

Convert a virtual hard disk

To convert a virtual hard disk

1. Open the Administration Website.
2. In the navigation pane, under **Virtual Disks**, click **Inspect**.
3. Do one of the following, and then click **Inspect**:
 - In **Known virtual hard disks**, select the virtual hard disk to convert.
 - In **Fully qualified path to file**, type the fully qualified path to the virtual hard disk file to convert.
4. Under **Actions**, click **Convert virtual hard disk**.
5. In **Location**, select the folder in which to store the converted virtual hard disk file. If the folder you want does not appear in the list, you must type the fully qualified path to the folder in Step 6.
6. In **Converted virtual hard disk name**, after the path to the folder, type the file name (.vhd) of the converted virtual hard disk that you want to create.
7. Click **Convert**.

Important

Converting a virtual hard disk can use a large percentage of processor resources. We recommend that you do not perform this operation on a production computer.

Compacting dynamically expanding virtual hard disks

Caution

Compacting a virtual hard disk can use a large percentage of processor resources. We recommend that you do not perform this operation on a production computer. Compacting a virtual hard disk requires enough space to temporarily store the compacted file and the uncompact file. This is because Virtual Server compacts a virtual hard disk by creating a new, compacted virtual hard disk and

then deleting the original, uncompact disk. If there is not enough space to complete the process, the problem is recorded in the Virtual Server event log.

Compacting a dynamically expanding virtual hard disk reduces the size of the virtual hard disk (.vhd) file as much as possible. Typically you would compact a virtual hard disk in situations such as the following:

- After you install the guest operating system (which uses many temporary files)
- After you delete large amounts of data
- When you are preparing the virtual hard disk for archiving, for deployment to another computer or CD-ROM, or for distribution

You can compact a dynamically expanding virtual hard disk. You cannot compact any other type of virtual hard disk. However, you can convert a fixed-size virtual hard disk to a dynamically expanding virtual hard disk and then compact the disk. If you want to compact a differencing virtual hard disk or an undo disk, you must merge the changes to the parent disk and then compact the parent disk, if it is a dynamically expanding virtual hard disk. For instructions on converting disks, see [Convert a virtual hard disk](#). For instructions on merging disks, see [Merge a virtual hard disk](#).

To ensure that you get the smallest possible file size when you compact the virtual hard disk, you need to do some file system maintenance before you compact the disk. In the guest operating system of the virtual machine that is using the disk you want to compact, do the following:

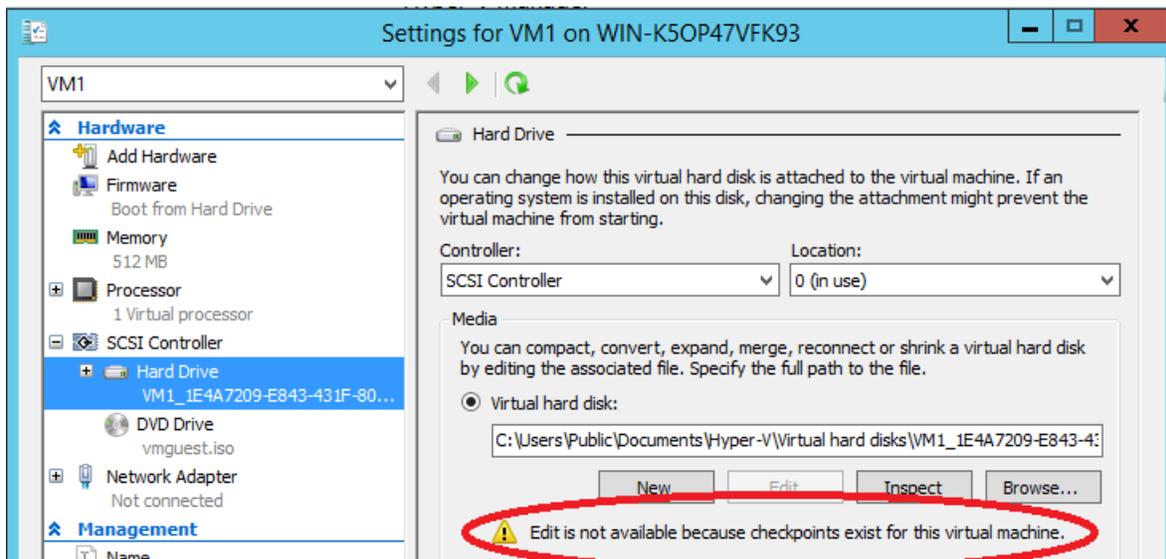
- Remove any temporary folders or unwanted folders or files.
- Empty the Recycle Bin.
- Defragment the disk.
- Use a non-Microsoft disk utility program to "zero out" deleted data, which overwrites the data with zeros. When you delete files from a virtual hard disk, the data associated with the files is not actually removed until it is overwritten. Instead, the sector that stored the data is marked as available for use by the operating system. Zeroing out the data overwrites it with zeros, which enables the compact option to make the .vhd file smaller.

