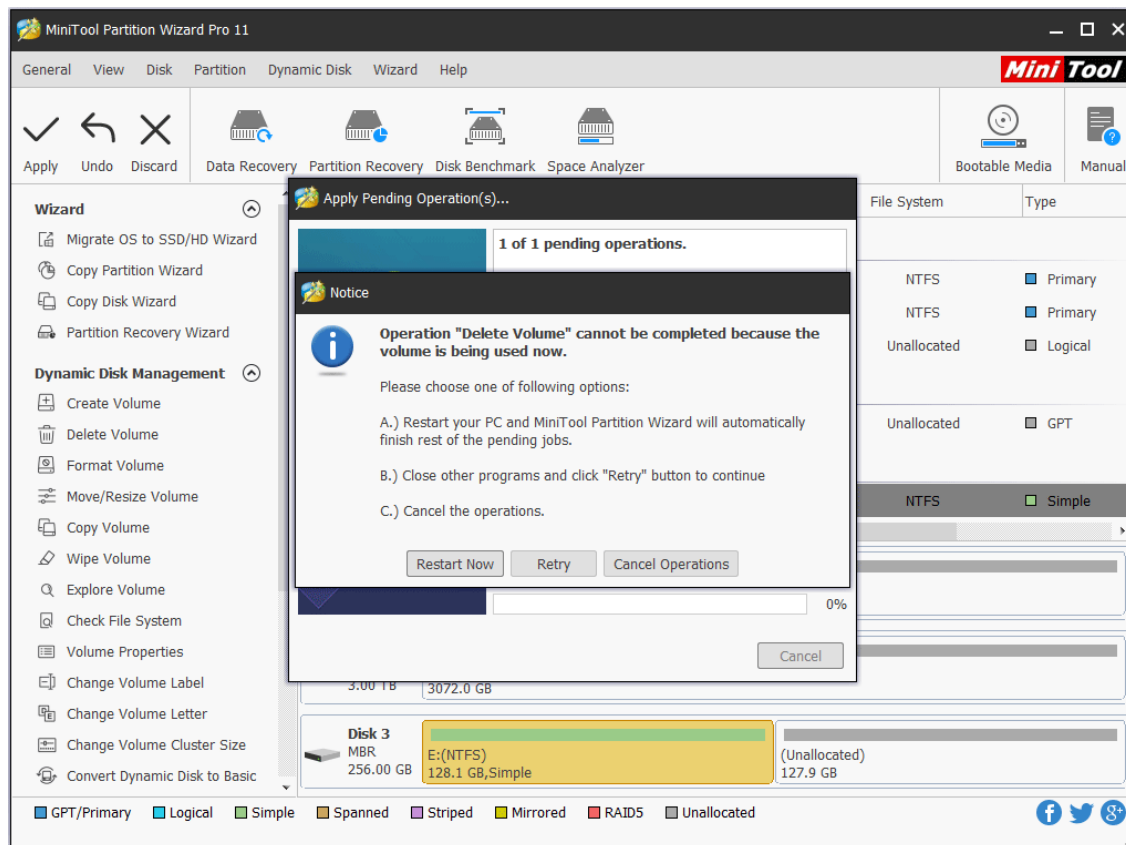
Step 1. Launch this software to enter the following main interface. Then select the volume which needs to be deleted and choose **Delete Volume** from the left action panel or right-click menu.



Step 2. Back to the main interface of the software, users can find that the selected volume has been removed from the dynamic disk. However, this is just a preview effect, users still need to click **Apply** button to finish the whole operation.



Please note that when managing dynamic disk and volume, MiniTool Partition Wizard always requires a reboot for data safety considerations. Please do as prompted.



48. Format Volume

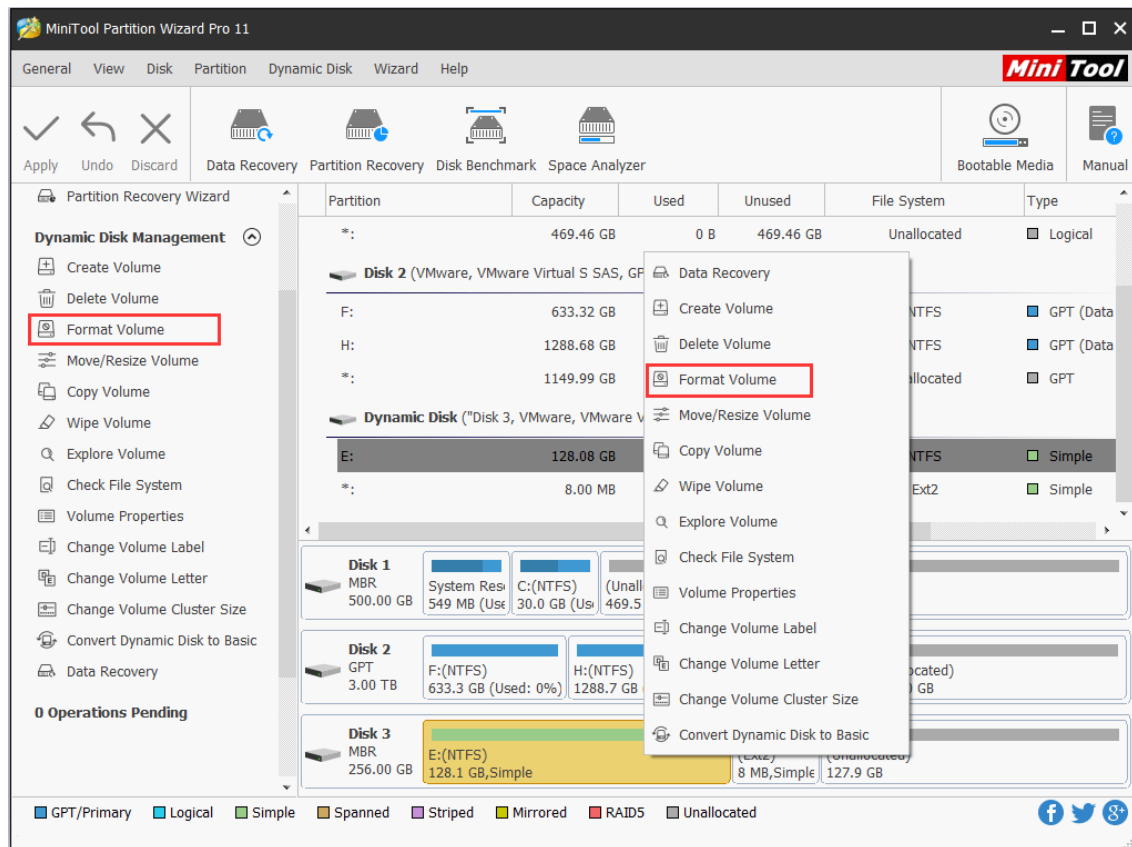
48.1 About Format Volume

Format Volume feature helps format volumes with excessively redundant data or which are infected with rampant computer viruses. It can reset parameters including partition table, file system and [cluster](#) size for chosen volume. The following is the MiniTool Partition Wizard tutorial to format volume.

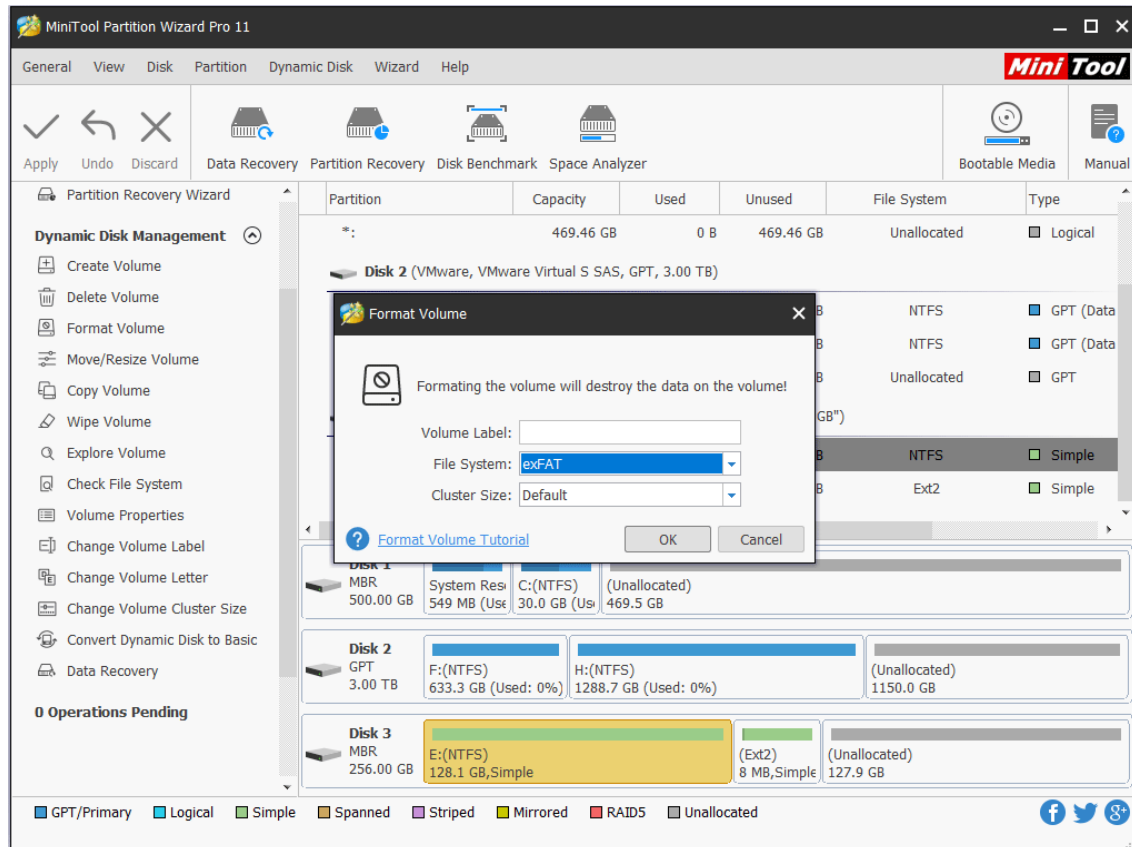
Note: MiniTool Partition Wizard Free Edition does not support this function. To use this function, users need to buy a professional edition or more advanced edition. View [Edition Comparison](#) to know more.

48.2 How to Format Volume

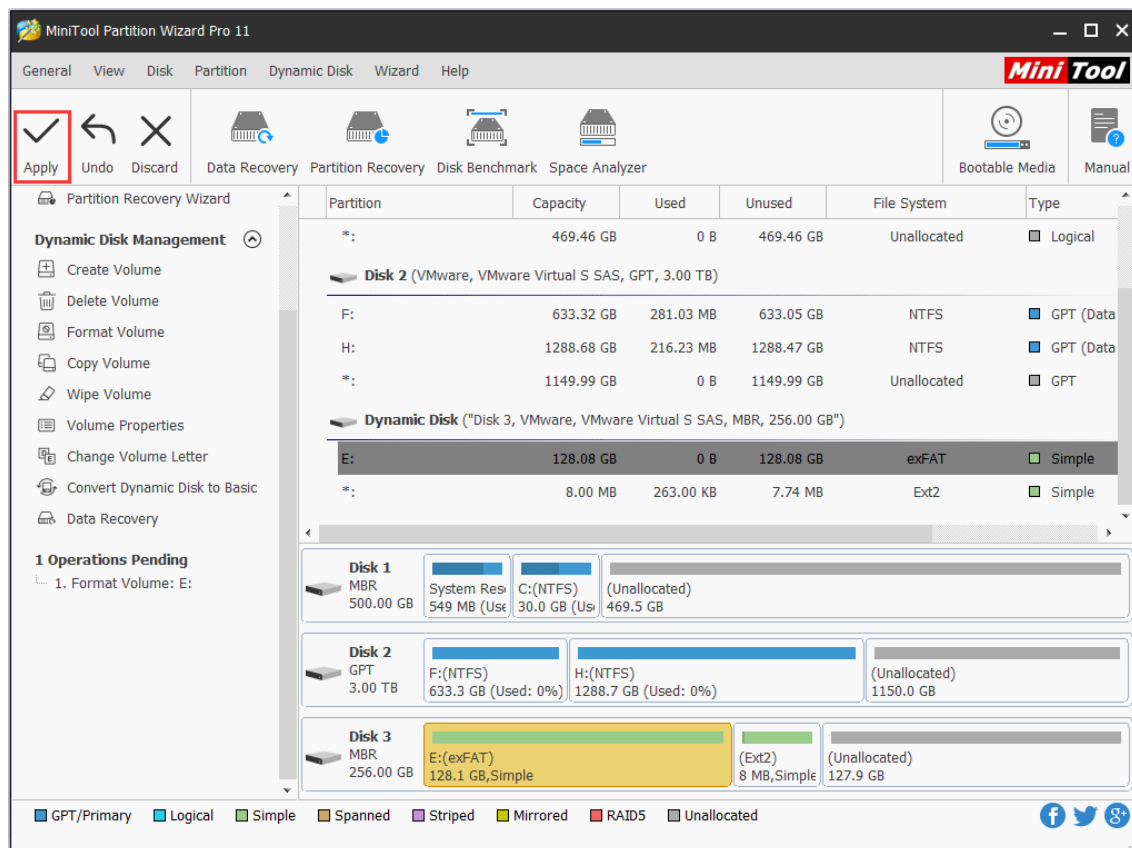
Step 1. After running MiniTool Partition Wizard, users will get the following main interface. Then choose the volume which needs to be formatted and click **Format Volume** feature from the left action panel or the right-click menu.



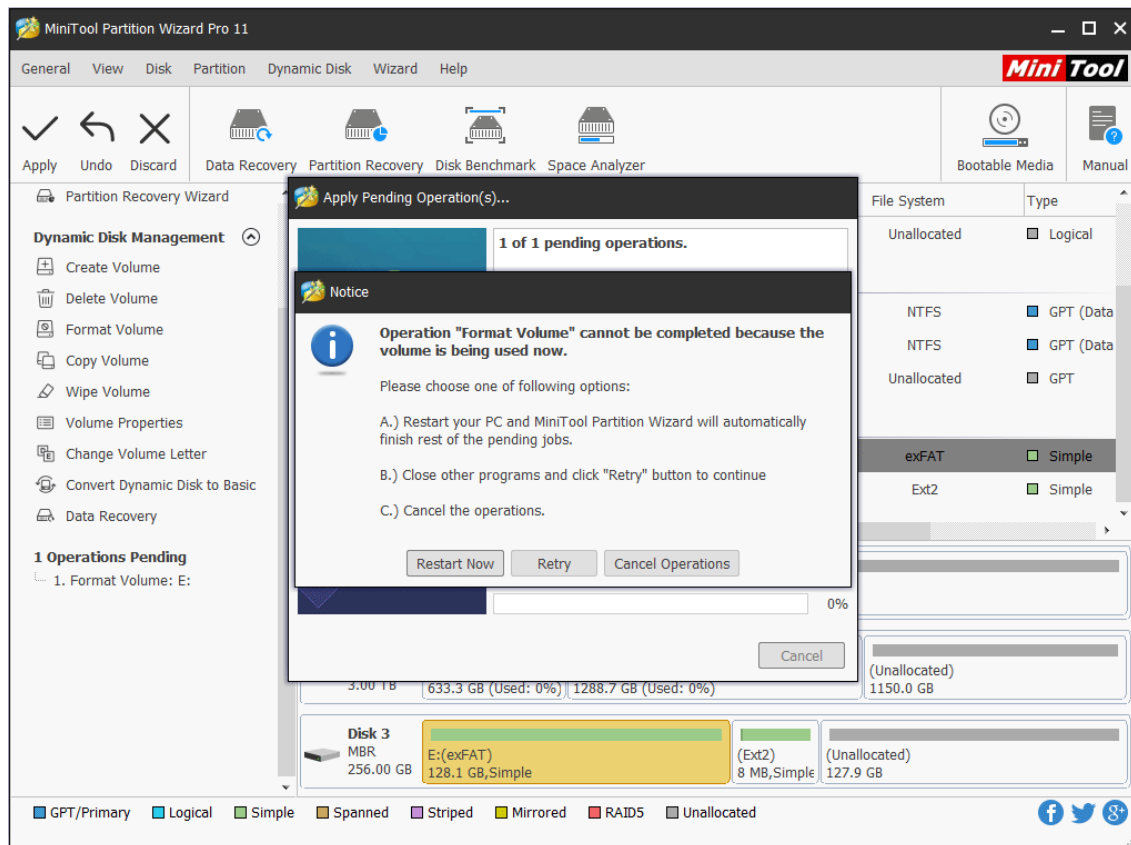
Step 2. Now set Volume Label, File System, and Cluster Size for the target volume, and then click **OK** to go back to the main interface.



Step 3. Please click **Apply** button to execute the change.



If MiniTool Partition Wizard asks for a restart, please do as prompted.



49. Wipe Volume

49.1 About Wipe Volume

If the data in a dynamic volume are not useful anymore, users can wipe it to get free space for new data. **Wipe Volume** function of MiniTool Partition Wizard helps to clear away data completely, so malicious recovery of privacy can be prevented.

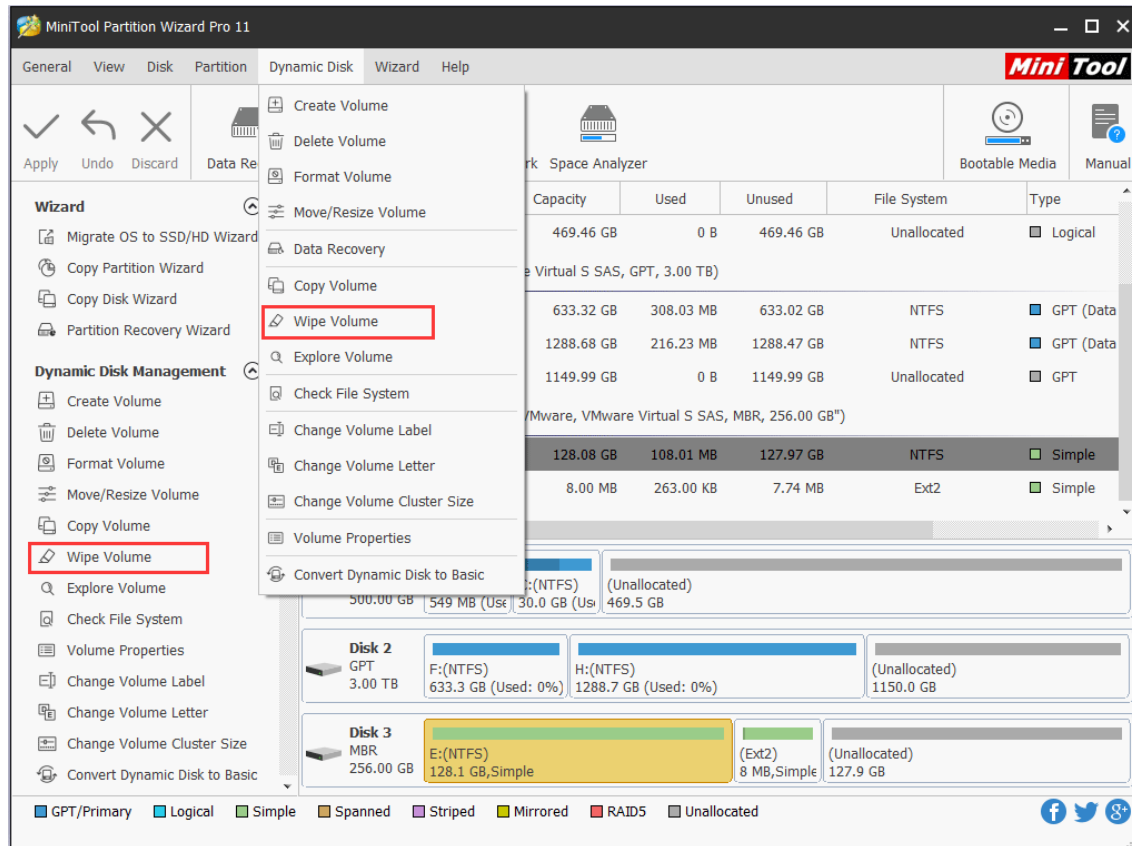
Note: MiniTool Partition Wizard Free Edition does not support this function. To use this function, users need to buy a professional edition or more advanced edition. View [Edition Comparison](#) to know more.

49.2 How to Wipe Volume

If you don't know how to wipe volume easily in MiniTool Partition Wizard, please keep on reading the following MiniTool Partition Wizard tutorial.

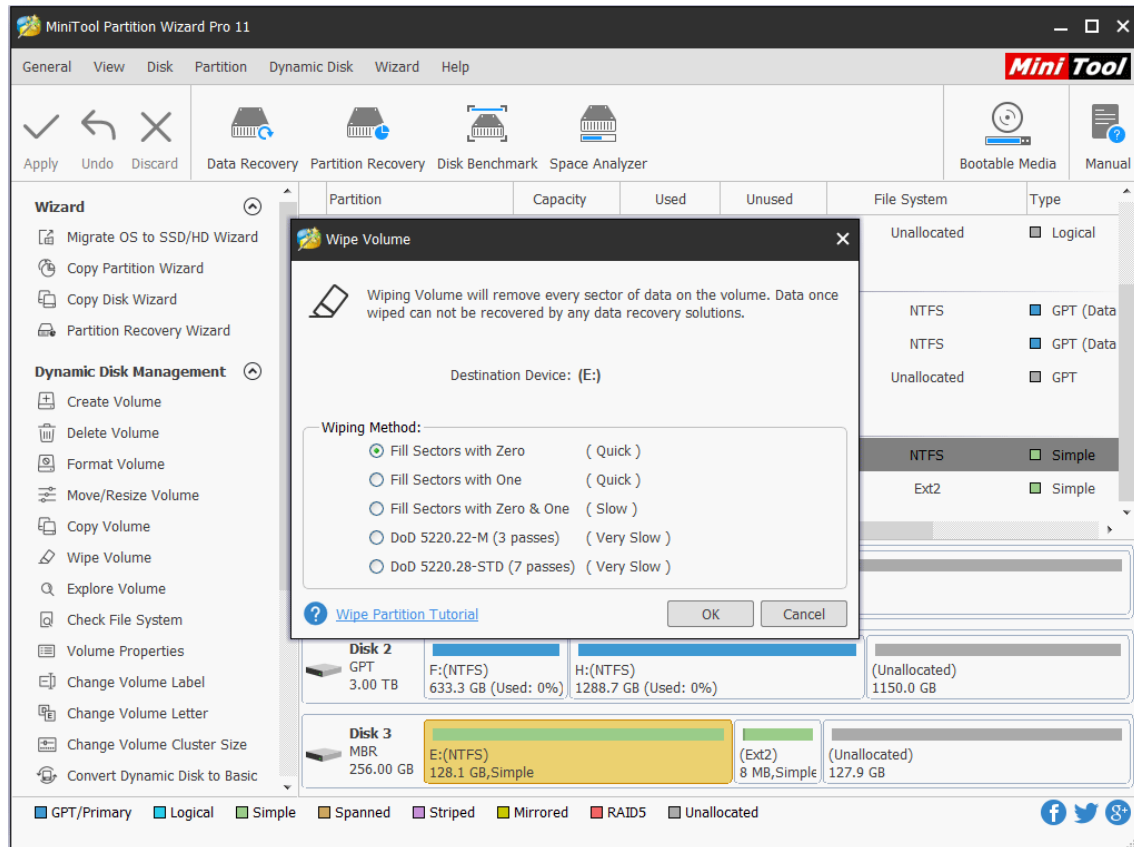
Step 1. Select the volume that needs to be wiped on the disk map area of the software

interface. And then, choose **Wipe Volume** function from left panel OR choose it from the drop-down list of **Dynamic Disk** menu.

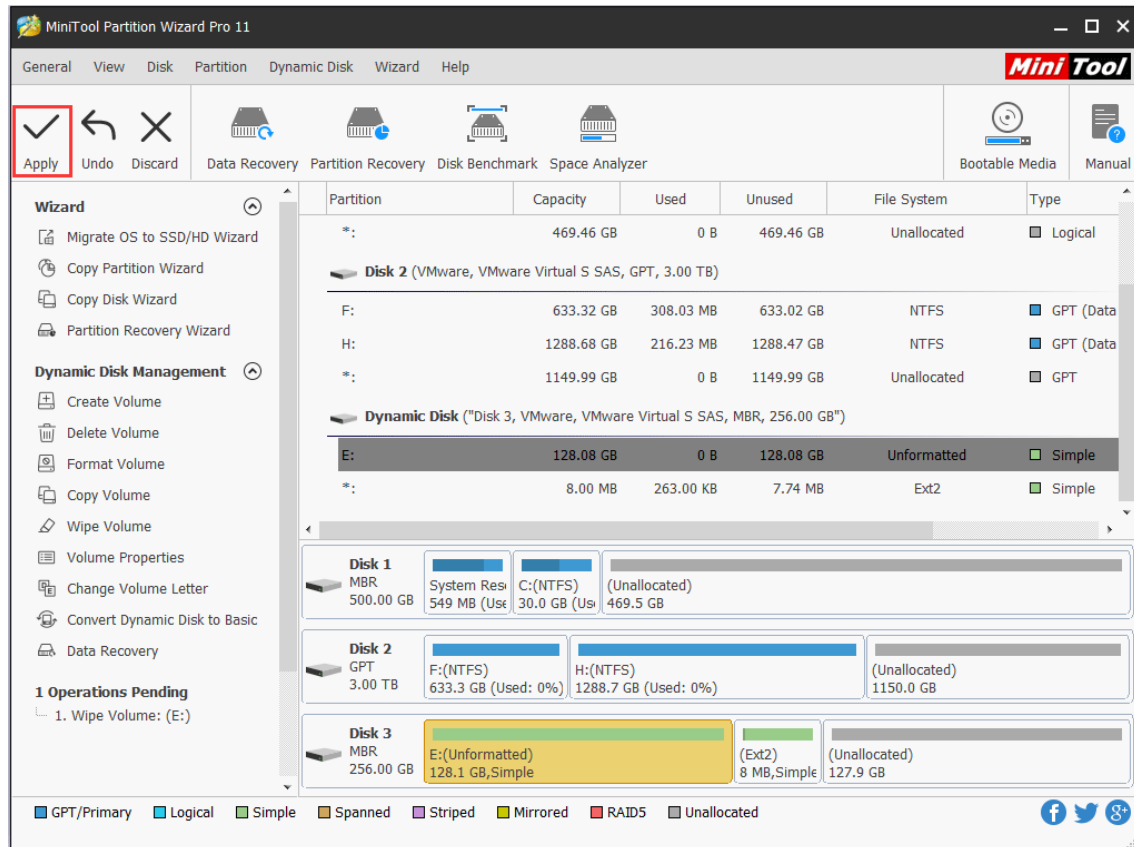


Step 2. Choose a wiping method according to actual needs (the slowest one brings the best wiping effect). Then, click **OK** to end this step.

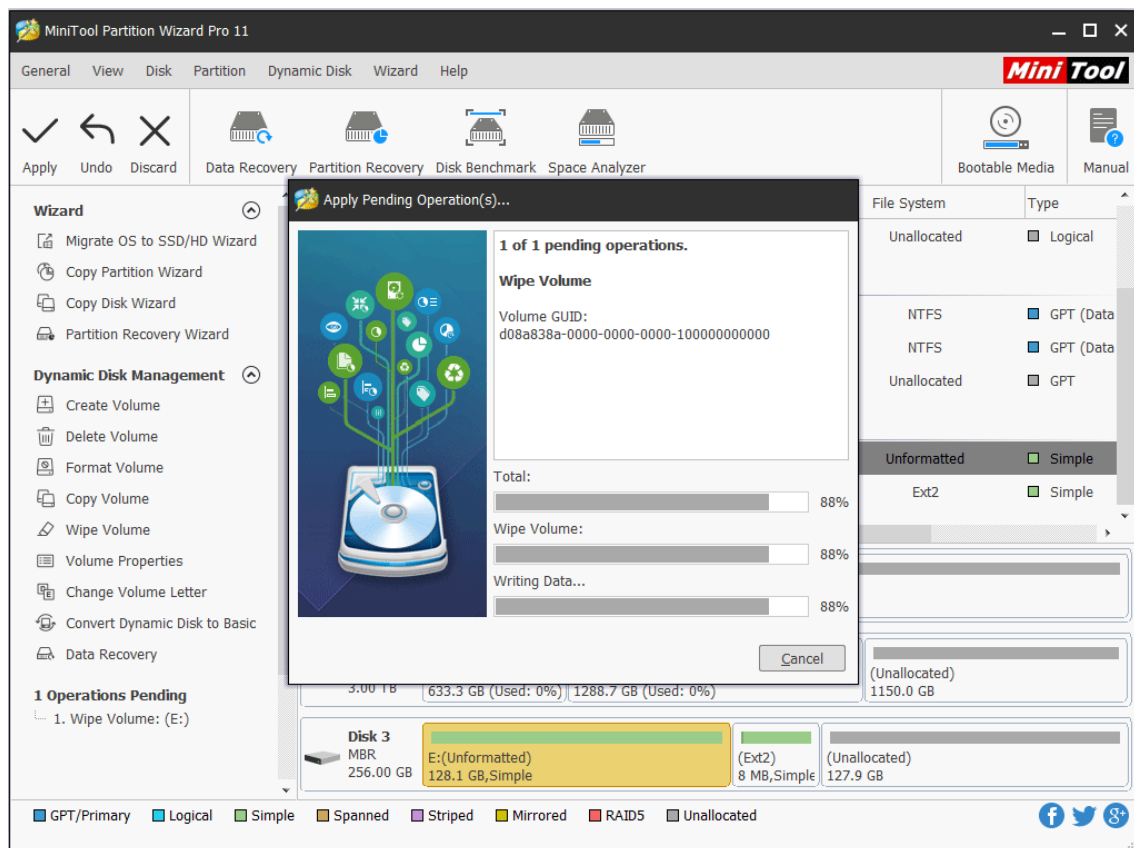
- Fill Sectors with Zero - Quick
- Fill Sectors with One - Quick
- Fill Sectors with Zero & One (Fill sectors with 0 then fill sectors with 1) - Slow
- DoD 5220.22-M (Fill sectors with DoD calculation for 3 times) - Very Slow
- DoD 5220.28-STD (Fill sectors with DoD calculation for 7 times) - Very Slow



Step 3. Click **Apply** in the toolbar to execute changes. Note that MiniTool Partition Wizard needs a restart to finish the operation for data security consideration.



Step 4. Please wait patiently until MiniTool Partition Wizard finishes.



50. Move/Resize Volume

50.1 About Move/Resize Volume

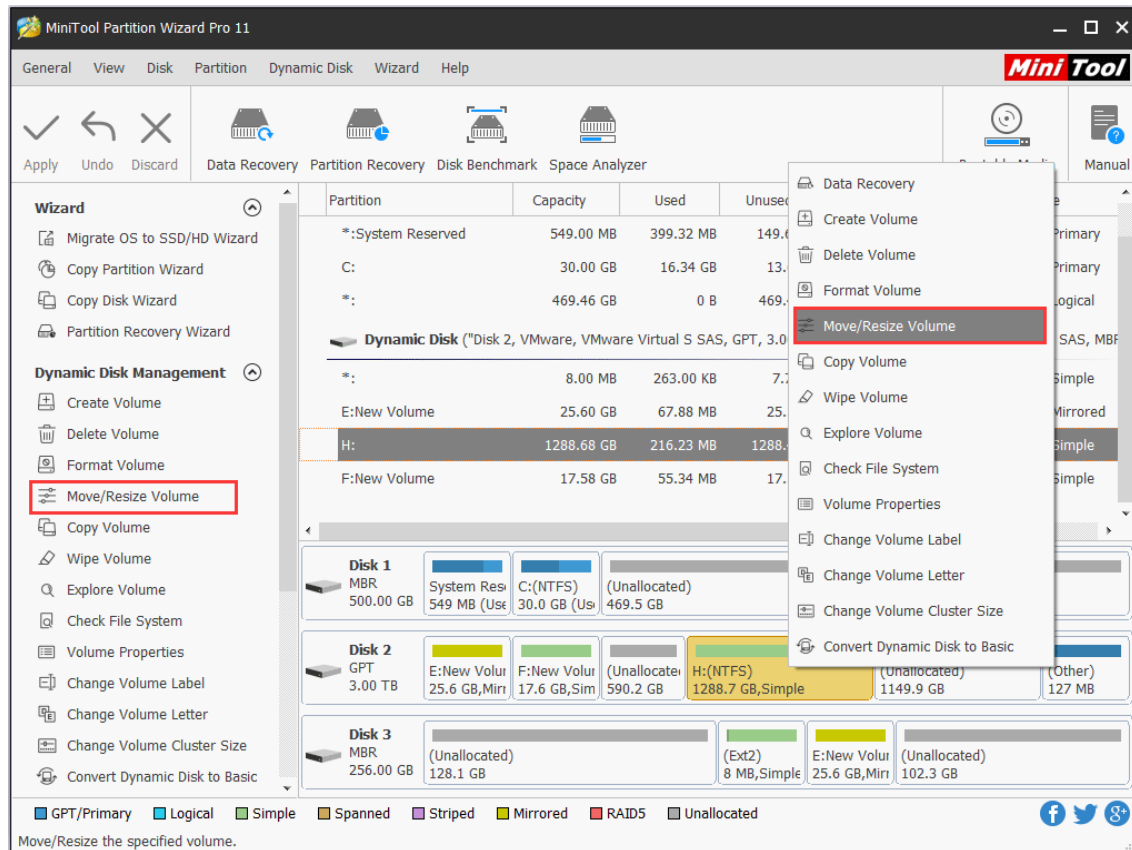
Move/Resize Volume feature in MiniTool Partition Wizard is much useful for you to change volume size on dynamic disk. With this function you can complete the following 3 operations:

- Shrink dynamic volumes including simple volume, [mirrored volume](#), striped volume, spanned volume and RAID 5 volume to release unallocated space so as to create new volumes or extend another volume.
- Extend a mirrored volume, spanned volume, striped volume, or RAID 5 volume to unallocated space to enlarge volume size (note that Disk Management can only extend simple volume and spanned volume.)
- Move unallocated space to make it adjacent to the volume to be extended.

