AISBackup

Windows 10

Copying the Operating System and Other Partitions to a New GPT Formatted Disk on a PC That Boots Using UEFI.

In this scenario a 1TB disk drive is to be replaced by a 6TB disk drive. The source disk contains the EFI boot partition, a Windows recovery partition, the 'C:' drive that contains the Windows 10 Operating System, a BACKUP partition and a DATA partition.

Contents:

Copying the Operating System and Other Partitions to a New Disk

1. Introduction

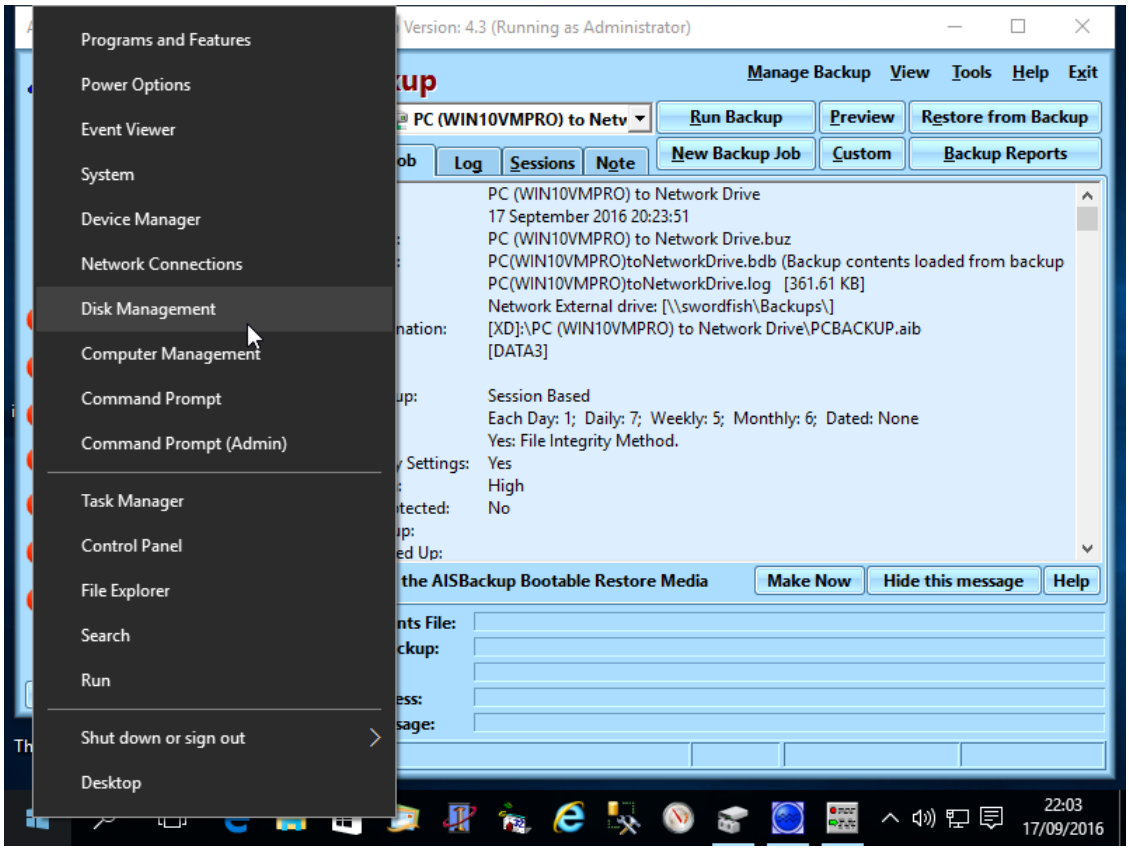
This document give step by step instructions for copying partitions from one disk to another to enable the original disk to be replaced. This procedure may be used to replace disks on laptop computers or desktop computers. These instructions focus on UEFI booting PC's for 64-bit Windows operating systems.

To copy the data using a laptop computer the new disk will initially have to be connected using a SATA to USB cable unless the laptop supports multiple disk drives.

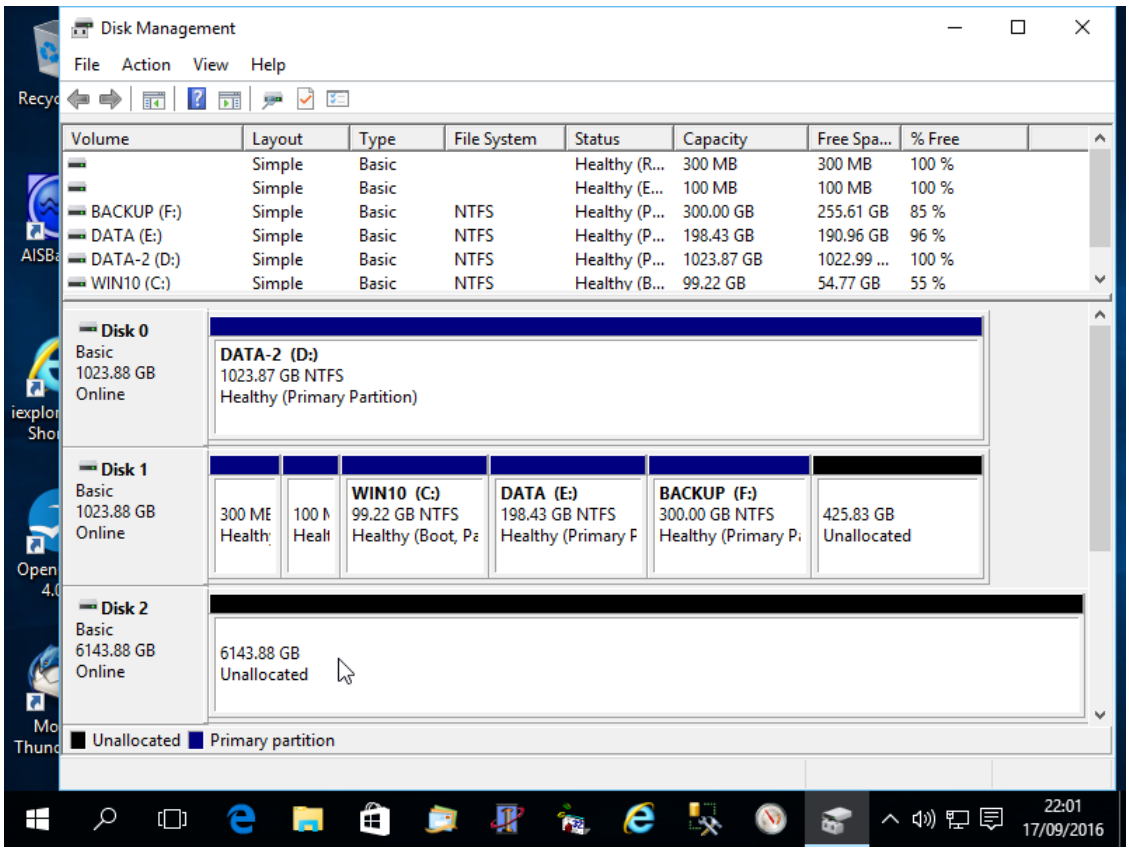
2. The Destination Disk Drive

If the GPT formatted disk that is being copied to is to be used to replace the existing system disk then a GPT formatted disk drive requires that special *system* partitions be created; these partitions cannot be created on a pre-used disk. To facilitate the creation of these partitions when using a pre-used disk or a disk that has already been initialised the disk should be 'cleaned' using **DISKPART** from the **Start / Command Prompt (Admin)** option. Cleaning a disk erases all existing information on that disk.

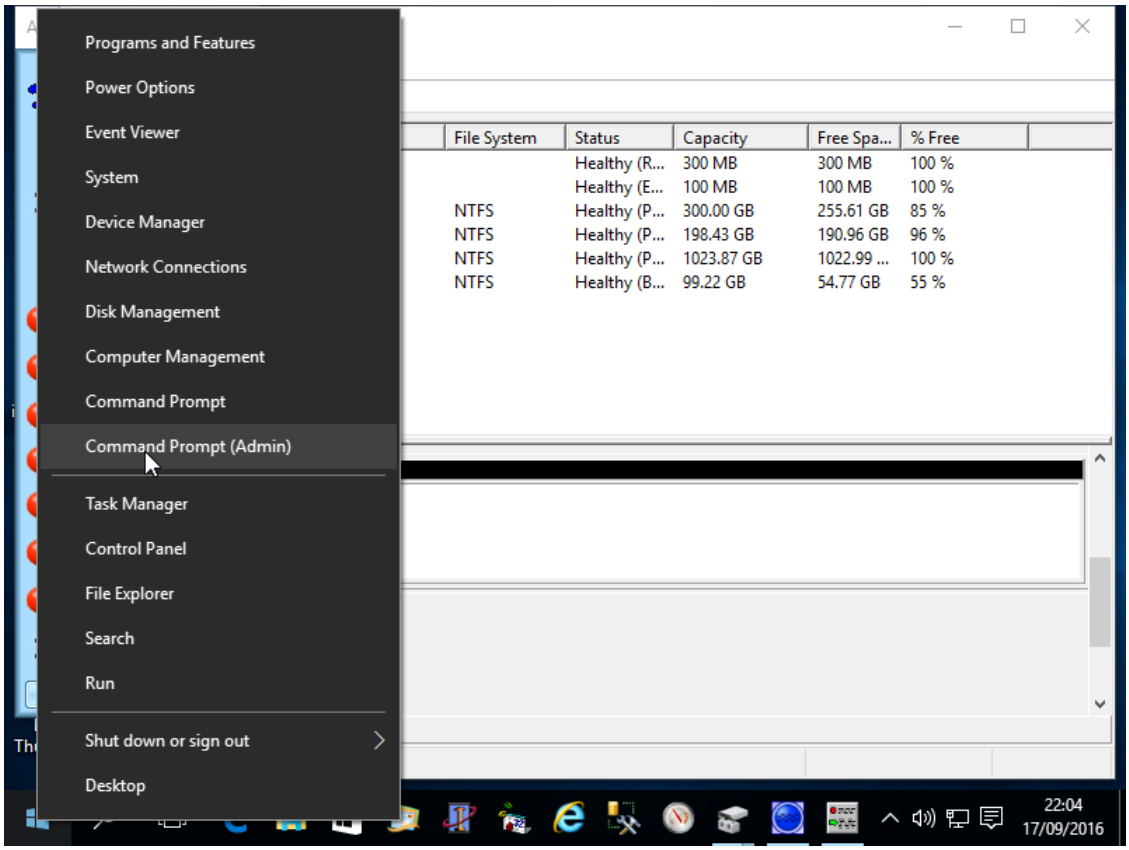
To 'Clean' a disk use Disk Management to find the disk number. Right Click **Start** then Choose **Disk Management**.



This screen shot shows that the new 6TB disk drive is Disk number 2, remember this number for the DISKPART / CLEAN command.



Right Click **Start** then choose **Command Prompt (Admin)**.



Enter the following commands into the Command Prompt window; these commands are not case sensitive.

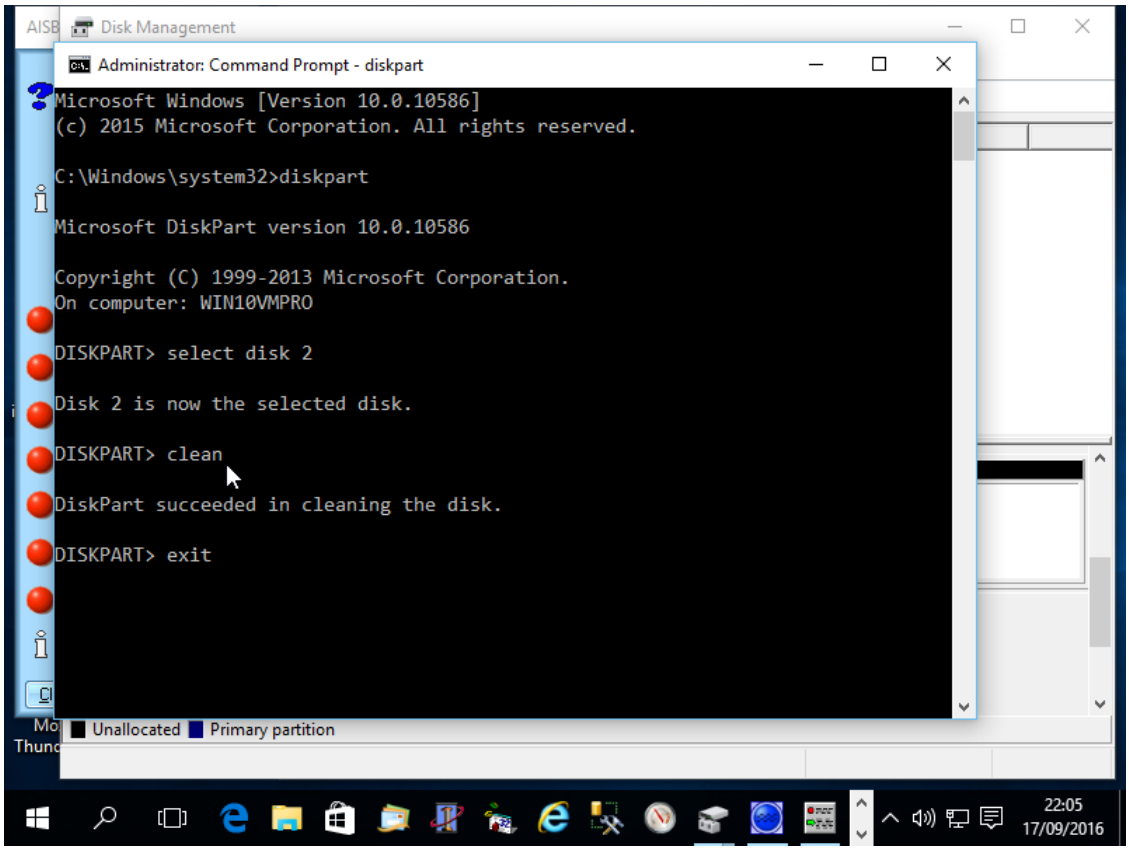
DISKPART

SELECT DISK *n* (where n is the disk number of the disk to be cleaned)

CLEAN

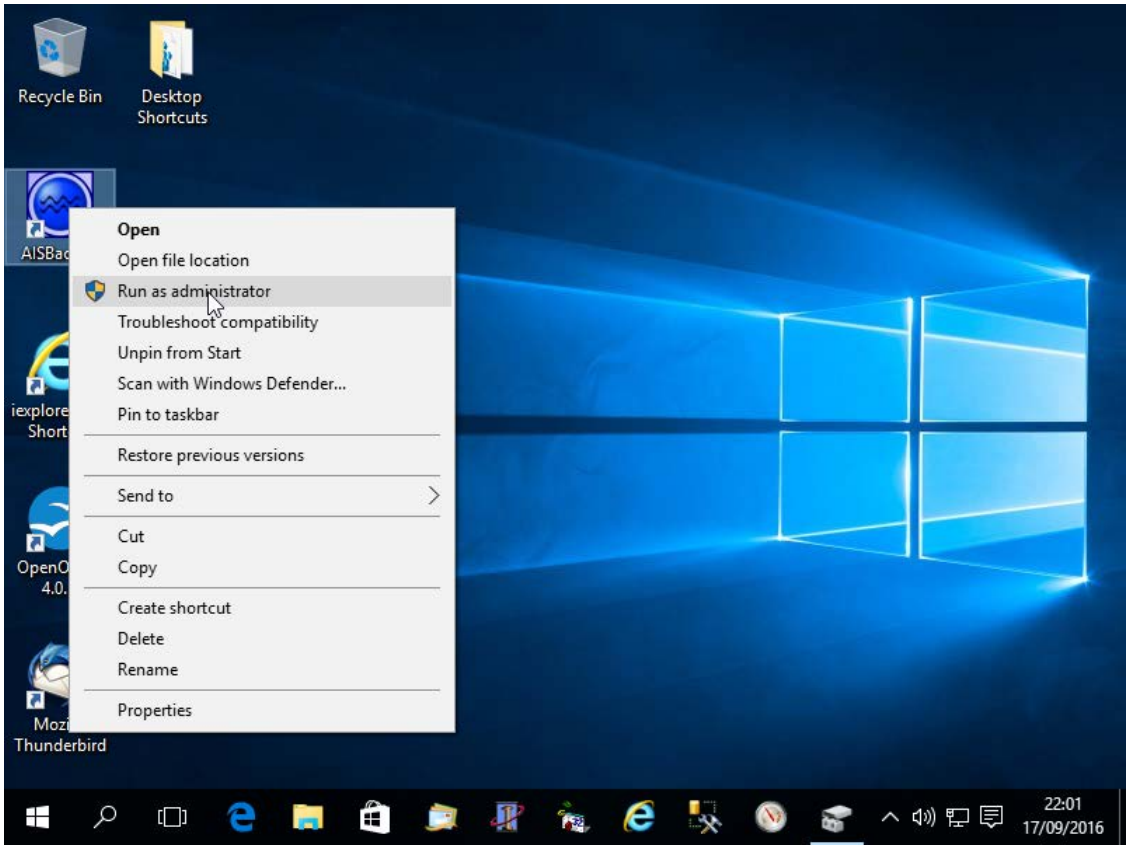
EXIT

The command prompt Window may now be closed.