When you compact a virtual hard disk, sectors that contain only zeros are removed from the virtual hard disk to reduce the file size.

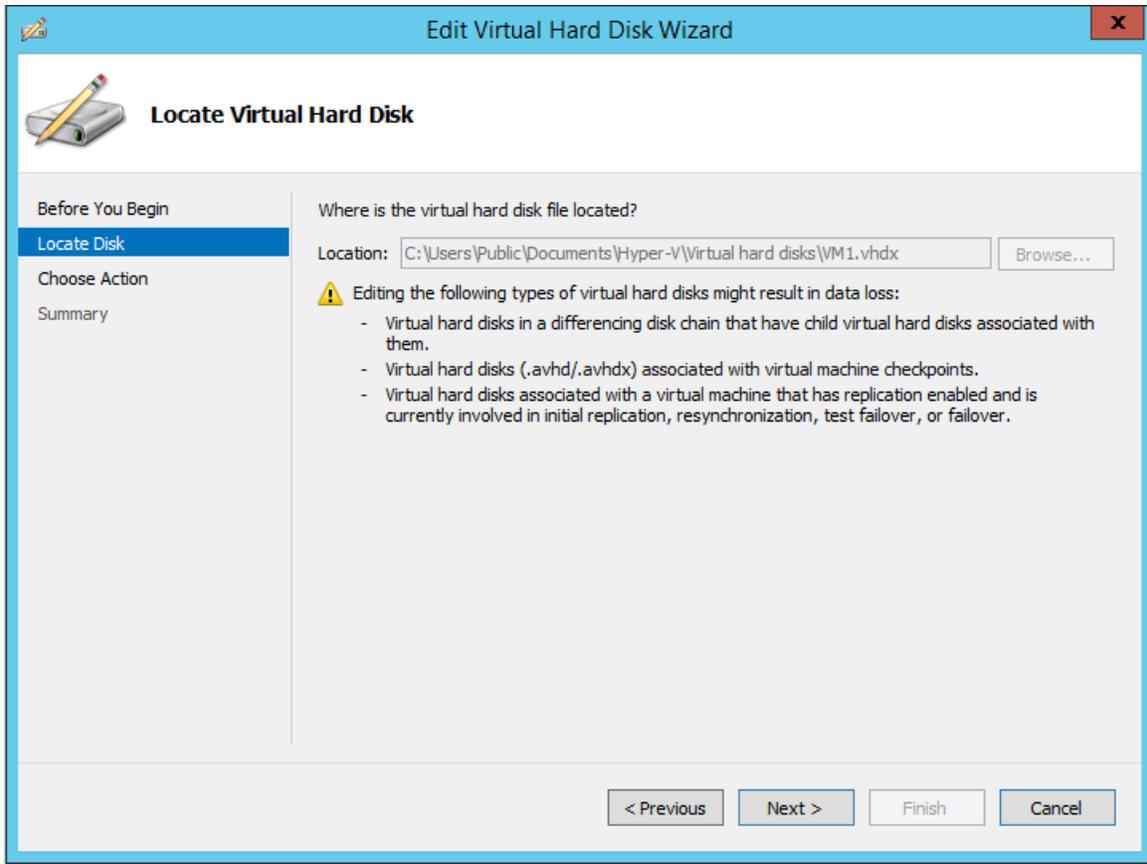
After you complete the tasks described above, open the Administration Website to compact the virtual hard disk. For instructions, see [Compact a dynamically expanding virtual hard disk](#).

How to Expand?