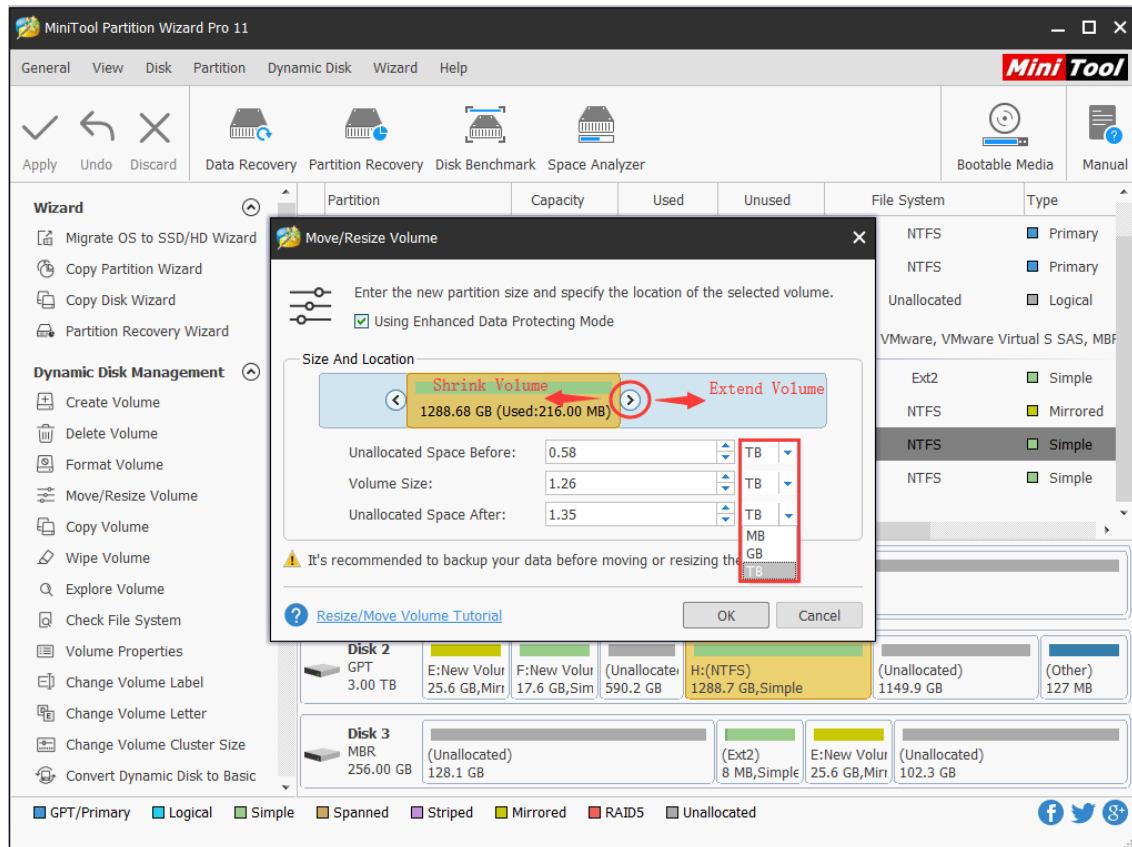
Note: MiniTool Partition Wizard Free Edition does not support this function. To use this function, users need to buy a professional edition or more advanced edition. View [Edition Comparison](#) to know more.

50.2 How to Move/Resize Dynamic Volume

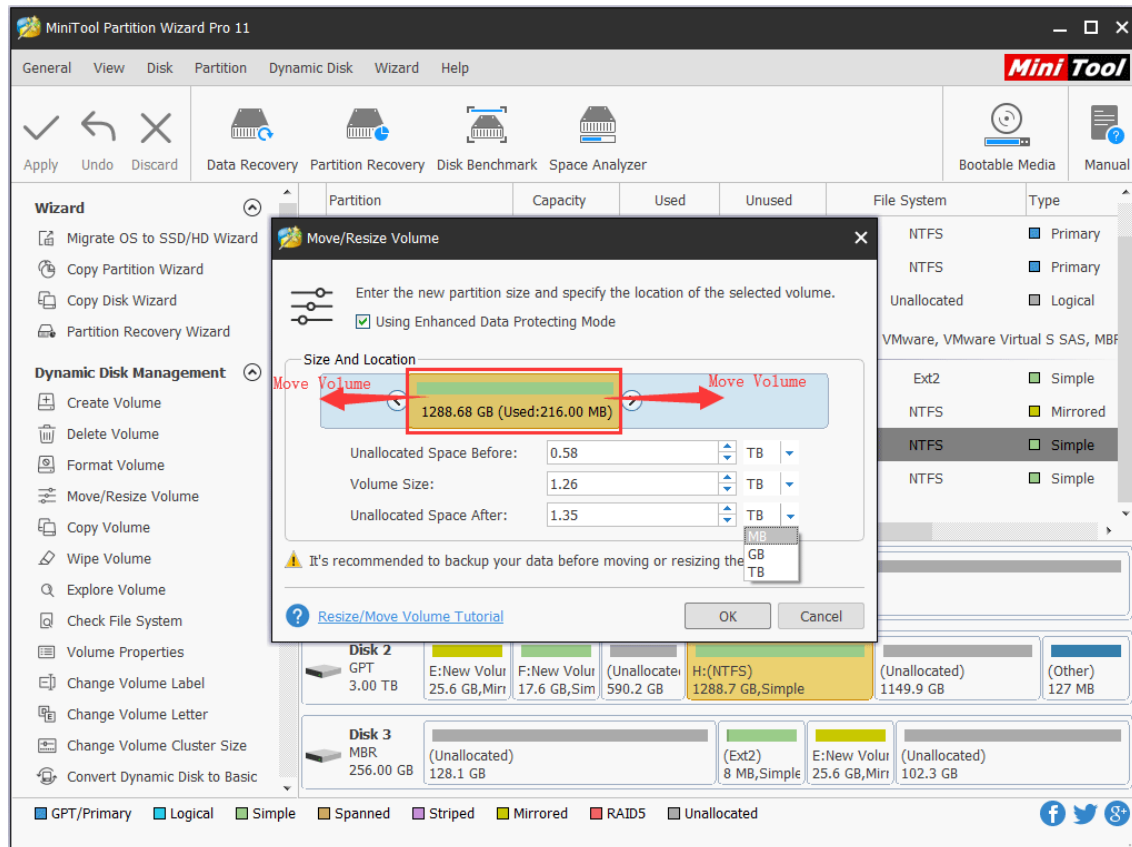
Step 1. Run MiniTool Partition Wizard to get the main interface. Then, select the volume that needs to change location/volume size and choose **Move/Resize Volume** from the left action panel or from right-click menu.



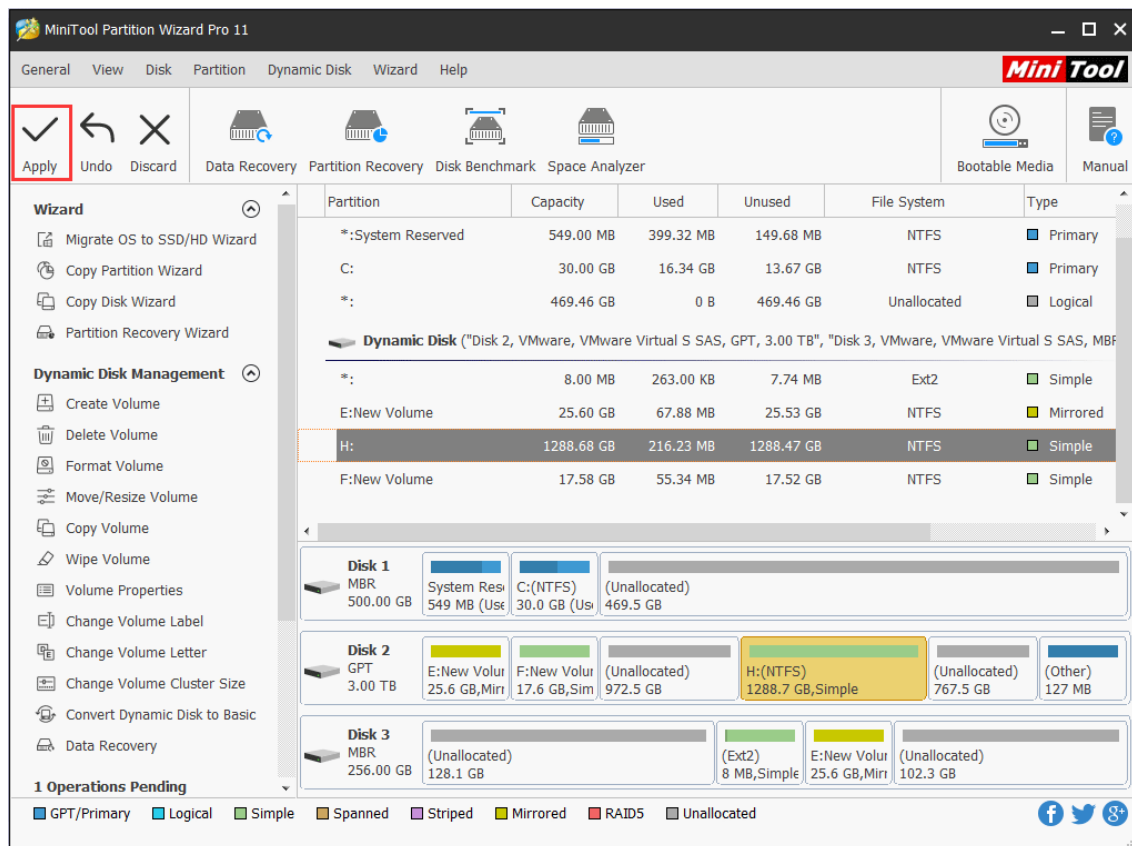
Step 2. To shrink a volume, just drag the border of the rectangle bar leftwards. To enlarge a volume, drag the handle rightwards. Alternatively, users can type exact volume size in MB, GB, or TB to edit volume size.



To move volume location, please drag the whole handle or manually define unallocated space in MB, GB, or TB before or after the volume. After getting needed volume size and location, users need to click **OK** to continue.



Step 3. Click **Apply** button at the top to perform changes.



Tip: Most operations on dynamic disk will require a reboot, and users are expected to do as prompted. Then, MiniTool Partition Wizard will perform all changes in boot mode, which is much safer.

51. Copy Volume

51.1 About Copy Volume

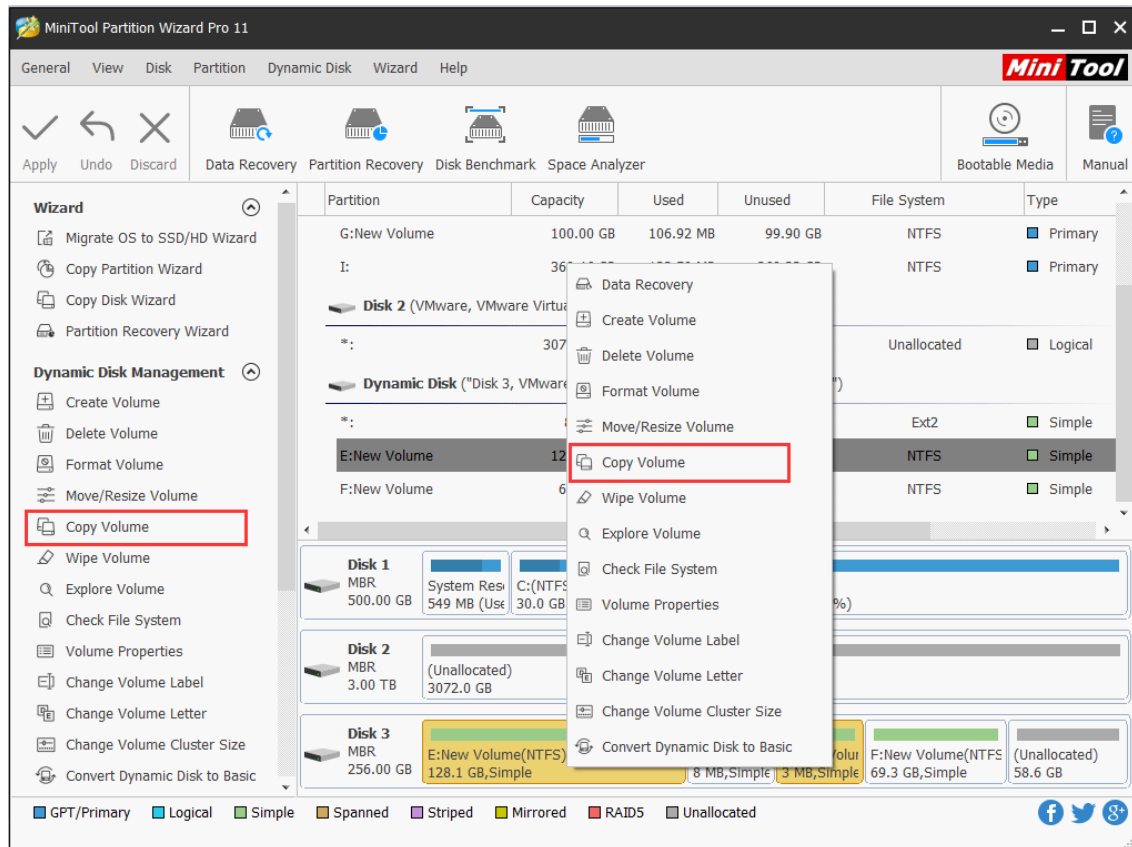
Data saved in dynamic volumes are not absolutely safe. For example, it may get lost due to mistaken deletion/formatting, virus attack, and hardware damage. Thus, it is very necessary to [make a backup](#) for important files.

Nevertheless, copying files one by one will cost much time especially when there are so many files to backup. Fortunately, **Copy Volume** feature in MiniTool Partition Wizard can [clone](#) the entire dynamic volume effectively, saving a lot of time. And the copy can be used directly as the source.

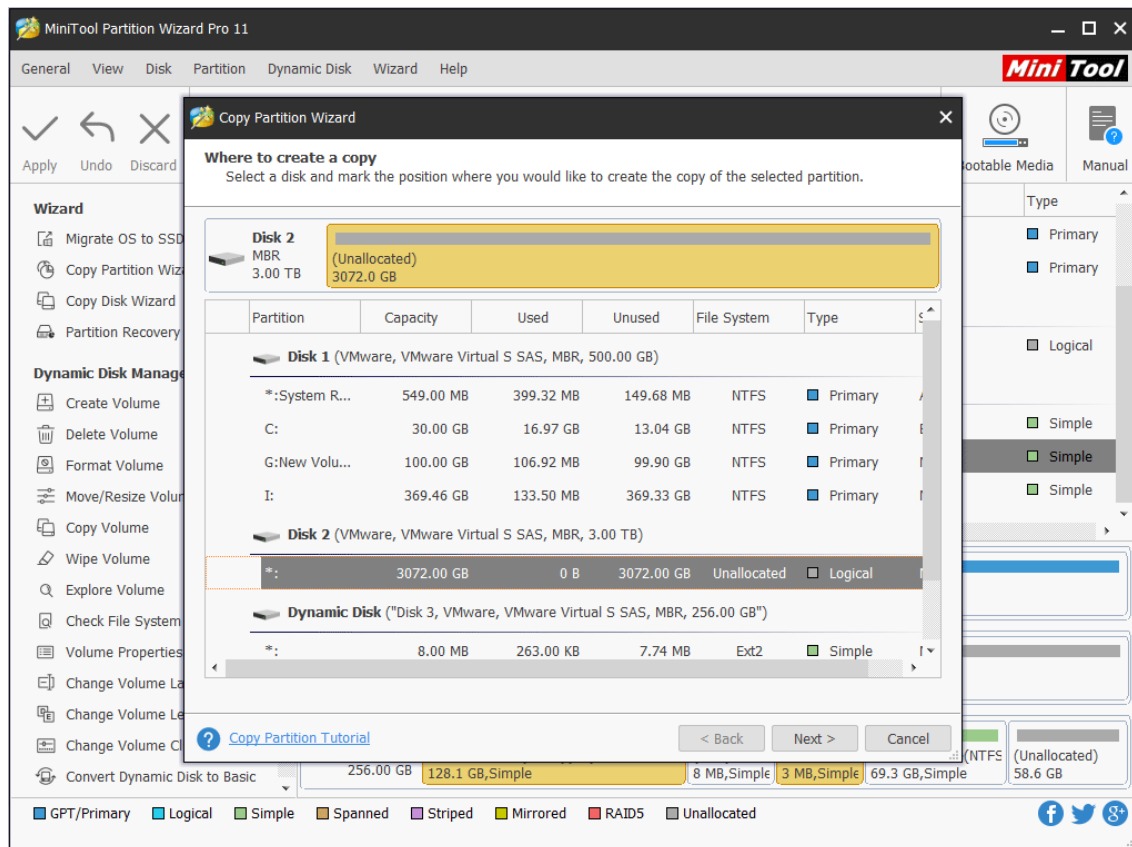
Note: MiniTool Partition Wizard Free Edition does not support this function. To use this function, users need to buy a professional edition or more advanced edition. View [Edition Comparison](#) to know more.

51.2 How to Copy Volume

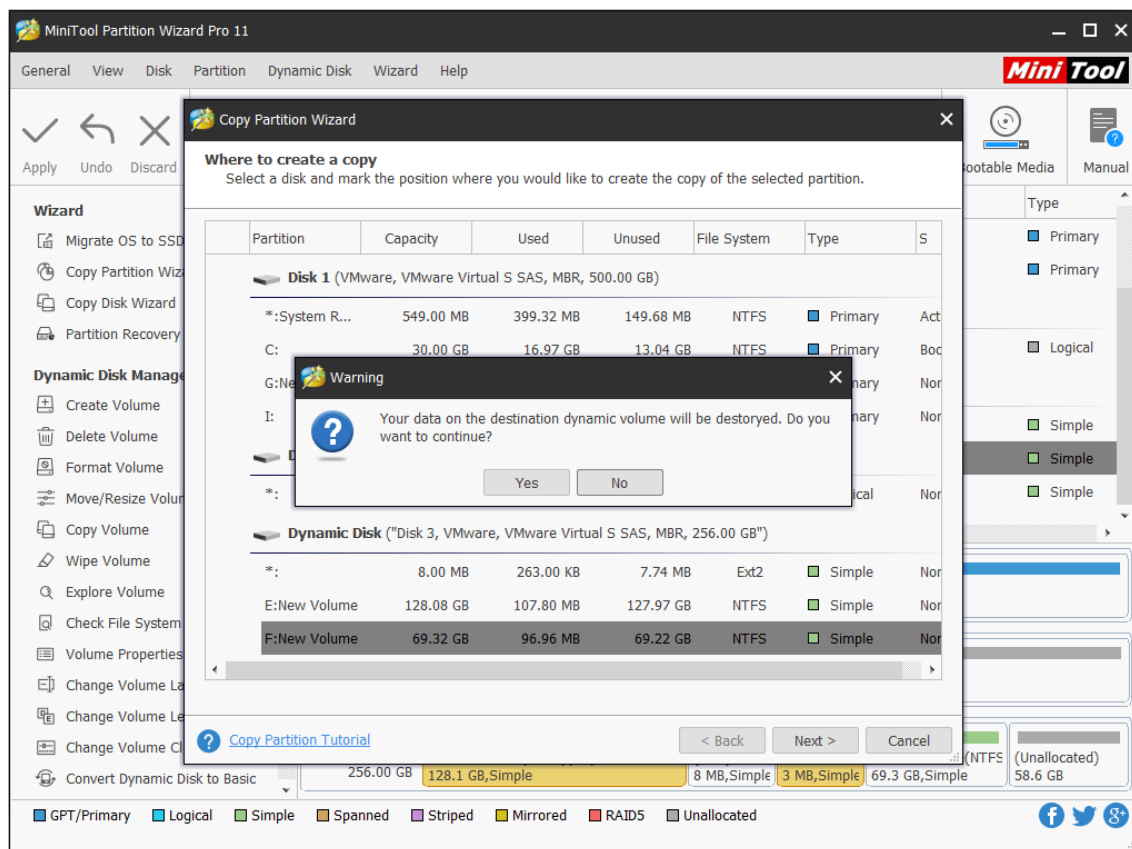
Step 1. Launch MiniTool Partition Wizard to get its main interface. Then, select the volume which needs copying and click **Copy Volume** feature from the left pane or from right-click menu.



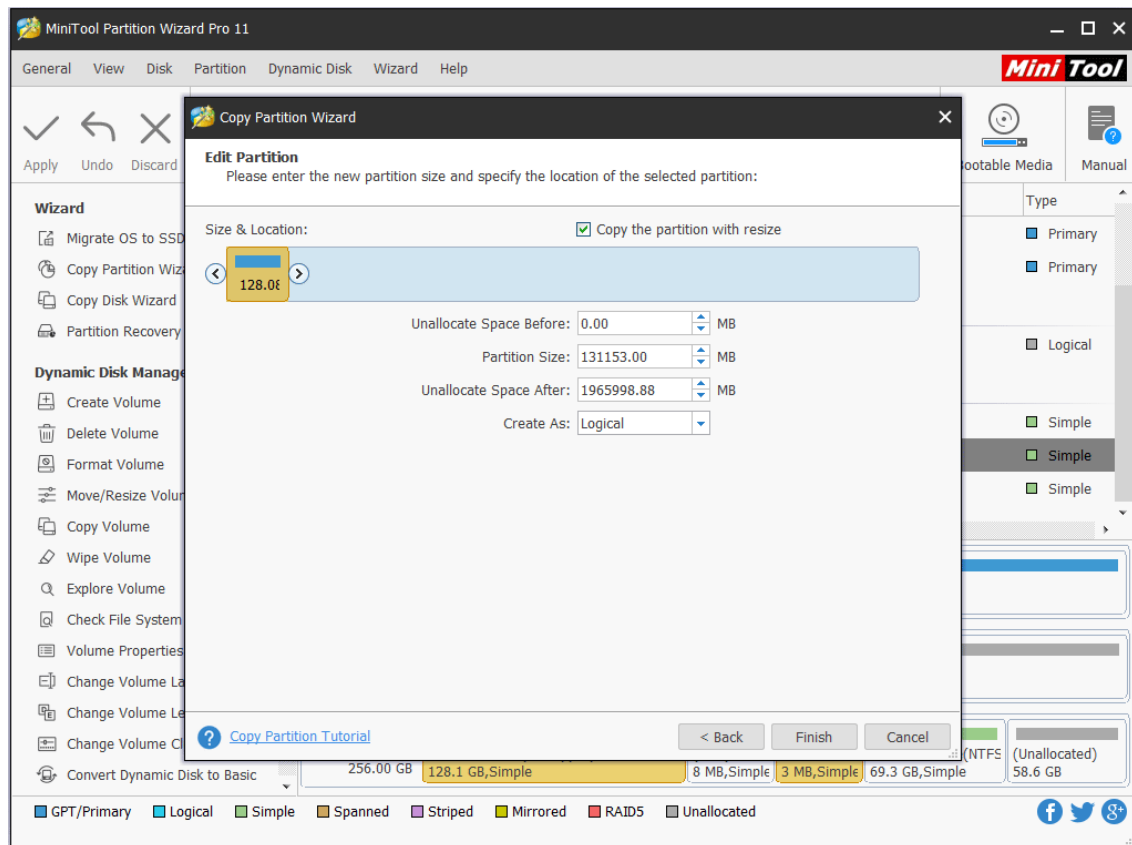
Step 2. Select a volume on dynamic disk or unallocated space on basic disk as the target location to save the copy of the source volume and click **Next**.



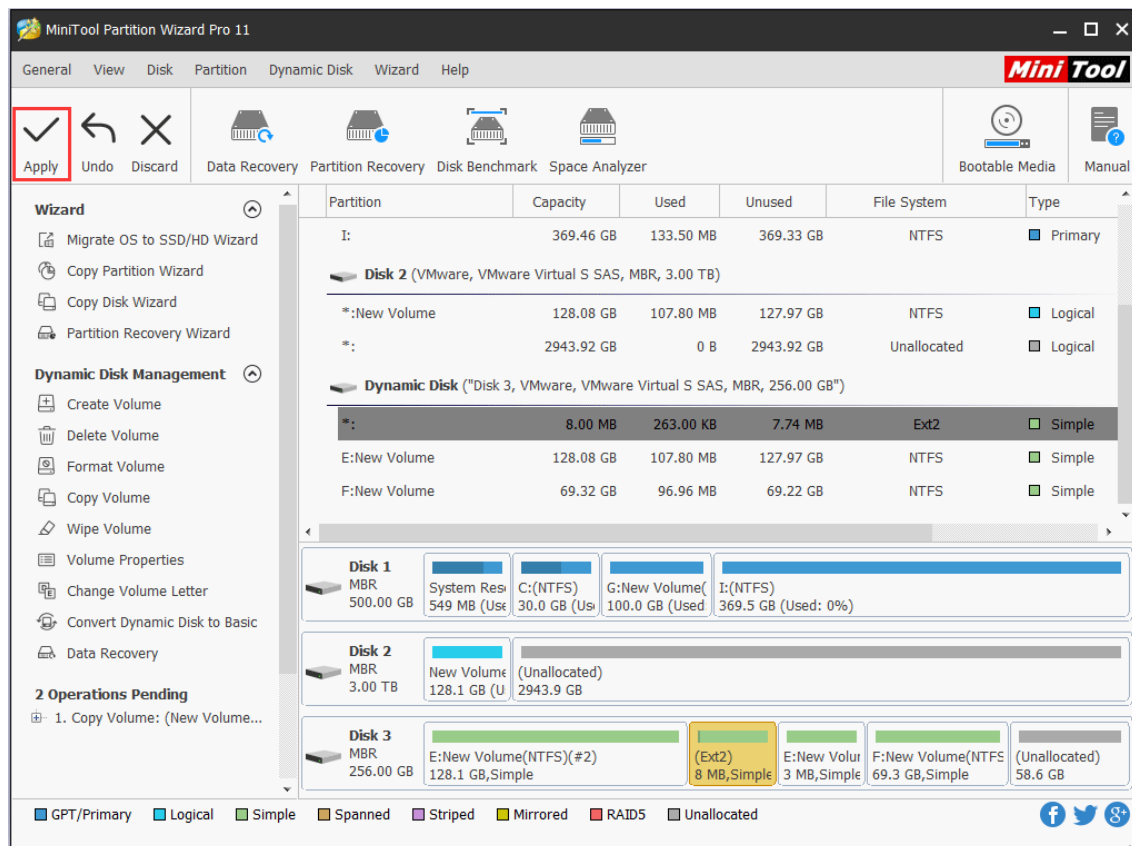
Tip: If the selected target location is a dynamic volume, users will receive the following warning message. Please click Yes to continue.



Step 3. Resize volume by changing the length of volume handle and move volume location by changing the position of the entire handle. Alternatively, users can type exact volume size in MB. Then, click **Finish** button.



Step 4: Click **Apply** button to apply all changes.



52. Change Volume Cluster Size

52.1 About Change Volume Cluster Size

As is known to all, [cluster](#) is the smallest unit to save and manage files on disk in Windows operating systems.

One cluster can only hold 1 file even if it is only 1 byte. The volume used for saving small files should be configured with small clusters, which can improve disk space use ratio. The volume used for saving large files should be appointed with large clusters, which can optimize data read-write speed largely.

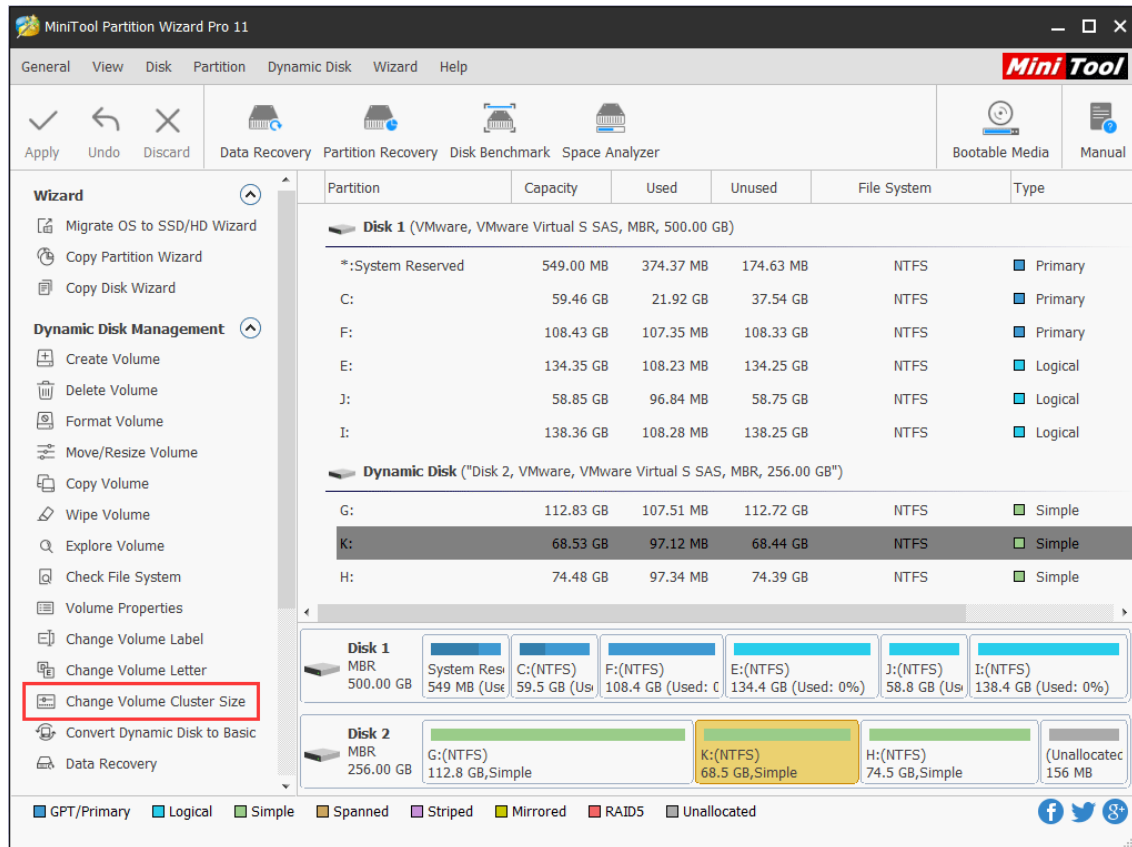
Well then, how to change cluster size of a certain volume reasonably? **Change Volume Cluster Size** feature of MiniTool Partition Wizard can help complete this operation in simple operations and without data loss.

Note: MiniTool Partition Wizard Free Edition does not support this function. To use this function, users need to buy a professional edition or more advanced edition. View [Edition Comparison](#) to know more.