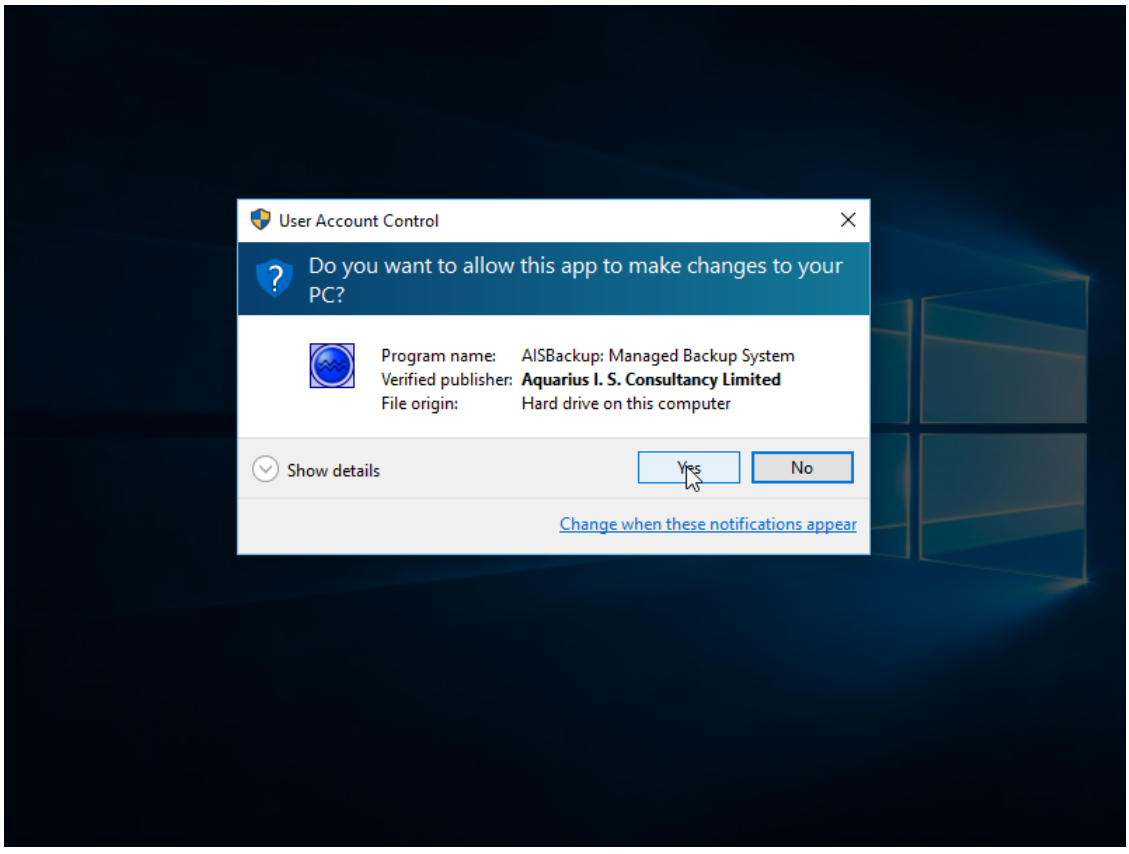


3. Copying the Operating System, Recovery Partition and Data

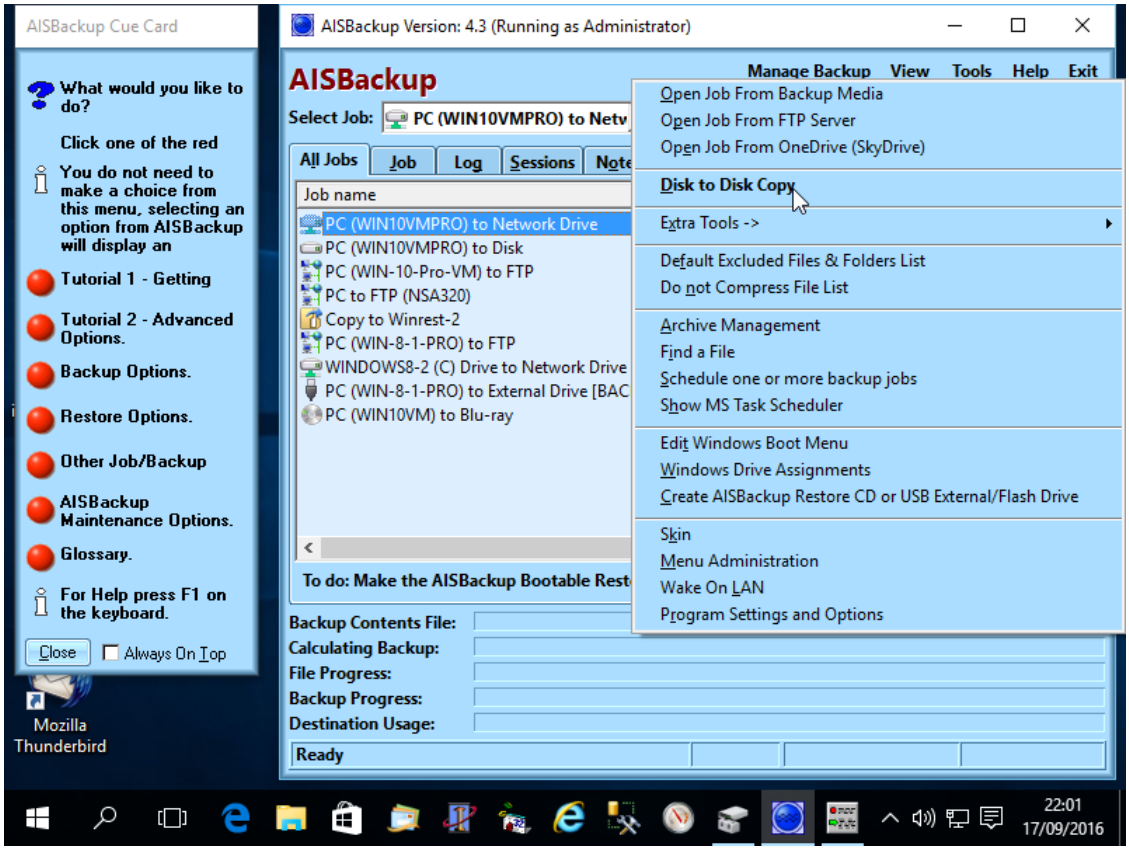
Right click AISBackup and choose **Run as administrator**.



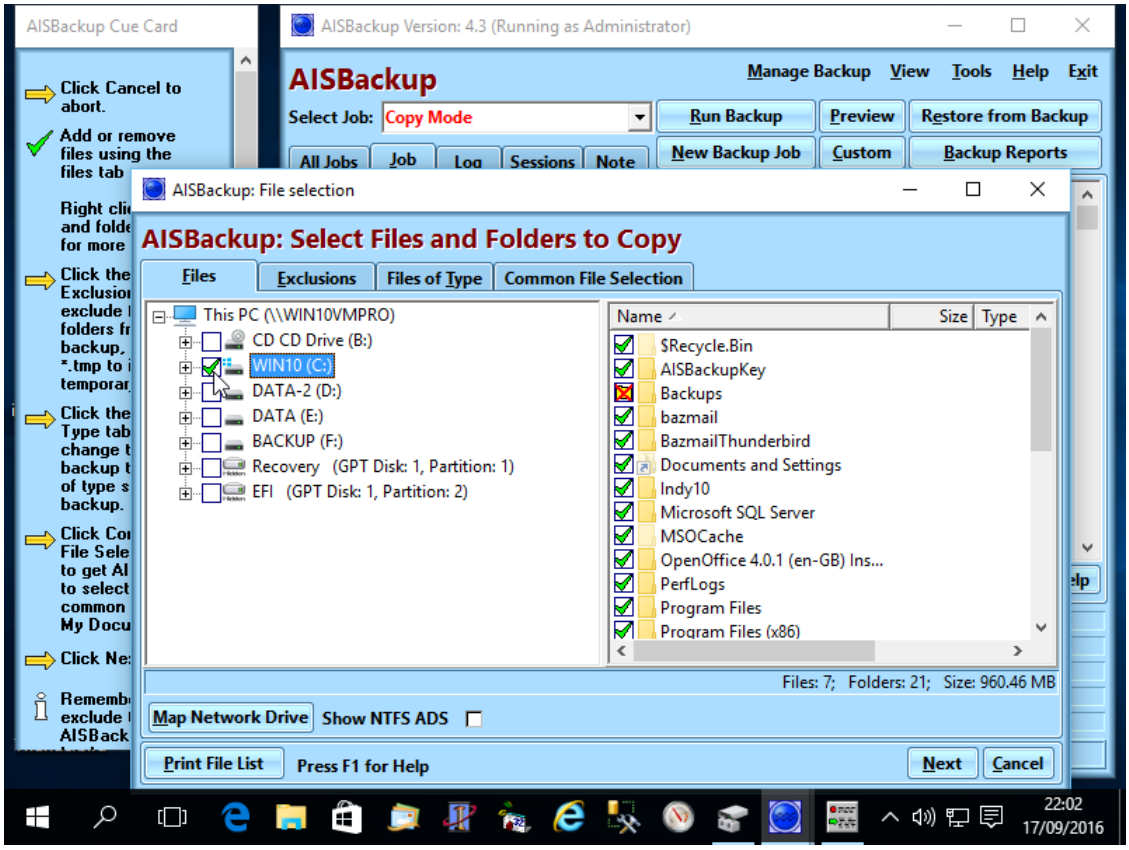
Click **Yes** to enable AISBackup to start.



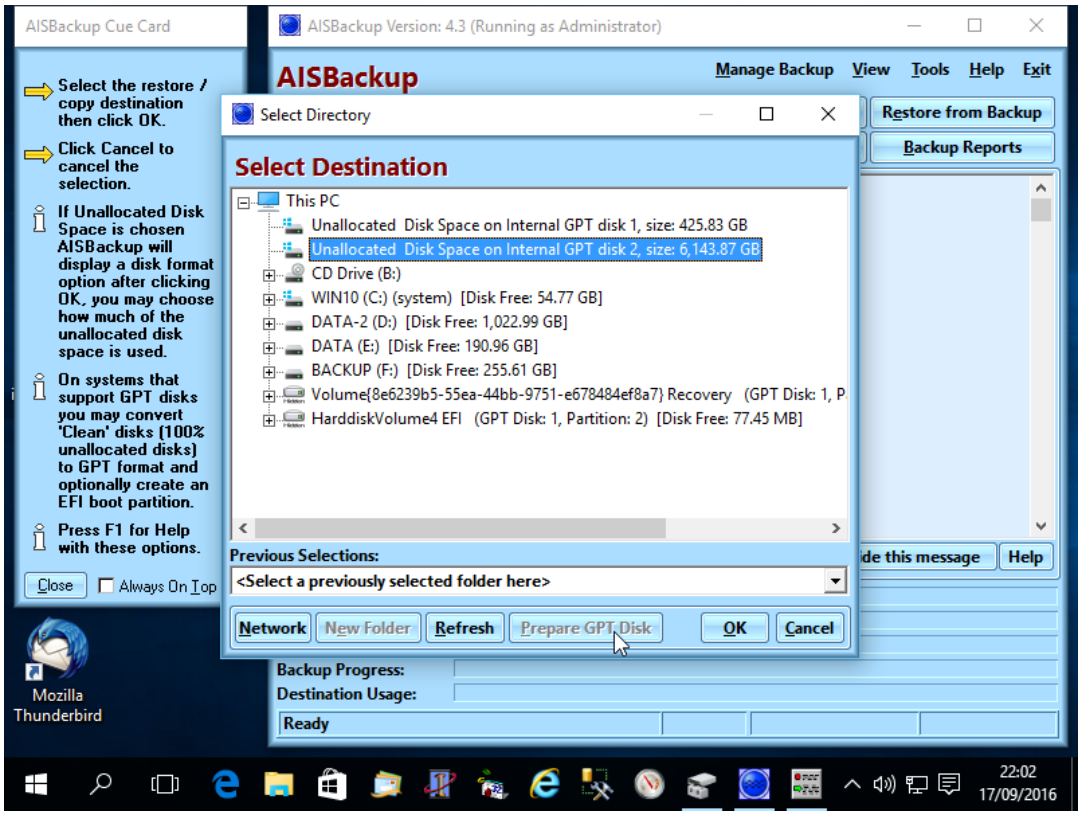
Choose the menu option **Tools / Disk to Disk Copy**.



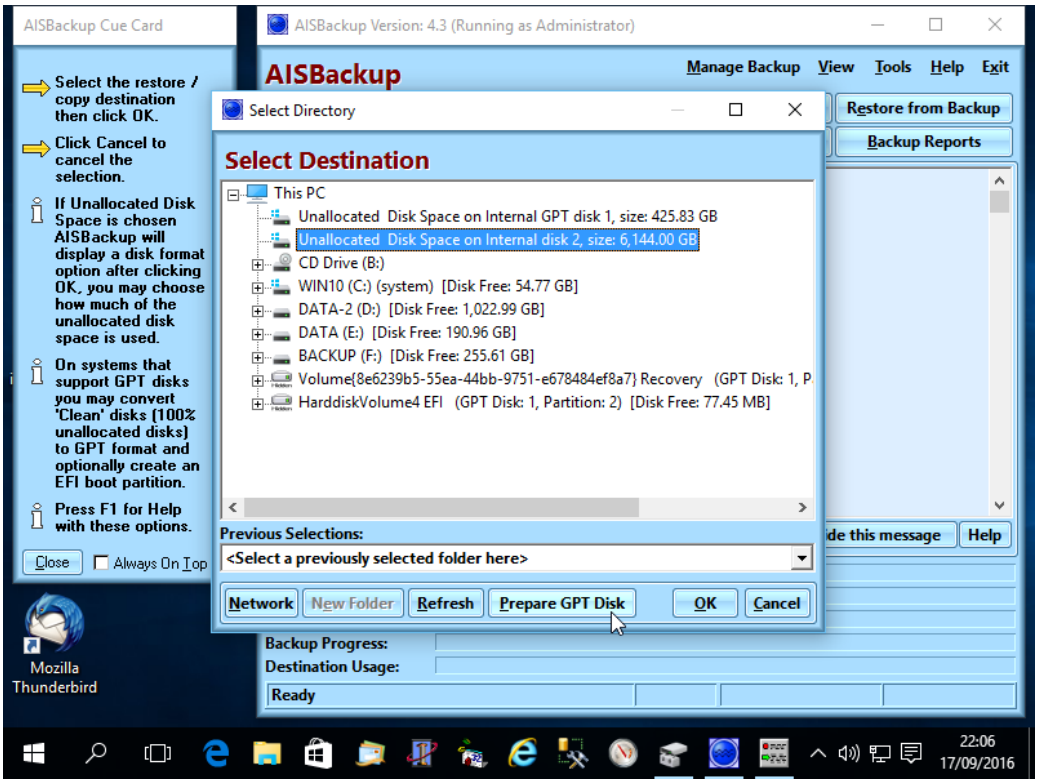
Select the current system disk; this is usually the 'C' drive, then click **Next**.