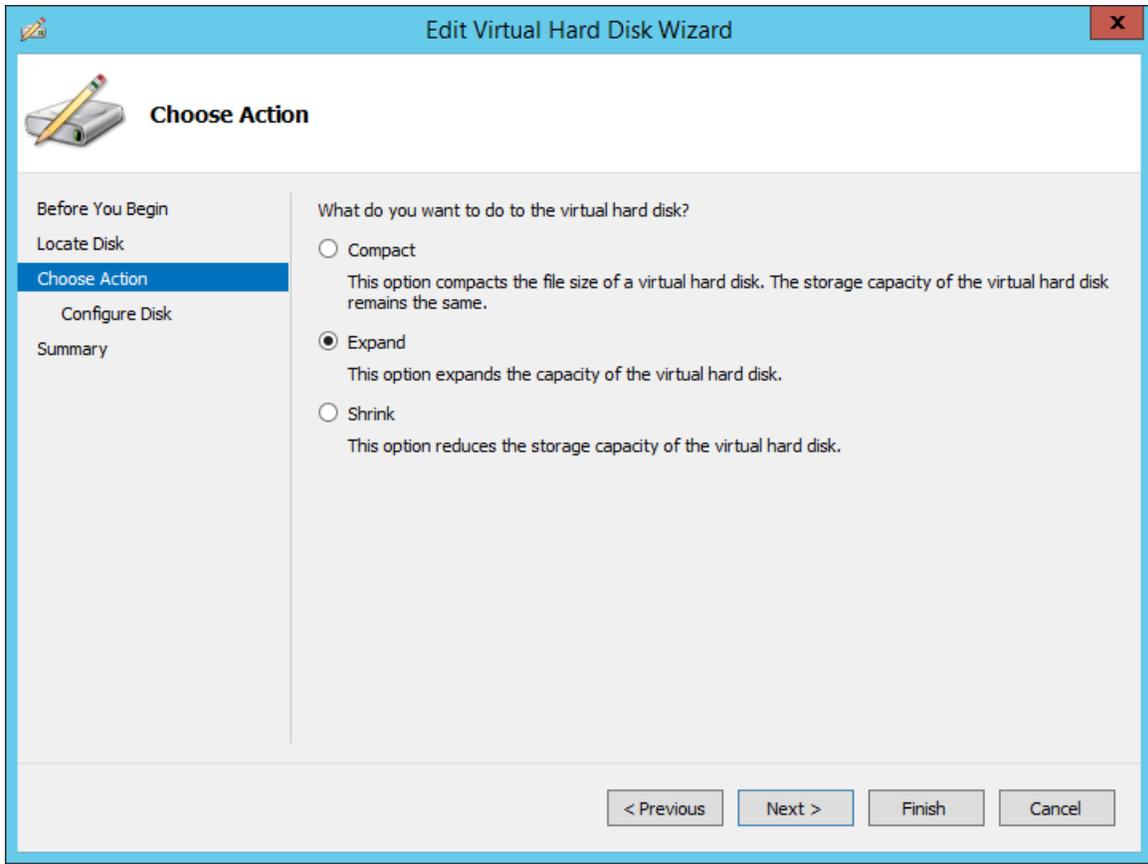
To expand, Right Click on the Virtual Machine and then click on “**Settings**”. Click on the Virtual Hard Drive you want to extend in the “**Settings**” page. **Note:** You cannot extend/compact a Virtual Machine hard drive if a snapshot exists. A warning message will be shown stating that “**Edit is not available because checkpoints exist for this Virtual Machine**”. This is also shown in the red circle of the below screenshot.