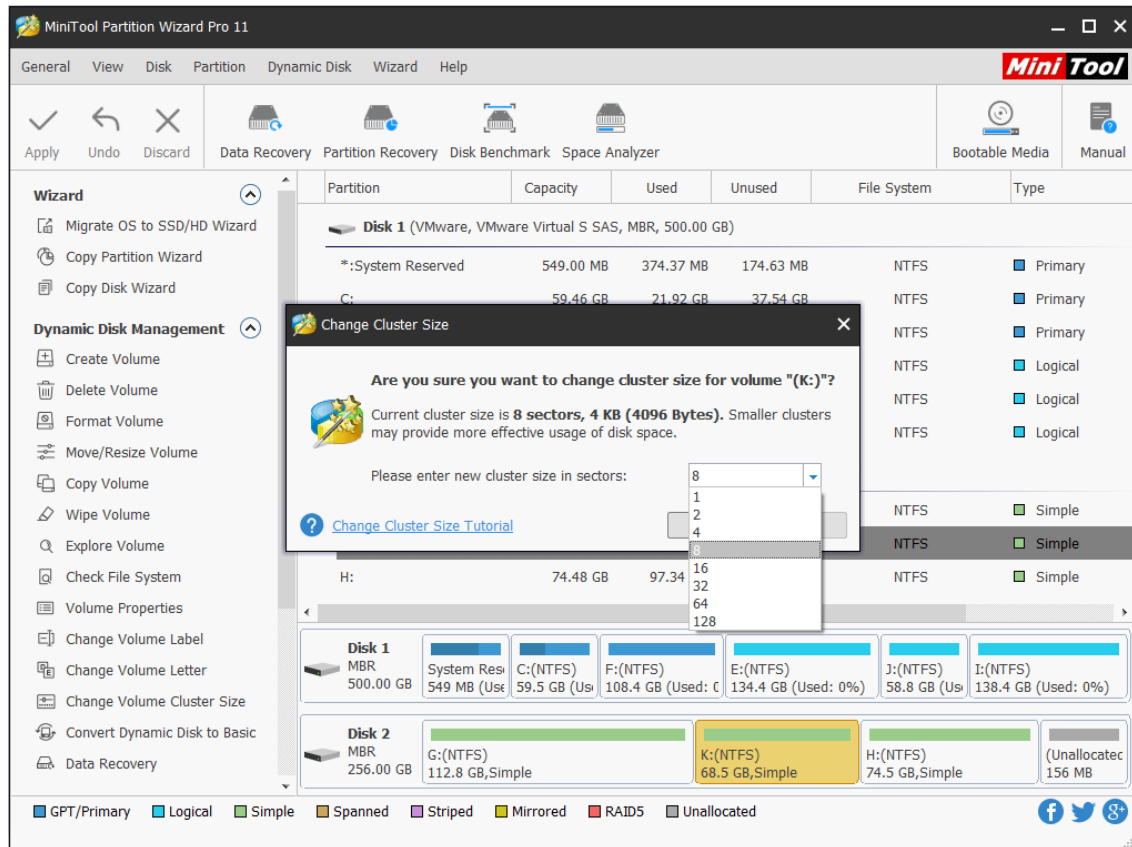
52.2 How to Change Volume Cluster Size

Step 1. Launch MiniTool Partition Wizard to get its main interface.

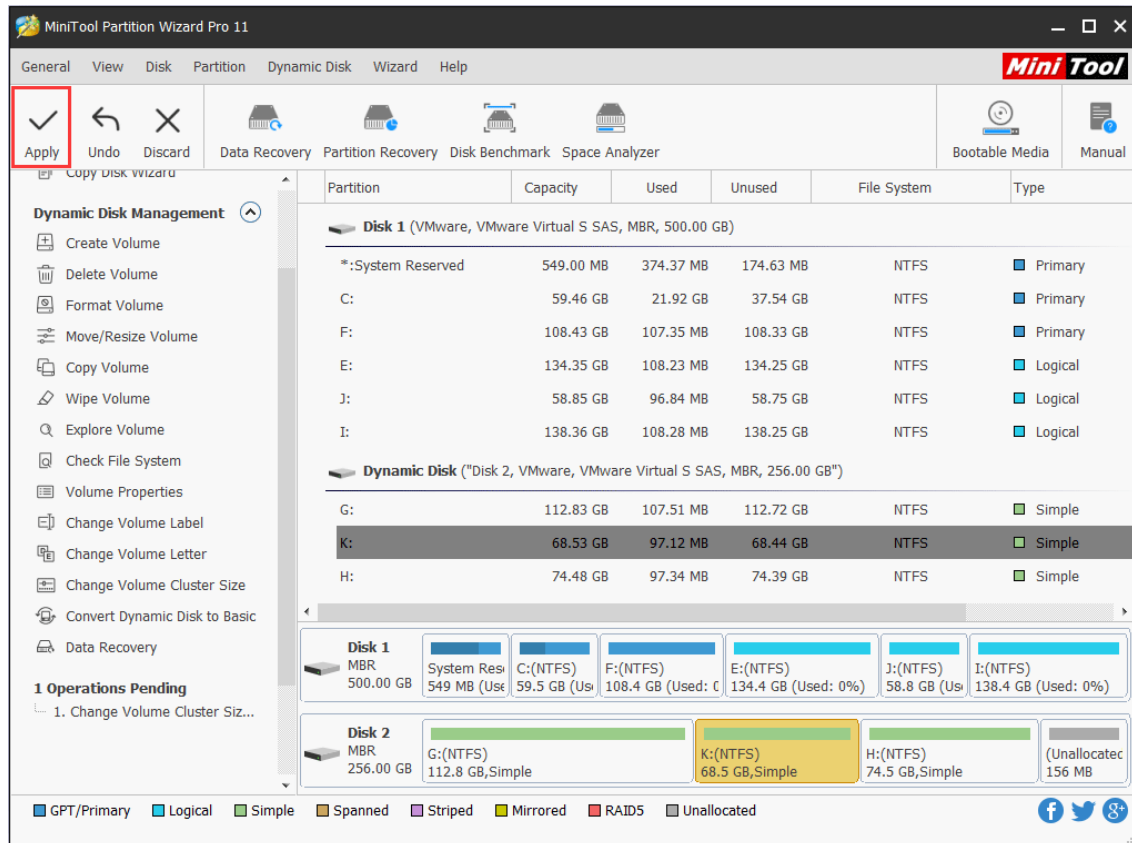
Step 2. Select or right-click the volume whose cluster size needs changing and choose **Change Volume Cluster Size** from the left panel or from right-click menu.



Step 3. Choose a reasonable cluster size from the drop-down list and click **Yes** to confirm the operation.



Step 4. Click **Apply** button on the toolbar to apply this change.



53. Change Volume Letter

53.1 About Change Volume Letter

Volume letter is the symbol of disk storage device. It is identified by one of the 26 English letters plus a colon. Due to historical reason, early PC usually has two floppy drivers. Therefore, the two volume letters A: and B: are used to stand for floppy disk drivers while hard disk volume letters start from C: to Z:

Dynamic disk also has volume letters and each volume has only one letter. Users can change volume letter as they want.

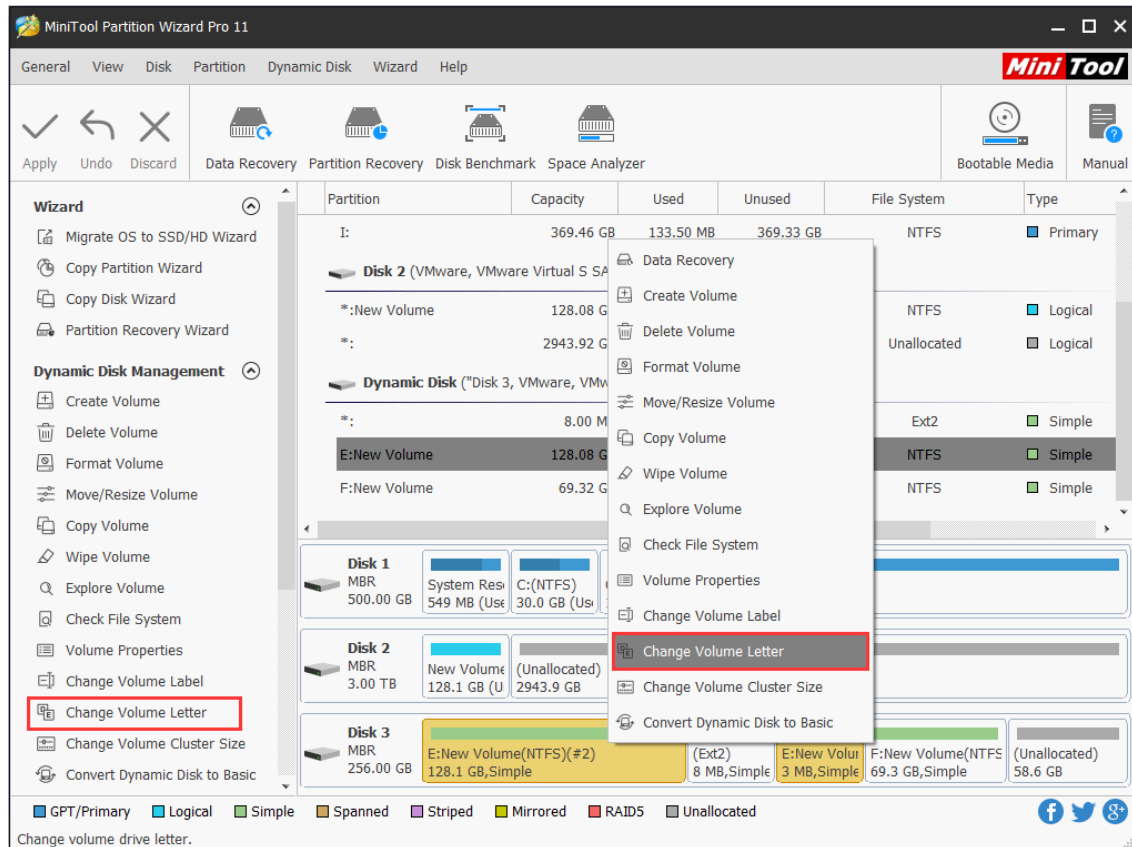
Note: MiniTool Partition Wizard Free Edition does not support this function. To use this function, users need to buy a professional edition or more advanced edition. View [Edition Comparison](#) to know more.

53.2 How to Change Volume Letter

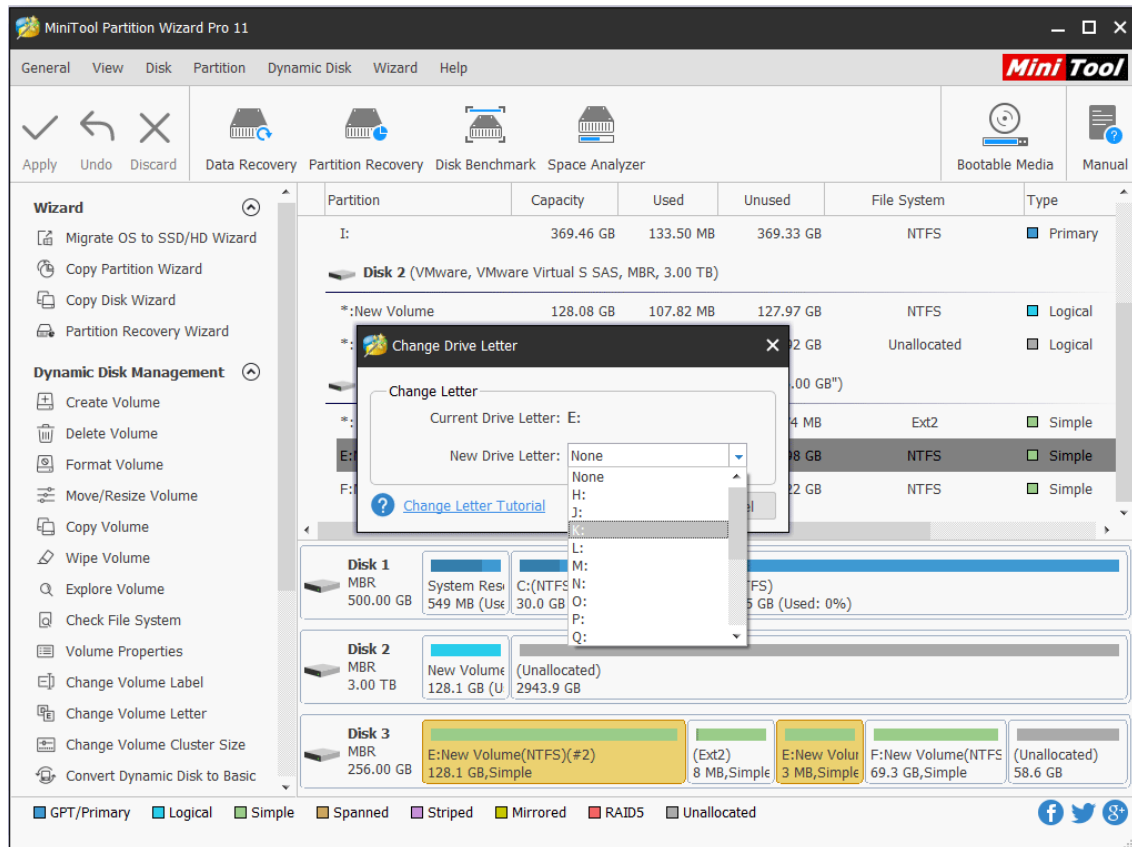
Warning: Be careful when changing system volume letter for doing this on system partition may cause the computer unbootable.

Step 1. Launch MiniTool Partition Wizard to get its main interface.

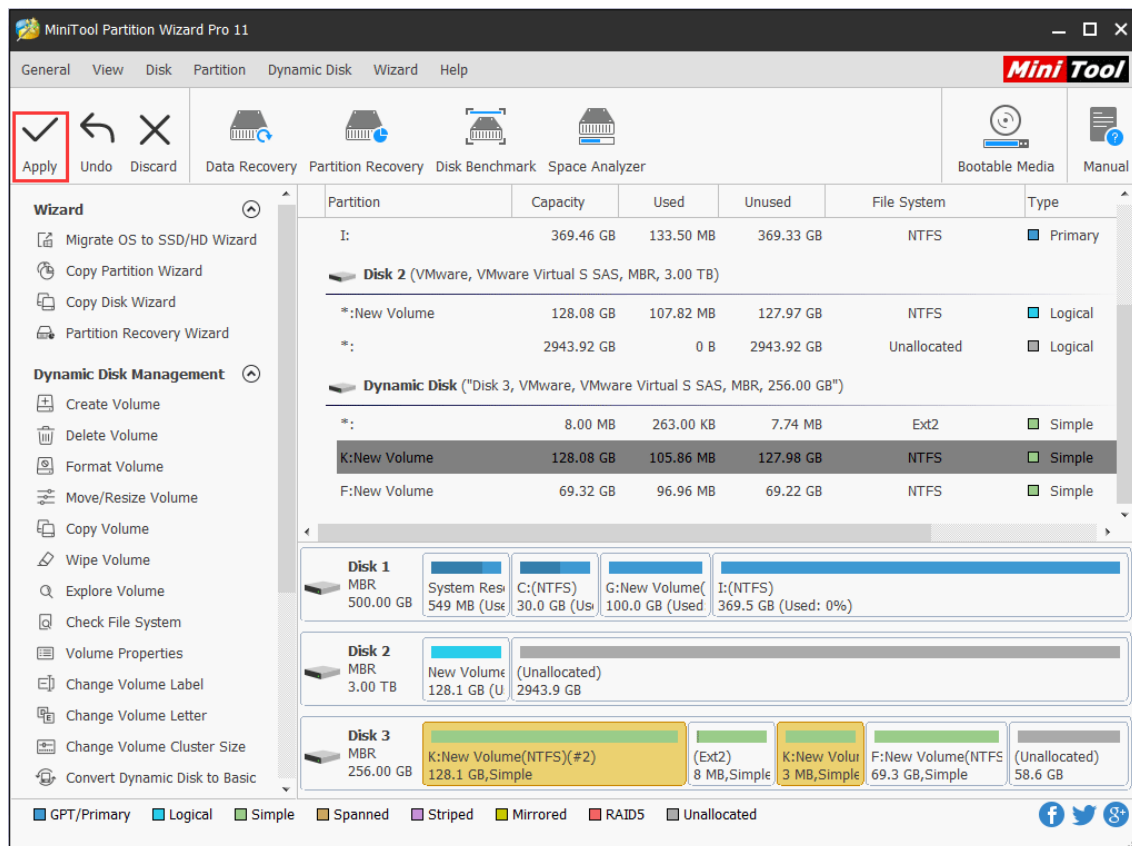
Step 2. Click the target volume, and select the **Change Volume Letter** from the action panel OR select this feature from the context menu.



Step 3. Select a new drive letter and click **OK** button to go back to the main interface. It is worth mentioning that if **None** is selected, the target partition will disappear from File Explorer.



Step 4. Finally, click **Apply** to bring this change into effect.



54. Change Volume Label

54.1 About Change Volume Label

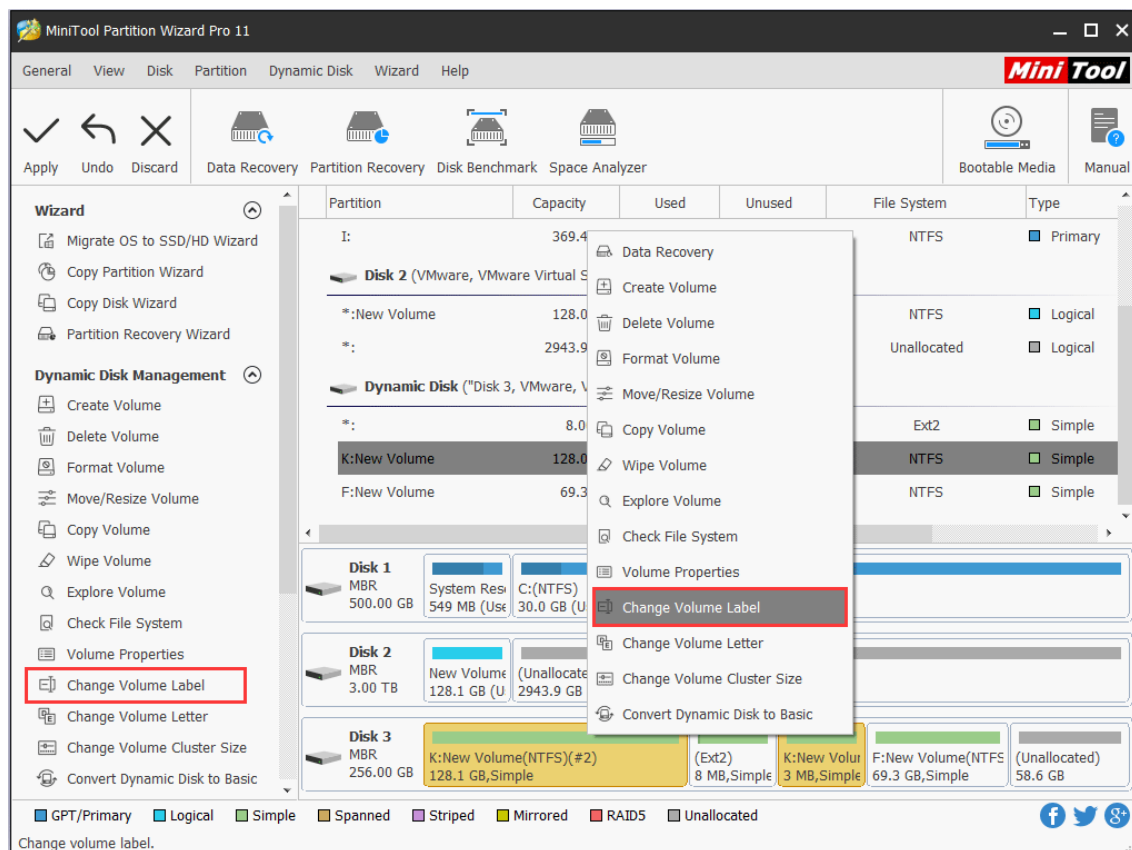
By default, [disk partitions](#) are displayed as Local Disk C: Local Disk D: etc. At this moment, disk partitions have no label. But users can label every partition to make them easy to distinguish, such as labeling partition C: as System C:

The function **Change Volume Label** of MiniTool Partition Wizard gives each volume a unique label to facilitate management and memorizing.

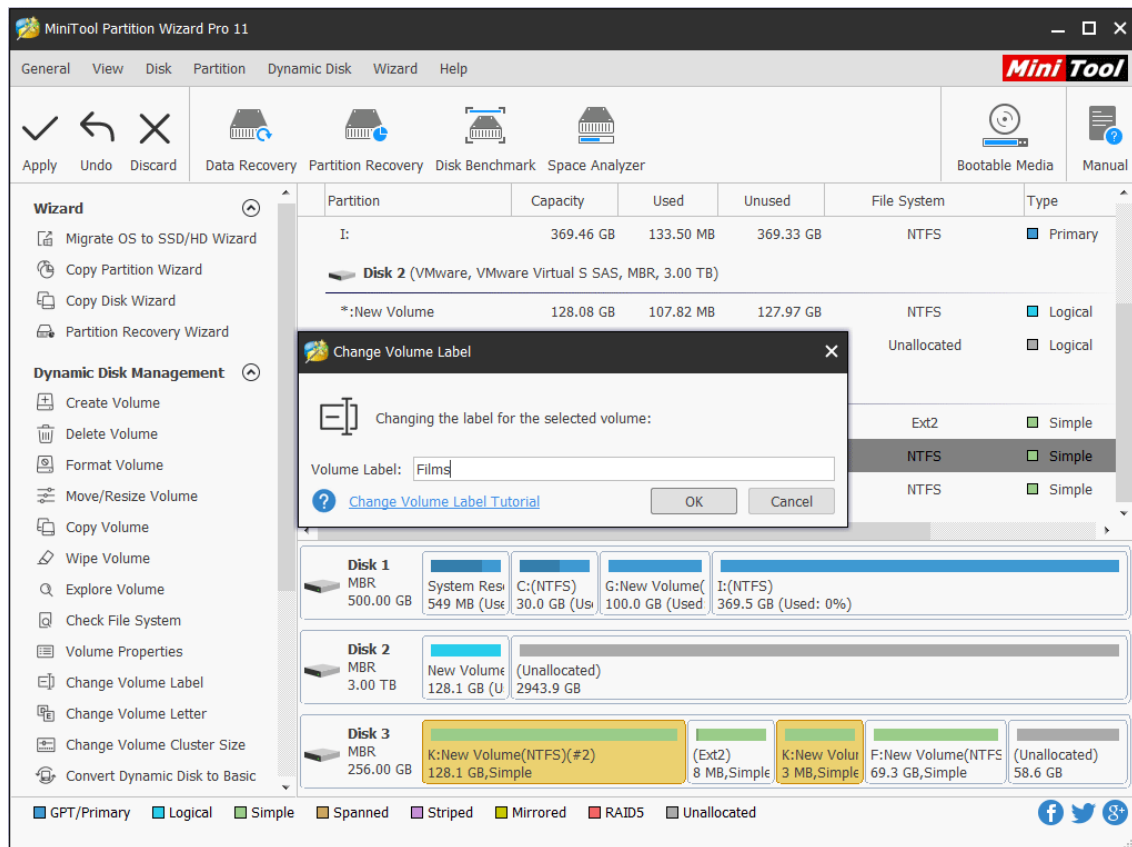
Note: MiniTool Partition Wizard Free Edition does not support this function. To use this function, users need to buy a professional edition or more advanced edition. View [Edition Comparison](#) to know more.

54.2 How to Change Volume Label

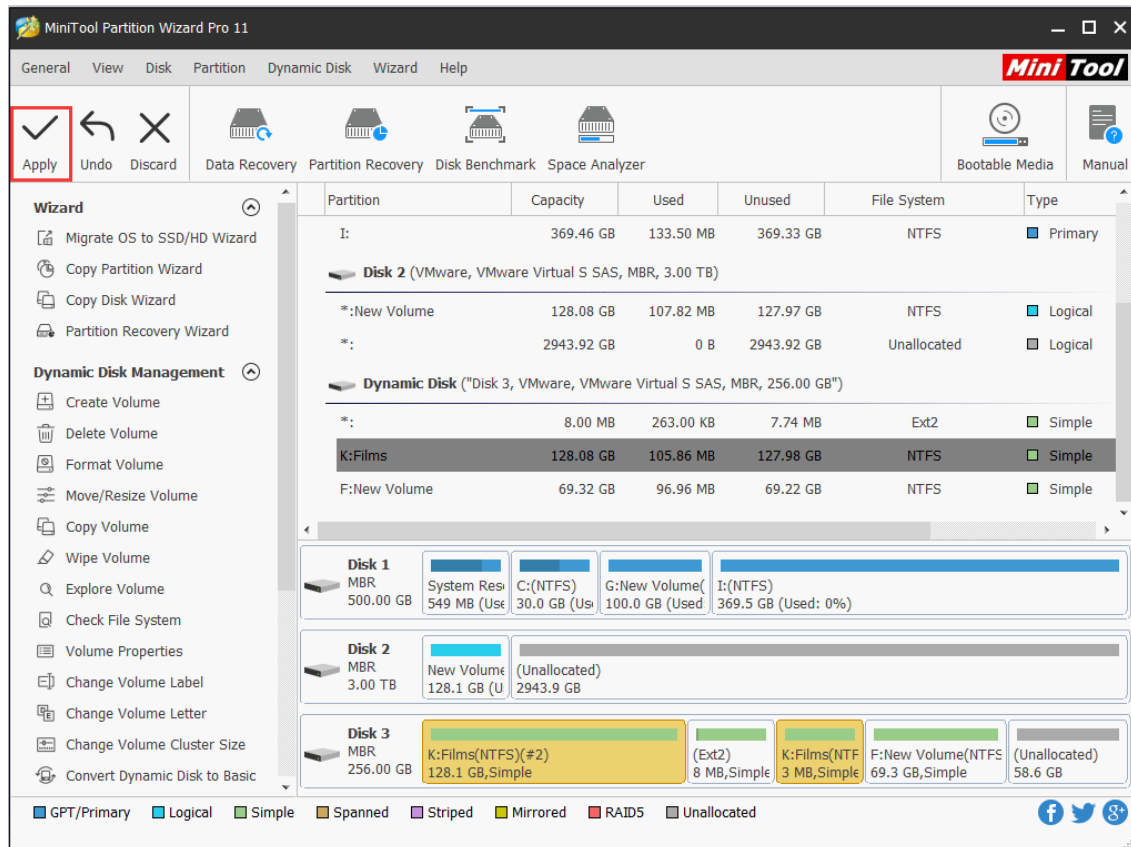
Step 1. Select the target volume and click **Change Volume Label** from the action panel OR right click the target volume to select this feature.



Step 2. Next, input new volume label and click **OK** button to go back to the main interface.



Step 3. Finally, click **Apply** to execute the change to computer.



55. Check Volume File System

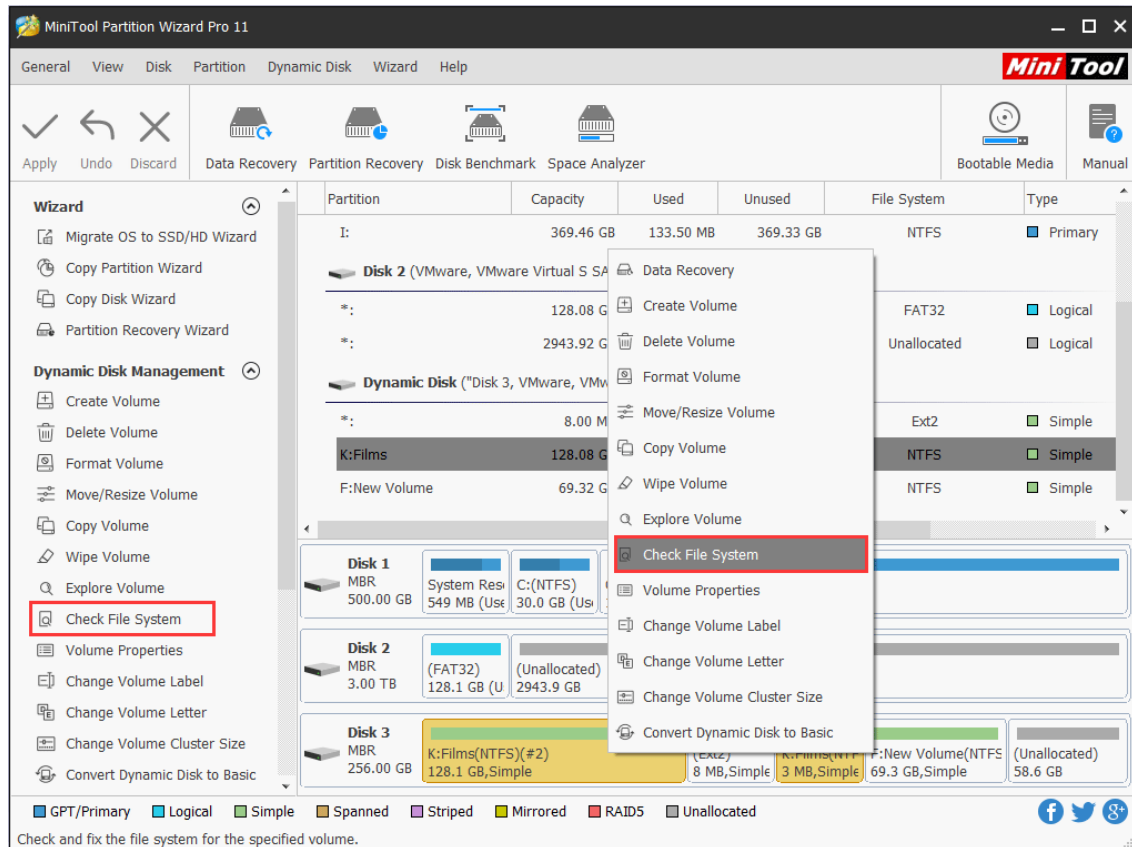
55.1 About Check Volume File System

Check Volume File System feature in MiniTool Partition Wizard is used to verify the logical integrity of the volume file system. To know the details of a volume, users can use this function to check and fix detected errors when there is a need.

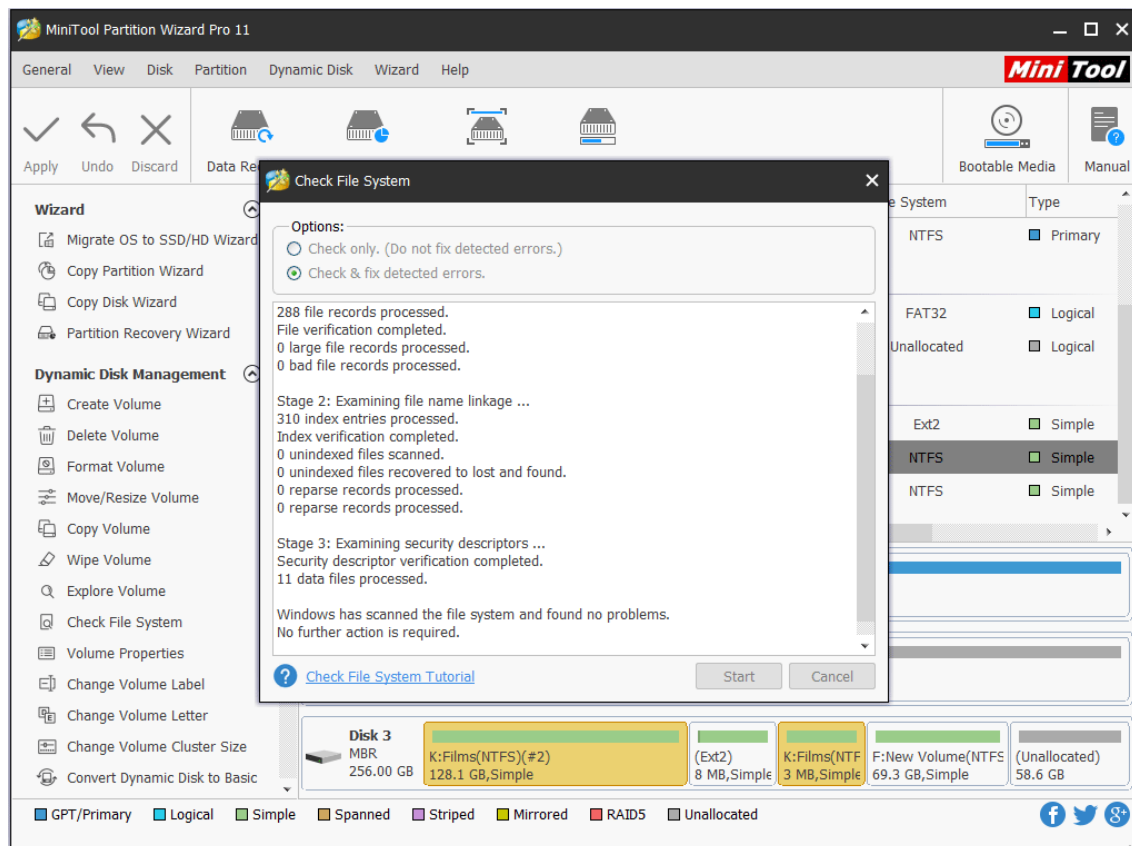
Note: MiniTool Partition Wizard Free Edition does not support this function. To use this function, users need to buy a professional edition or more advanced edition. View [Edition Comparison](#) to know more.