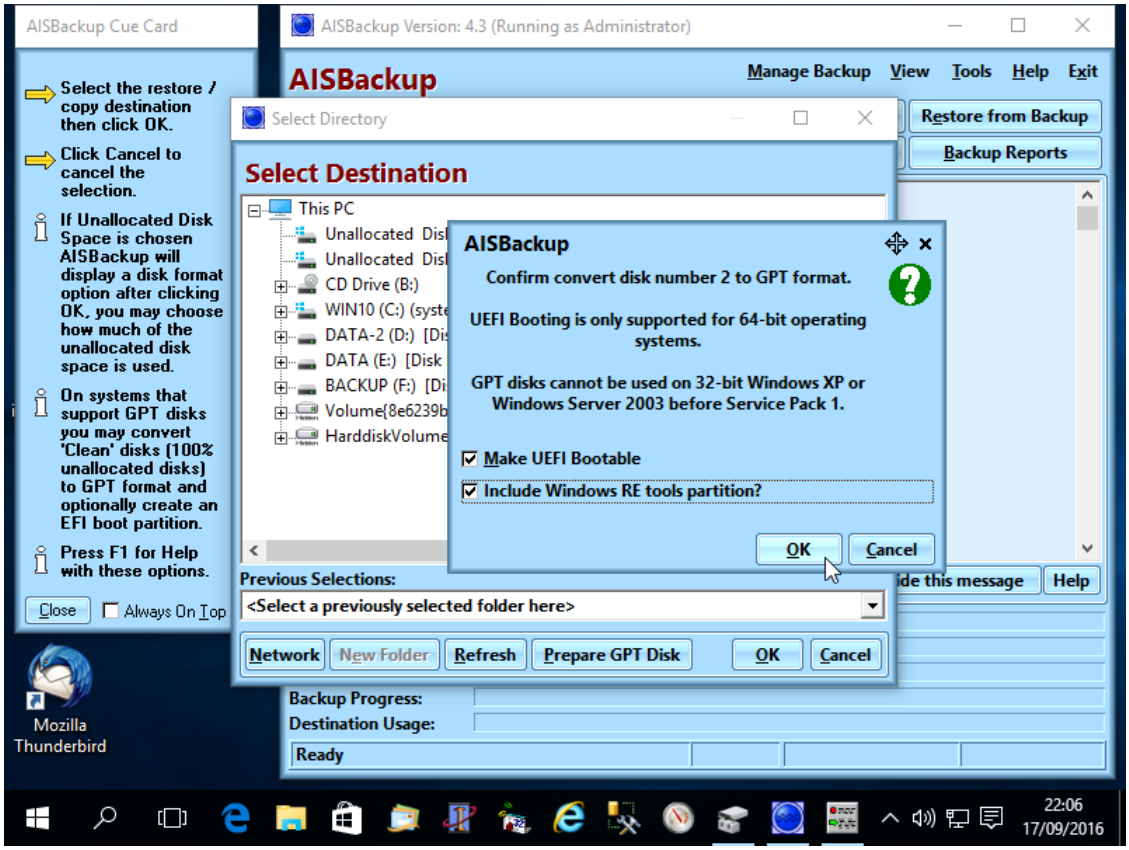
Choose *Unallocated Disk Space* on the drive that is being restored to. If this is the first partition that is being copied then you should prepare a GPT disk on a UEFI booting PC to enable booting, but this is only necessary if the new disk is going to replace the old disk. If the **Prepare GPT Disk** option is disabled then the disk requires cleaning, a process that will erase all existing information on the disk, so please be careful. If the disk is going to be used to replace the existing system disk and **Prepare GPT Disk** is disabled then click **Cancel** then click **Abort** and then see section 2.



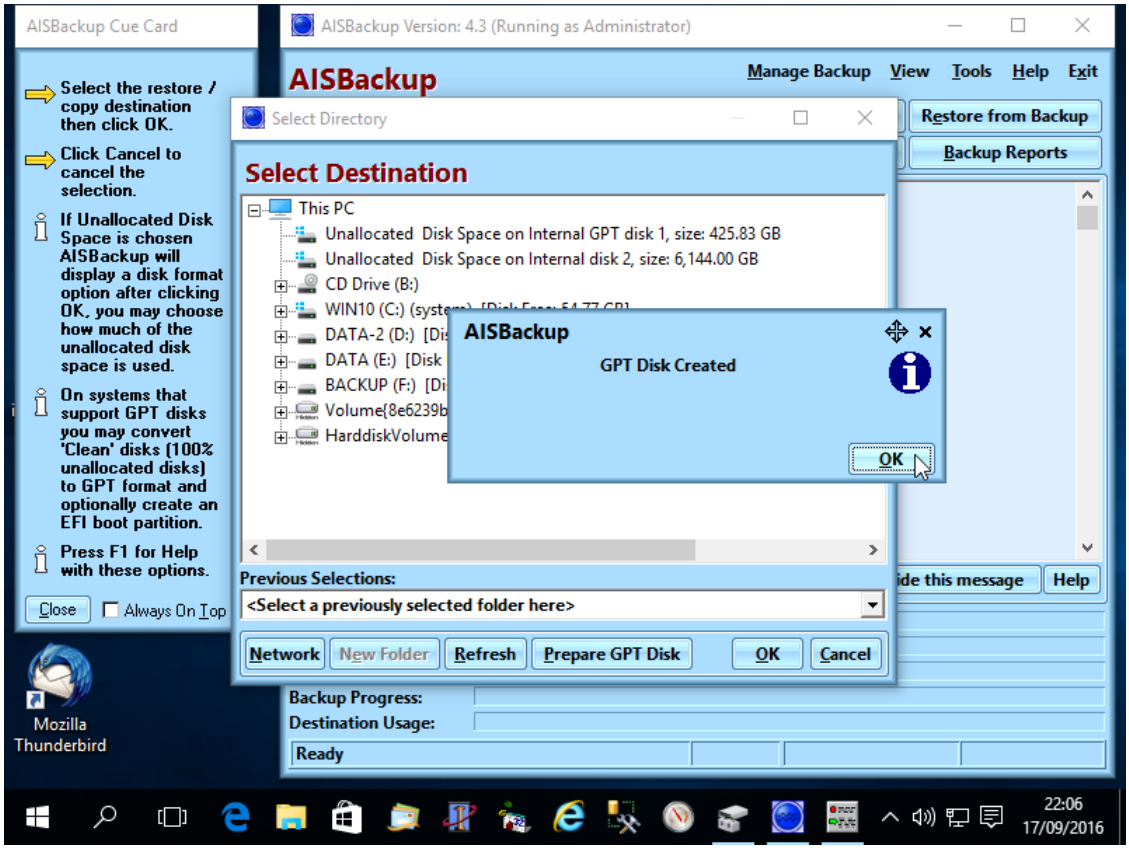
Click **Prepare GPT Disk**.



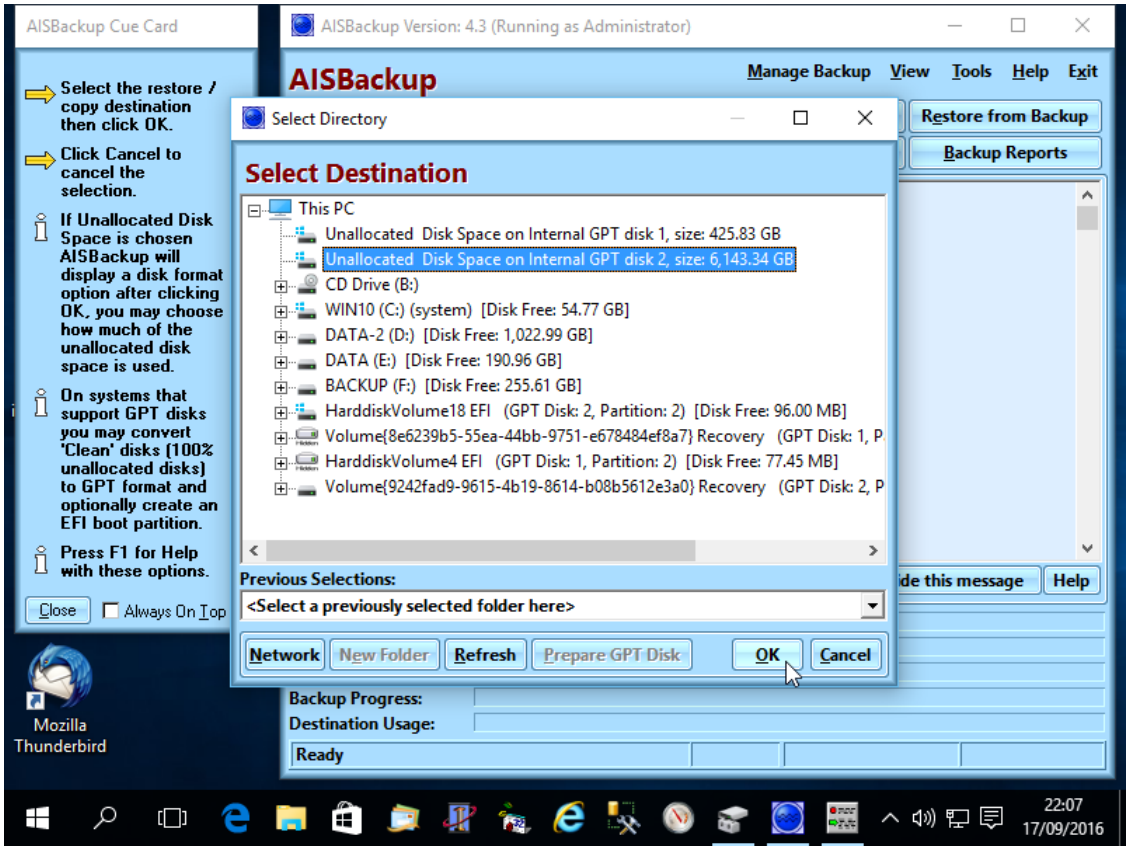
If there is a recovery partition on the source disk then select **Include Windows RE tools partition**, then click **OK**.



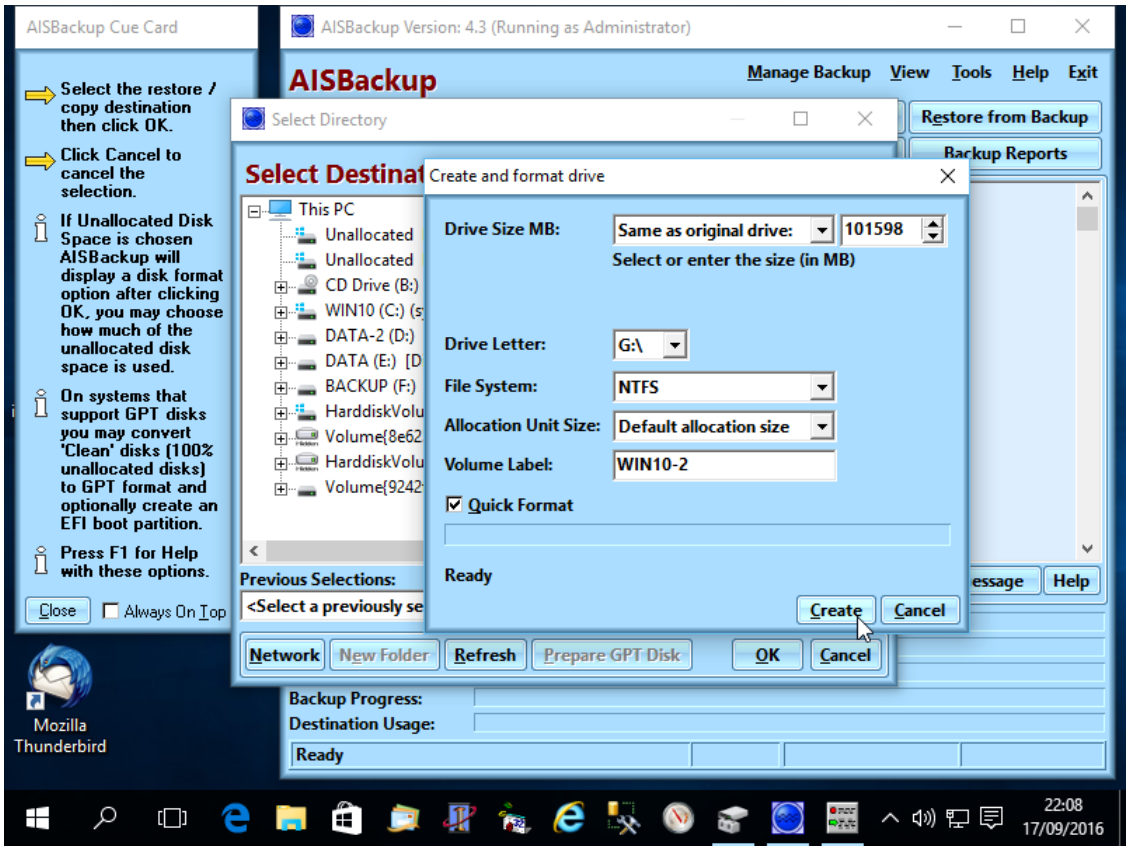
Wait for the *GPT Disk Created* message and click **OK**.



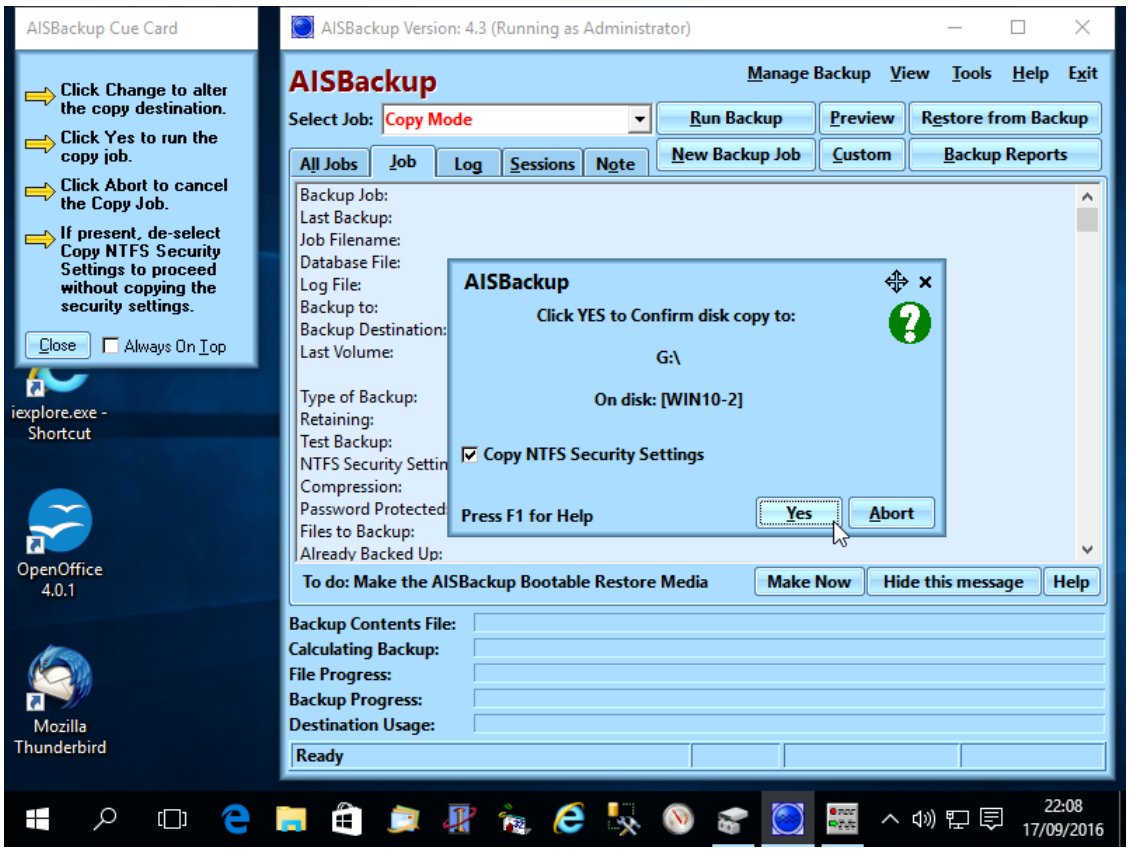
Re-select the *Unallocated Disk Space…* as the destination and then click **OK**.