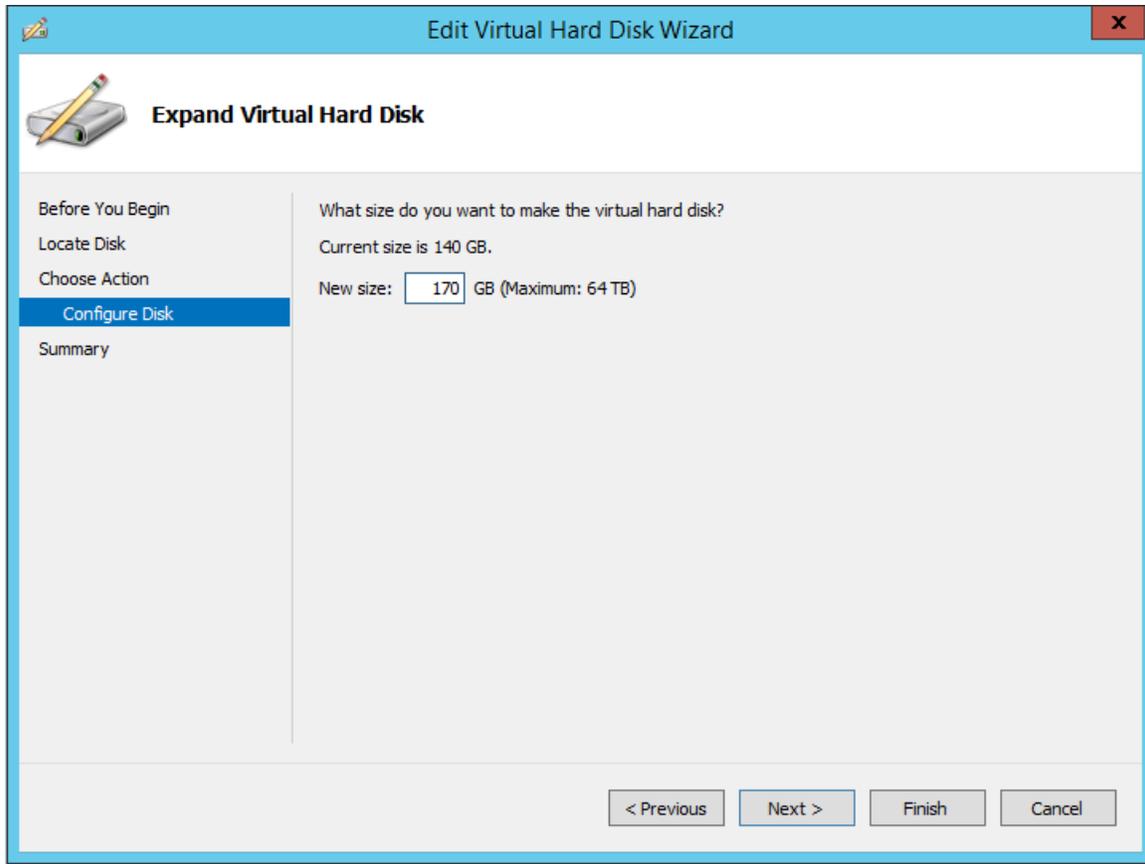
Next click on “**Edit**” button to launch the “**Edit Virtual Hard Disk**” wizard as shown below:



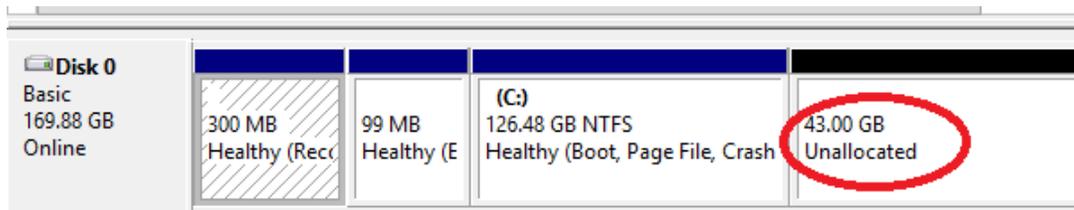
Click "Next" to select "Expand" action as shown below:



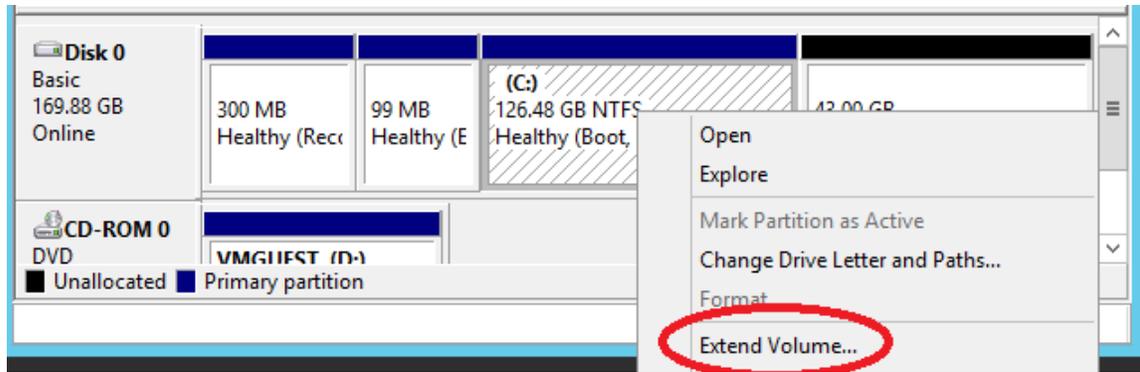
Specify the size of the virtual hard drive to expand and then click on **Finish**.