55.2 How to Check Volume File System

Step 1. Run MiniTool Partition Wizard, right-click the target volume (for NTFS volume only) and then select **Check File System** feature from the pop-up menu.



Step 2. You can select a mode **Check only** or **Check & fix detected errors**, and then click **Start**.



Step 3. After finishing the check, click **Cancel** to go back to the main interface.

55. Explore Volume

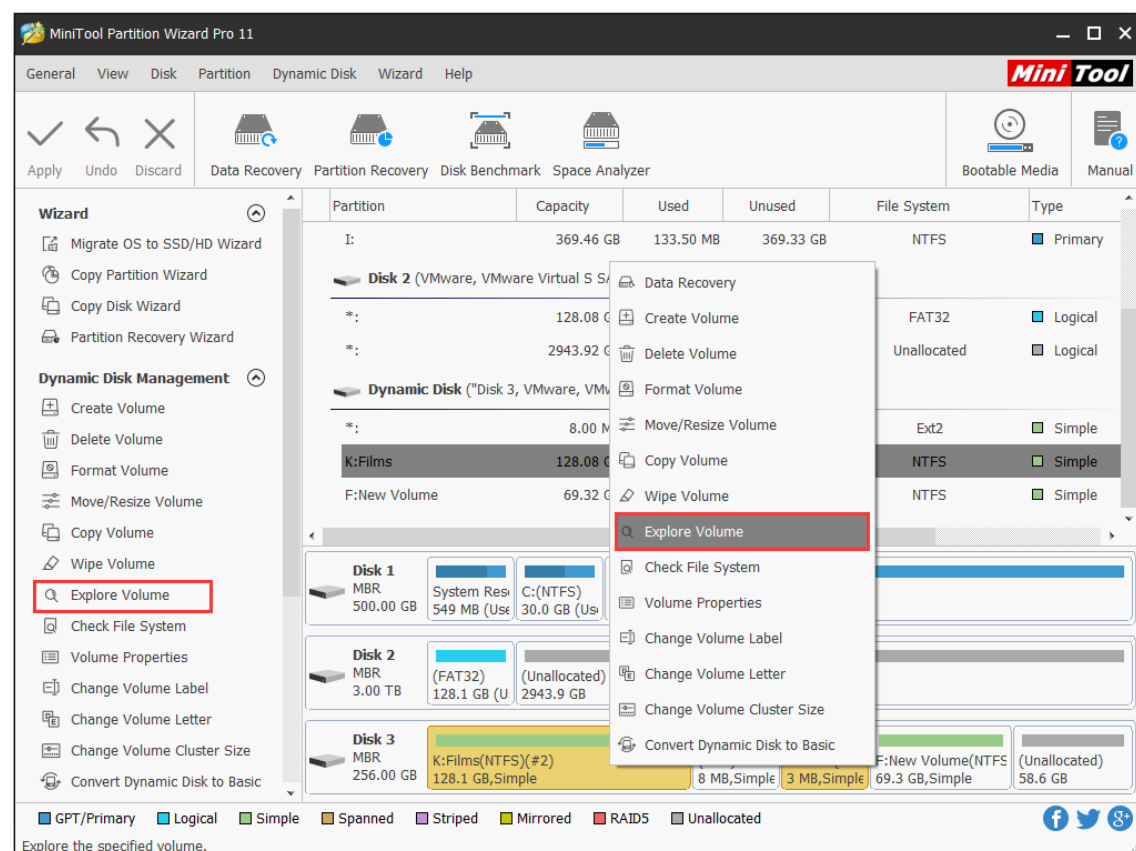
56.1 About Explore Volume

Explore Volume is a simple function that enables users to view the content of a volume. With MiniTool Partition Wizard, it is easy to know the file name, file size, file creation time and modified time in the volume even in Windows PE.

Note: This function is only available with the paid edition (view [Edition Comparison](#)) and only supports the exploration of FAT and NTFS file systems.

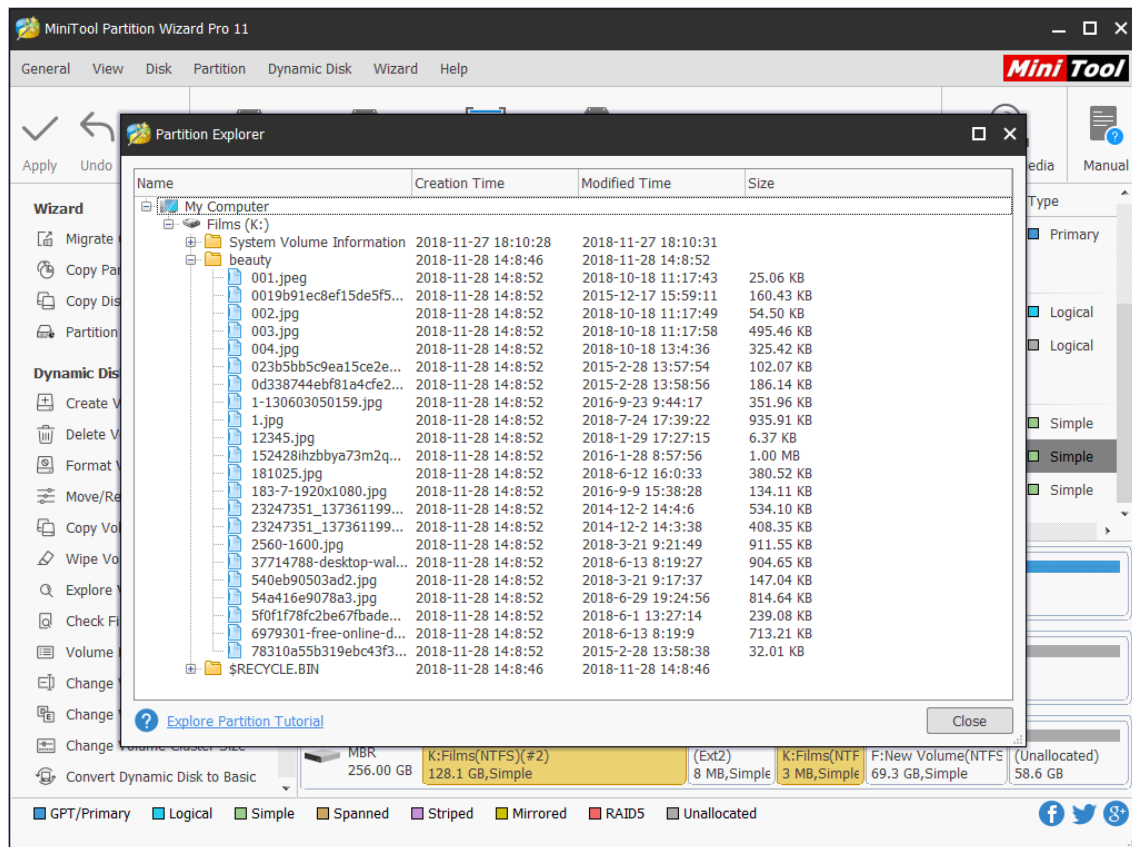
56.2 How to Explore Volume

Step 1. Right-click the target volume, and choose the **Explore Volume** from the context menu OR from the left action panel.



Step 2. Volume explorer will display the file name, file size, creation time and modified time as a

tree view.



56. Volume Properties

57.1 About Volume Properties

Volume Properties feature of MiniTool Partition Wizard makes it easy to check detailed information of dynamic volumes. Specifically, this feature shows users the followings:

Usage

- Used Space
- Unused Space
- Total Space

File System Information

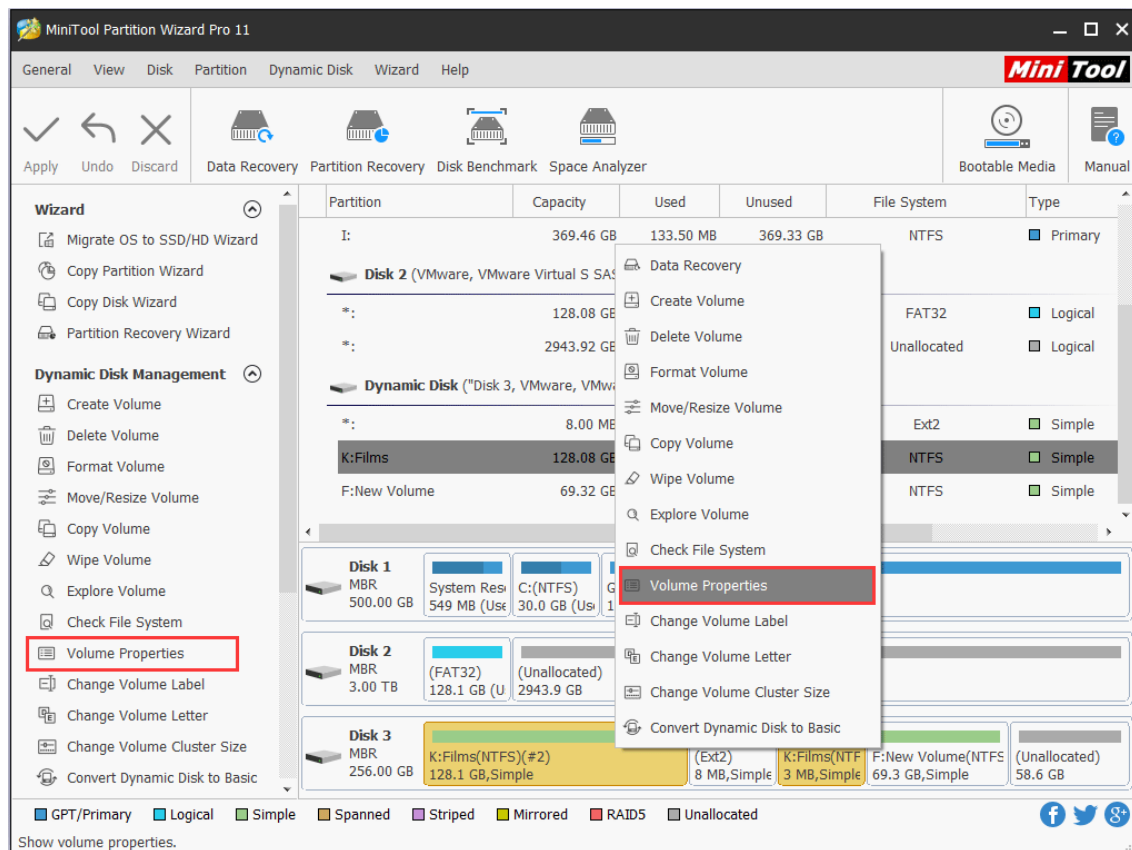
- Sectors per Cluster
- Sectors per File Record
- Sectors per Index Record

- Logical Cluster Number of the \$MFT
- Logical Cluster Number of \$MFTMirr

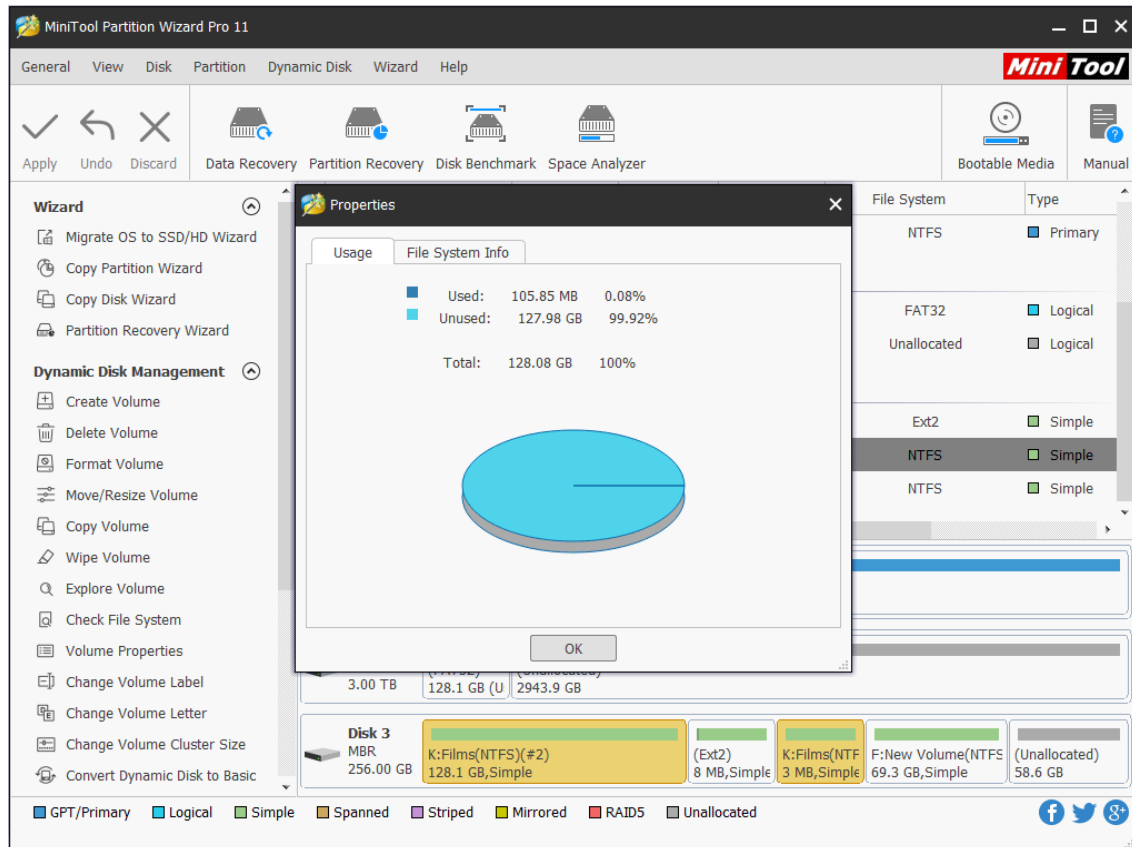
Note: MiniTool Partition Wizard Free Edition does not support this function. To use this function, users need to buy a professional edition or more advanced edition. View [Edition Comparison](#) to know more.

57.2 How to View Volume Properties

Step 1. To use this function, users need to select the target volume at first, and click **Volume Properties** from the left action panel.



Step 2. After that, users will see the following interface which shows the volume information.



57. Convert Dynamic Disk to Basic

58.1 About Convert Dynamic Disk to Basic Disk

Basic disk and [dynamic disk](#) are two basic hard disk configuration types in Windows System. The former one is more popular than the latter one and it can be found in most PCs. The **management of basic disk is indeed much easier** than that of dynamic disk, so basic disk is often more suitable for ordinary computer users.

But for advanced users and IT administrators, if they would like to improve the performance of computer with more than one hard disk, they'd better choose dynamic disk.

Dynamic disk is very different from basic disk. Several independent dynamic disks can join together to form a [Spanned Volume](#) in some versions of Windows. Data can be saved to different hard disks to form [Striped Volume](#). Simple volume, mirrored volume, and RAID-5 volume can also be seen in a dynamic disk.

In this way, the performance of computer will be greatly improved. However, to **simplify the management of disk**, ordinary users hope to convert dynamic disk to basic disk safely sometimes.

Note: MiniTool Partition Wizard Free Edition does not support this function. To use this function, users need to buy a professional edition or more advanced edition. View [Edition Comparison](#) to know more.

58.2 How to Convert Dynamic Disk to Basic Disk

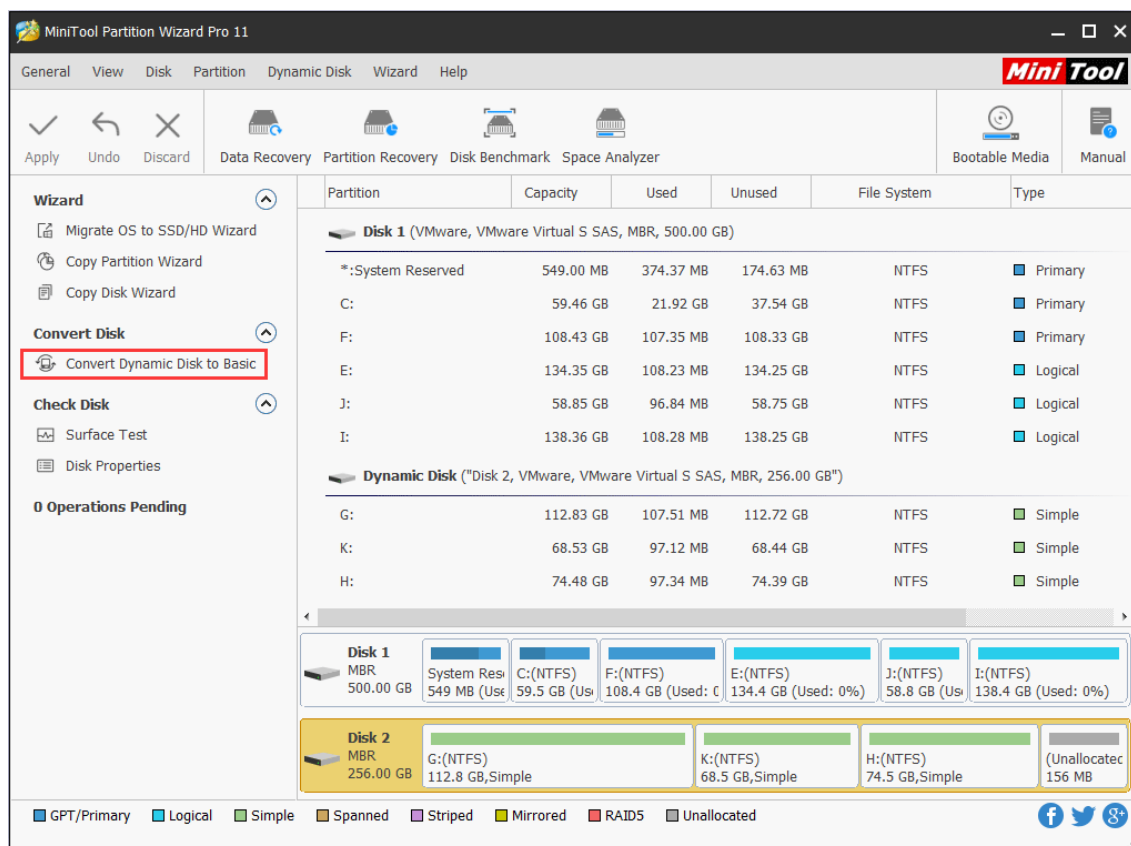
The steps to convert a dynamic disk to basic disk are very easy in MiniTool Partition Wizard. Before starting to convert, users need to know two things.

- This dynamic disk convert function is available in all editions except for the free edition.
- This software can only help to convert the dynamic disk containing simple volume and mirrored volume.

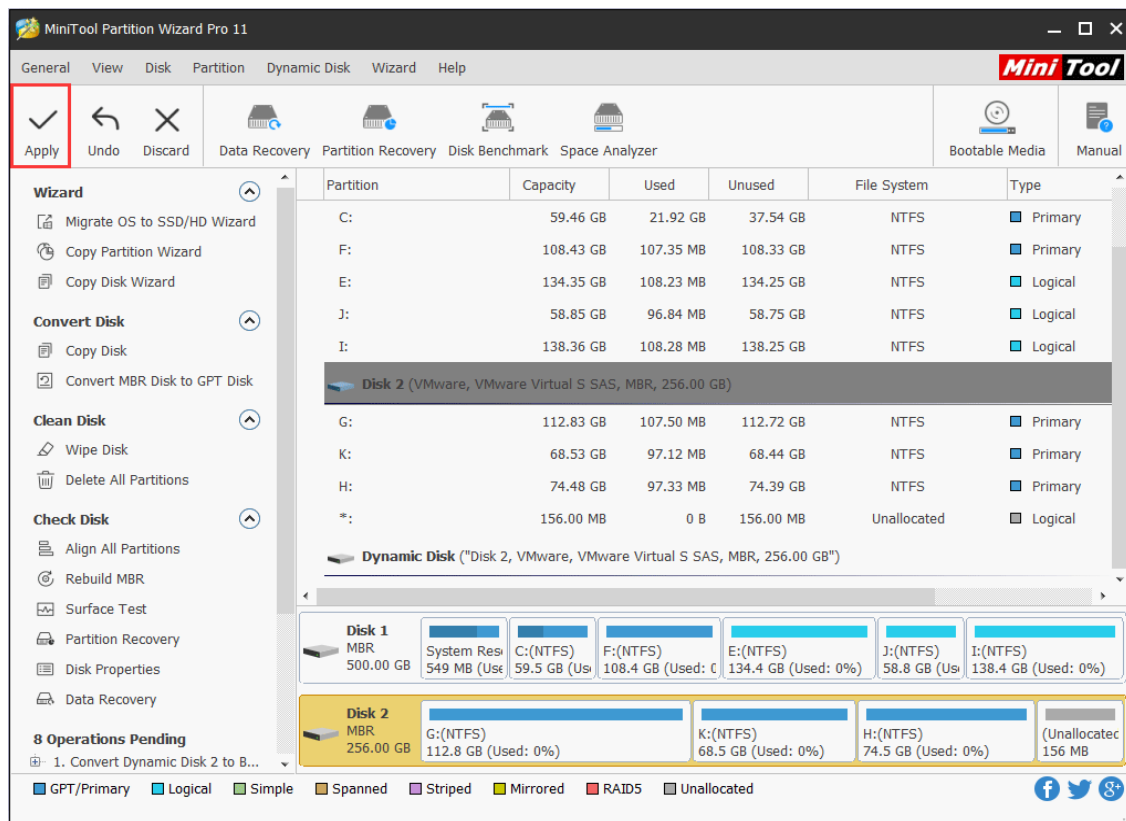
The following MiniTool Partition Wizard tutorial will tell users **how to convert dynamic disk to basic disk**. Please read it carefully.

Step 1. Choose the dynamic disk or partition which needs to be converted to basic from the Disk Map or Disk/Partition/Volume List area.

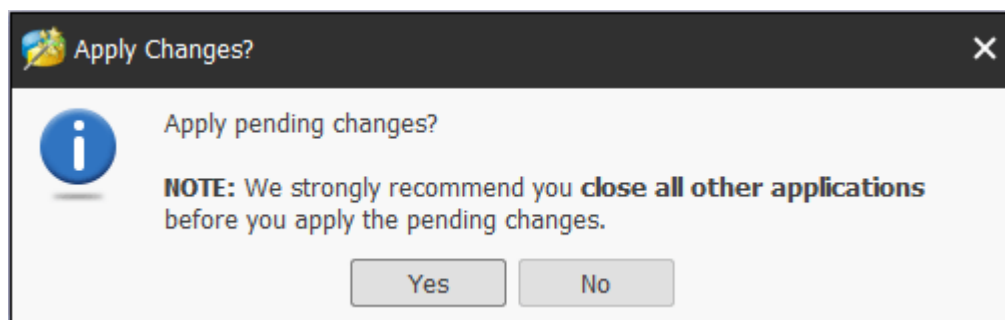
Step 2. Choose **Convert Dynamic Disk to Basic** function from the left action panel.



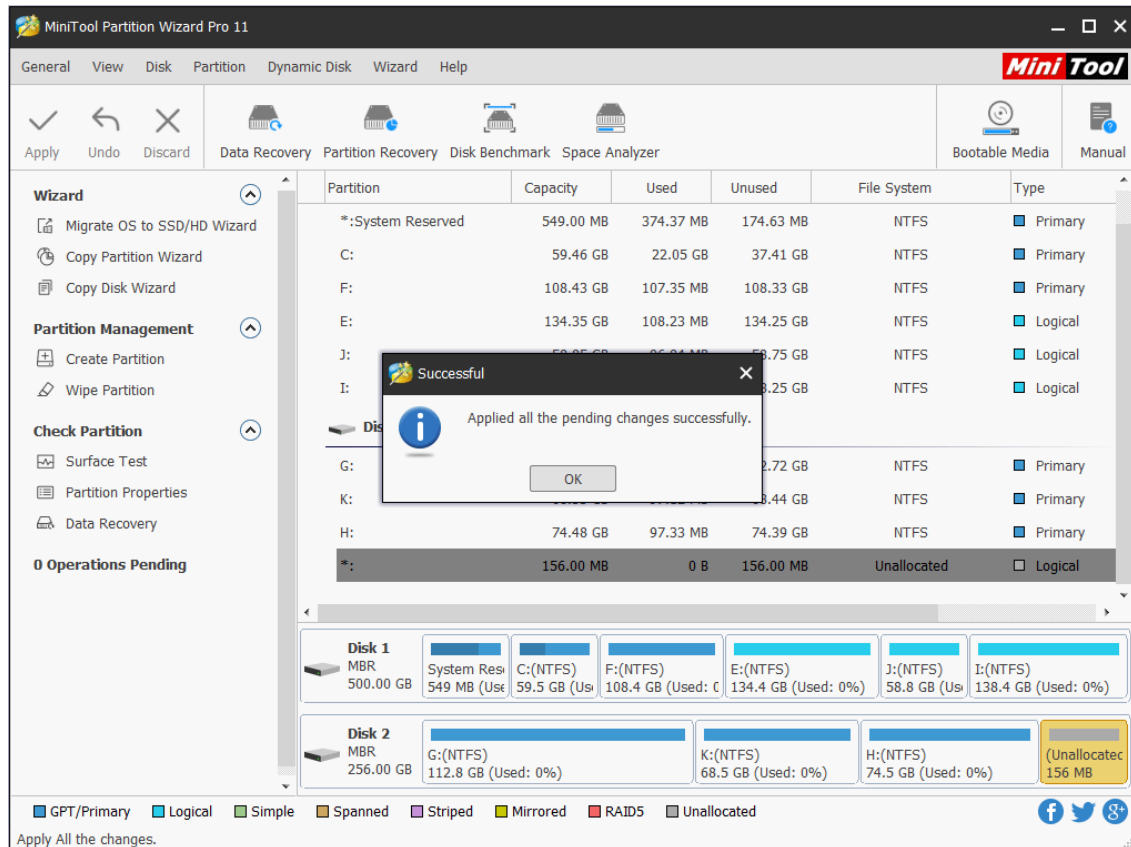
Step 3. Click **Apply** in the upper left to confirm executing pending operations.



Step 4. Tap **Yes** to carry out dynamic disk conversion pending operations.



Step 5. Click **OK** when the disk conversion is completed automatically by software or click **Restart Now** sometimes when the dynamic disk users want to convert is in use.



58. Convert MBR Disk to GPT Disk

59.1 About Convert MBR Disk to GPT Disk

[Master Boot Record \(MBR\)](#) and [GUID Partitioning Table \(GPT\)](#) are two partition styles. Even though they achieve the mutual goal of separating the information for the operating system, they are very different from one another.

These are 2 main differences between MBR disk and GPT disk:

- Number of partitions: an MBR disk supports at most four primary partitions or three primary partitions and one extended partition while a GPT disk can support up to 128 partitions in Windows.
- Size of partition: the size of a single partition in MBR disk can only reach 2 TB while the largest partition supported by GPT disk is 18 EB.

Note: Many other outstanding features can be found in GPT disk. For more information, please read this post [MBR VS GPT \(Focus on Difference and How to Convert Safely\)](#).

But these aren't the only reasons why so many users wish to convert from MBR disk to GPT disk.

One of the other amazing features the GPT disk also offers is the **ability to store multiple copies of the data within the operating system**.

If the data is overwritten or corrupted, the GPT disk can recover the data, so the OS will function again. In contrast, the MBR disk does not have this feature and thus unable to easily recover corrupt or overwritten data.

This explains why a growing number of users would like to convert MBR disk to GPT disk as soon as possible. But how to **convert MBR disk to GPT disk without data loss**? We suggest using MiniTool Partition Wizard Free Edition.

Note: The Free Edition can only convert a data disk to GPT. If users want to convert a system disk to GPT, they need to upgrade to an advanced edition.

59.2 How to Convert MBR Disk to GPT Disk

Importance:

If users are dealing with the system disk, do the followings in advance in case of any accidents after the conversion.

1. [Create a bootable media of MiniTool Partition Wizard](#).
2. Create a system image or [back up the whole system disk](#).

If there are multiple operating systems, please confirm which operating system needs booting from GPT disk, and then boot from it to do the conversion. MiniTool Partition Wizard is not responsible for the rest operating systems not booting after the conversion. Do it at your own risk.

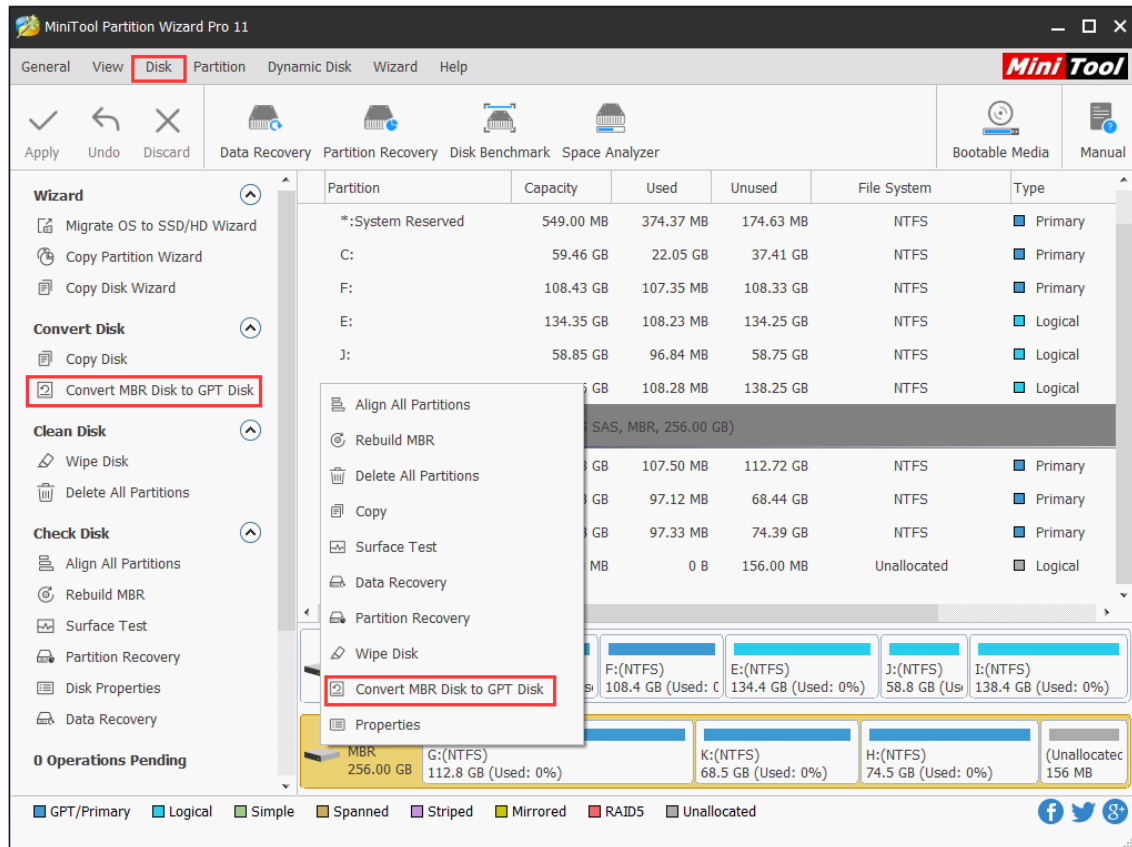
The downloading and installation process of MiniTool Partition Wizard is easy to finish, even for inexperienced users. Now, let's see how to do:

Note: MiniTool Partition Wizard can help users convert an MBR disk containing Windows to GPT. But if users want to boot from the GPT disk successfully, UEFI mode should be supported and enabled.