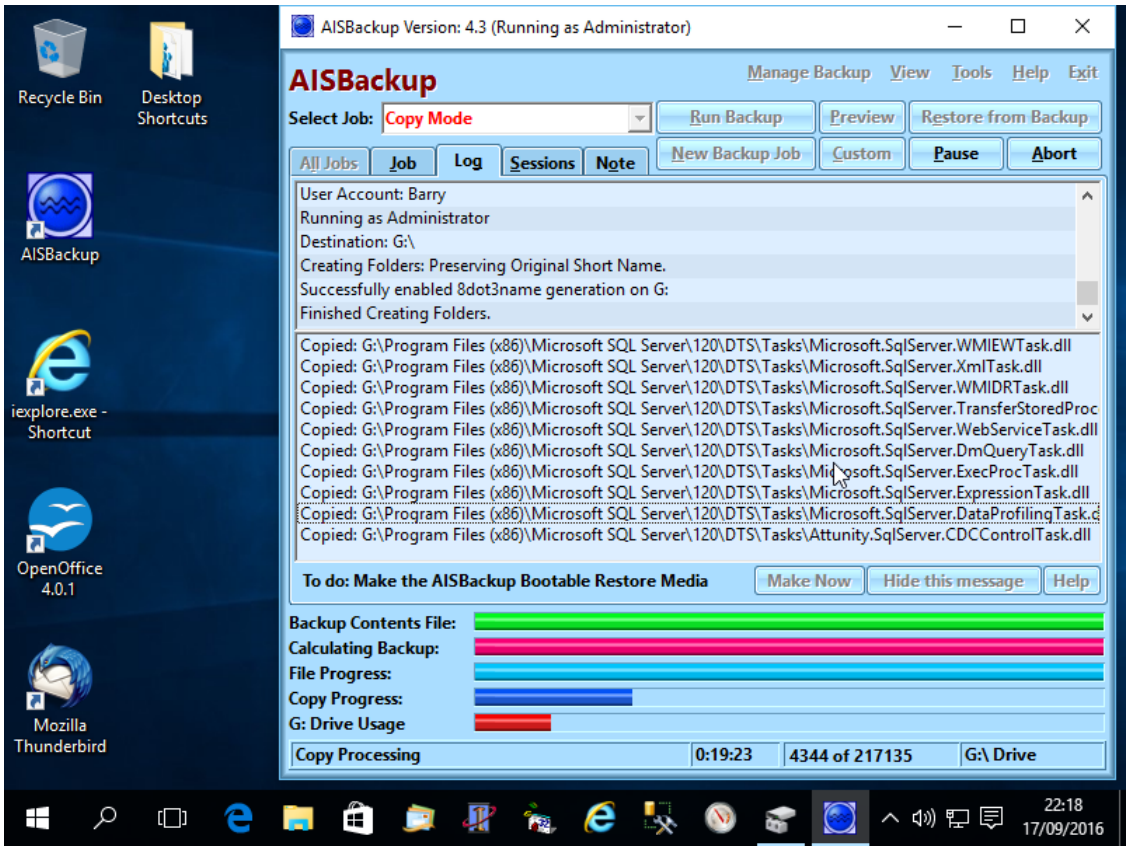
The default partition size is the same as the original partition, this may be changed where the value is specified in megabytes, e.g. 1TB = 1048576 (1x1024x1024), 500GB = 512000 (500x1024). Click **Create** to continue.



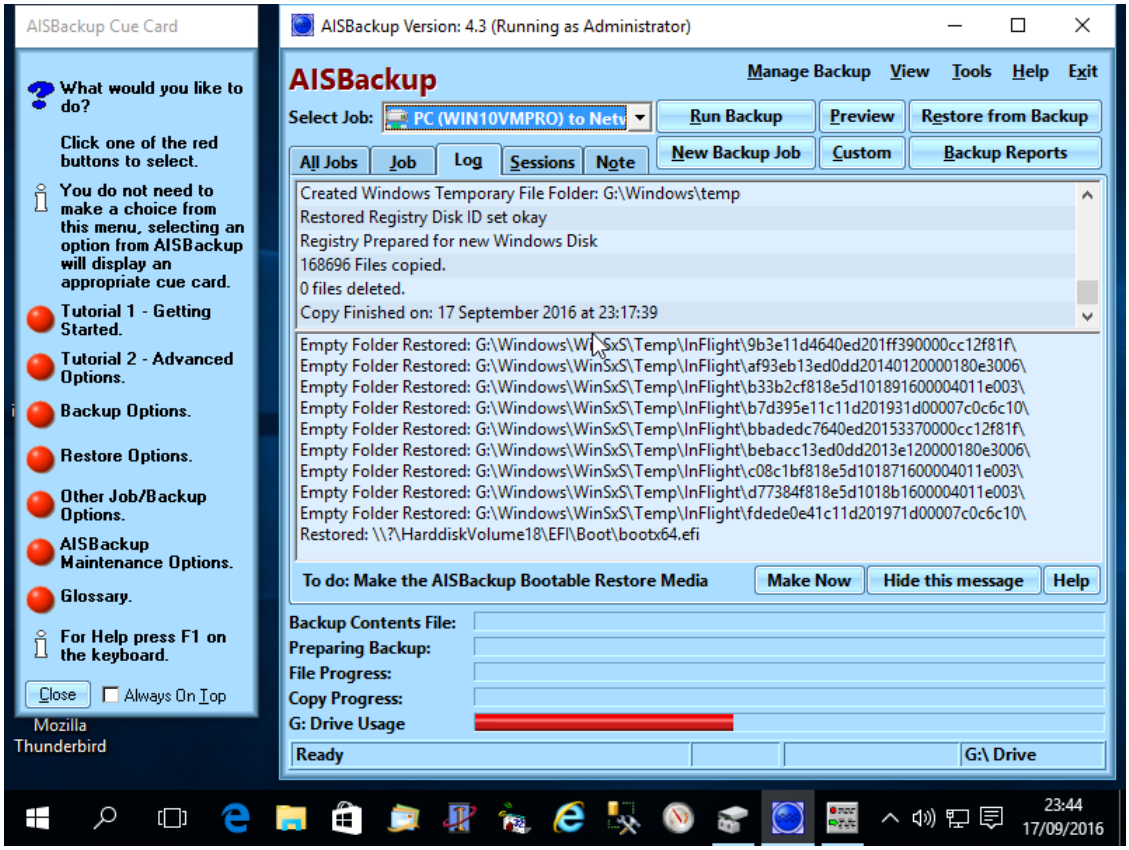
Wait for the copy to calculate and then click **Yes** to proceed. **Copy NTFS Security Settings** must be selected when copying the Windows Operating System, this is the default option.



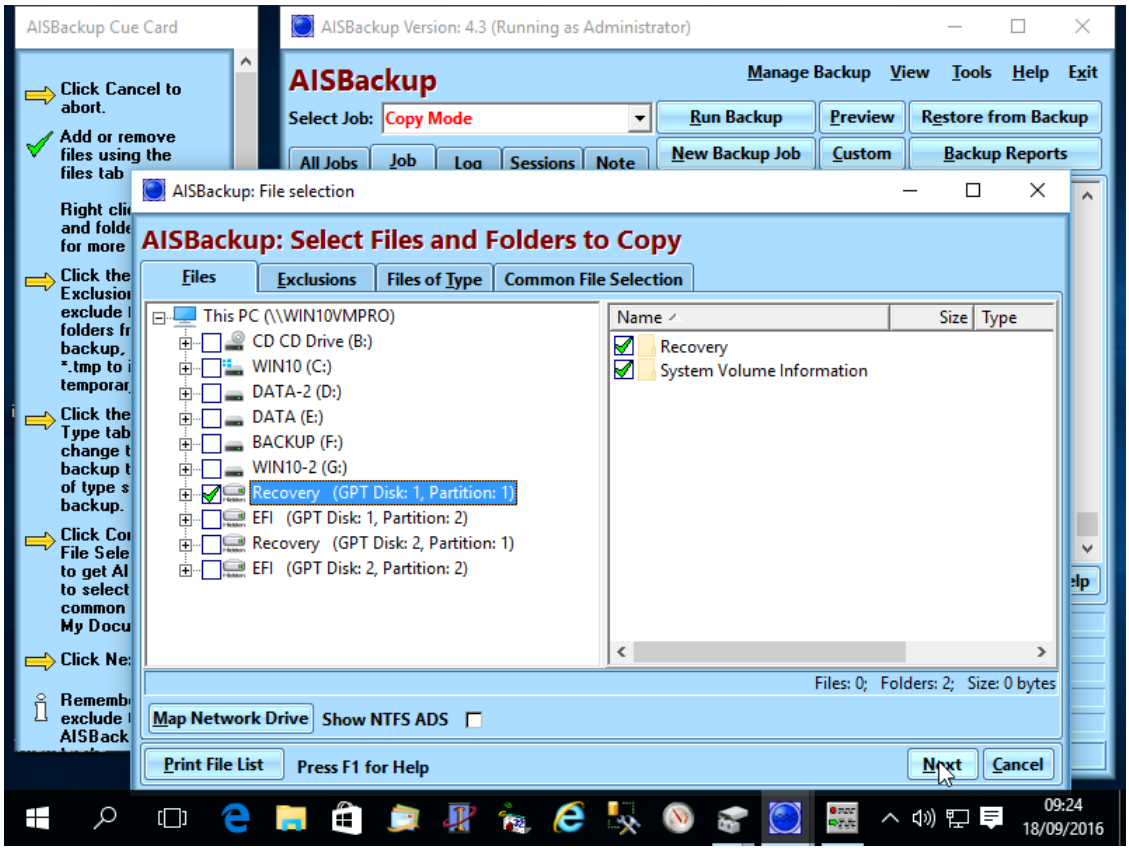
This screen shot shows the copy in progress.



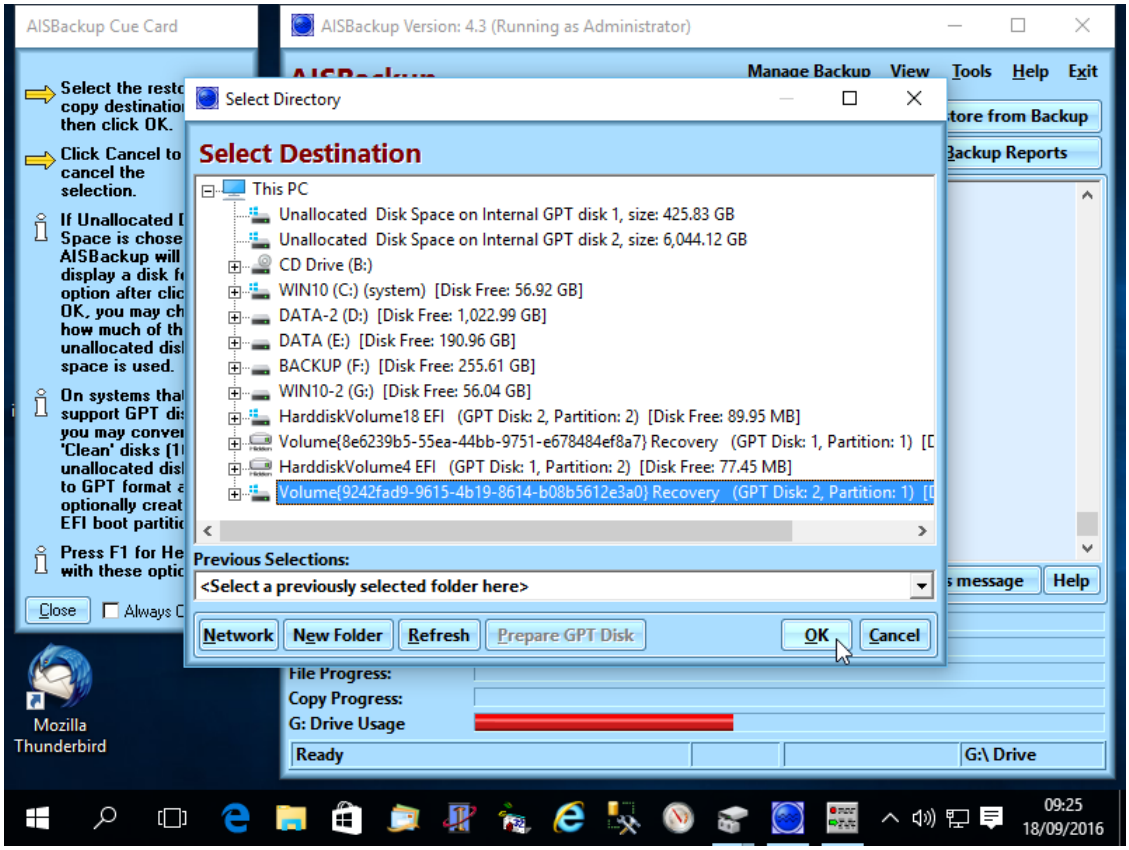
This screen shot shows the completed copy.



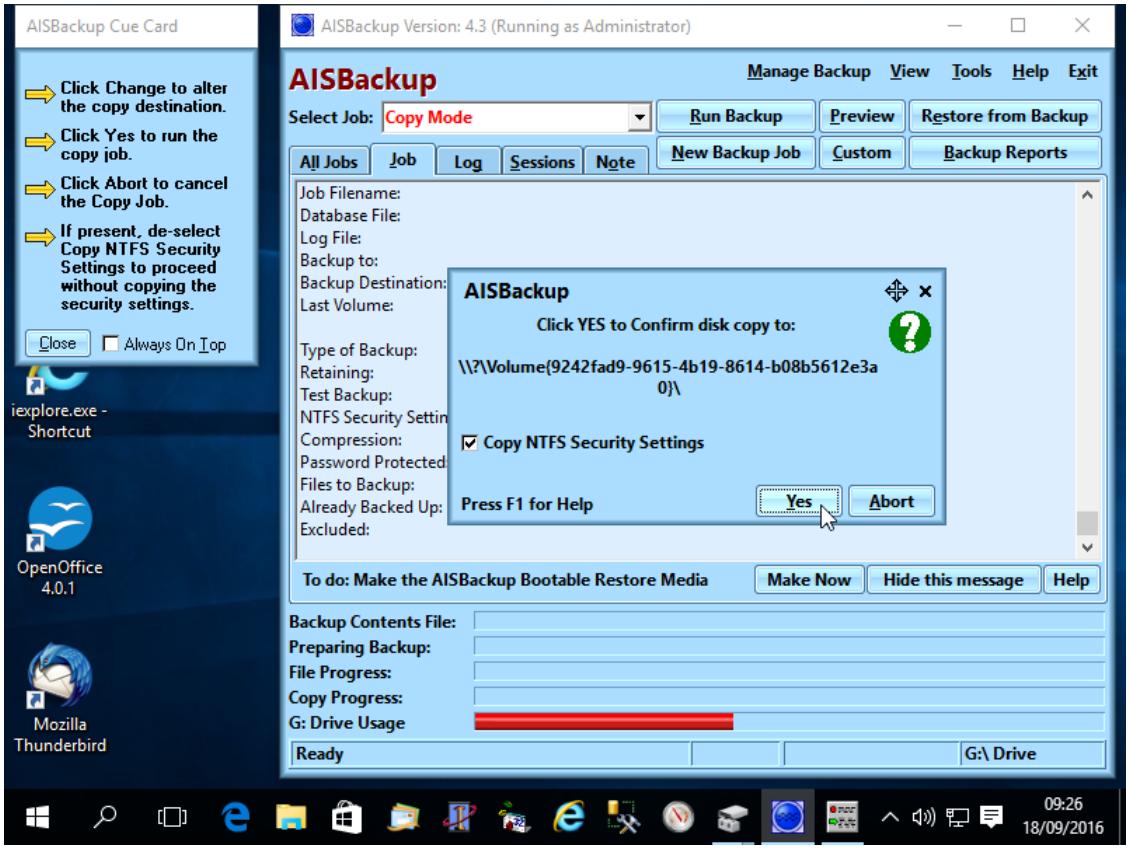
To copy the Windows Recovery partition select **Tools / Disk to Disk Copy** and then select the existing Recovery Partition, in this example the version on Disk 1, as we are copying to Disk 2.