At this point, Virtual Machine hard disk size has been expanded, now you need to launch “**Disk Manager**” in Virtual Machine and then use the “**Extend the Volume**” wizard to make un-allocated space available to the Virtual Machine. When you open “**Disk Manager**”, you will see the expanded size as un-allocated space as shown in the below screenshot of the Virtual Machine:

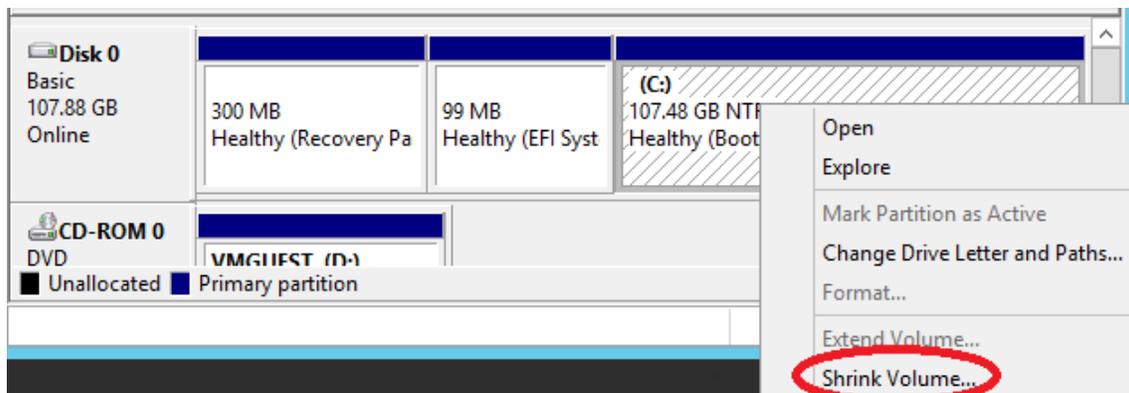


Right Click on the volume you want to extend and then select “**Extend Volume**” wizard as shown in the below screenshot and then follow the on-screen steps to complete the process.

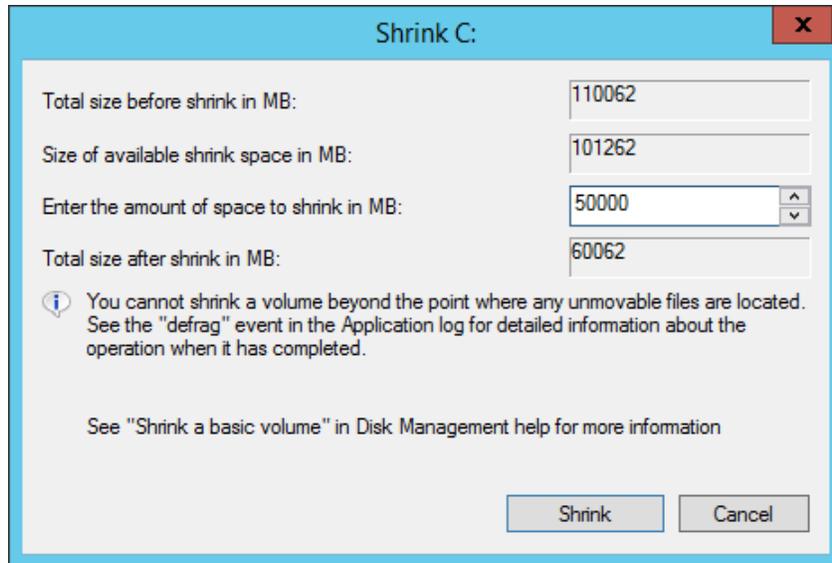


How to Shrink?