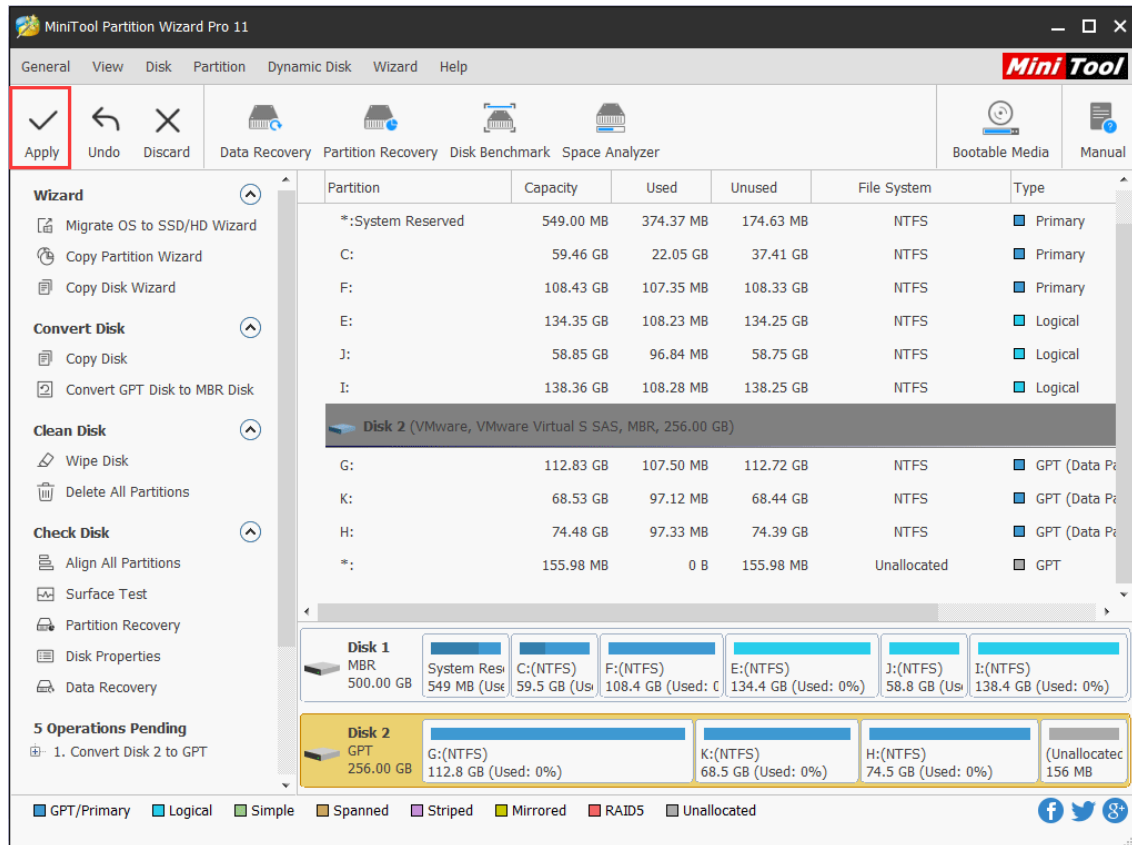
Step 1. Choose the MBR disk that users want to convert.

Step 2. Select **Convert MBR Disk to GPT Disk** function through following three ways.

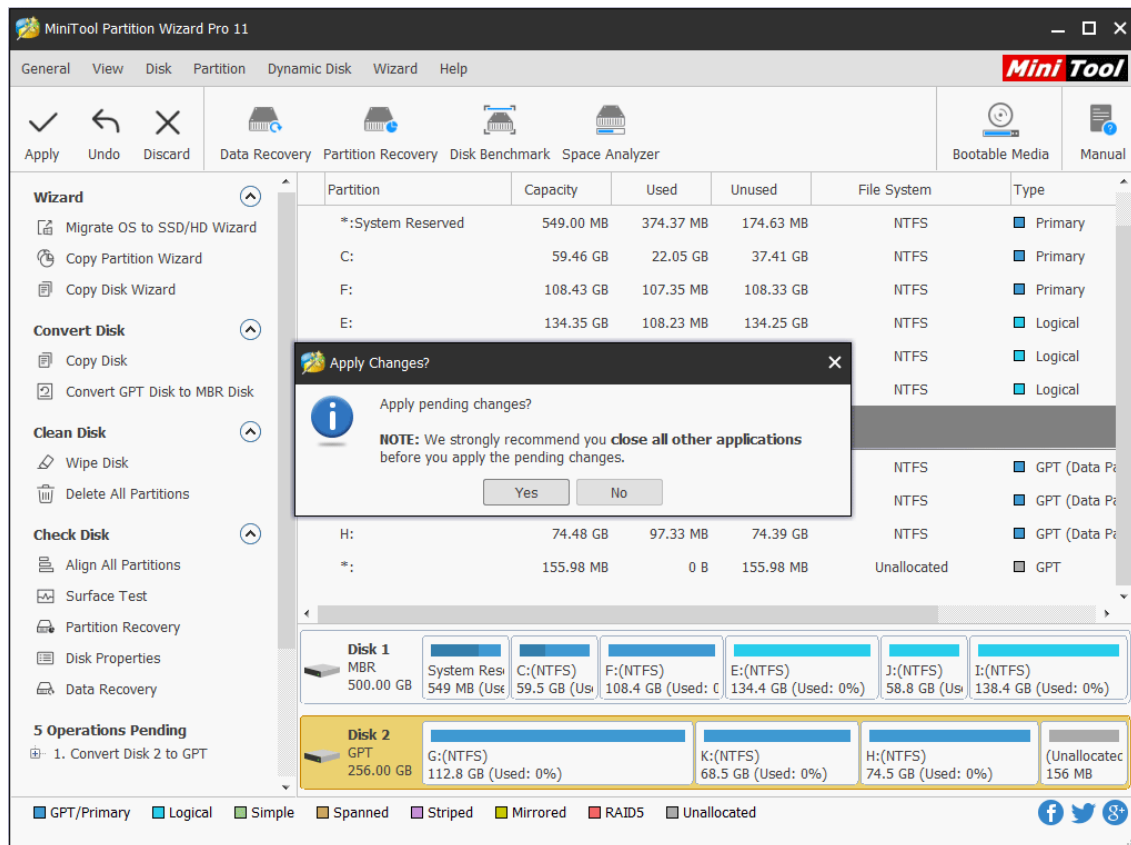
- Click it under the **Convert Disk** list.
- Choose it from the drop-down list of **Disk** menu at the top.
- Right-click the target disk and choose it from the pop-up list.

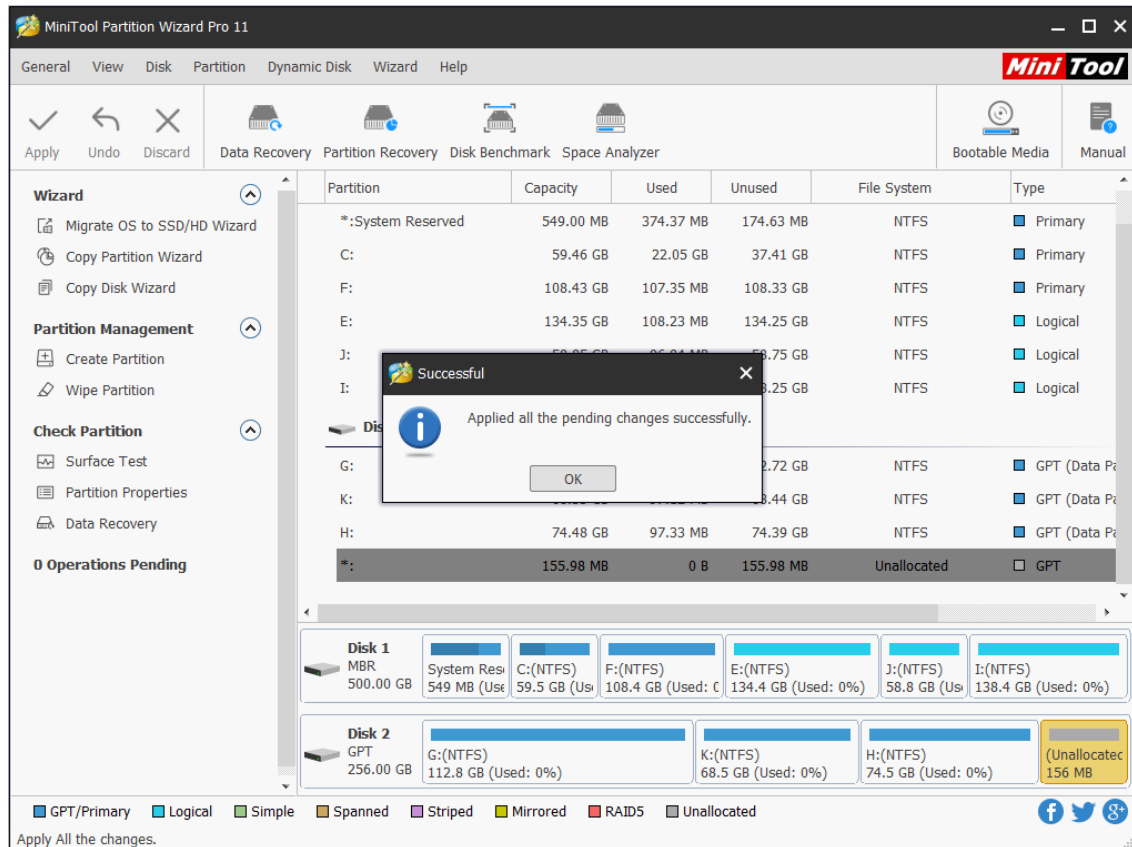


Step 3. Click on **Apply** button in order to carry out pending operations.



Step 4. Choose **Yes** in the pop-up prompt window to start converting a disk from MBR to GPT.





59. Convert GPT Disk to MBR Disk

60.1 About Convert GPT Disk to MBR Disk

[GPT](#), short for GUID Partition Table, is actually a standard BIOS partition table on a physical hard disk. Believe it or not, GPT is much better than [MBR](#) in many aspects. For instance, GPT disk supports at most 128 partitions in Windows while MBR disk supports only 4 primary partitions (or 3 primary partitions and 1 extended partition).

No wonder so many users become fans of GPT disk. But why there are still some users who want to **convert GPT disk to MBR Disk**?

Though GPT disk is more advanced when compared to MBR disk, users still need an MBR disk sometimes.

For instance, if users are using a very old operating system like Windows 2000 Server, a GPT disk is not suitable. Even if users employ a GPT disk in Windows 2000 Server, they can't install the operating system to it because the booting from GPT disk is forbidden in such system. All in all, there are still some situations where users need to convert GPT disk to MBR disk.

60.2 How to Convert GPT Disk to MBR Disk

Important:

It is not recommended to convert system disk from GPT to MBR using MiniTool Partition Wizard. Proceed at your own risk! For the data drive, do the followings in advance in case of any accidents after the conversion.

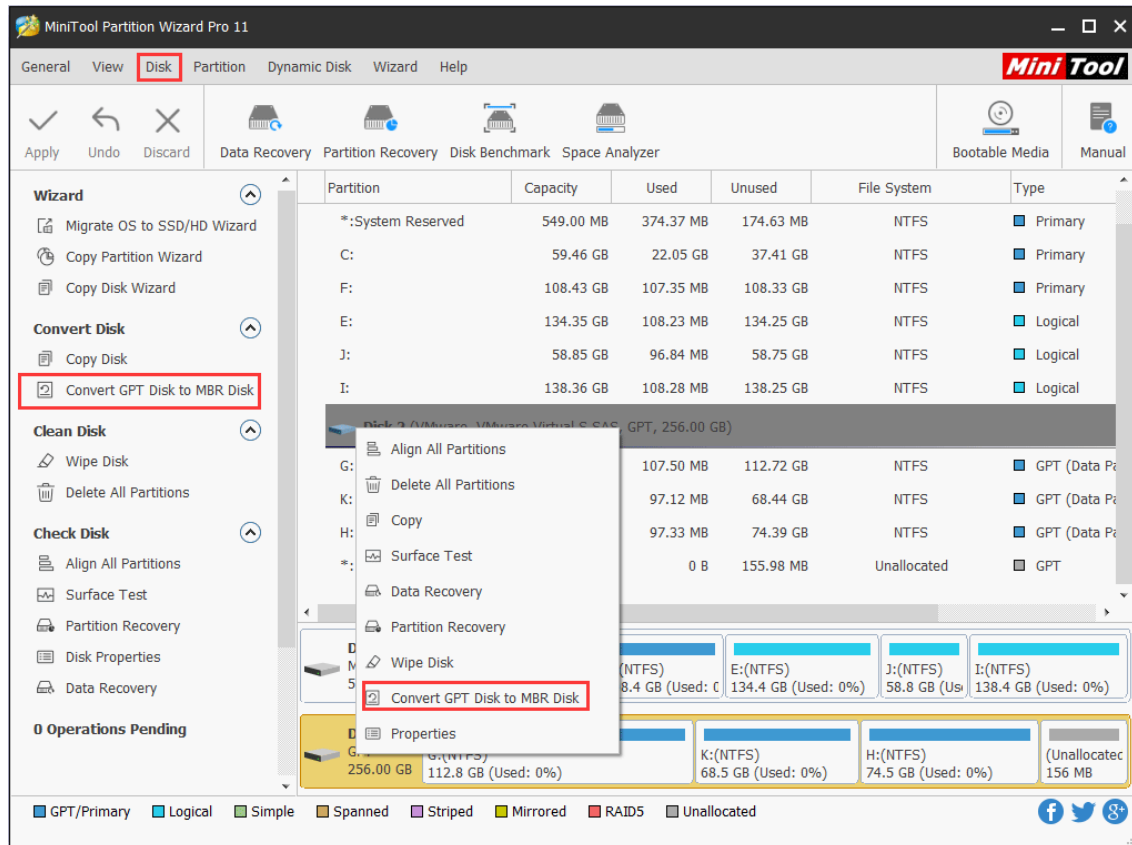
1. [Create a bootable media of MiniTool Partition Wizard](#).
2. Create a system image or [back up the whole system disk](#).

For the vast majority of computer users, how to convert GPT disk to MBR disk is a tough task since they are inexperienced in managing the disk. Because of that, we'd like to introduce **an amazing tool – MiniTool Partition Wizard** here; it allows users to finish GPT to MBR conversion without damaging data.

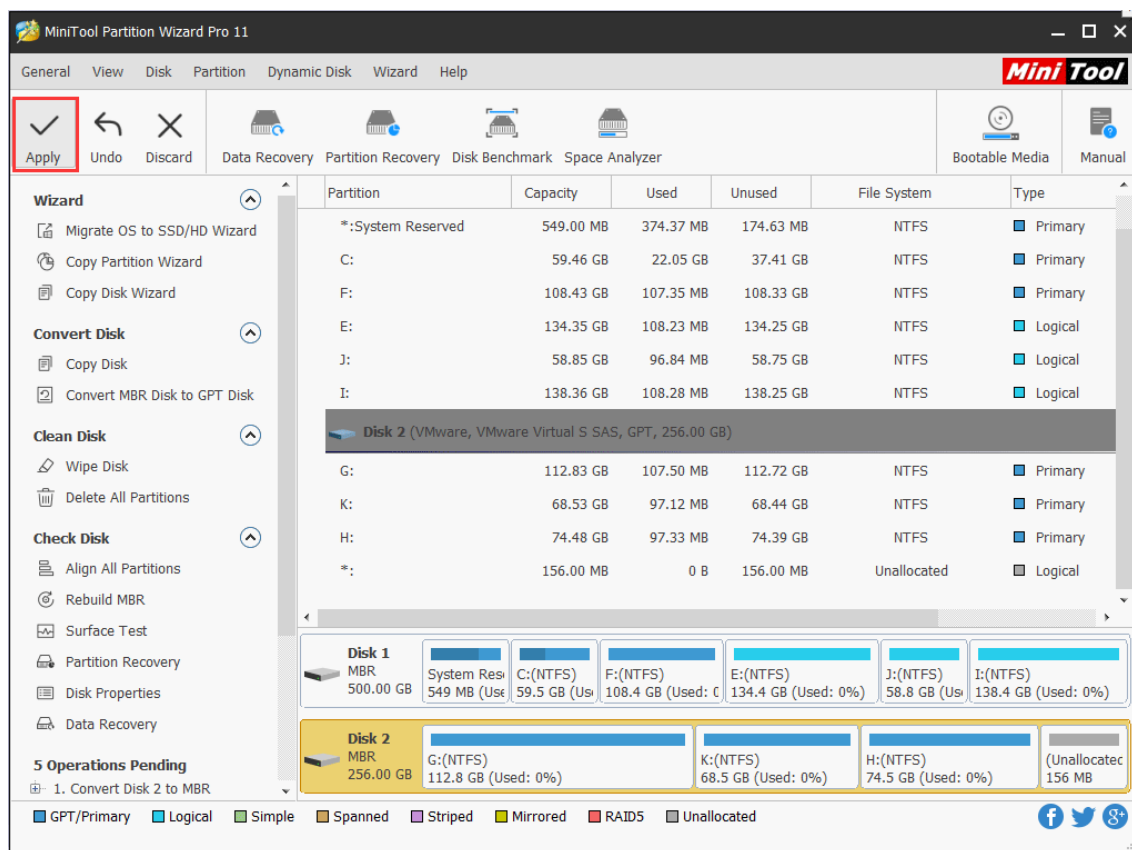
Step 1. Run MiniTool Partition Wizard and choose the GPT disk on which conversion needs to be performed.

Step 2. Choose **Convert GPT Disk to MBR Disk** function through the following 3 ways.

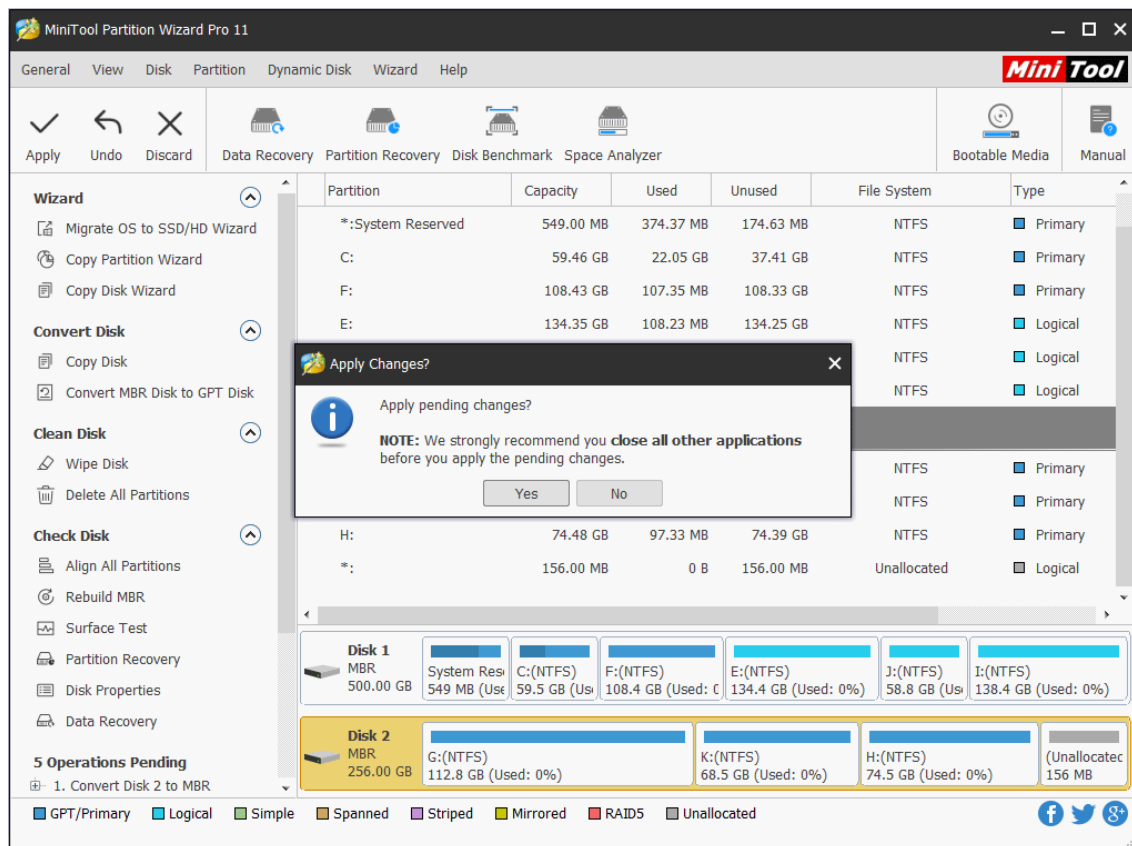
- Click **Convert GPT Disk to MBR Disk** under the Convert Disk list on the left side.
- Right click on target GPT disk and choose **Convert GPT Disk to MBR Disk** from the pop-up menu.
- Click Disk in the menu bar and choose **Convert GPT Disk to MBR Disk**.



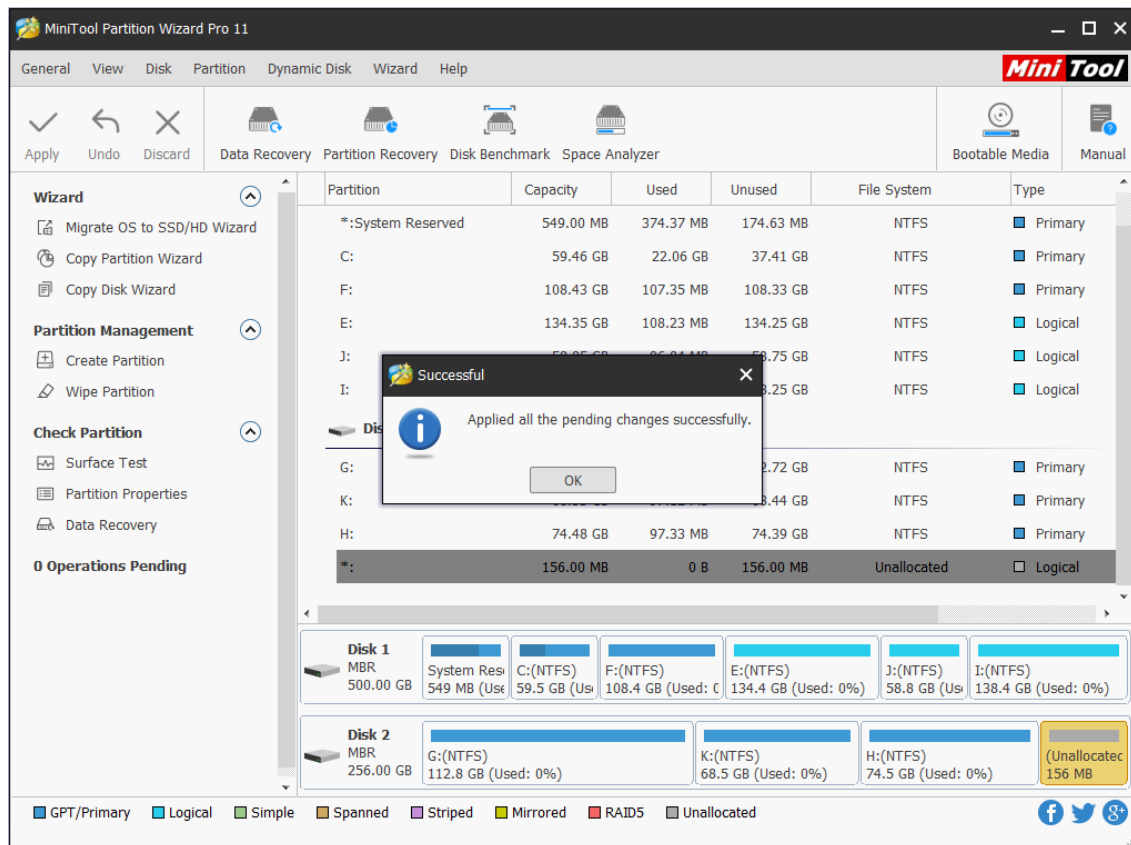
Step 3. Click on **Apply** button in the toolbar (at this time, users can see pending operations at the bottom of the left action panel).



Step 4. Tap Yes button to confirm conversion.



Step 5. Wait for the completion of disk conversion. Then click **OK** button finally.



60. Convert FAT to NTFS

61.1 About Convert FAT to NTFS

It is obvious that NTFS beats FAT in many aspects. If users' flash drive, external hard disk partition or internal hard disk partition is formatted with FAT [file system](#), they may want to **convert FAT to NTFS** to achieve the following purposes:

- Handle large files (over 4GB).
- Get better stability, higher security and lesser defragmentation time.

But it is a pity that most of the users don't have a clear idea of how to convert FAT to NTFS. In view of this, we decide to provide users with an excellent tool – MiniTool Partition Wizard. The corresponding MiniTool Partition Wizard tutorial will be given below.

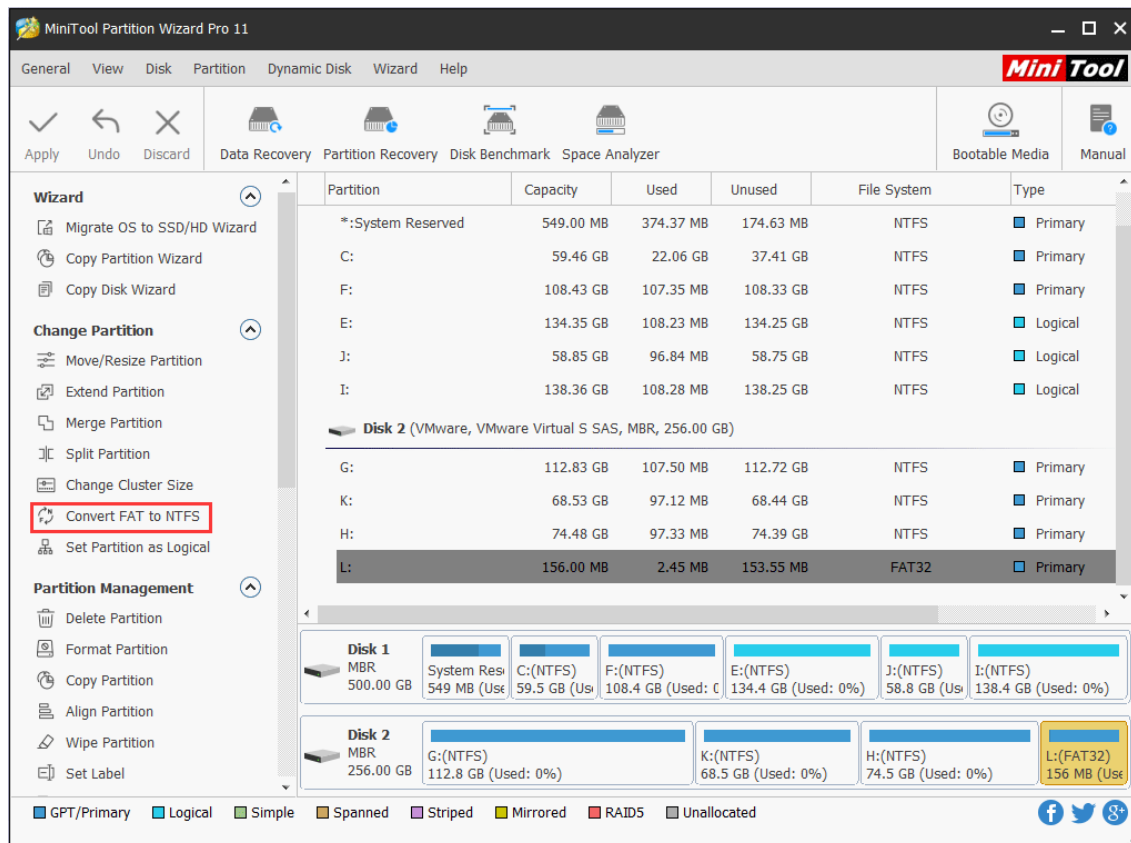
61.2 How to Convert FAT to NTFS

The MiniTool Partition Wizard is equipped with high security, so users can carry out all operations

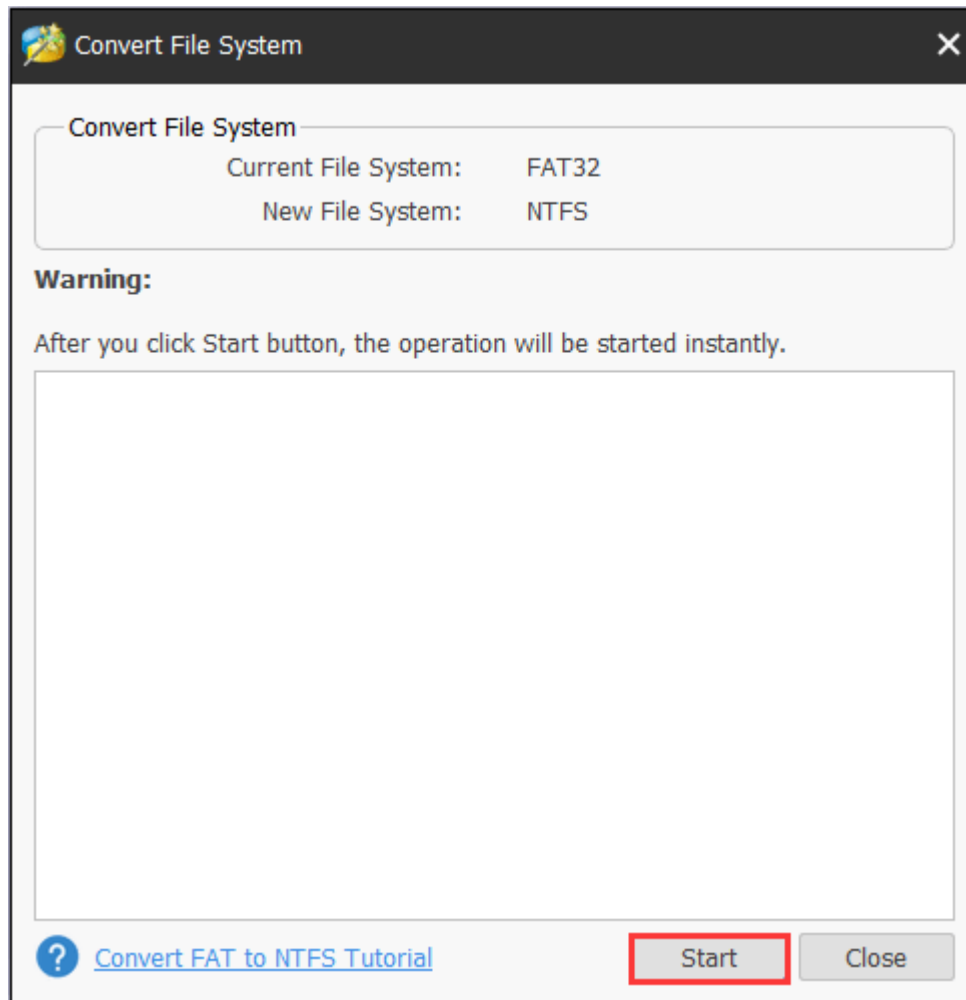
in this tool safely. That is to say, it can help users **convert FAT to NTFS without causing any data loss**.

Follow this MiniTool Partition Wizard tutorial to execute FAT conversion.