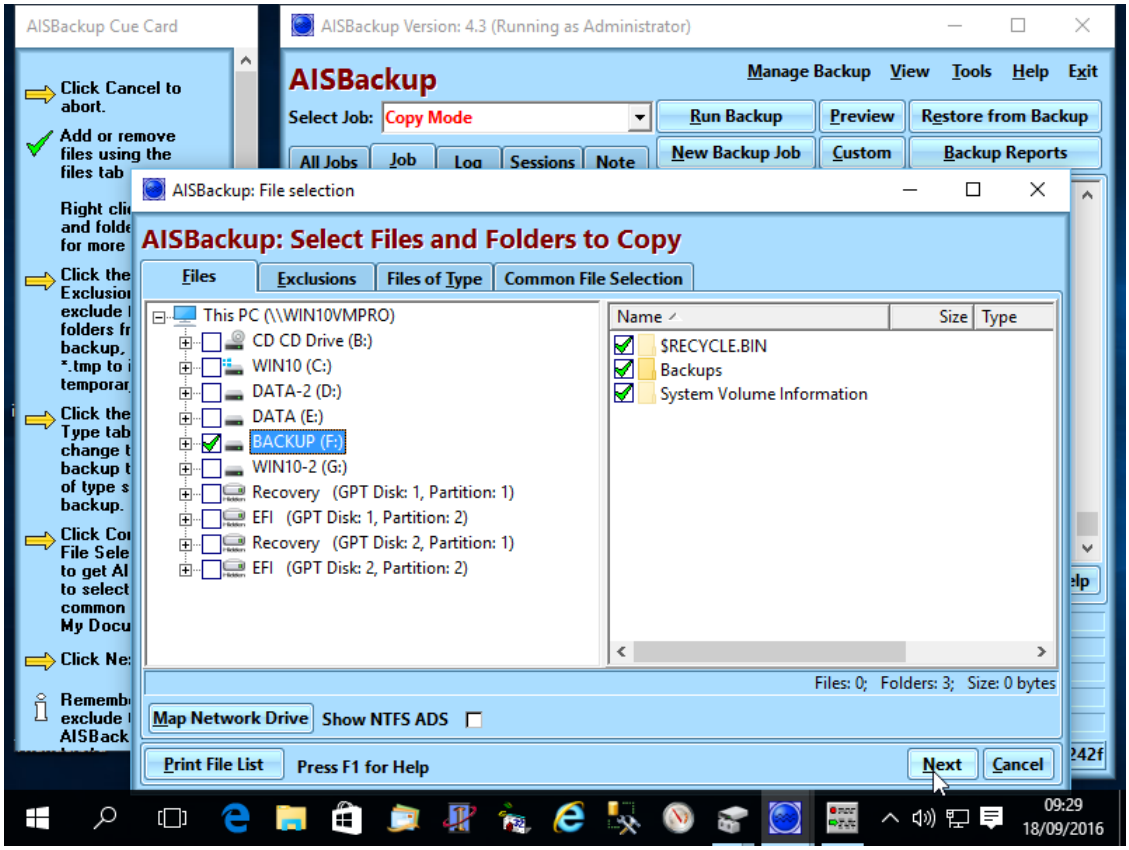
For the destination select the destination *Recovery* on the destination disk, disk 2 in this example, and then click **OK**.



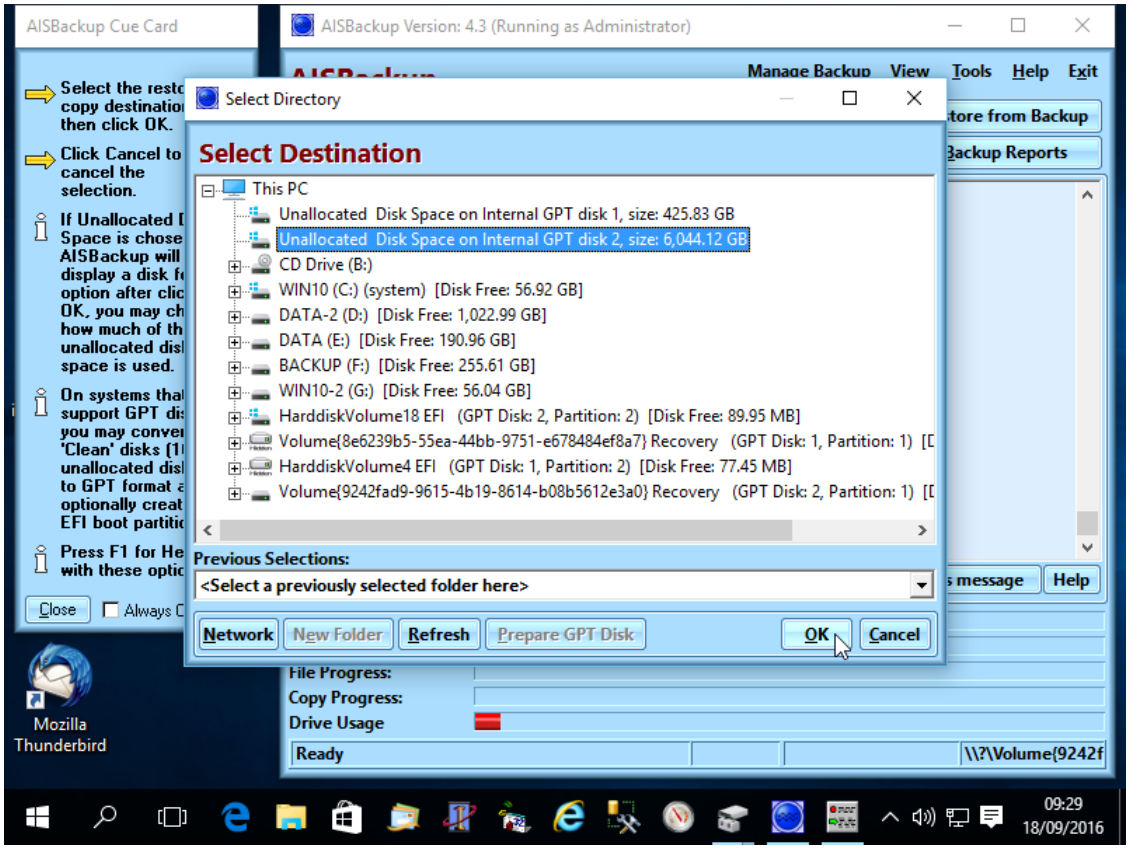
Click **Yes** to confirm the copy.



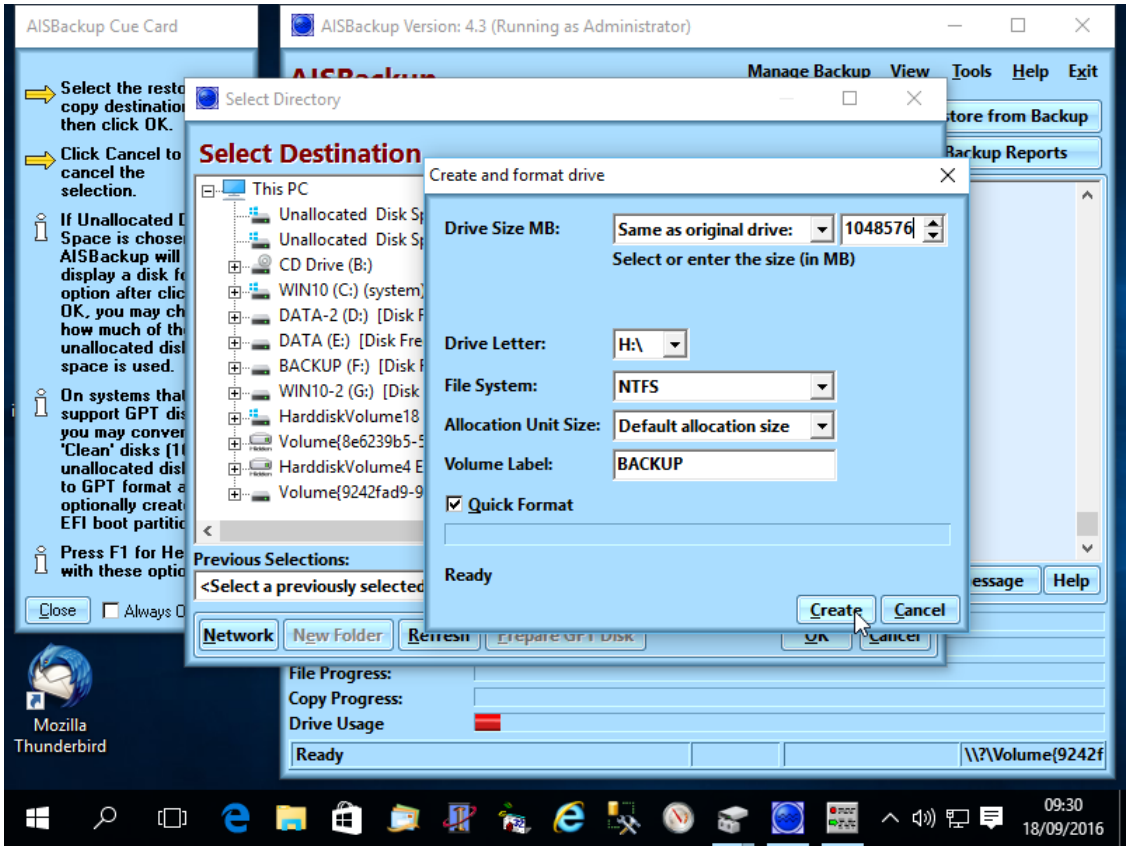
The BACKUP partition on drive F: is to be copied next, select the drive then click **Next**.



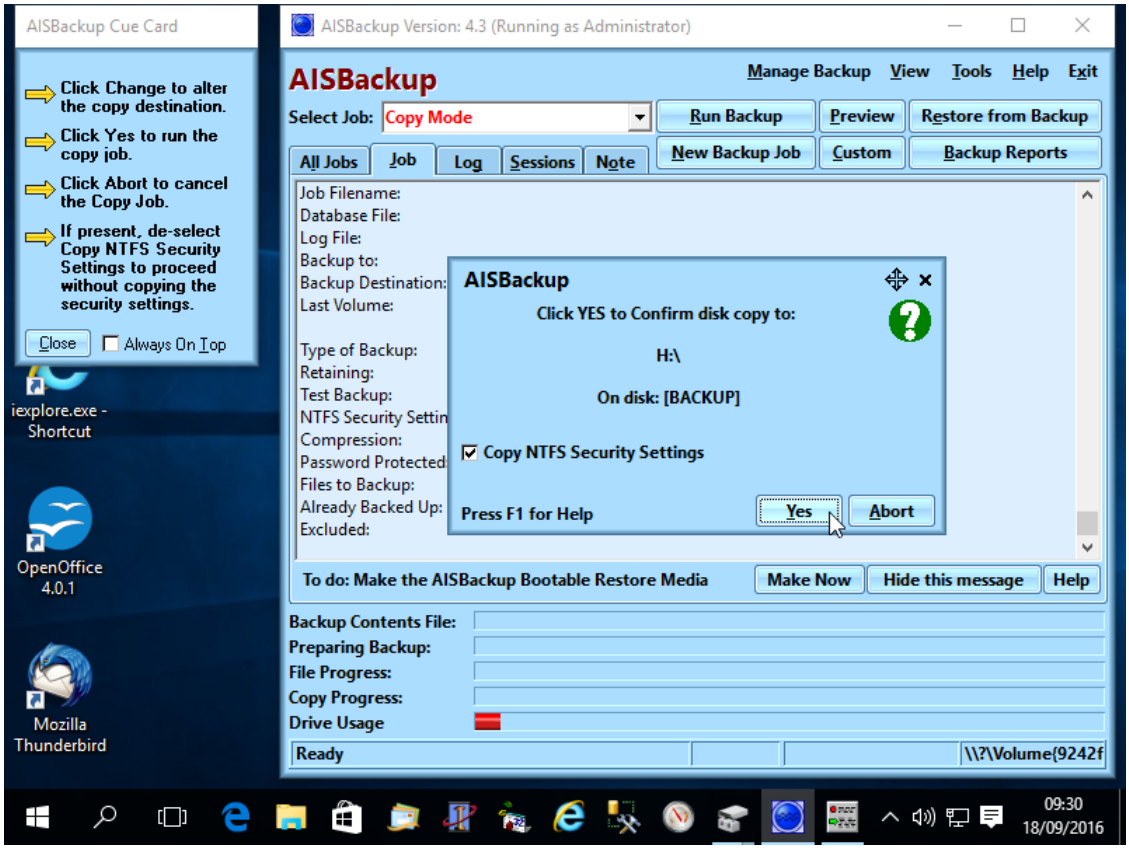
Click on the *Unallocated Disk Space…* as the destination and then click **OK**



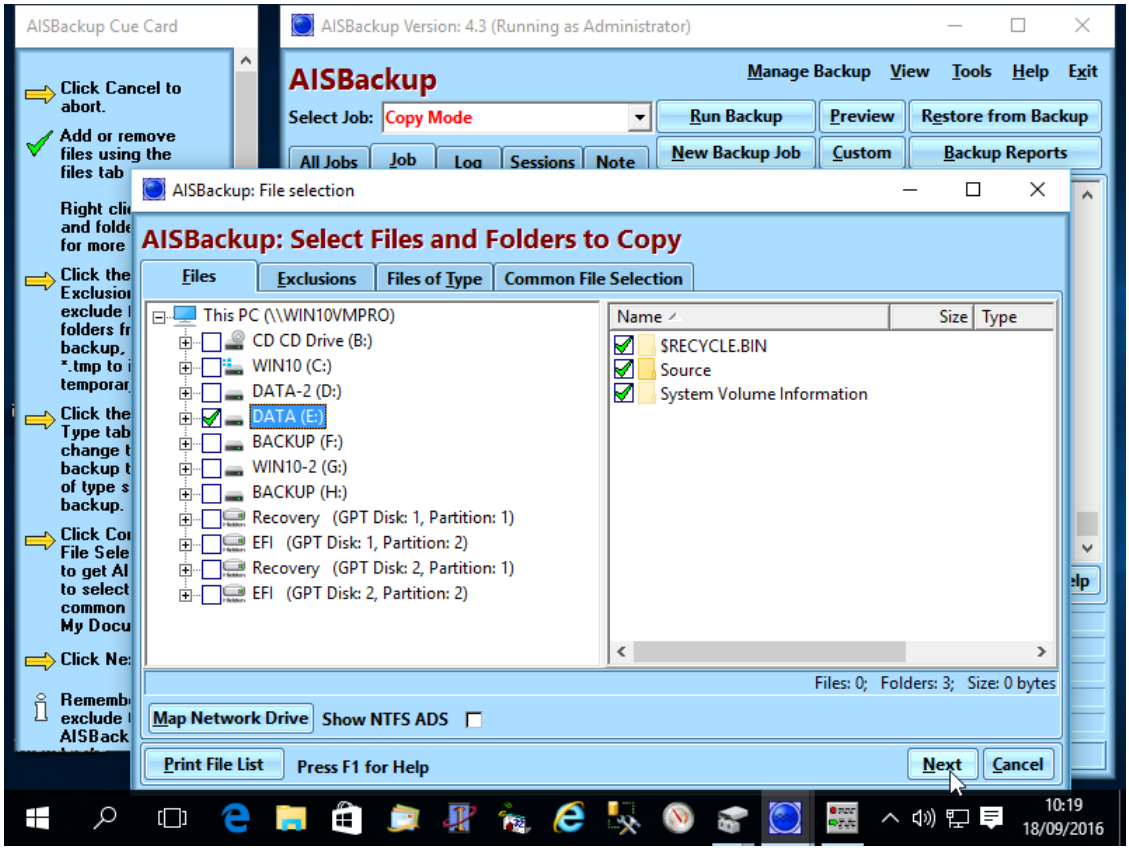
In this example the destination size has been changed to 1TB (1048576MB), then click **Create**.