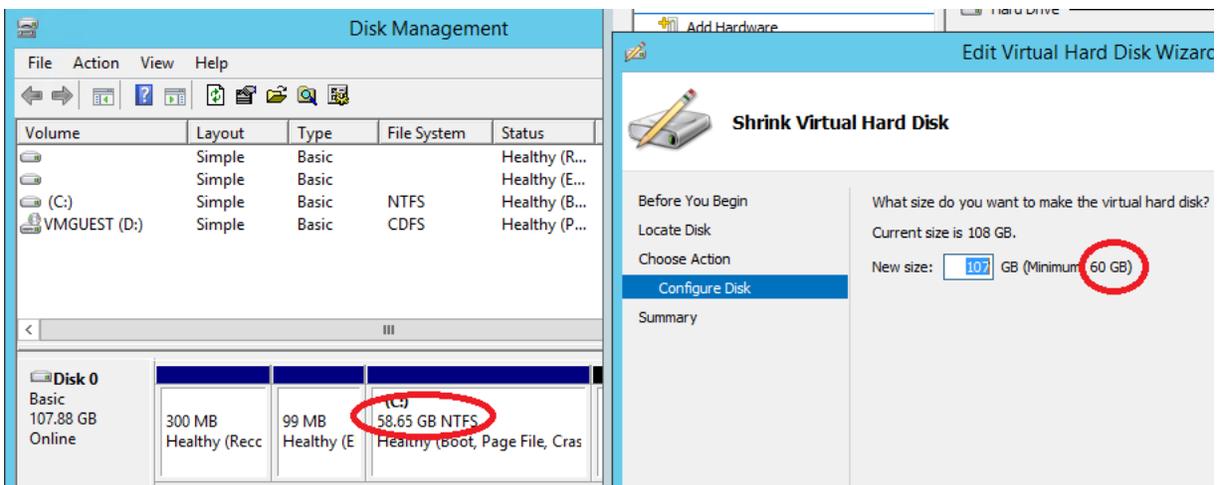
To shrink the storage capacity, you must first initiate the “shrink” action from within the Operating System of Virtual Machine using “**Disk Manager**”. Using the “Disk Manager”, Right Click on the volume you want to shrink and then select “**Shrink Volume**” action as shown in the below the screenshot:



Note: “**Extend Volume**” action is available only if you have un-allocated space available in the Operating System. Next, specify the amount of space you want to shrink as shown below and then hit “**Shrink**” button:



Once shrunk from within the Operating System of Virtual Machine, initiate the final shrink action using the **“Edit Virtual Machine”** wizard. Click on **“Edit”** button on the Virtual Machine’s setting page to specify the new size for the virtual hard disk as shown in the below screenshot. **“Edit Virtual Machine”** wizard will not allow you to specify the new size value lesser than the size being used by the Operating System inside the Virtual Machine. As you can see in the below screenshot, the C: volume is about 58.6 GB in size and **“Edit Virtual Hard Disk”** wizard also specifies the minimum required size which is 60 GB. This is shown in the red circles in the below screenshots:



Once you have specified the size to shrink, click **“Finish”** button for **VMWP.exe** to process the change and reduce the size of the VHDX file on the Host storage.

Limitations

- Does not work on virtual hard disks using VHD format.
- The re-sizing feature does not work on Virtual Hard Disks which are attached to IDE Controllers.
- Does not work for Virtual Hard Disks which have snapshots/checkpoints associated.
- Expanding and Shrinking process is not visible to the Virtual Machine Operating System. You must take some extra steps.
- Once the virtual hard disk has been expanded, the extra space is shown as un-allocated in the Disk Manager in the Operating System of the Virtual Machine. You must make the extra space available to Virtual Machine by using the “**Extend Volume Wizard**” within the Disk Manager of the Virtual Machine.
- Shrinking reduces the storage capacity of the Virtual Hard Disk. If you want to shrink the size, you must use the “Disk Manager” in Operating System of the Virtual Machine. Finally, use the “**Edit Virtual Hard Disk**” wizard to reduce the size of the virtual hard disk.

Merge a virtual hard disk

To merge a virtual hard disk

1. Open the Administration Website.
2. In the navigation pane, under **Virtual Disks**, click **Inspect**.
3. Do one of the following, and then click **Inspect**:
 - In **Known virtual hard disks**, select the virtual hard disk that contains the changes you want to merge.
 - In **Fully qualified path to file**, type the fully qualified path to the virtual hard disk file that contains the changes you want to merge.
4. Under **Actions**, click **Merge virtual hard disk**.
5. Take one of the following actions:
 - Select **Merge With Parent Virtual Hard Disk**.
 - Select **Merge to New Virtual Hard Disk**, and then complete the following steps:

Select a folder in which to store the new virtual hard disk. If the folder is not listed, in Step 2 type the fully qualified path when you name the virtual hard disk.

Type a name for the new virtual hard disk. You do not need to include a file name extension.

In **Merged Virtual Hard Disk Type**, select a type for the new virtual hard disk.

6. Click **Merge**.