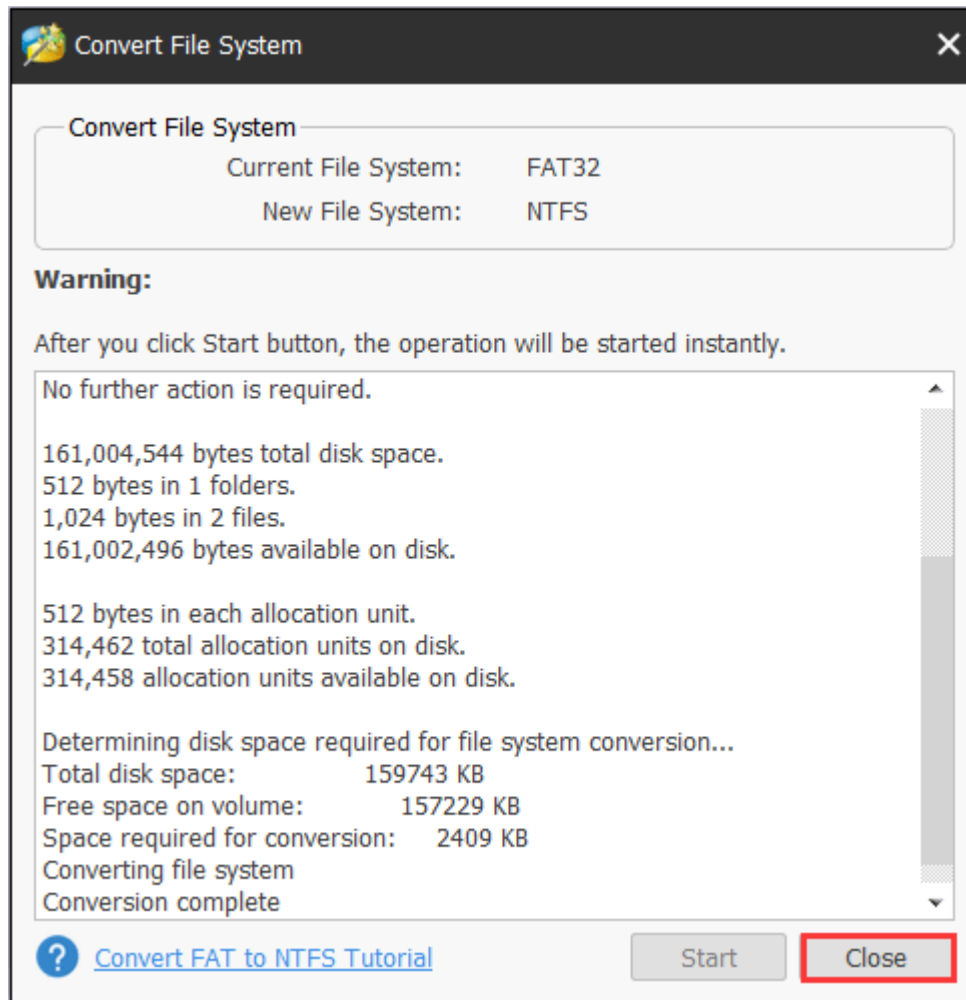
Step 1. Choose the FAT partition and select **Convert FAT to NTFS** from left **Change Partition** list or from right-click menu (which will emerge after right clicking on target FAT partition).



Step 2. Click **Start** button at the bottom of the pop-up window to get FAT to NTFS conversion started automatically and instantly.



Step 3. Click **Close** button when the conversion is completed.



61. Convert NTFS to FAT

62.1 About Convert NTFS to FAT

NTFS is now used by more and more people since it is a relatively better [file system](#) than FAT. But in some cases, users still need to **convert NTFS to FAT**. For example, when the target disk or program only supports FAT, users have to do such work. Well then, how to convert NTFS to FAT safely?

In fact, the operations are quite simple as long as users employ MiniTool Partition Wizard. By using the **Convert NTFS to FAT** function, users can **finish file system conversion without any data damage**.

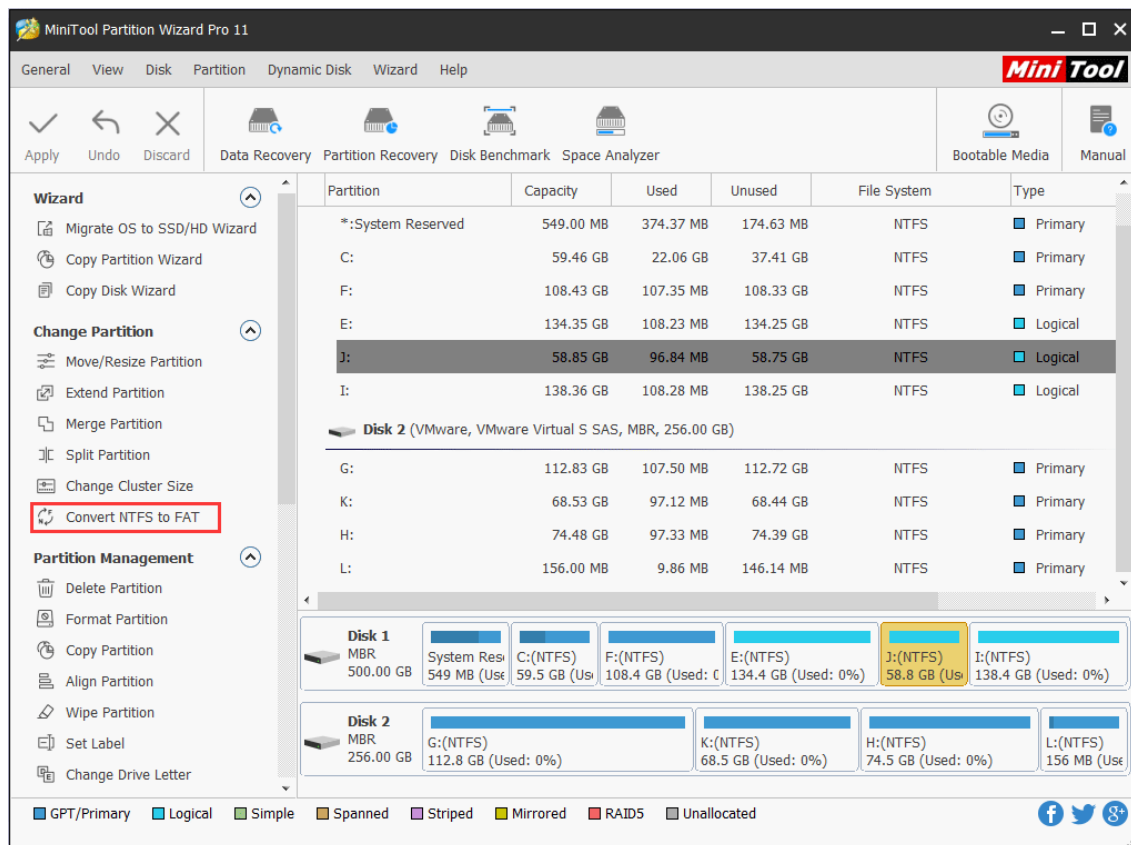
Note: Since the Convert NTFS to FAT function owns the capacity of automatic recognition, the software will convert an NTFS partition to a FAT 12 partition, a FAT 16 partition or a FAT 32 partition according to the actual partition size in the process of converting.

62.2 How to Convert NTFS to FAT

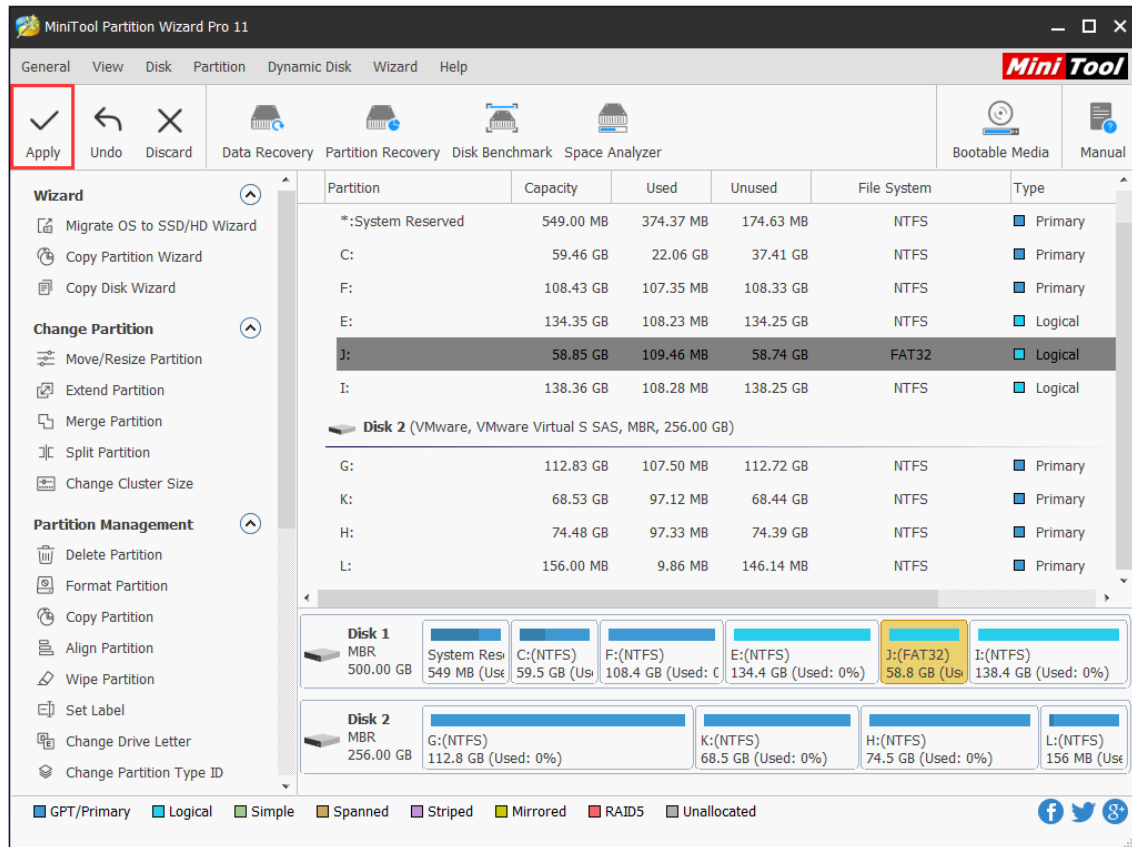
Please follow the MiniTool Partition Wizard tutorial below to convert file system from NTFS to FAT, without bringing any damage to data.

Note: MiniTool Partition Wizard Free Edition does not support this function. To use this function, users need to buy a professional edition or more advanced edition. View [Edition Comparison](#) to know more.

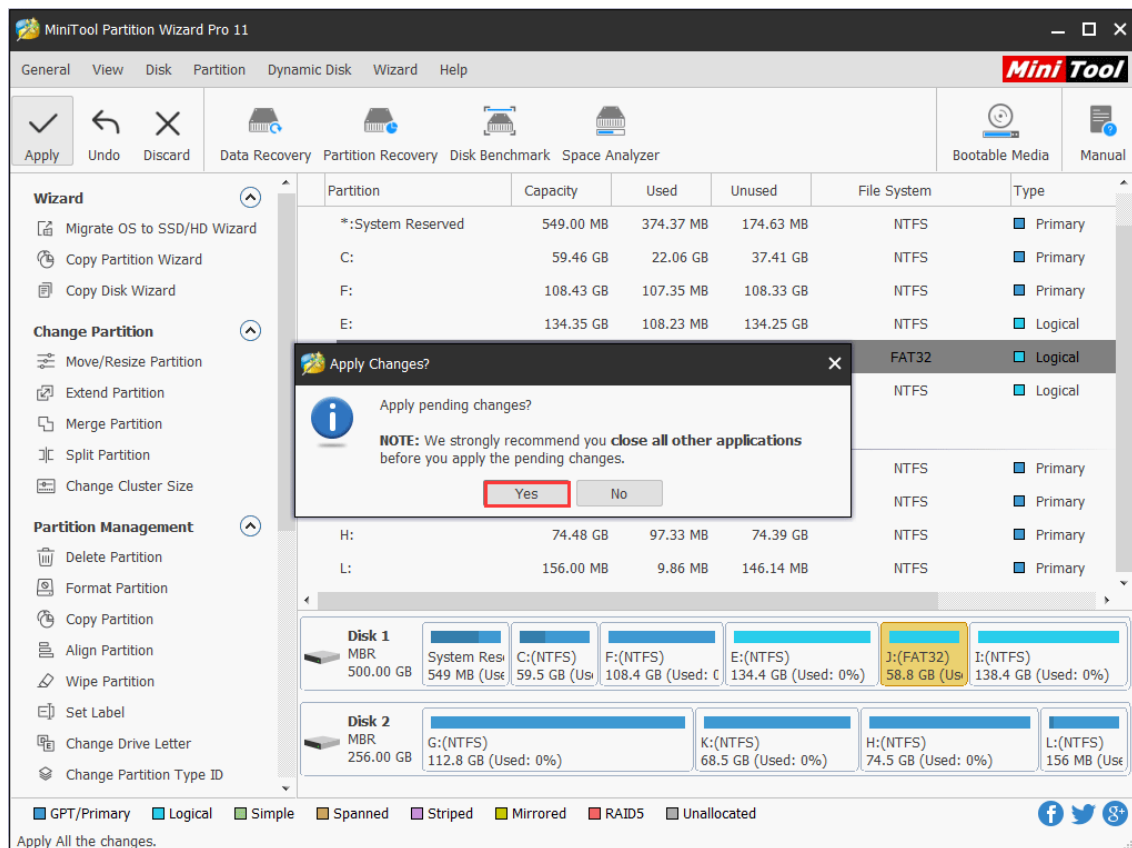
Step 1. Select the NTFS partition whose file system needs to be converted in Disk Map or Disk/Partition/Volume List area. Then choose **Convert NTFS to FAT** function form the left action panel.



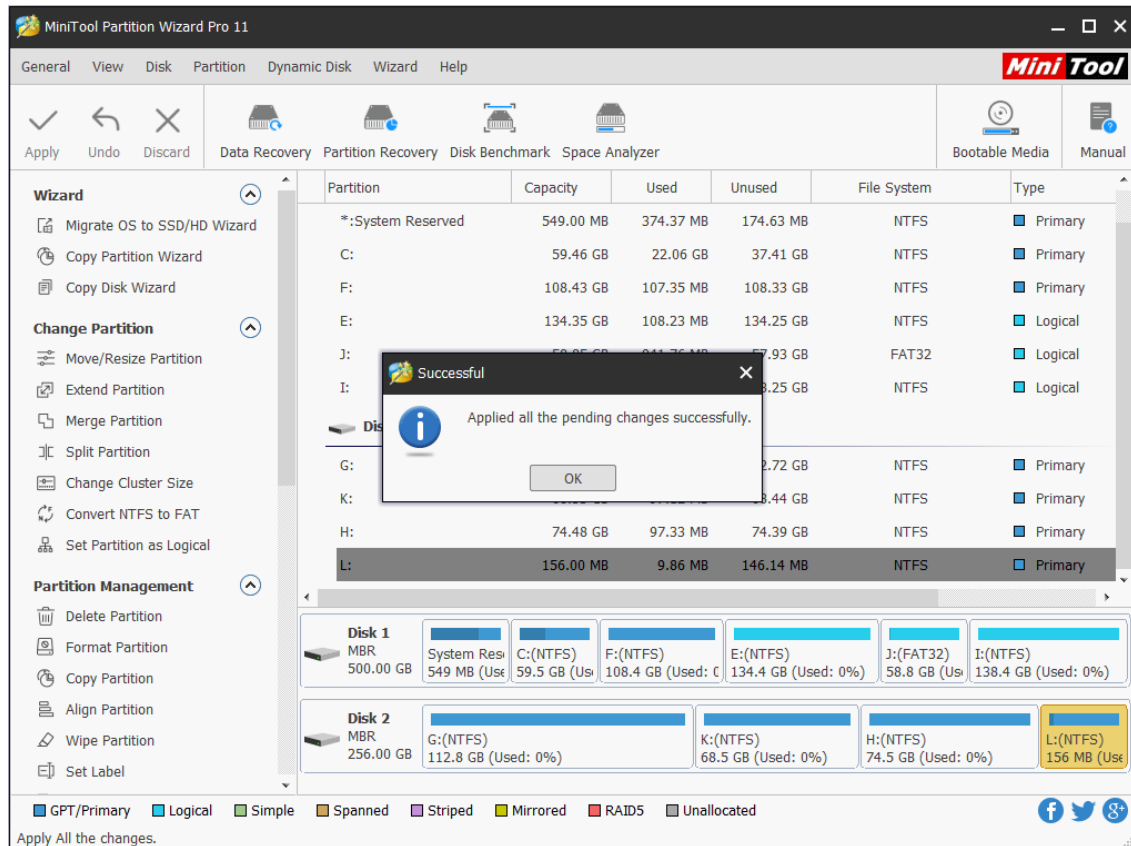
Step 2. Click the **Apply** button in the upper left corner to apply changes.



Step 3. Click on **Yes** button in the pop-up window to confirm pending changes on partition.



Step 4. Wait for all pending operations to complete. Click on **OK** button to end NTFS to FAT conversion when **Applied all the pending changes successfully** prompt window shows up.



62. Set Partition as Primary

63.1 About Set Partition as Primary

As we all know, partitions on an MBR disk can be divided into two types: [primary partition](#) and [extended partition](#) and the latter can be subdivided into several [logical partitions](#). What users actually see in disk is logical partition and primary partition. Well, in which situation do users need to **set partition as primary**? How to set a logical partition as primary?

First of all, we'd like to explain the **reason for setting partition as primary**.

If users want to install a second operating system to computer but have no more primary partitions, they have to set a logical partition as primary. That is because all the system files and boot files of an operating system must be saved to a primary partition and this partition should be different from the one that saves files of the original operating system.

In this article, we are going to give users a MiniTool Partition Wizard tutorial to show how to set partition as primary.

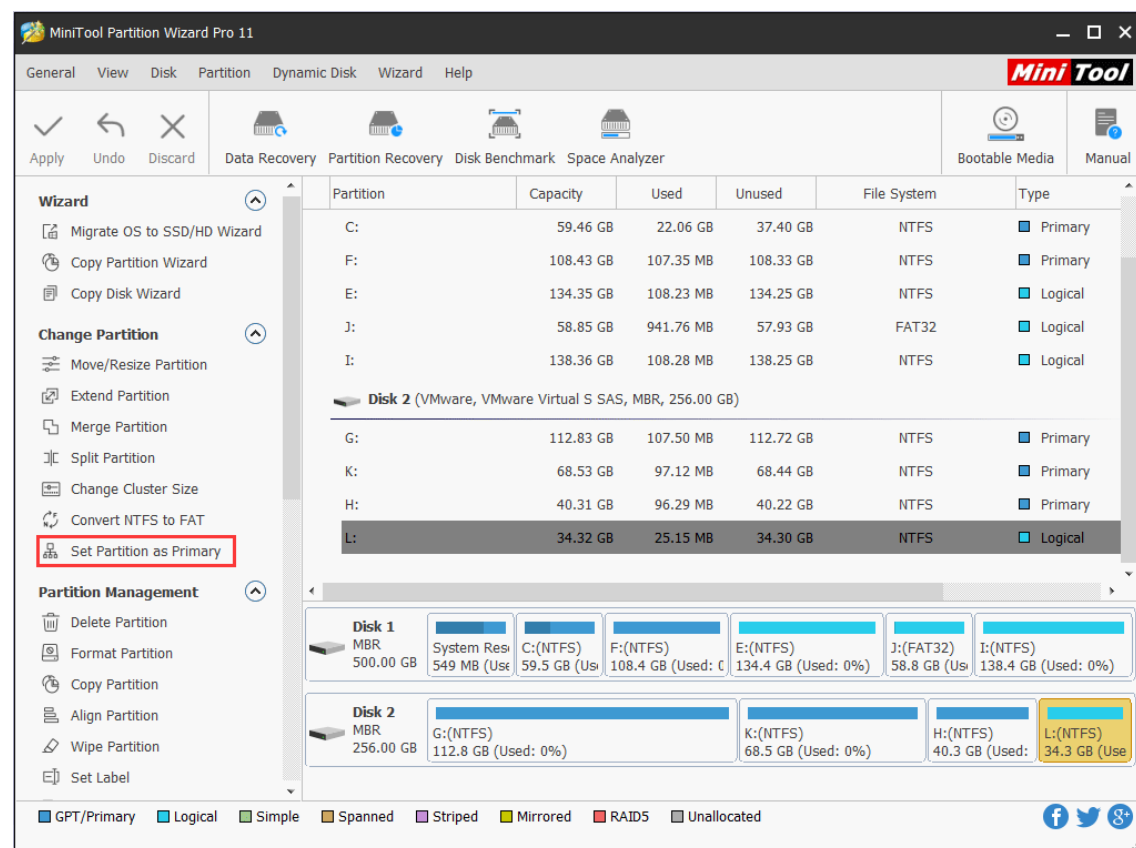
63.2 How to Set Partition as Primary

2 main limitations in setting partition as primary on MBR disk:

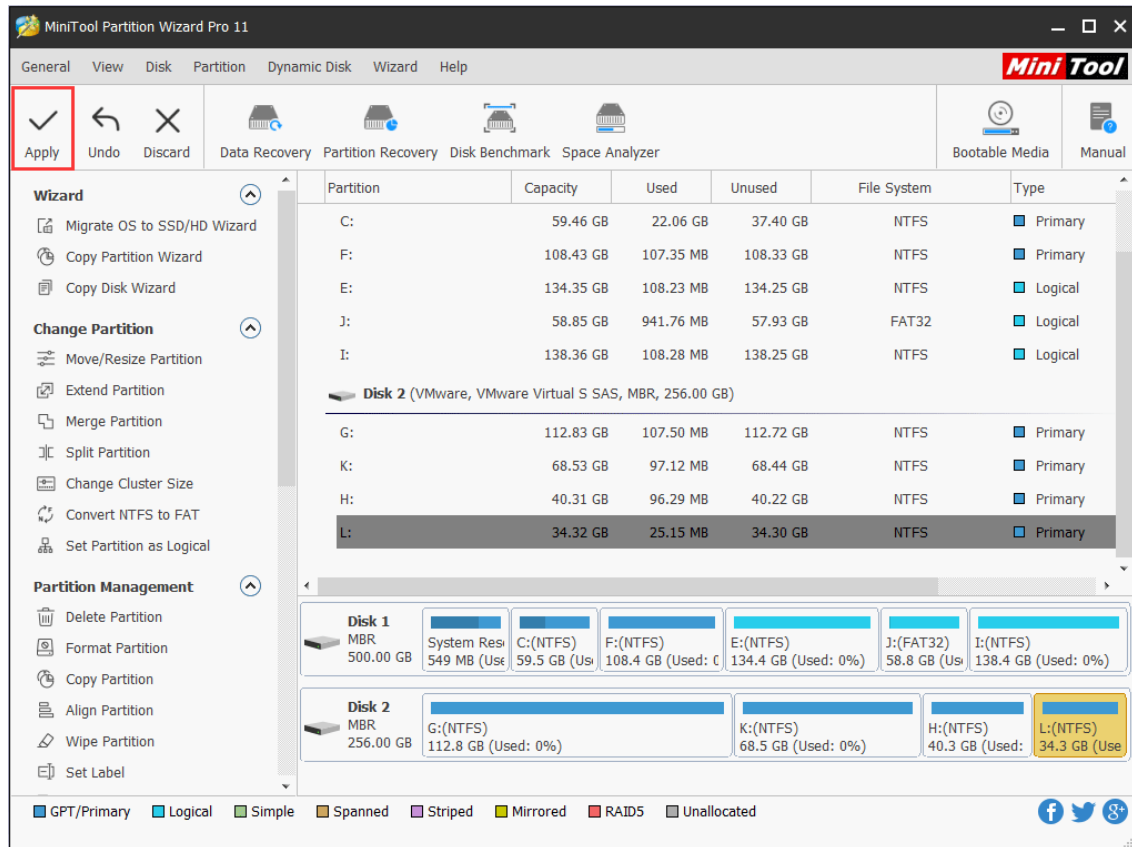
1. Users can't finish this task if there are already 3 primary partitions and more than one logical partition on the disk (since an MBR disk can support at most 4 primary partitions or 3 primary partitions and 1 extended partition).
2. Even though there are only 1 or 2 primary partitions, users still can't set a logical partition as primary if the adjacent partitions of this logical partition are both logical partitions (since MBR disk can support at most one extended partition; if this task could be made, there would be 2 extended partitions on the disk).

Now, please follow the MiniTool Partition Wizard tutorial given below:

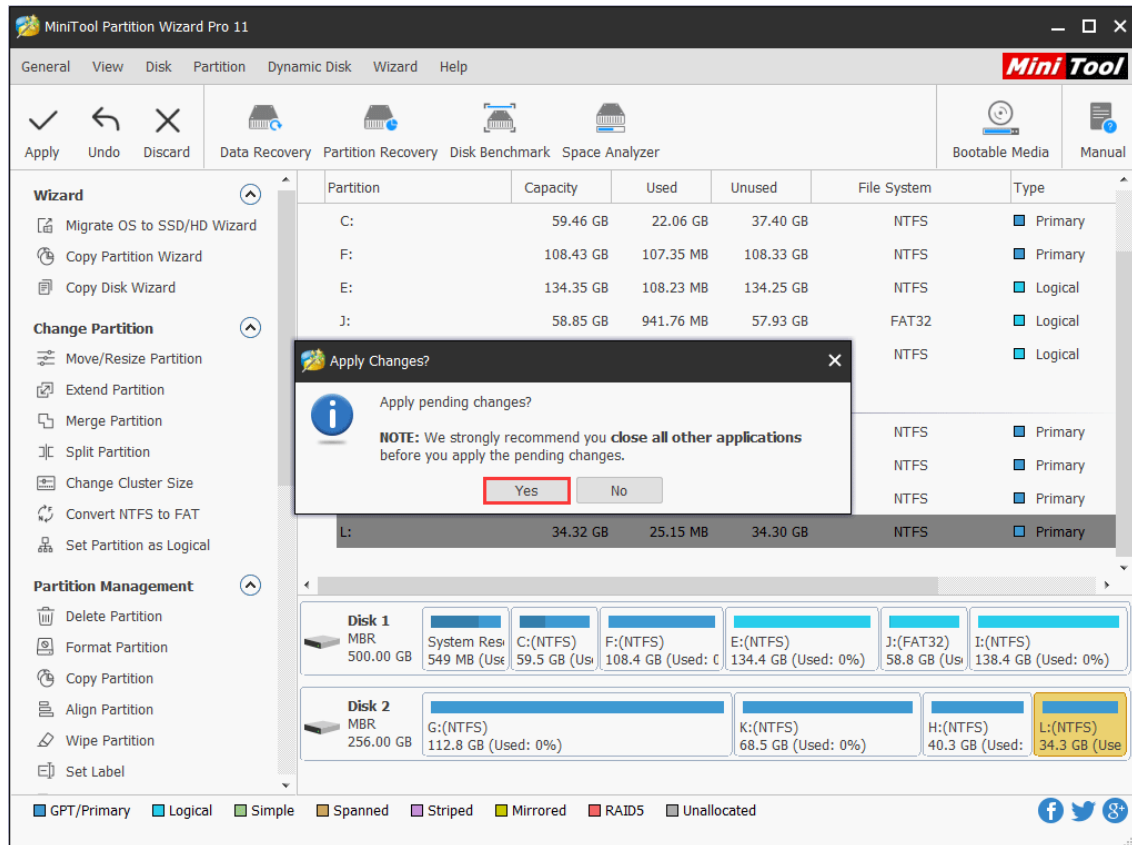
Step 1. Choose the logical partition that needs to be set as primary partition. Then choose **Set Partition as Primary** directly from left action panel.



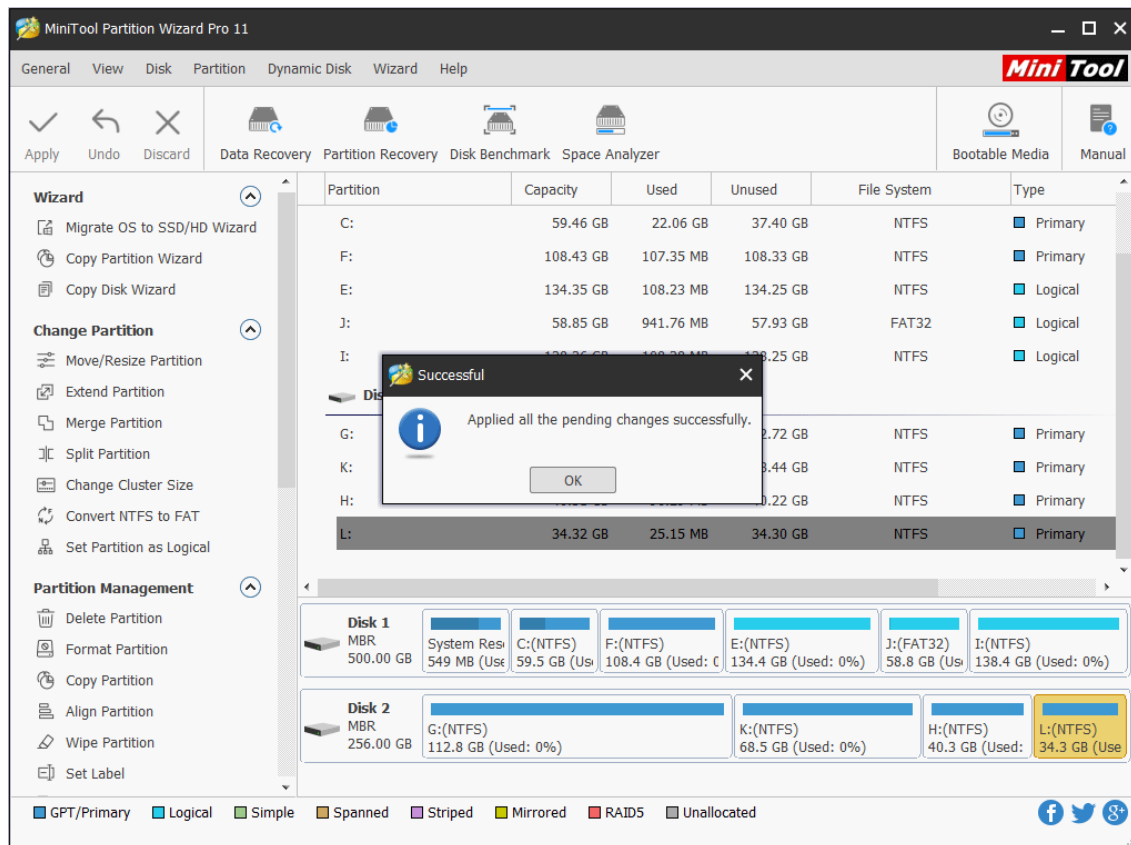
Step 2. Click **Apply** to all the pending operation.



Step 3. Tap Yes button to confirm changes on the selected logical partition.



Step 4. Tap **OK** button in the prompt window at the end of the task.



63. Set Partition as Logical

64.1 About Set Partition as Logical

One of the biggest limitations of MBR disk is that it can **support up to 4 primary partitions** (or 3 [primary partitions](#) plus 1 [extended partition](#)). Imagine this, users already have 4 primary partitions but still need to create more partitions with free space on this disk, users will receive this prompt when trying to create new partitions in Disk Management.

What are users supposed to do to work this out?

Certainly, the best way to solve this problem is to **set partition as logical**. After that, users can get as many [logical partitions](#) as they want by adjusting the size of existing partitions.

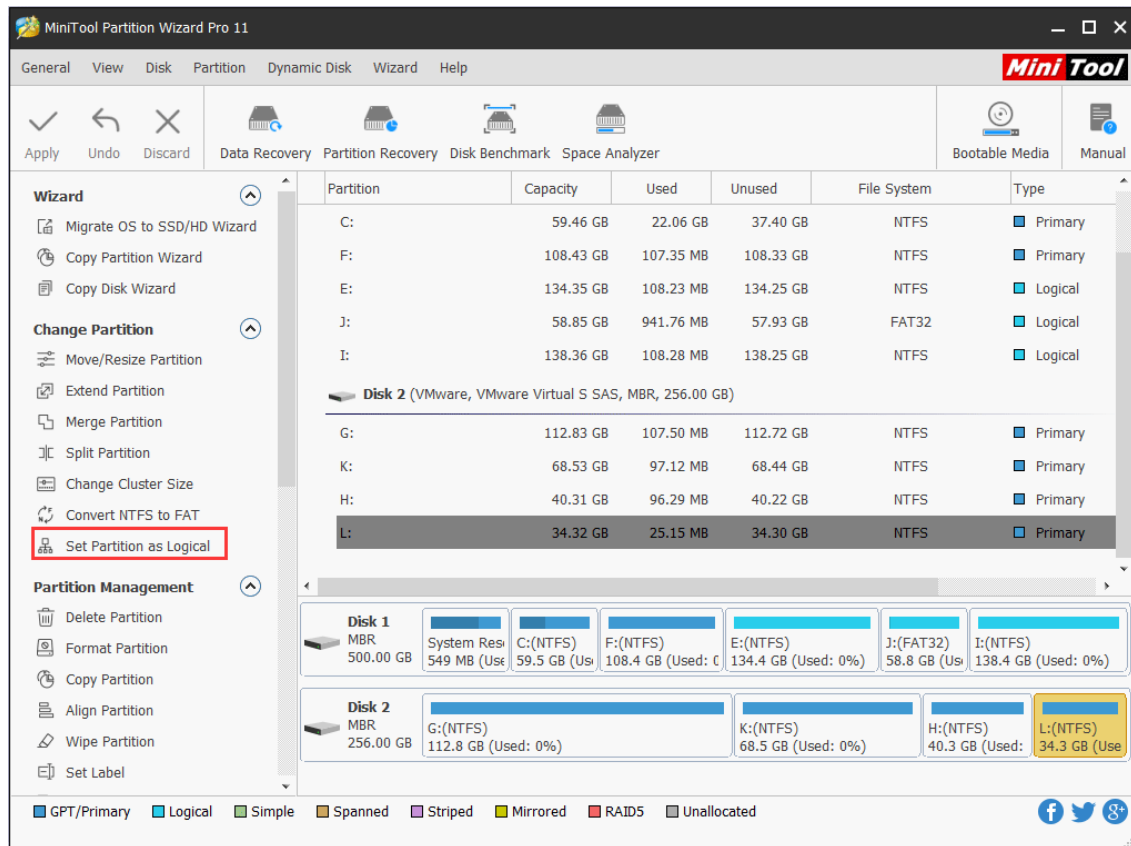
Now, the only obstacle is how to set partition as logical. Considering that users are not familiar with such task at all, we feel glad to offer a wonderful tool named MiniTool Partition Wizard.