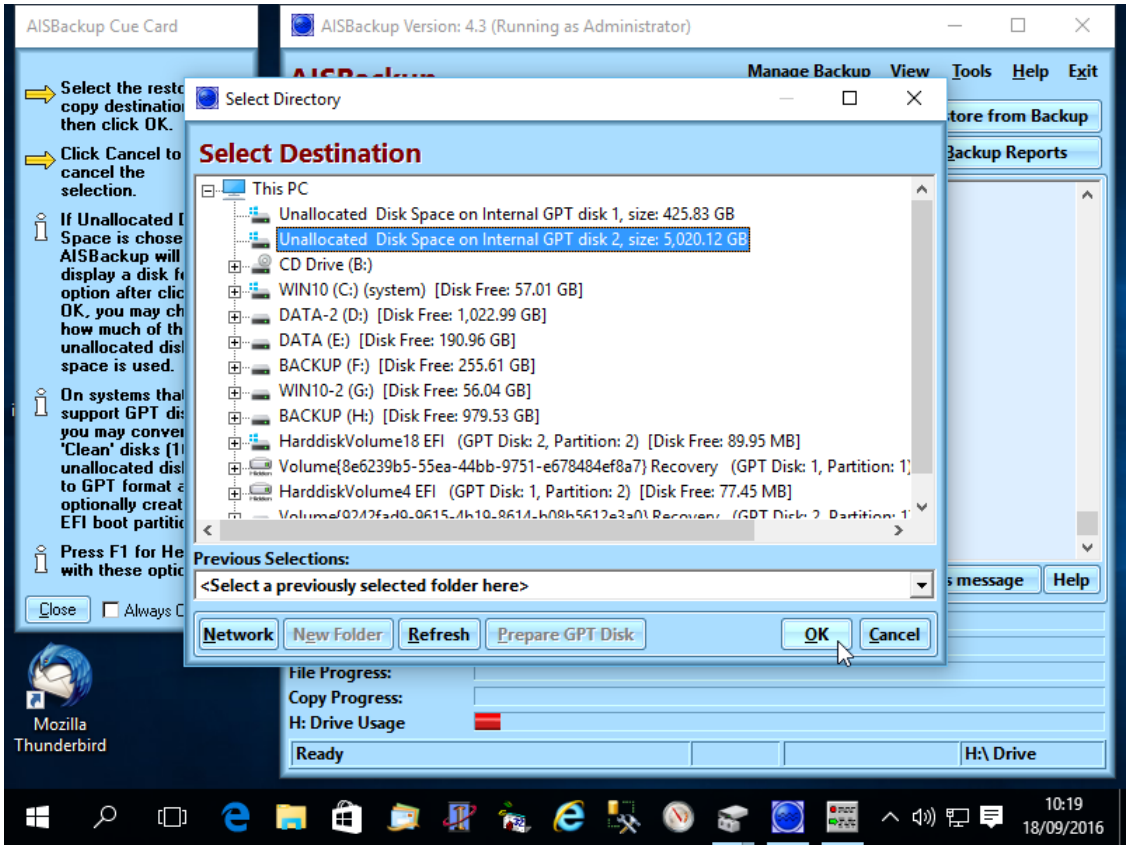
Click **Yes** to confirm the copy.



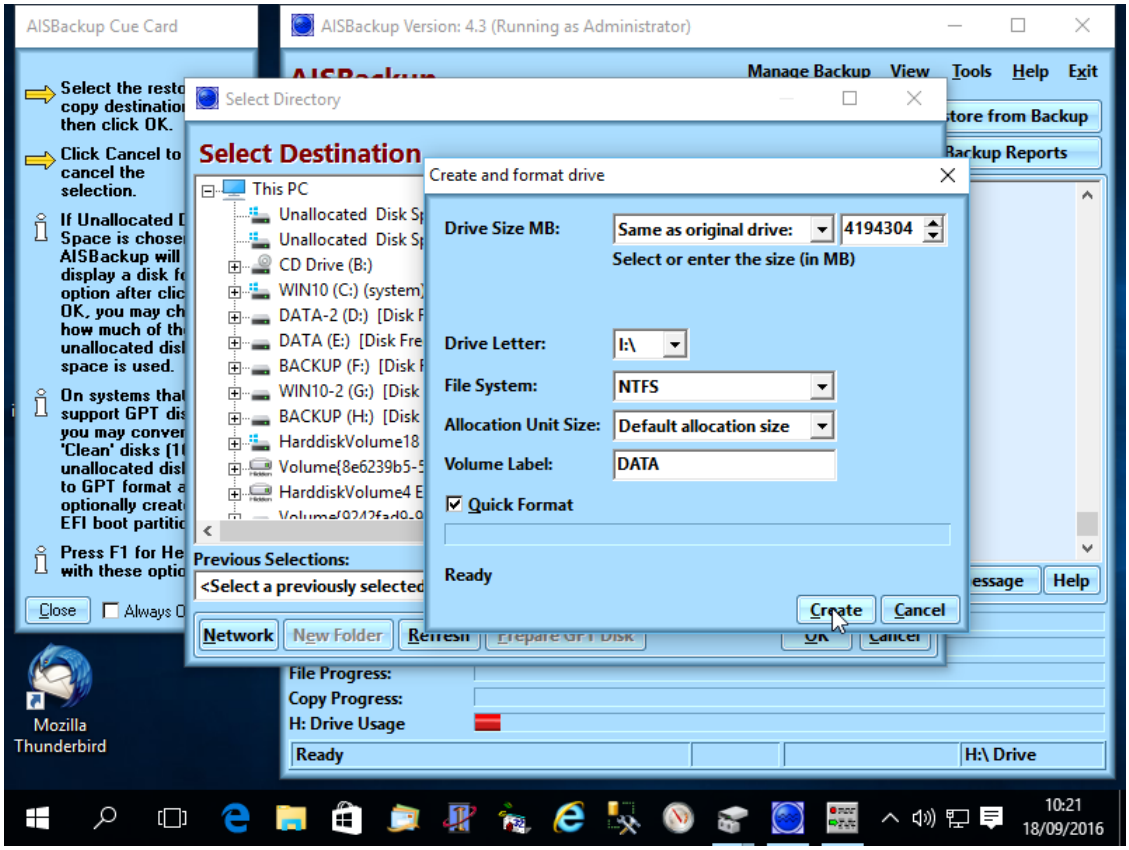
The final drive to copy is DATA, select and click **Next**.



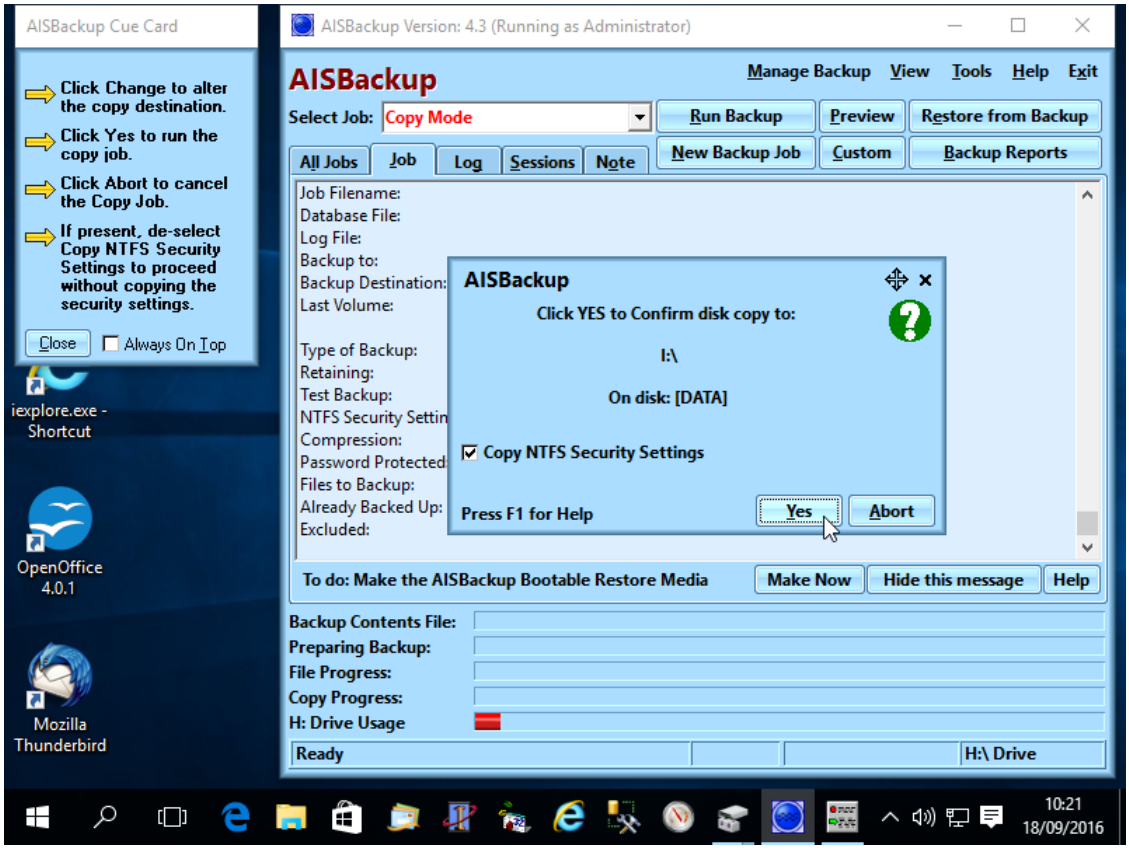
Click on the *Unallocated Disk Space…* as the destination and then click **OK**



In this example the destination size has been changed to 4TB (4194304MB), then click **Create**.

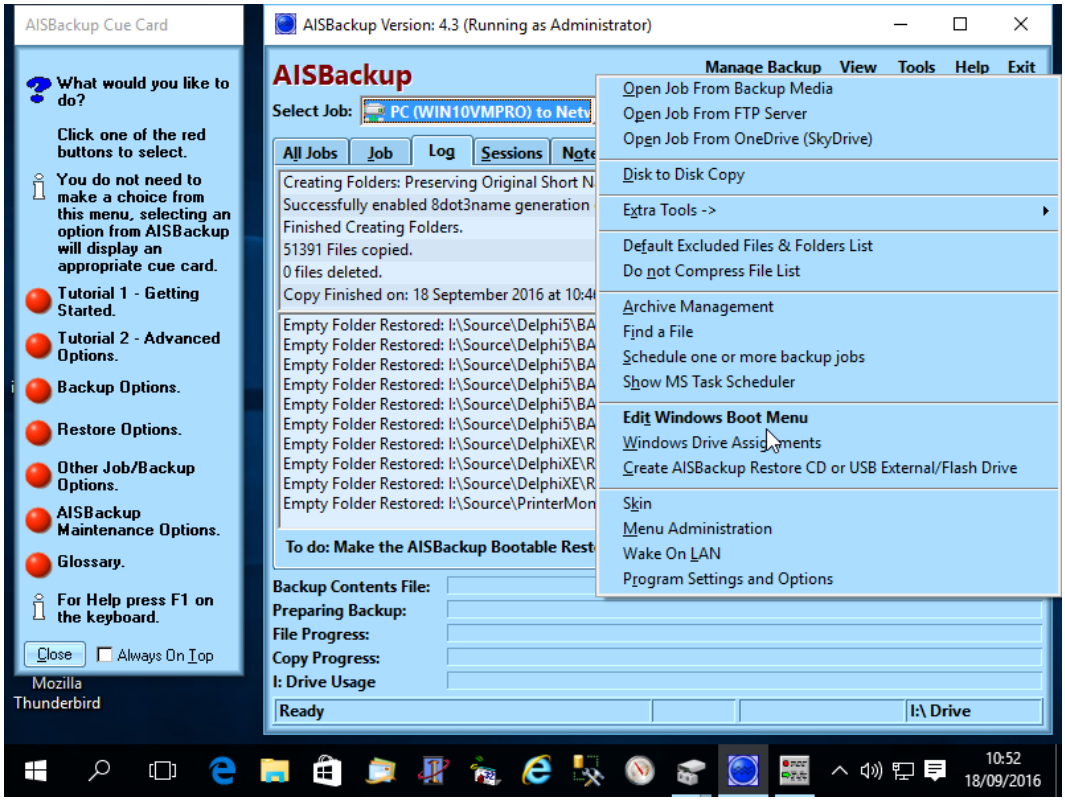


Click **Yes** to confirm the copy.

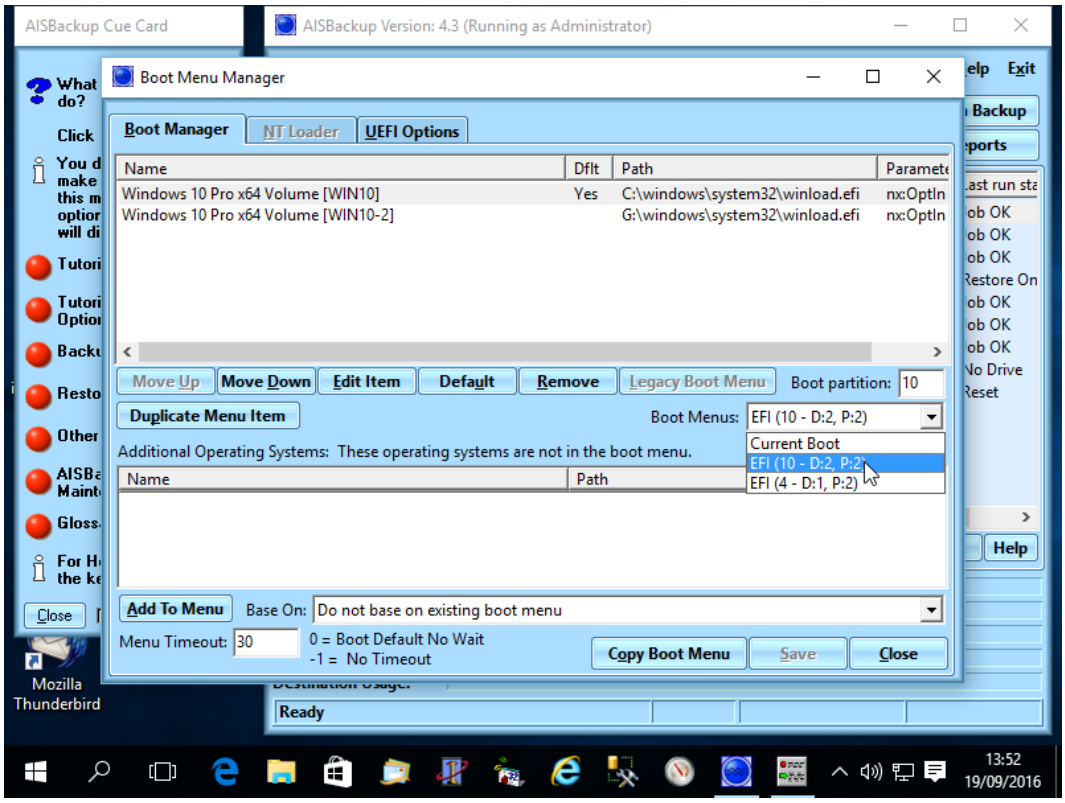


4. Update the Boot Menu for the New Disk Drive.

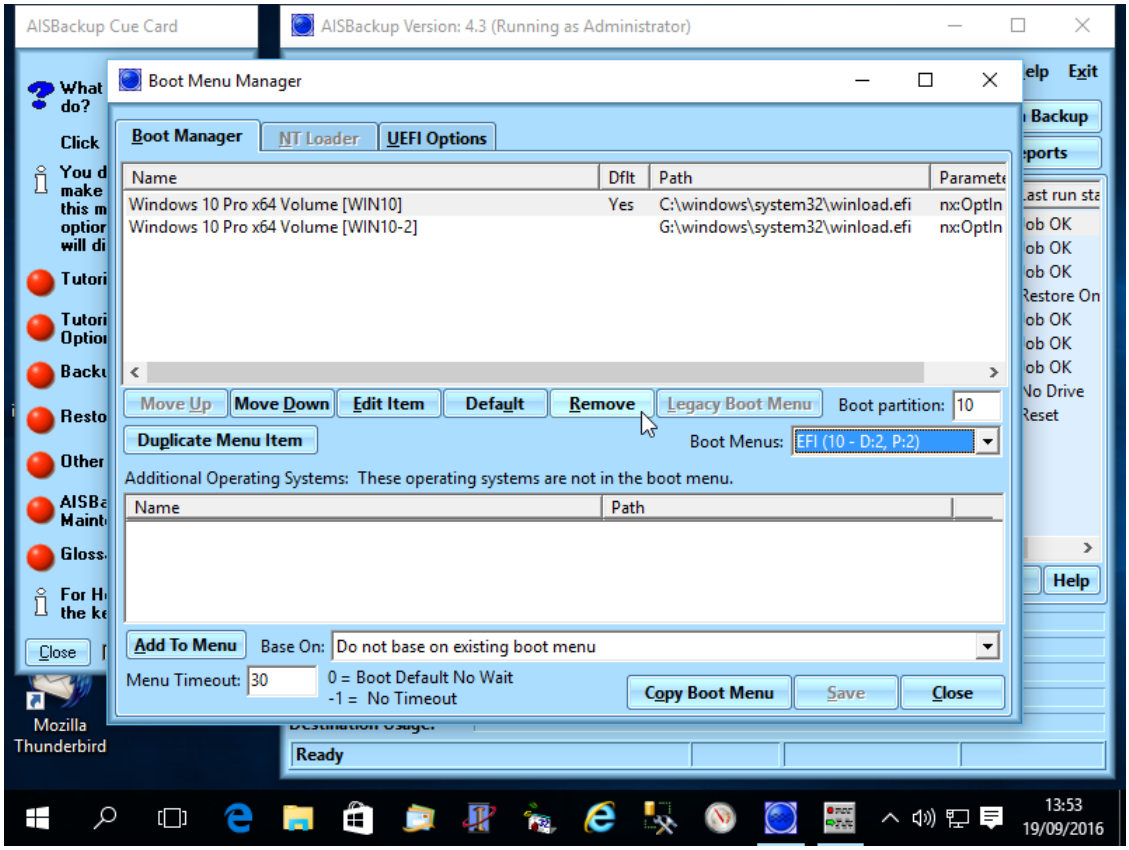
AISBackup automatically creates boot menu entries on the original and destination drive to add the previous boot entries and the new copy of Windows. If the destination disk is going to replace the old disk then the boot menu entry for the old version of Windows should be removed. Select the option **Tools / Edit Windows Boot Menu**.



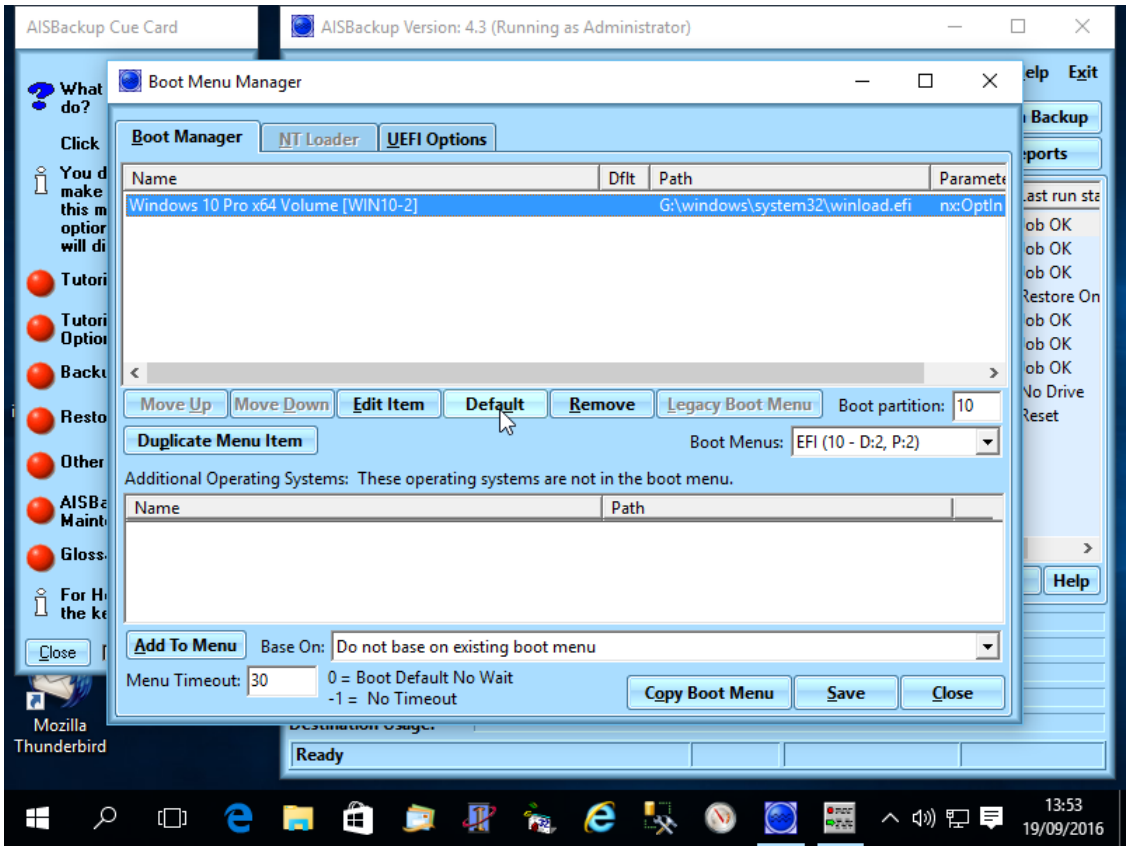
Select the boot menu from Disk 2 (in this example) from the **Boot Menus** option. (D:2 specifies the Disk Number as shown in Windows *Disk Management*.



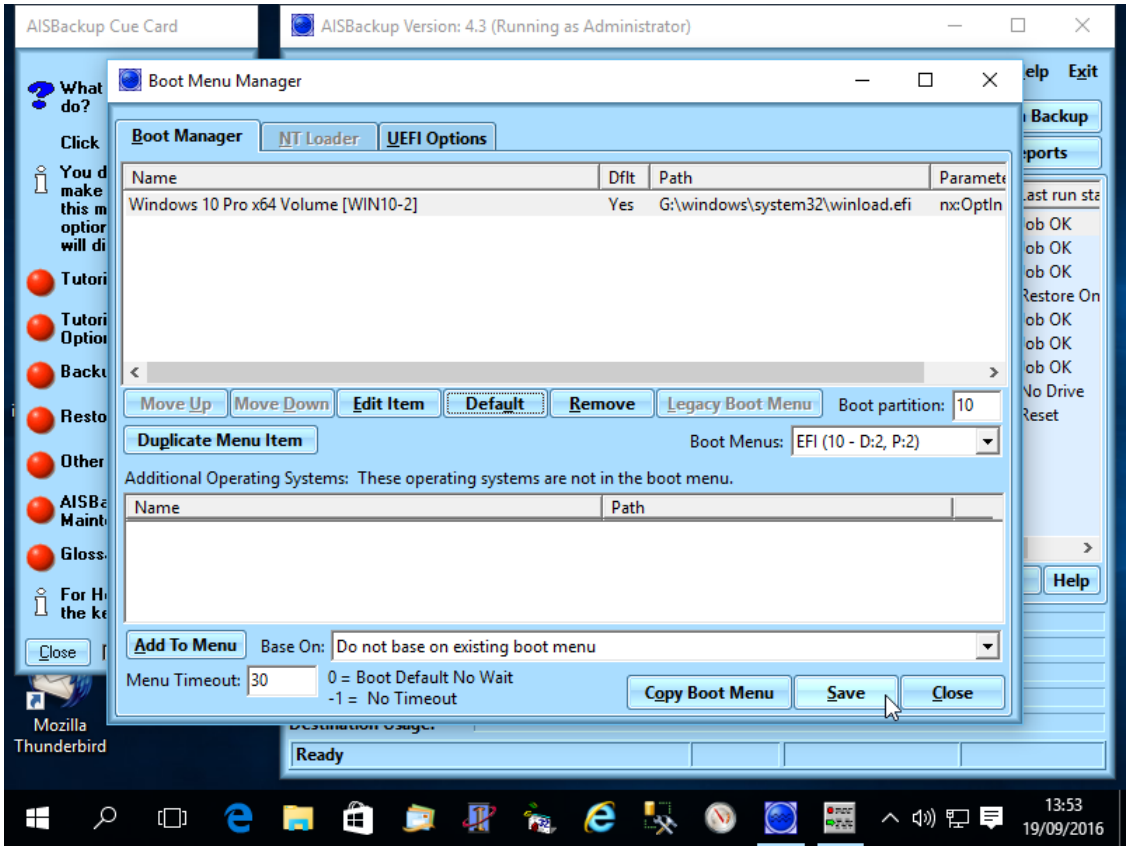
Select the current boot entry (C: drive) then click **Remove**.



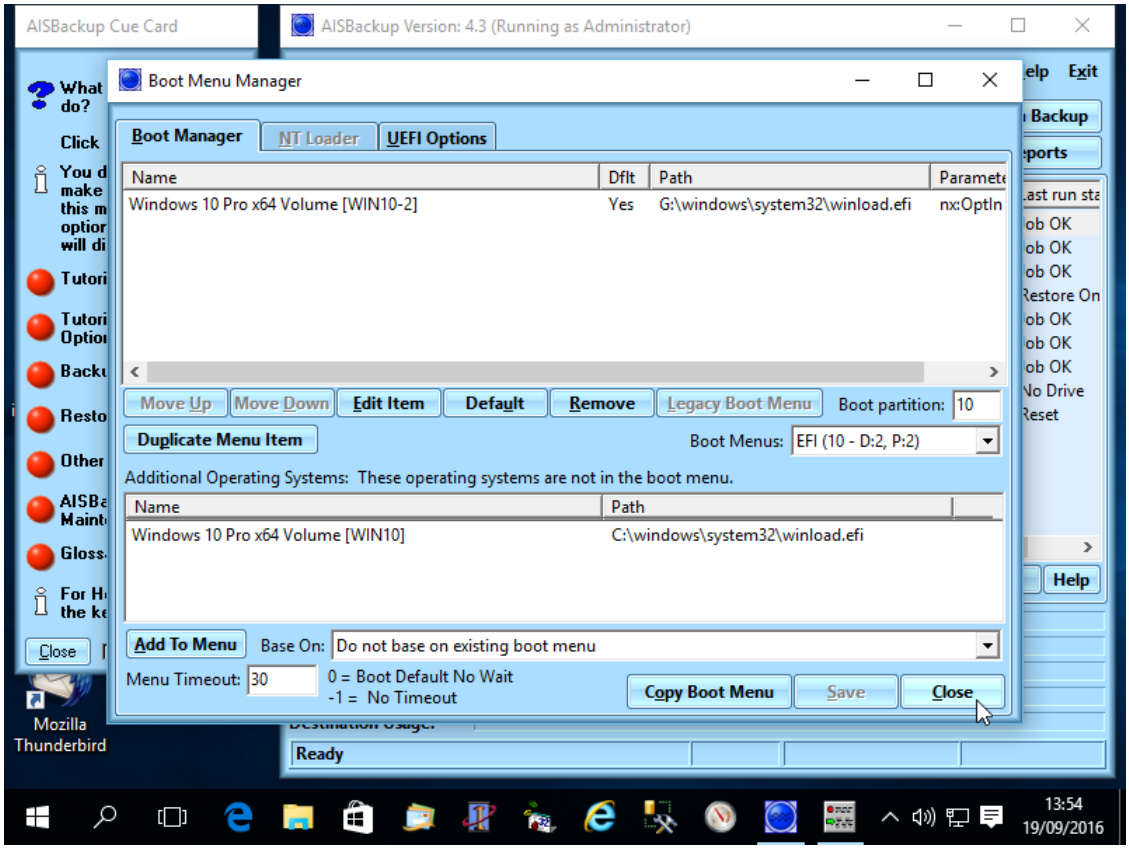
Select the new disk entry (in this example G: drive) then click **Default**. Even though on this version of Windows the copy is on the G: drive it will boot as the C: drive.



To save the changes click **Save**.



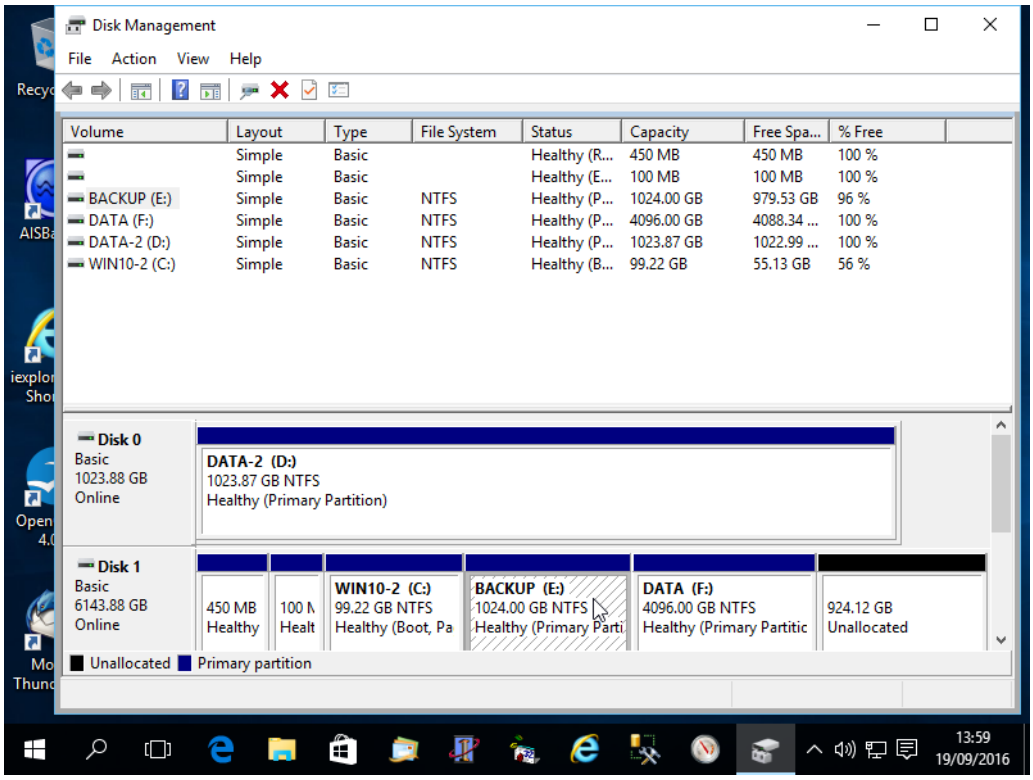
The previous Windows boot entry is now shown in the lower pane. Click **Close** to continue.



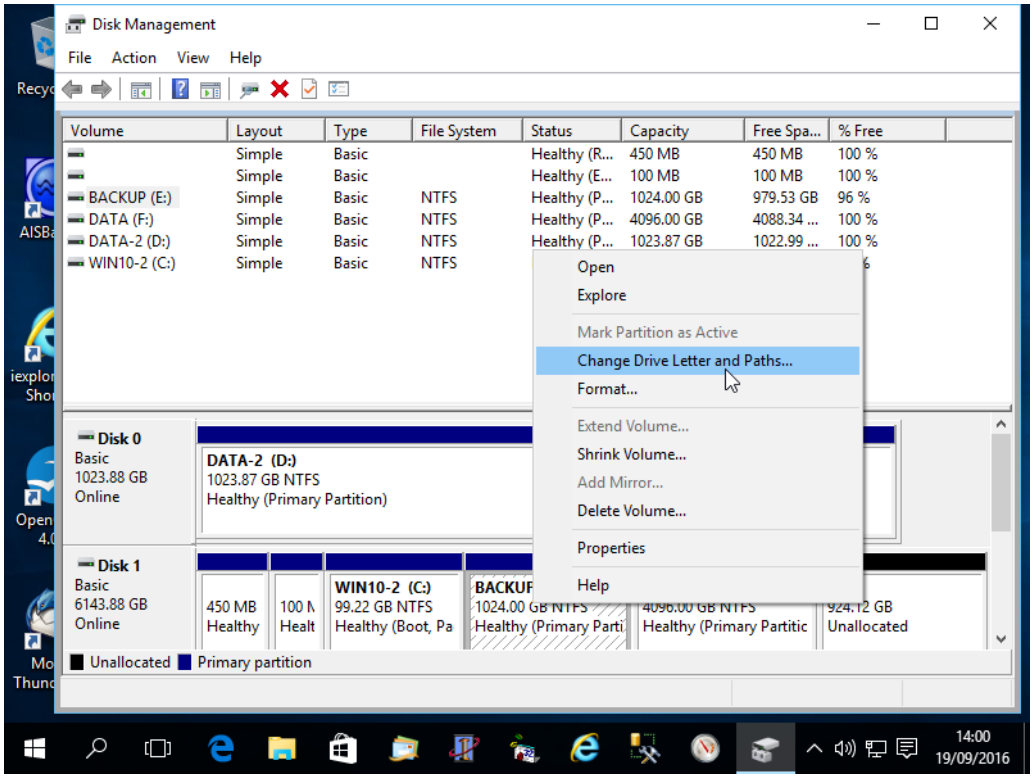
5. Physically replace disk and re-boot.