Detailed tips can be found in each interface of this tool, so users got nothing to worry about.

64.2 How to Set Partition as Logical

Here's the MiniTool Partition Wizard tutorial for setting a primary partition as logical; it only consists of three steps.

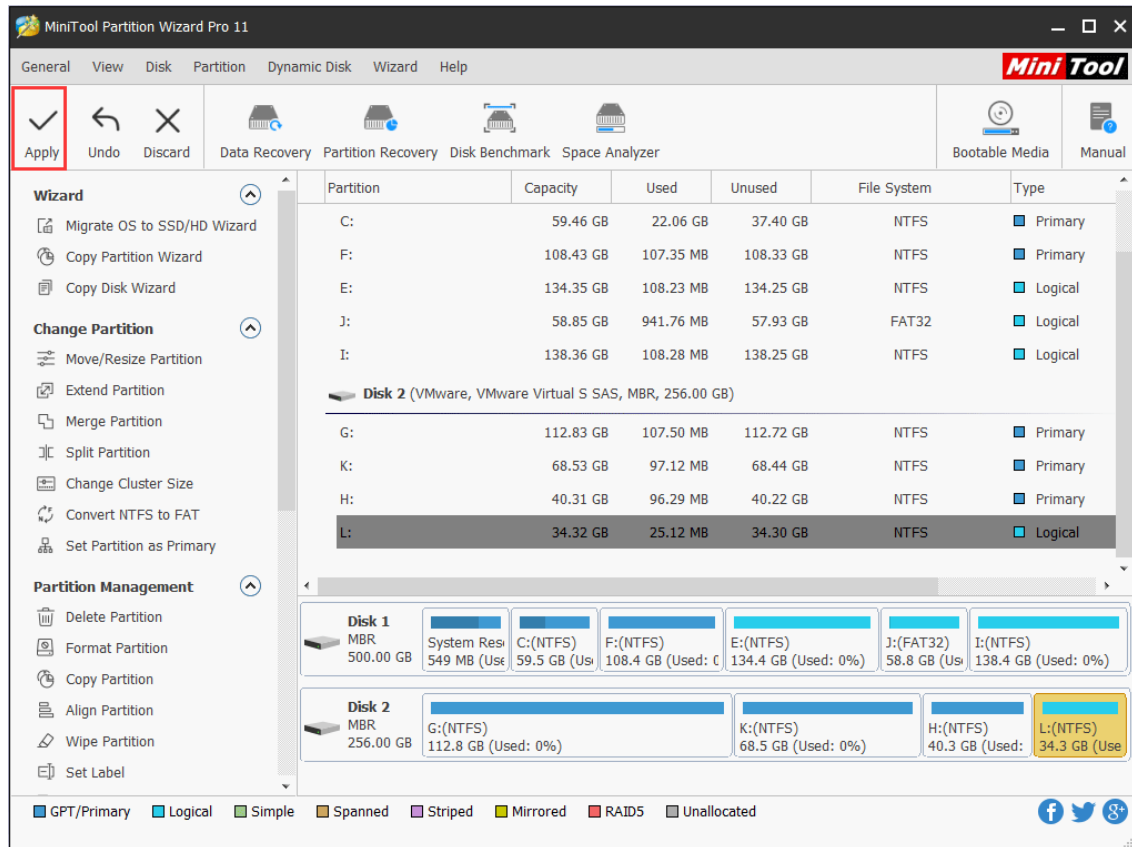
Step 1. Choose any one primary partition that users want to set as logical from the main interface of the software (except for the one that includes system files). Then choose **Set Partition as Logical** function directly from **Change Partition** list in left action panel.



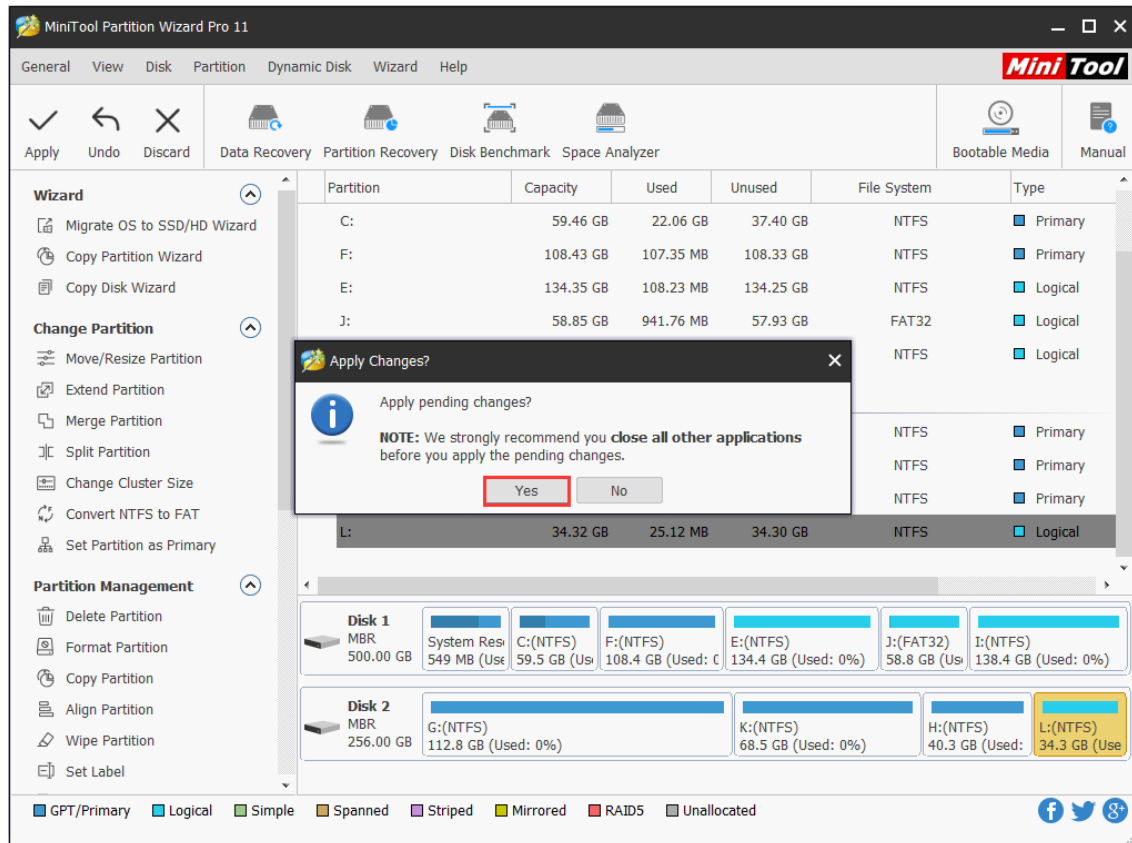
Of course, users can also activate **Set Partition as Logical** function through following ways.

1. right click the target partition -> choose **Set Partition as Logical**;
2. select Partition in menu bar -> choose **Modify** -> choose **Set Partition as Logical**.

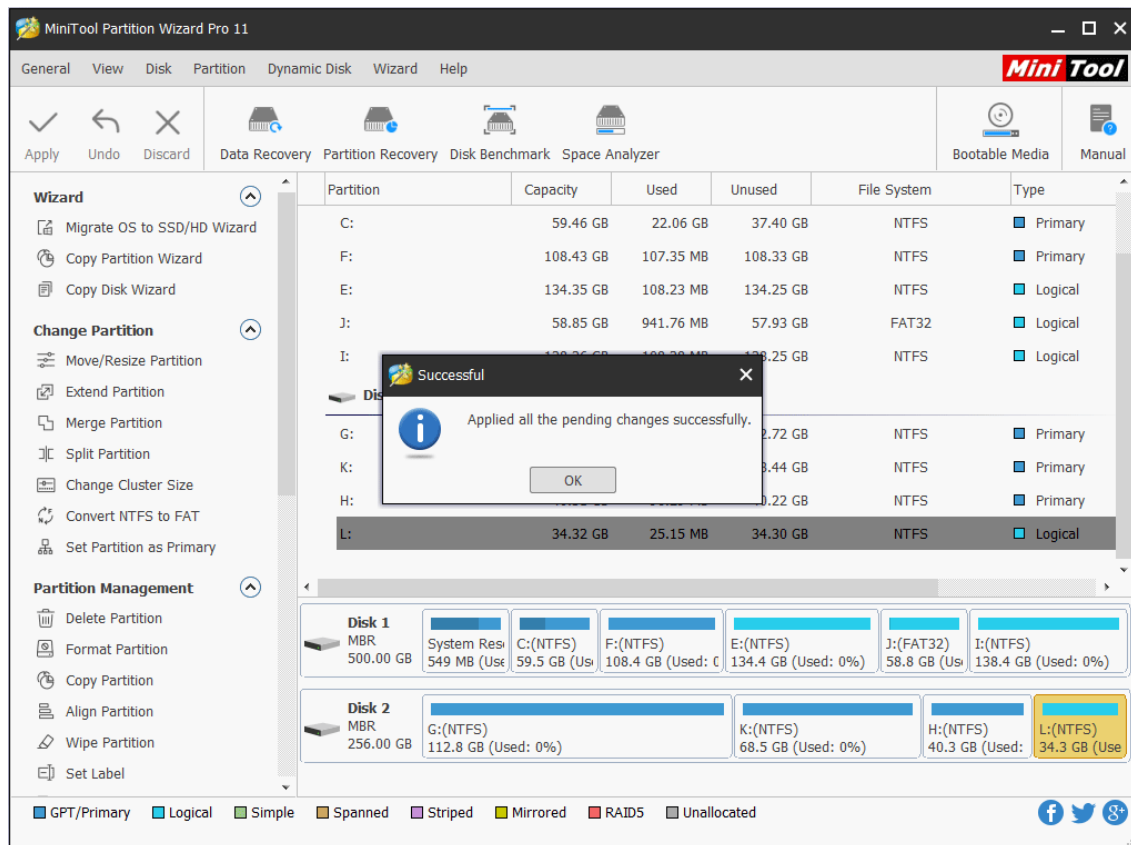
Step 2. Tap **Apply** button in the toolbar to execute pending operation immediately.



Step 3. Click **Yes** in the prompt window to allow changes.



Step 4. Tap **OK** button in successful prompt window to end the whole task.



64. Set Active/Inactive

65.1 About Set Active/Inactive

When users install system on a hard drive, there will be a system partition. If system partition is not set active, Windows will be unbootable, as only setting the system partition active can MBR visit the very partition to find Windows boot programs BOOTMGR and Boot Configuration Database.

Normally, if users have added a new disk to computer and finished migrating OS from the original disk to the new one, user need to **set boot partition on the new disk as active** and then set it to be

Note: If users use Migrate OS to SSD/HD function of MiniTool Partition Wizard to transfer OS to another drive, the software will set the new drive as active automatically at the end of OS migration.

the first boot device in order to make computer boot from it successfully.

Now, the question comes – how to set active/inactive manually when necessary? We'll introduce

the method of using **Set Active/Inactive** in MiniTool Partition Wizard.

Here is the step-by-step MiniTool Partition Wizard tutorial.

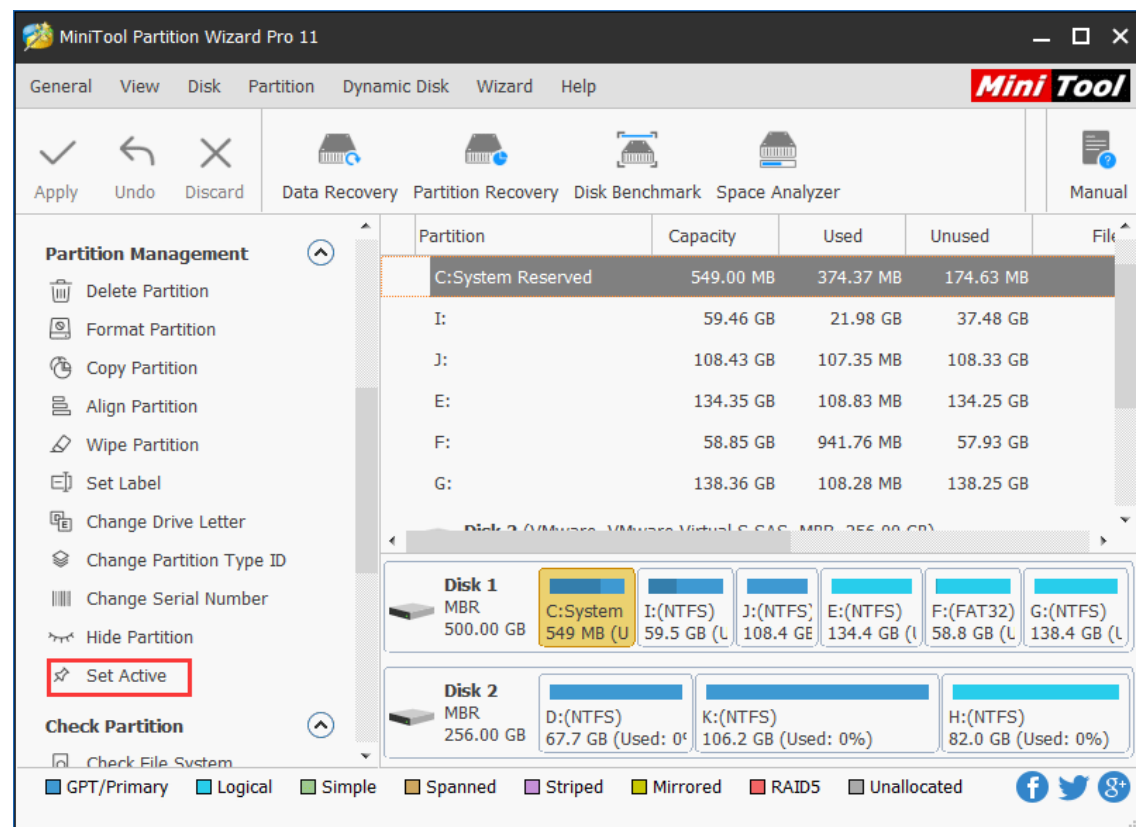
65.2 How to Set Active

Note: The following operations are completed with MiniTool Partition Wizard Bootable Edition. users can use MiniTool Partition Wizard's **Bootable Media Builder** feature to [create bootable CD/DVD/USB flash drive](#) or build an ISO image of a bootable disc. After that, [use the bootable disk to start computer](#) to get the main interface of MiniTool Partition Wizard Bootable Edition.

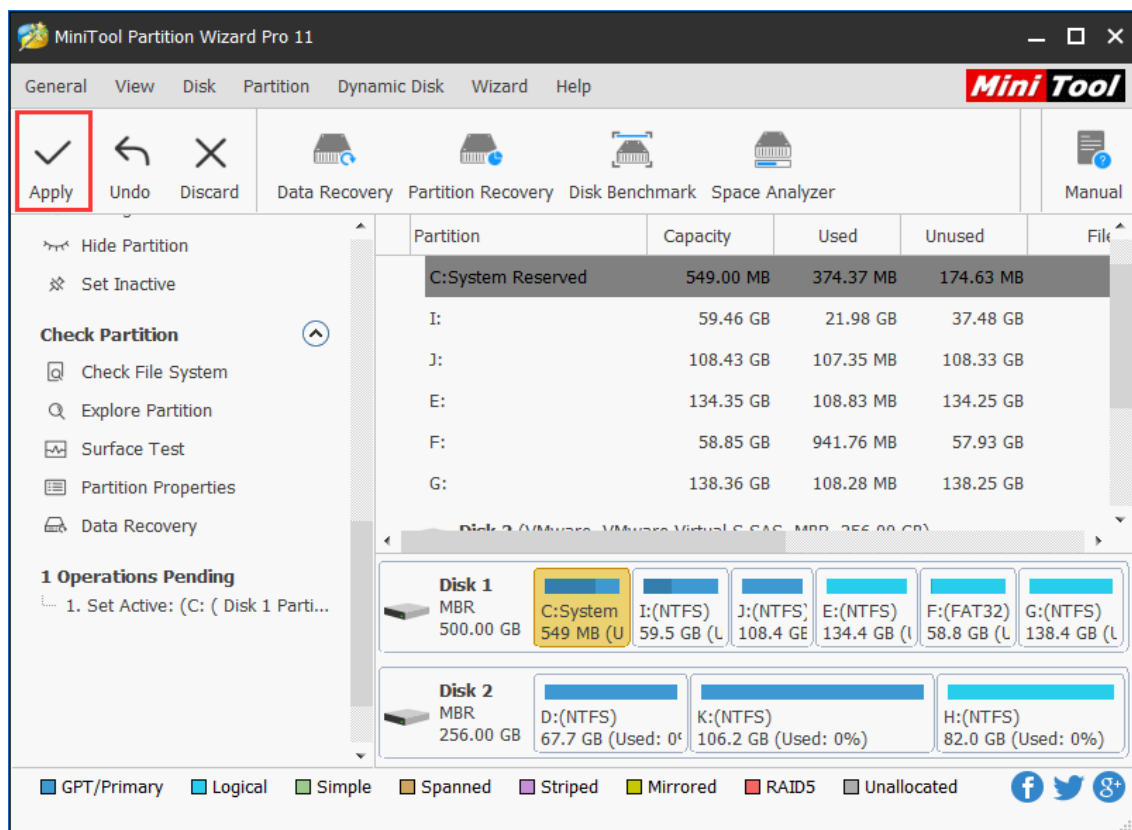
Step 1. Select the partition users would like to set as active and choose **Set Active** from the left action panel.

Kindly Remind:

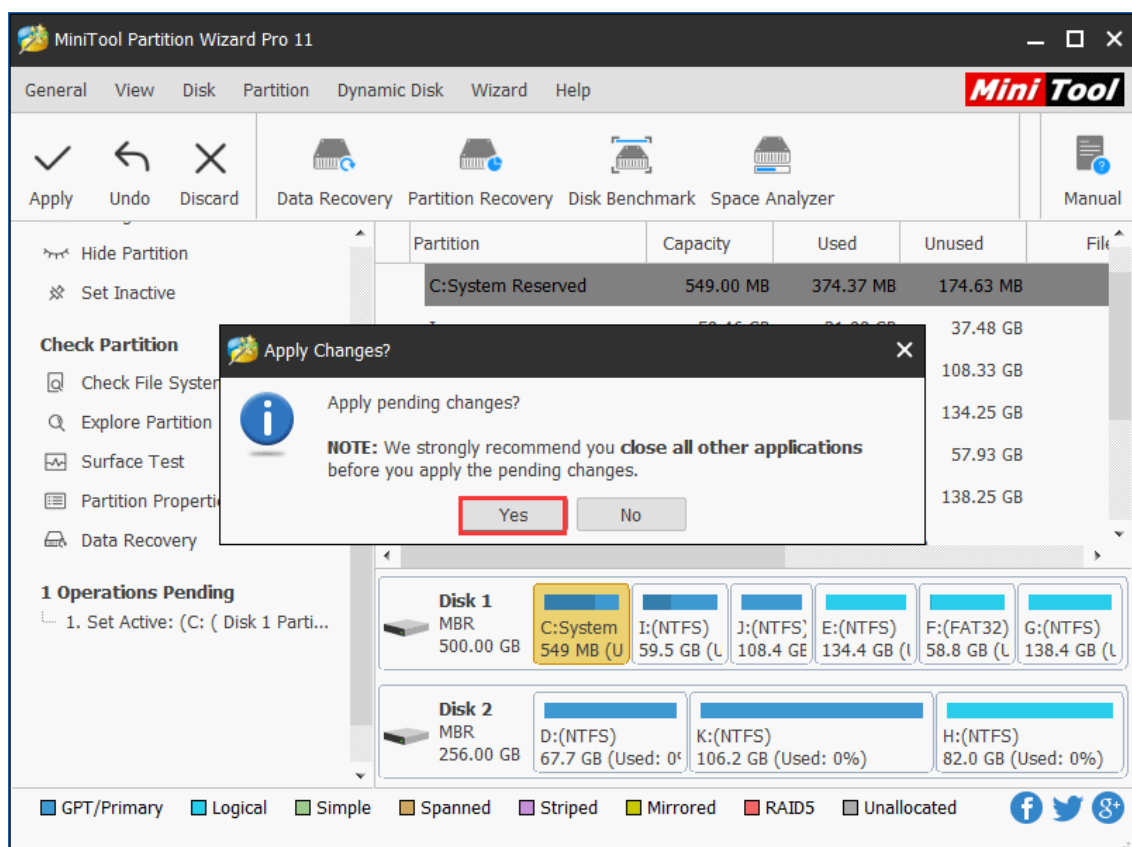
- If users are running an MBR disk, only the primary partitions on it can be set active. But if the disk is GPT, there's no such limit.
- One disk can hold at most 1 active partition.
- If users set the wrong partition as active and change the original active partition into inactive, they will be blocked out from Windows system.



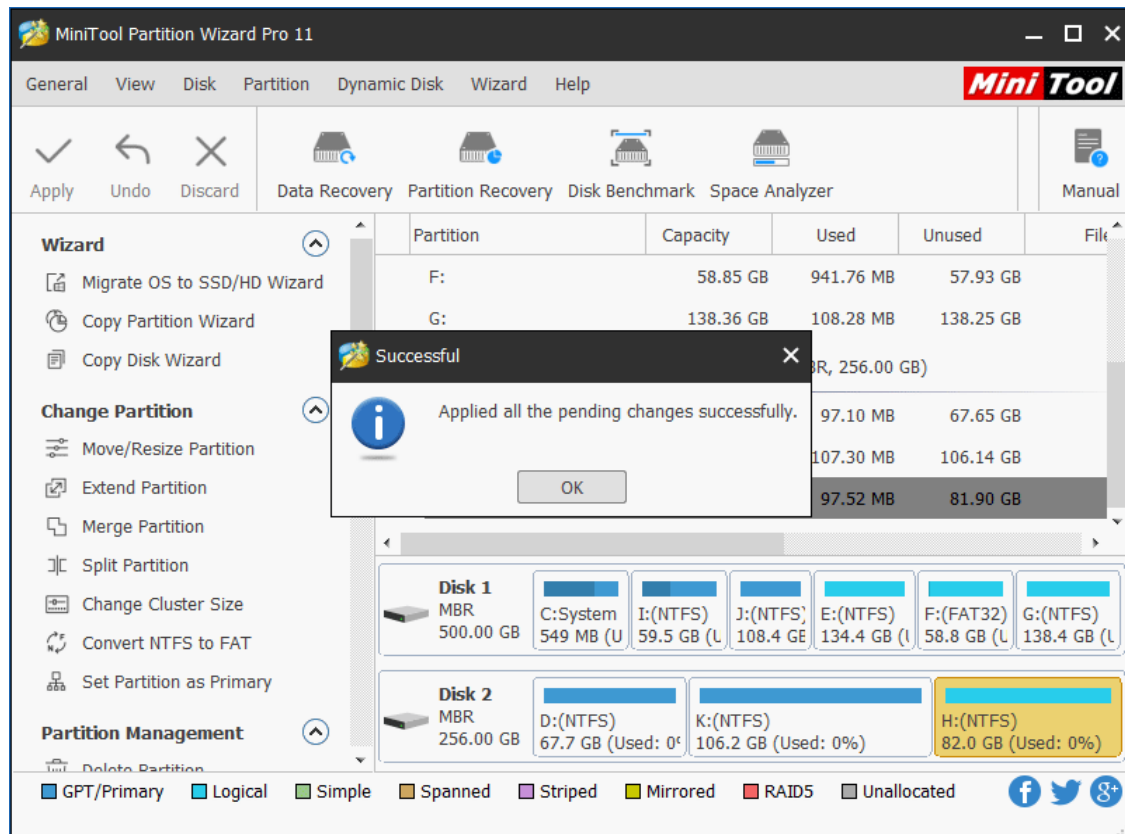
Step 2. Click on **Apply** button to perform pending operations.



Step 3. Choose **Yes** from **Apply Changes** prompt window to confirm.



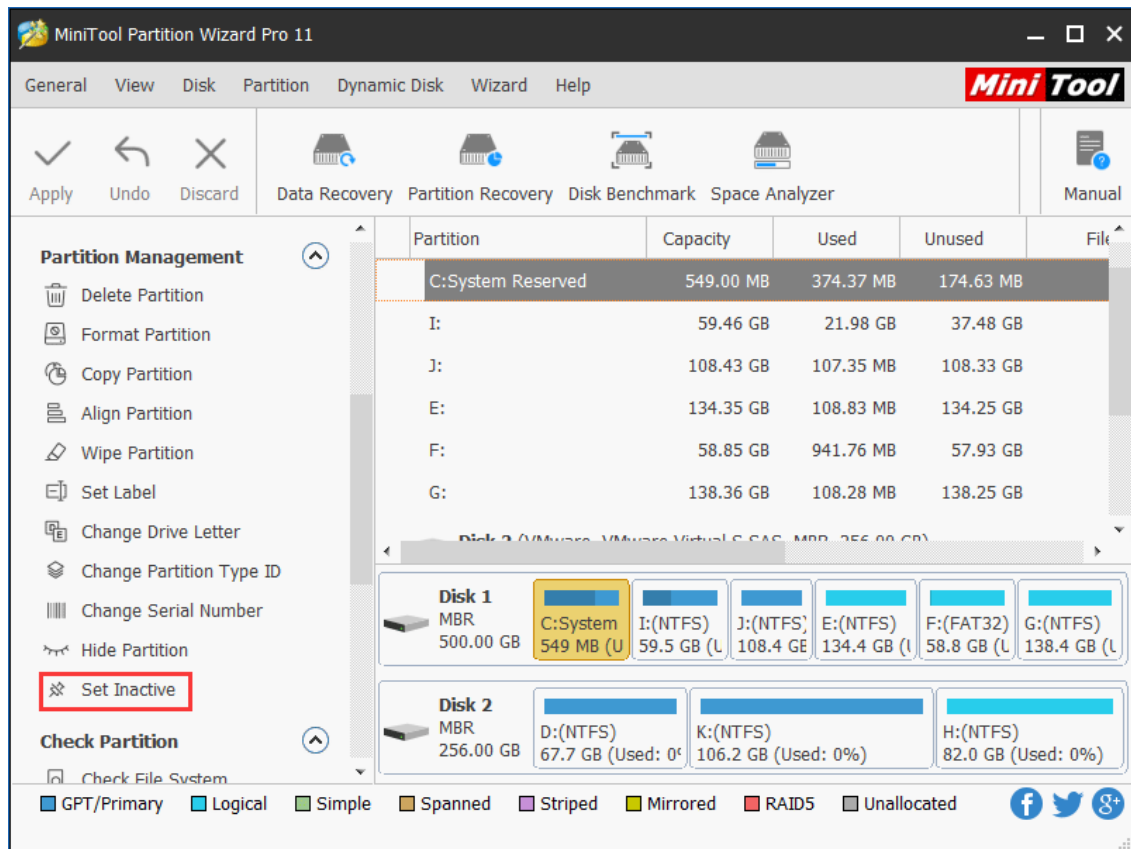
Step 4. Click on **OK** button when the **Successful** prompt window shows up so as to end this task.



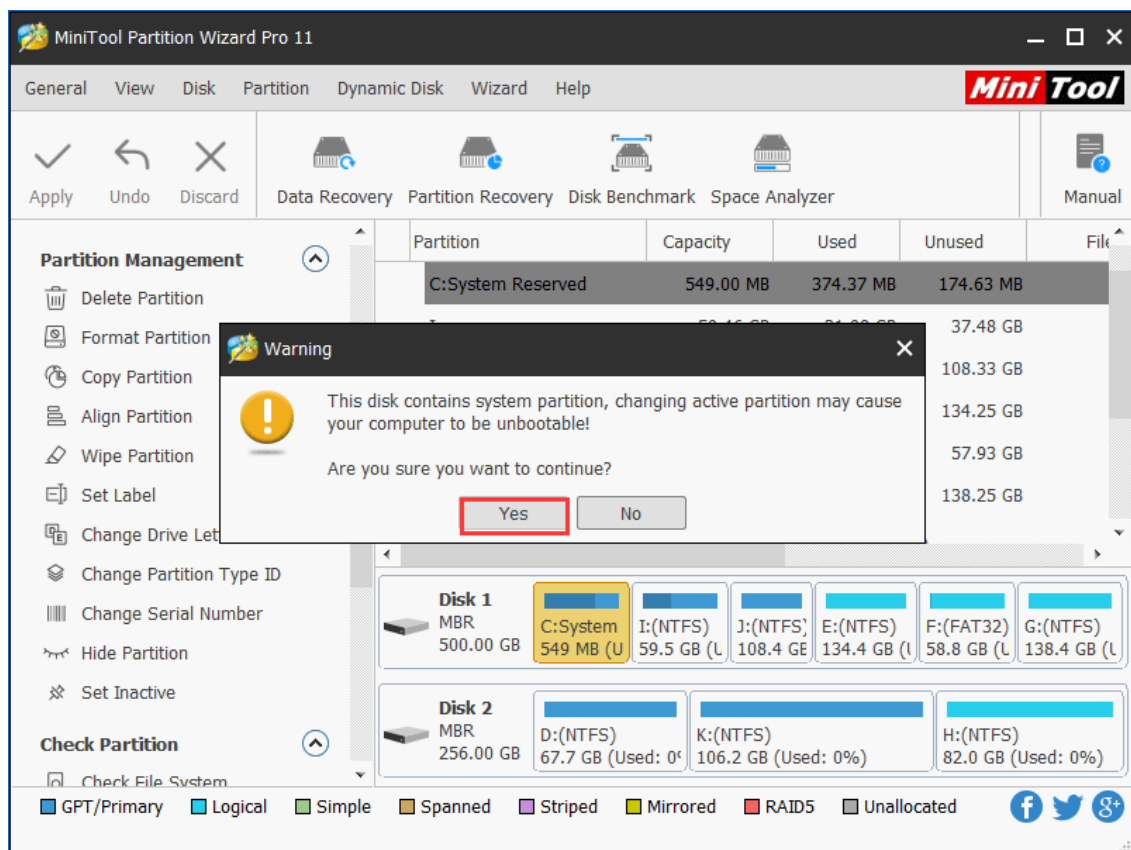
65.3 How to Set Inactive

The process to set inactive is very similar to set active.

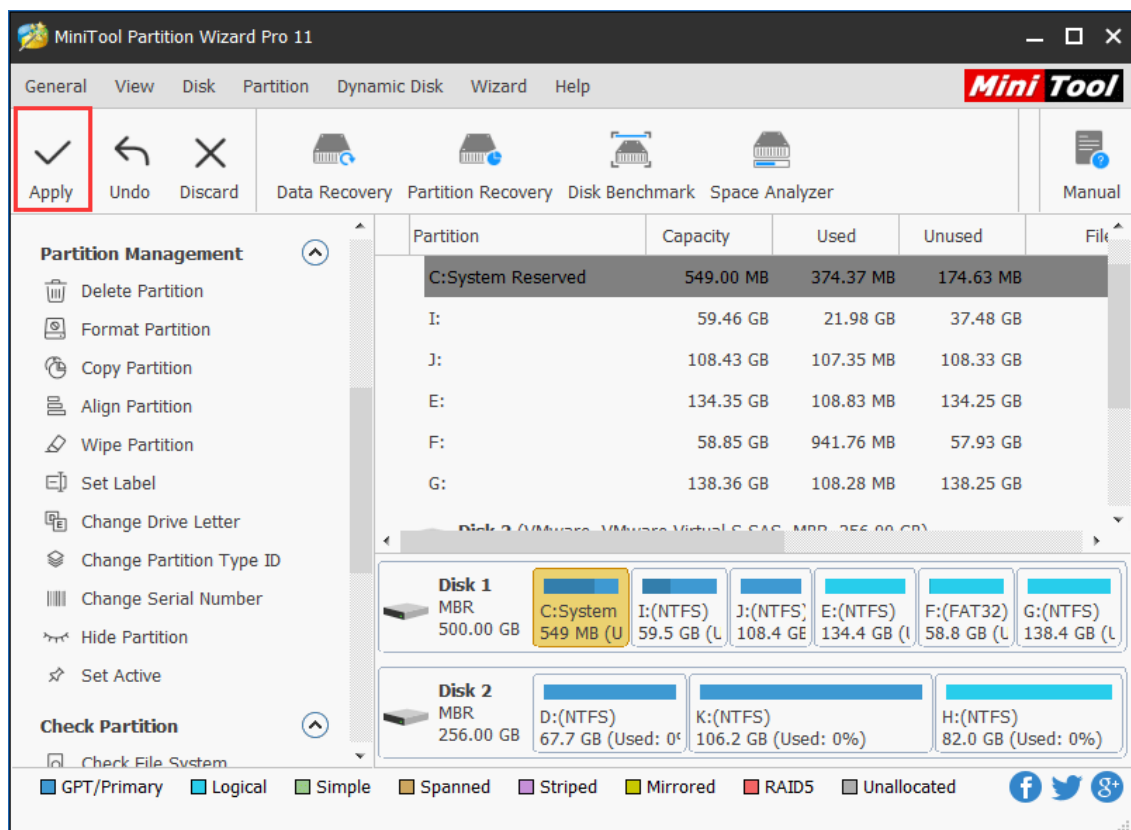
Step 1. Select the partition users would like to set as inactive and choose **Set Inactive**.



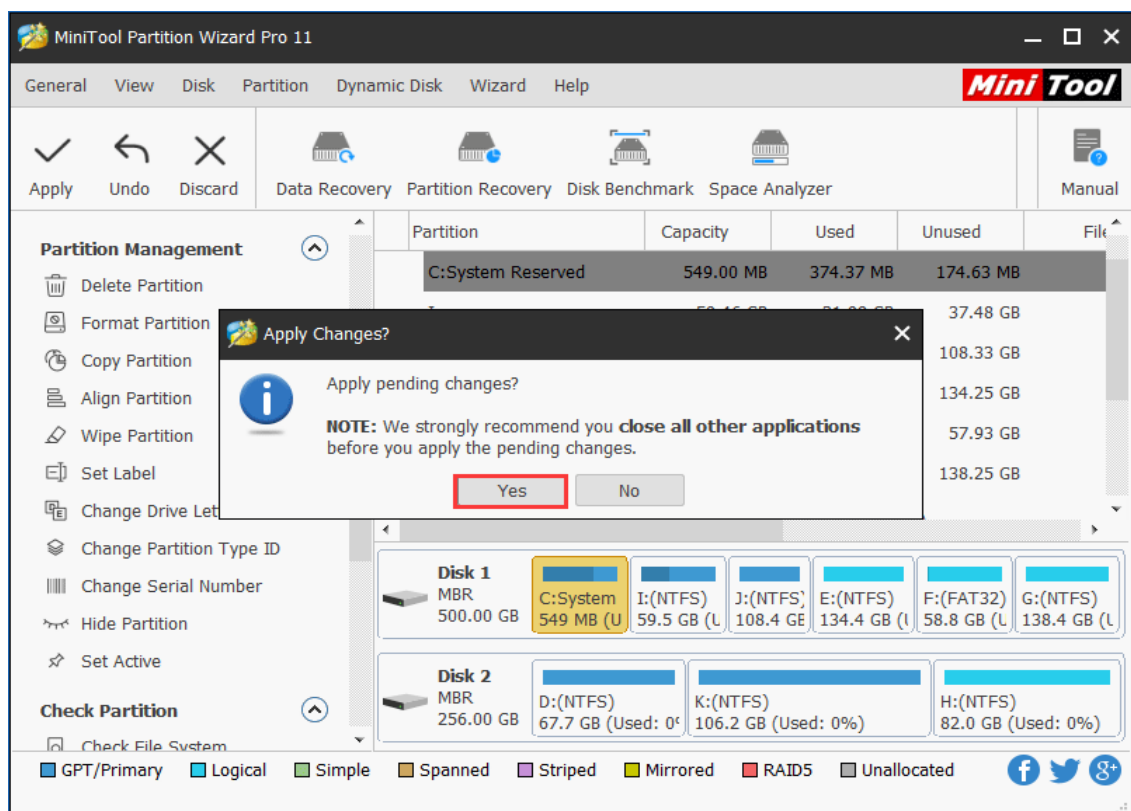
Step 3. Click on **Yes** button in **Warning** window to continue.



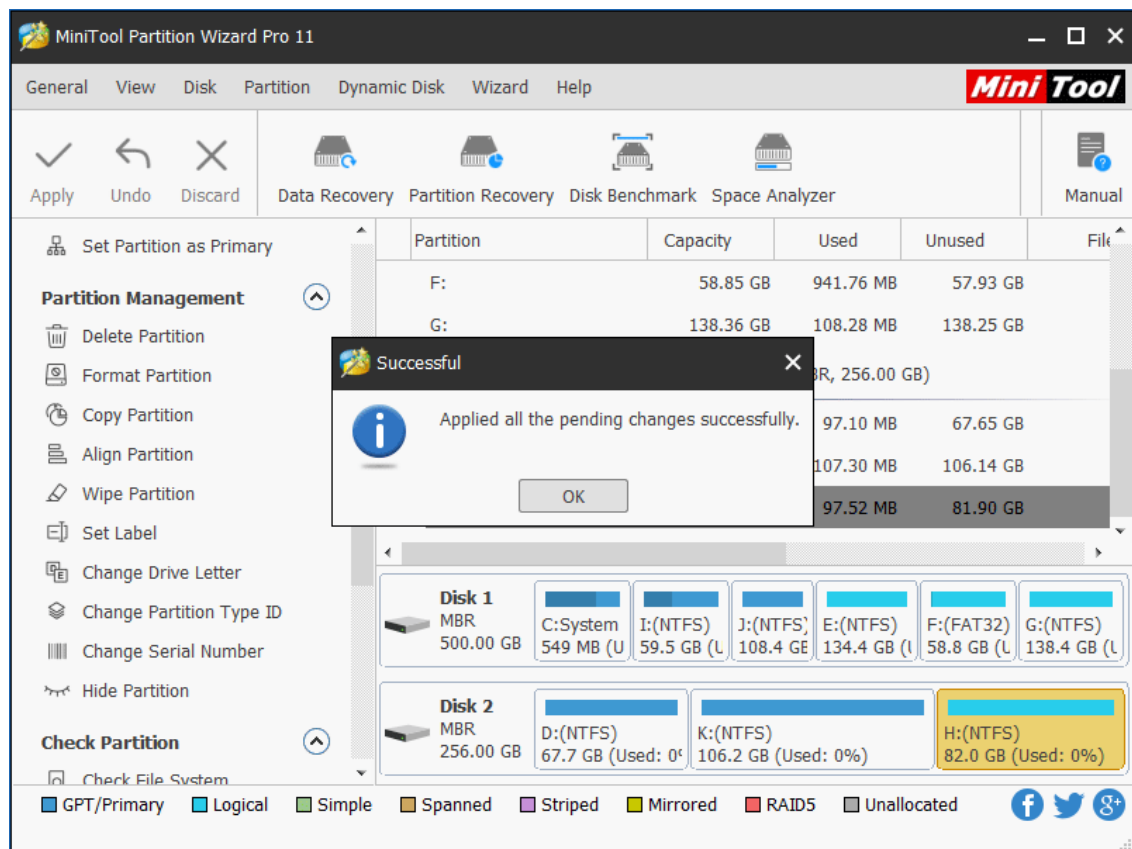
Step 4. Click on **Apply** button to perform pending operations.



Step 5. Choose **Yes** from Apply Changes prompt window to confirm.



Step 6. Click on **OK** button when the Successful prompt window shows up so as to end this task.



65. Initialize to MBR Disk

66.1 About Initialize to MBR Disk

We found an increasing number of users now would like to initialize their disk to MBR, due to the following reasons:

- No UEFI option is offered in BIOS, operating system has to be installed on MBR disk.
- Operating systems like Windows 7 32-bit and Windows Vista 32-bit do not support GPT disk.
- Some programs do not support GPT disk.

However, if users need to mount a second operating system to the GPT disk, they may be disappointed. The reason is simple – common BIOS system doesn't support booting from GPT disk. In this case, users may need to **initialize to MBR disk** sometimes so as to keep both operating systems.

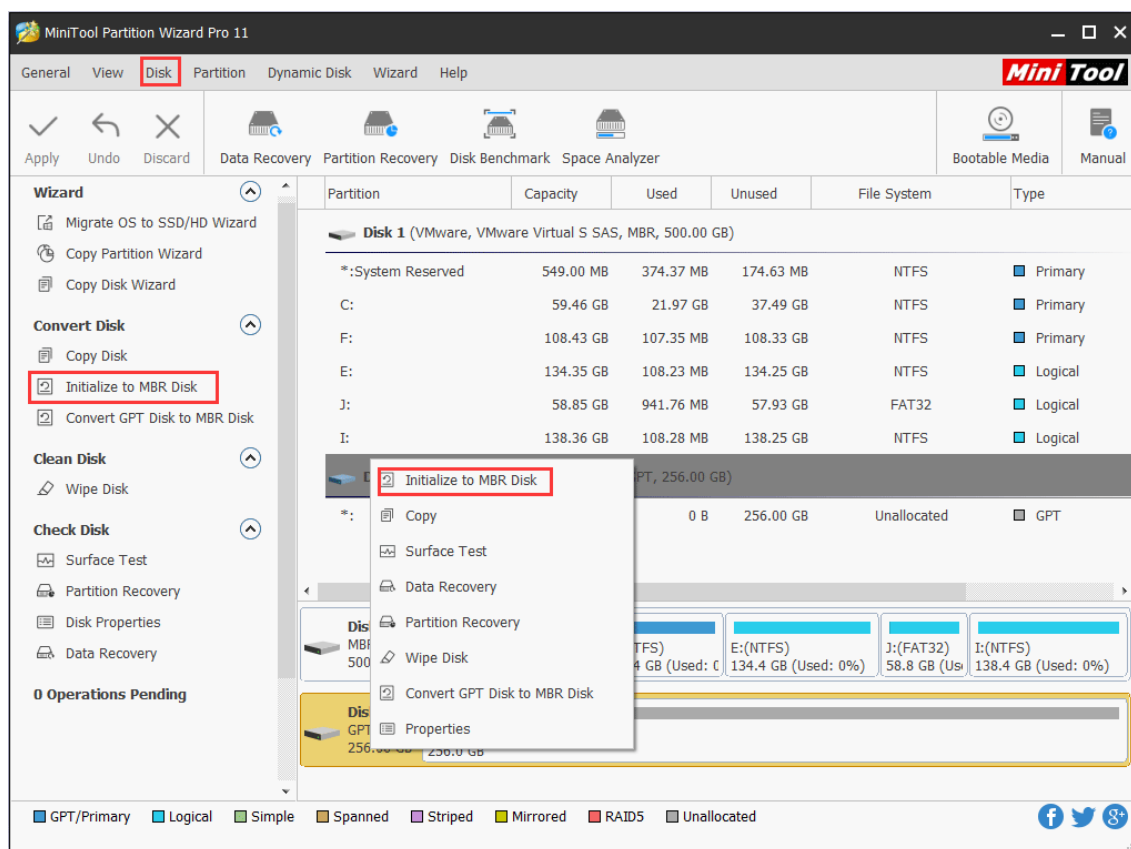
Here, we are going to introduce a good tool – MiniTool Partition Wizard to help with this.

66.2 How to Initialize to MBR Disk

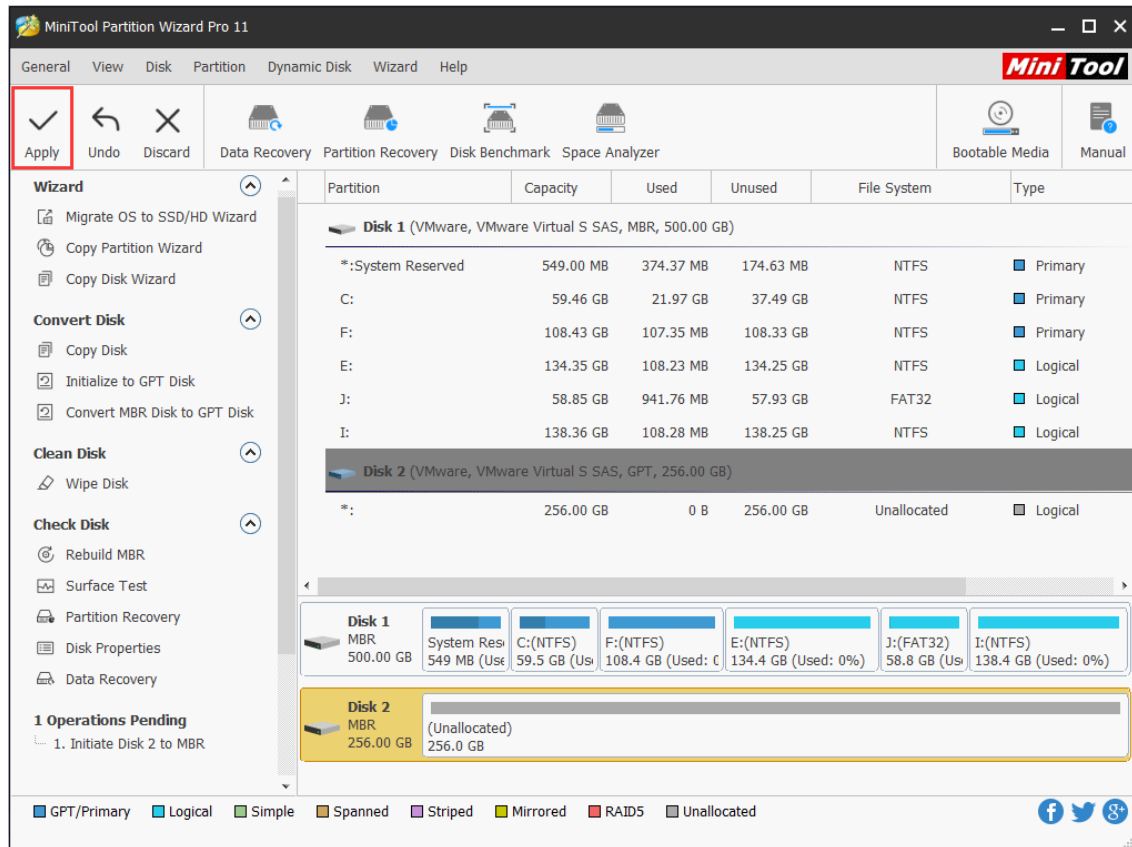
If users don't know how to initialize to MBR disk and never have such experience. Just follow the MiniTool Partition Wizard tutorial we give here to complete disk initialization easily:

Step 1. Enter MiniTool Partition Wizard main interface. And then select **Initialize to MBR Disk** by

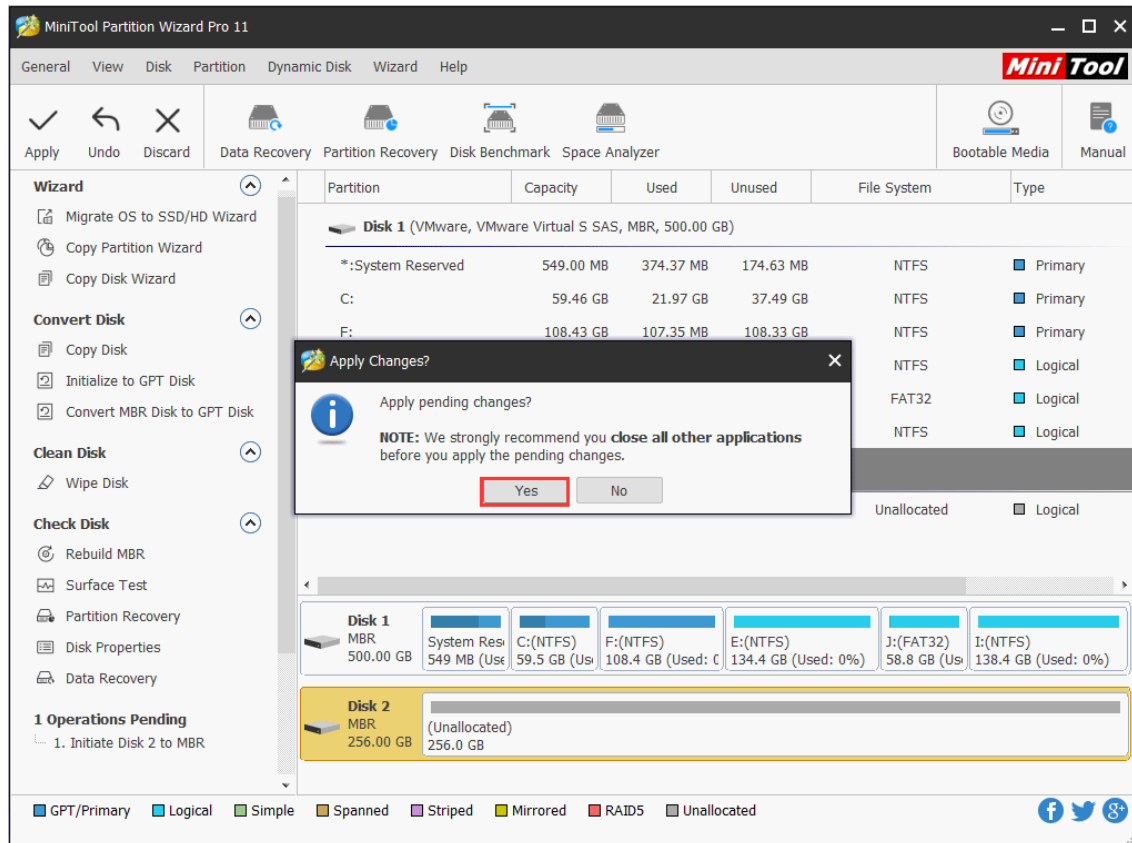
- clicking on it under **Convert Disk**.
- choosing it from right-click menu of target disk.
- clicking on it from the drop-down menu of **Disk** option in the menu bar.



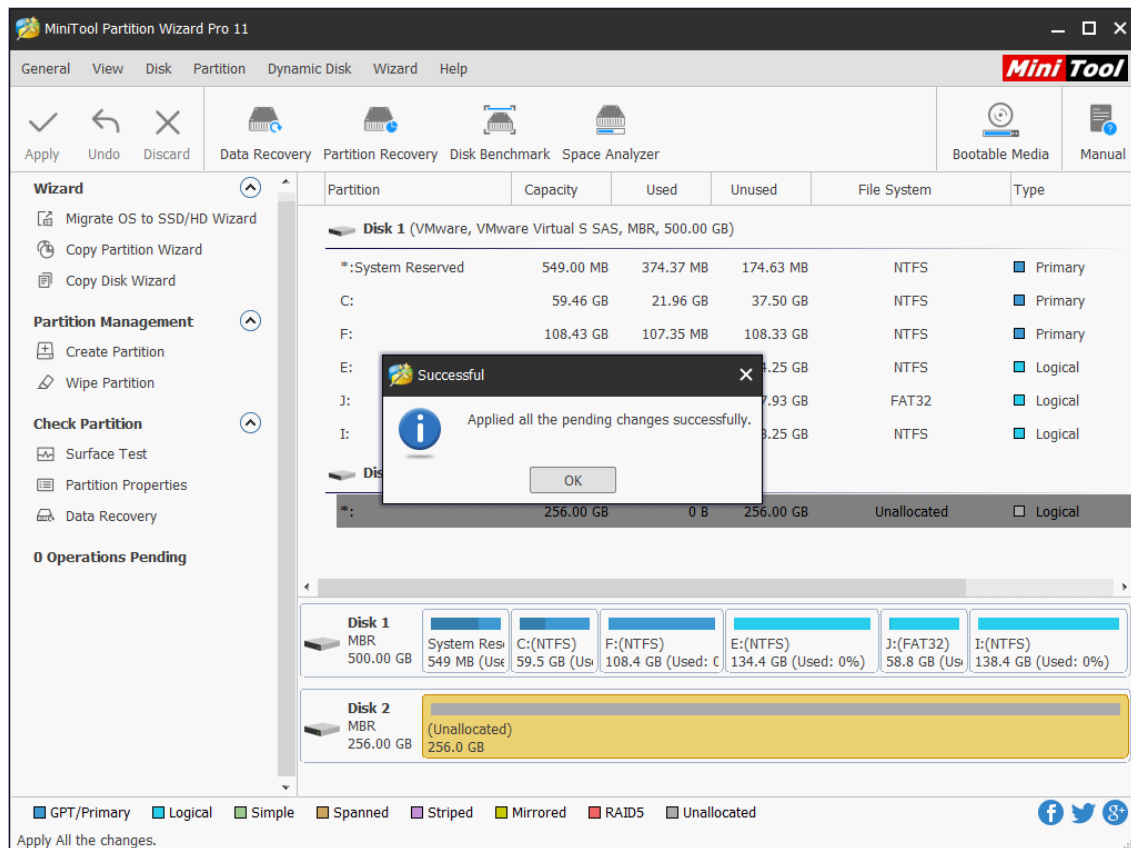
Step 2. Tap **Apply** button in the upper left corner to execute pending operations.



Step 3. Confirm pending changes by clicking on **Yes** button in the prompt window.



Step 4. Click on **OK** button in the prompt window that will appear automatically at the end of disk initialization.



66. Initialize to GPT Disk

67.1 About Initialize to GPT Disk

Adding new hard disk is regarded as a good way to extend the capacity of the computer. With the fast development of hardware technology, large-capacity hard disks are becoming increasingly common. After a new hard disk with a large capacity is connected to Windows computer, users must initialize it to GPT/MBR in order to use it for data storage.

However, how to finish the disk initialization task easily draws people's attention. What if users would like to initialize it to GPT? Compared to MBR, GPT has some advantages:

- [GPT](#) supports at most 128 partitions in Windows, while [MBR](#) only supports 4 primary partitions or 3 primary partitions plus 1 extended partition.
- The largest disk capacity that can be managed by GPT mounts to 18EB, while the capacity limit of an MBR disk is only 2TB.

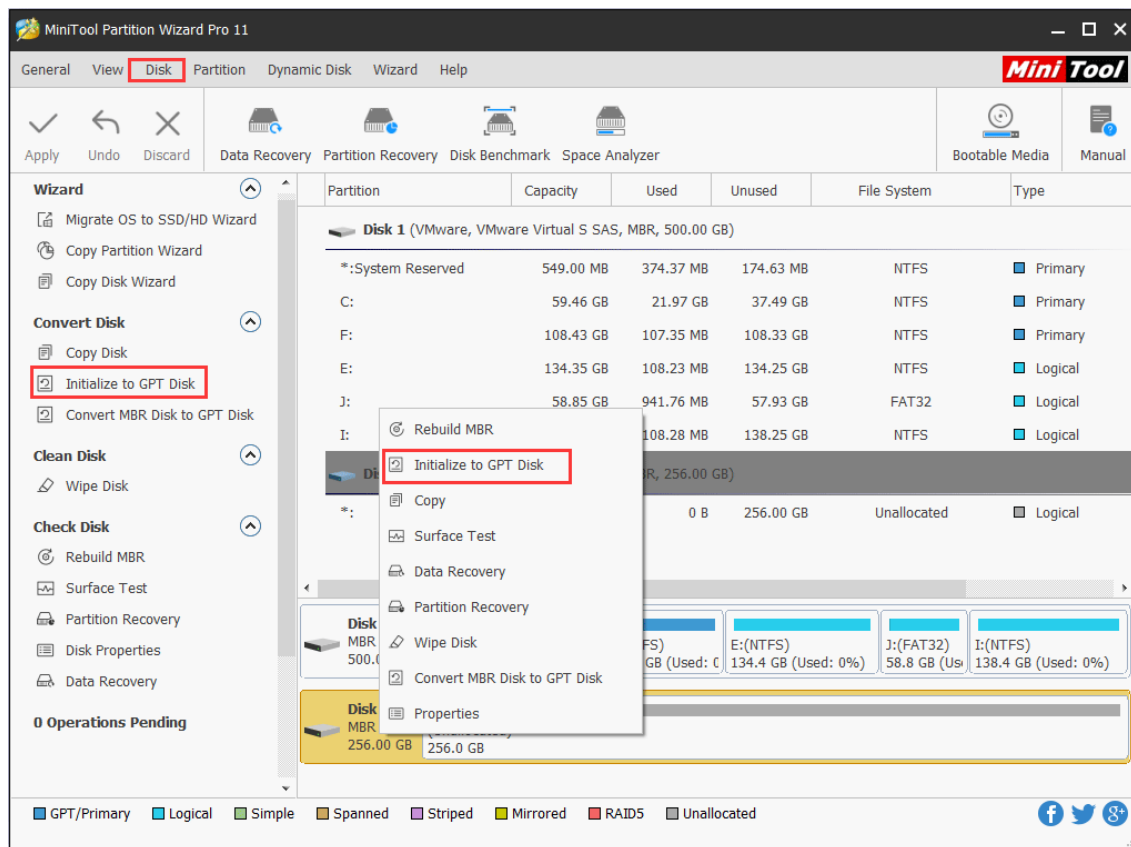
Hot article: [MBR VS GPT \(Focus on Difference and How to Convert Safely\)](#)

Thus, many users would like to initialize their disk to GPT. As for how to **initialize to GPT disk**, we recommend using MiniTool Partition Wizard. To make the operating process clear, we will give a MiniTool Partition Wizard tutorial. Now, please free download the software and then start to initialize to GPT disk.

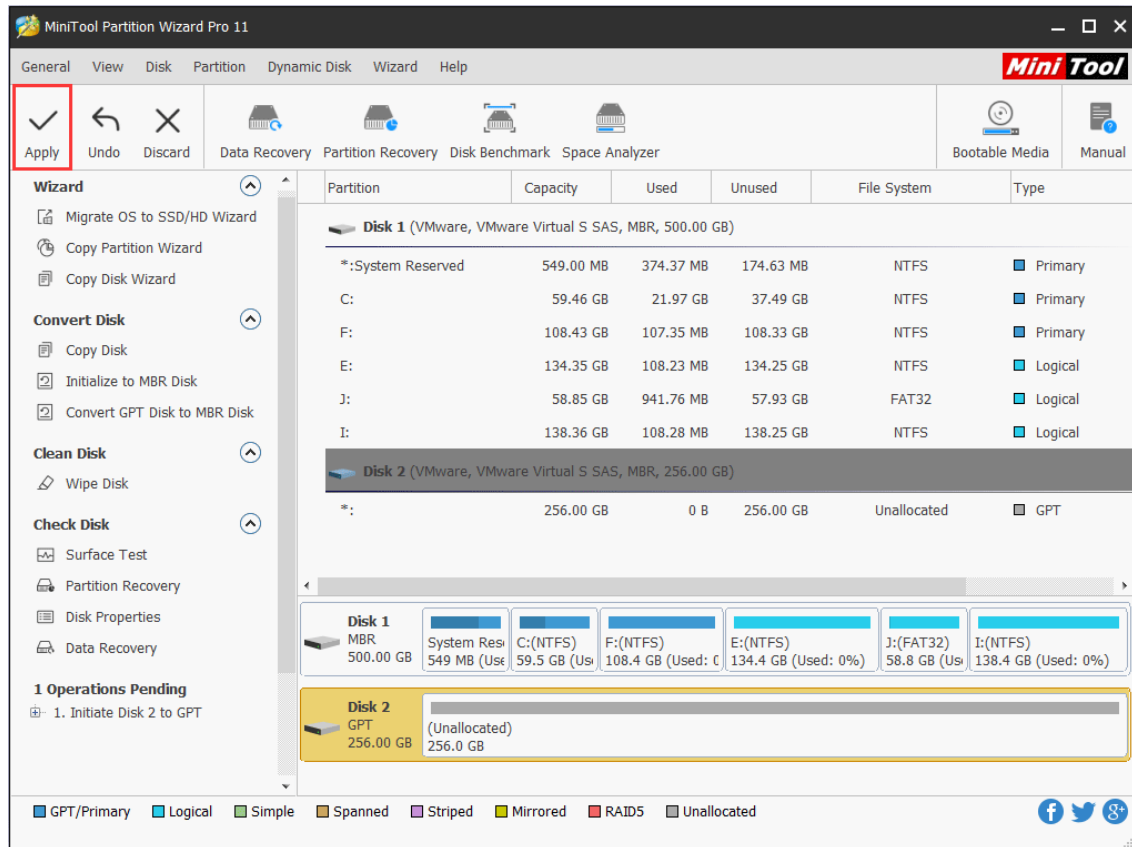
67.2 How to Initialize to GPT Disk

Step 1. Choose the disk that users would like to initialize to GPT and then select **Initialize to GPT Disk** by

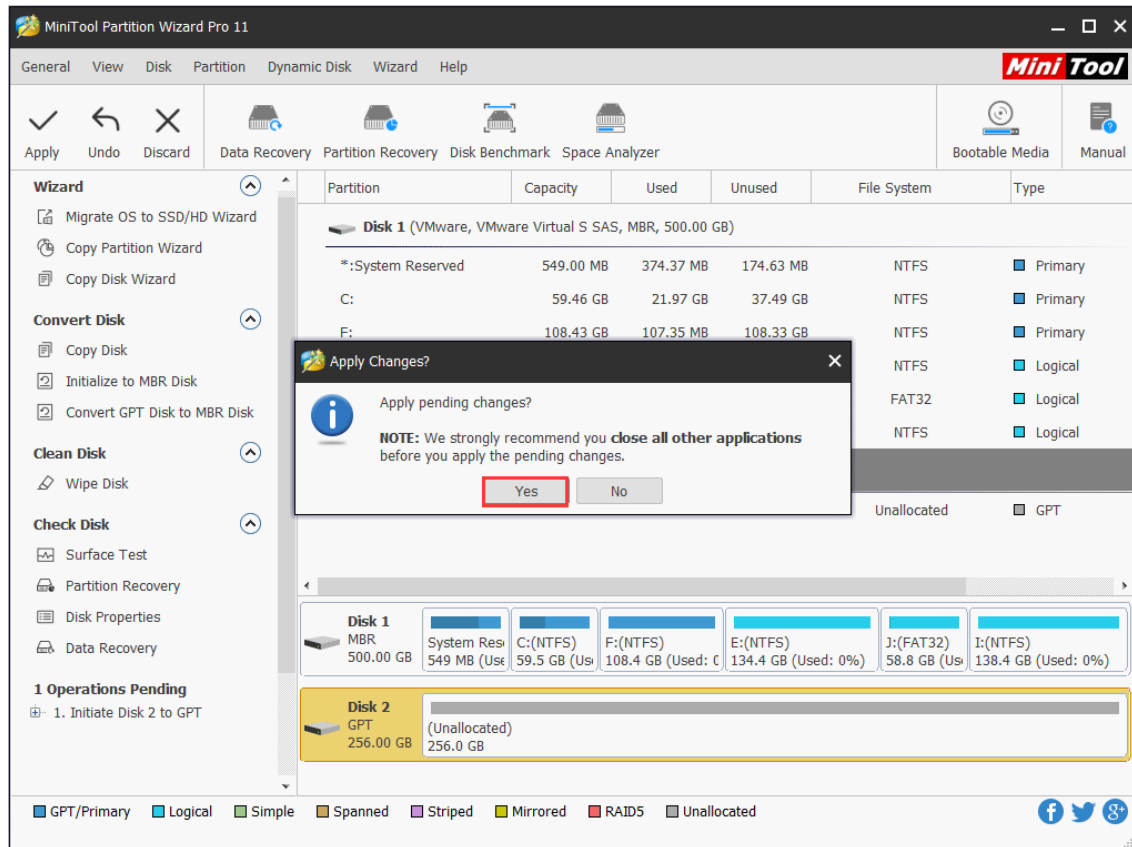
- clicking on it under **Convert Disk** from the left action panel.
- choosing it from right-click menu of target disk.
- clicking on it from the drop-down menu of **Disk** option in the menu bar.



Step 2. Tap **Apply** in the upper left corner to perform pending operations.



Step 3. Click **Yes** in the prompt window to allow changes. Users would better close all other applications as suggested.



Step 4. Click on **OK** button at the end of disk initialization.