If you are replacing the old disk then do this now and re-boot. Disk Manager shows the new disk and partitions.

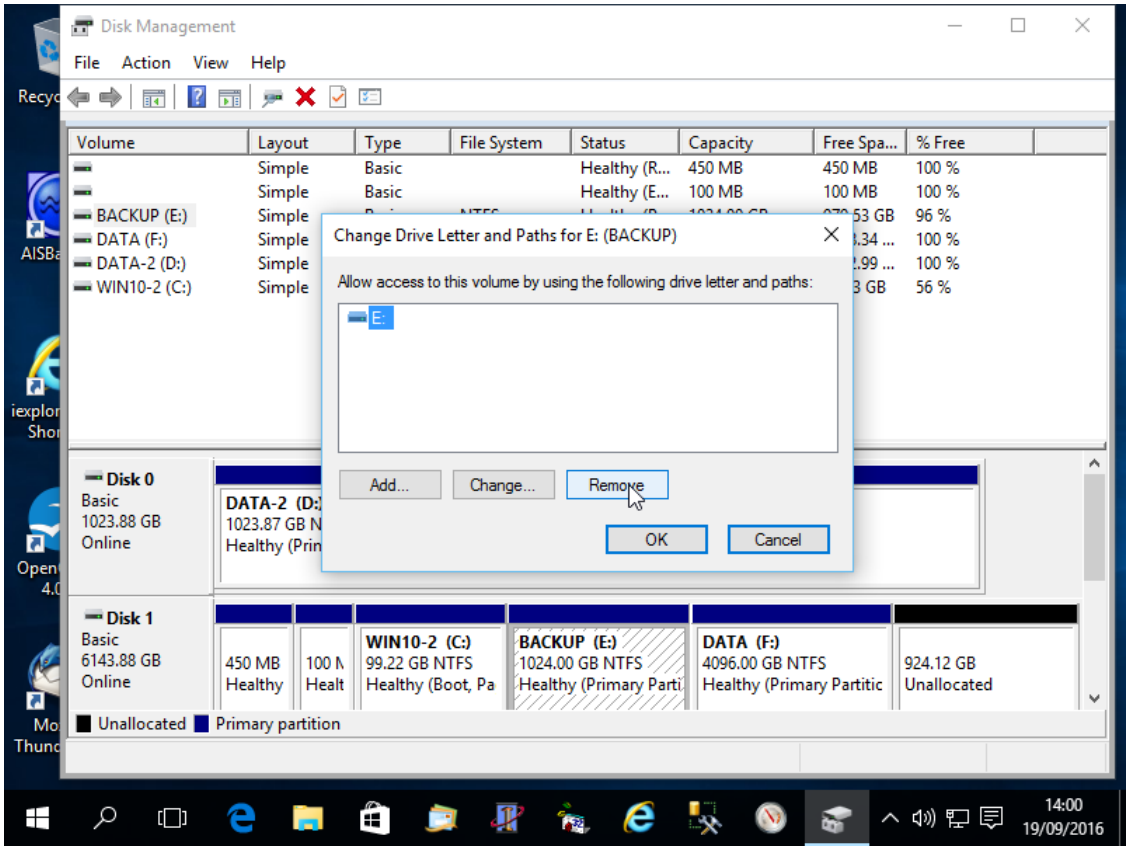
There is a problem with this configuration as the BACKUP partition used to be on drive F: and the DATA partition on drive E:, this needs to be repaired and Disk Manger may be used to do this.



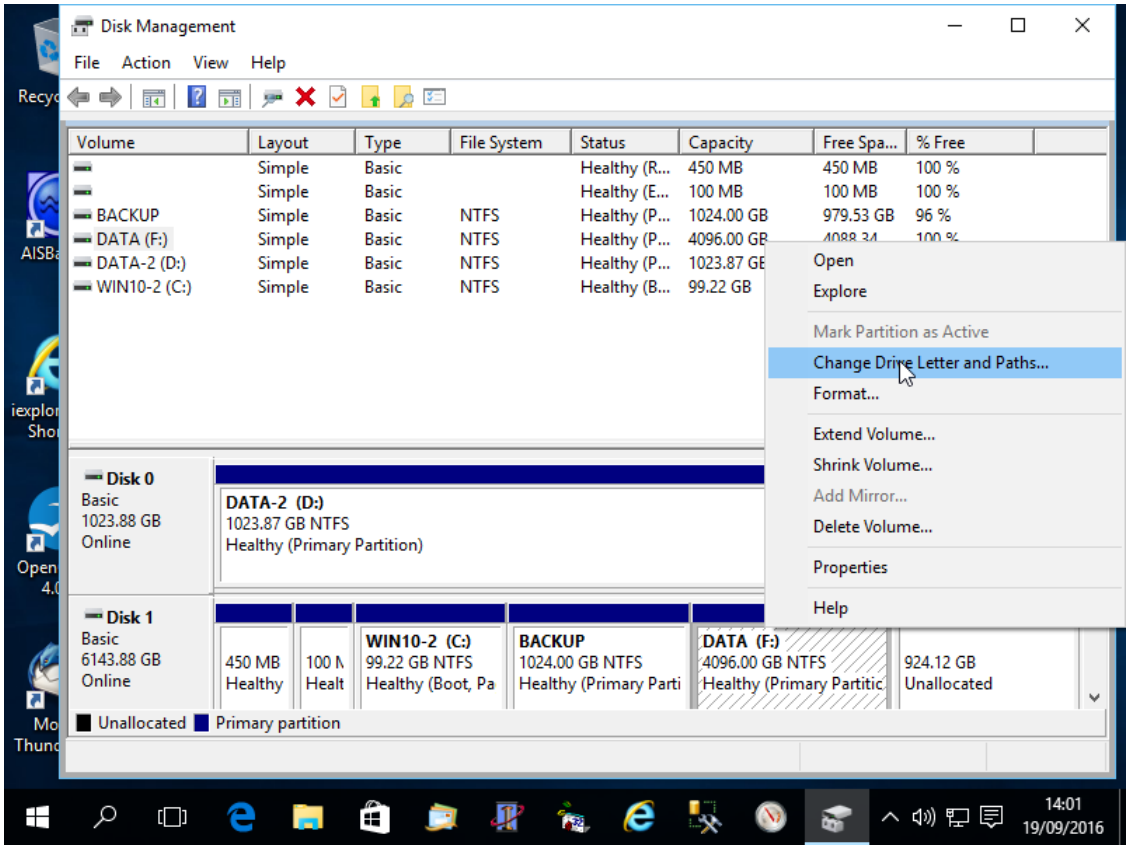
Right click the BACKUP partition and choose **Change Drive Letter and Paths….**



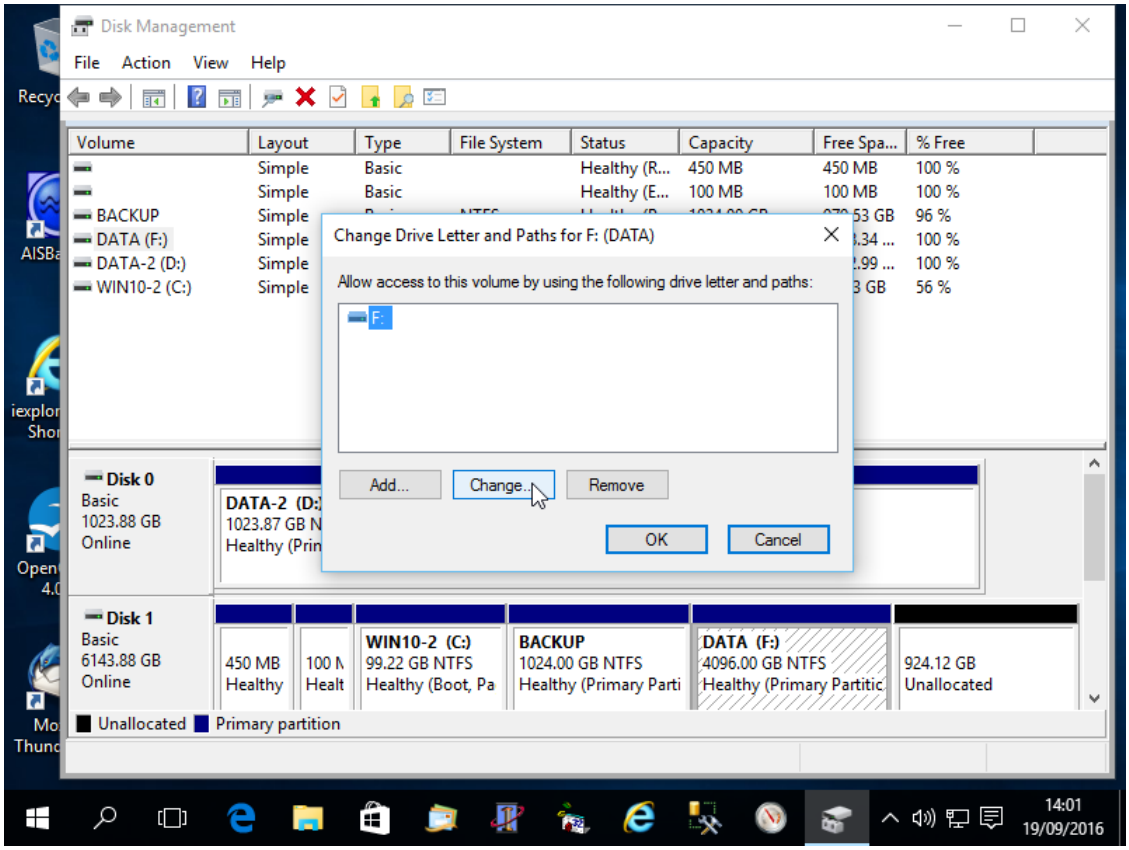
Click **Remove**, and confirm.



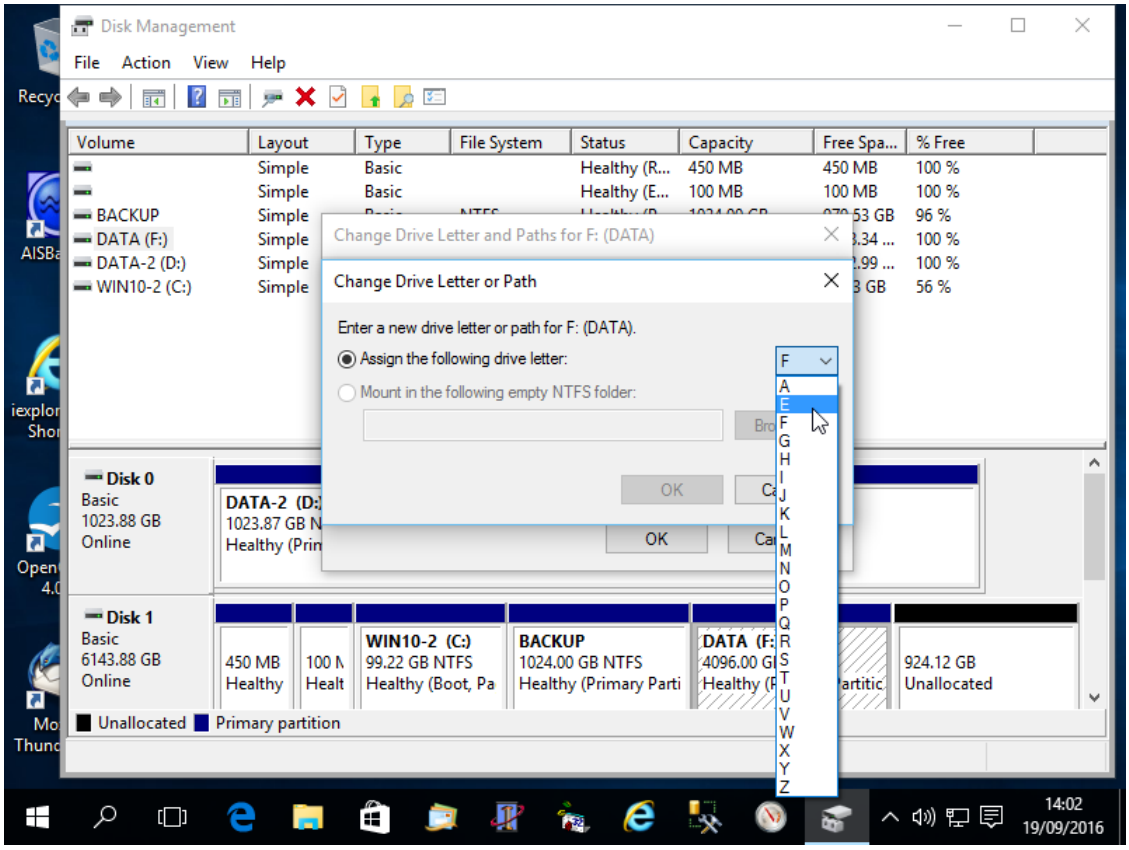
Right click the DATA partition and choose **Change Drive Letter and Paths….**



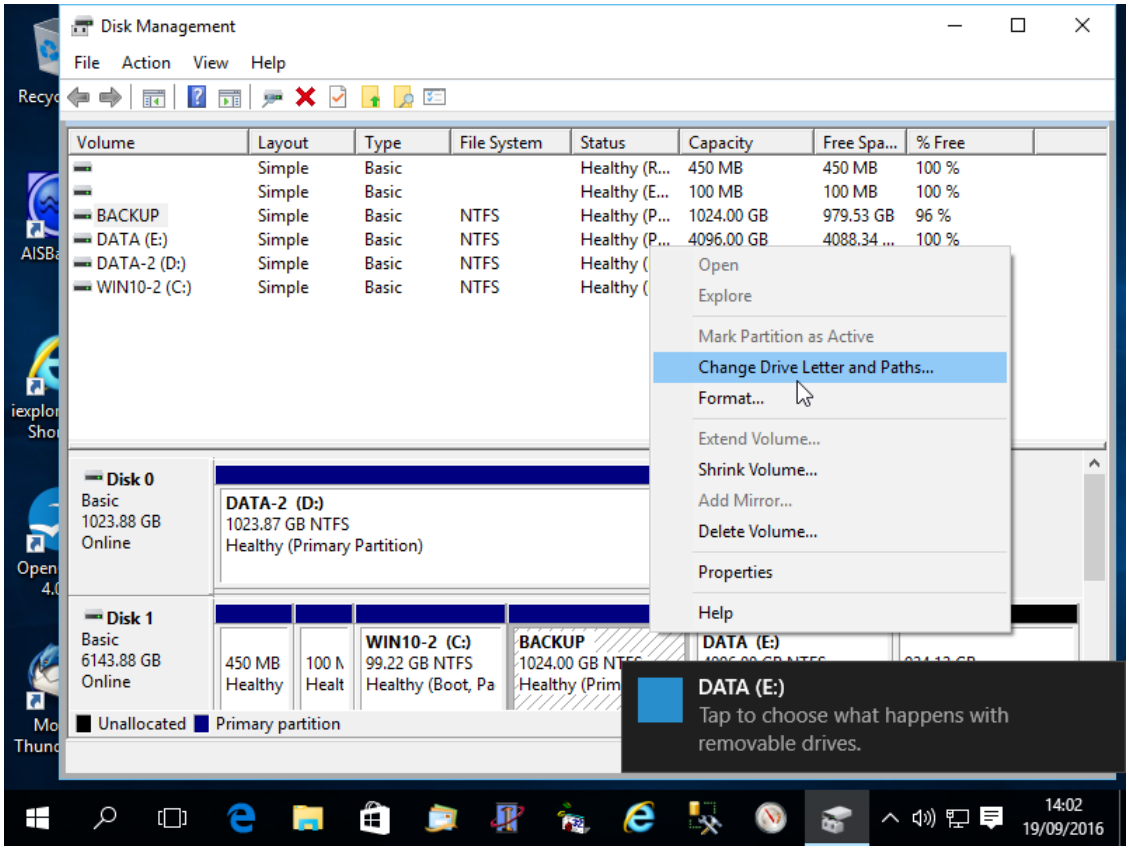
Click **Change**.



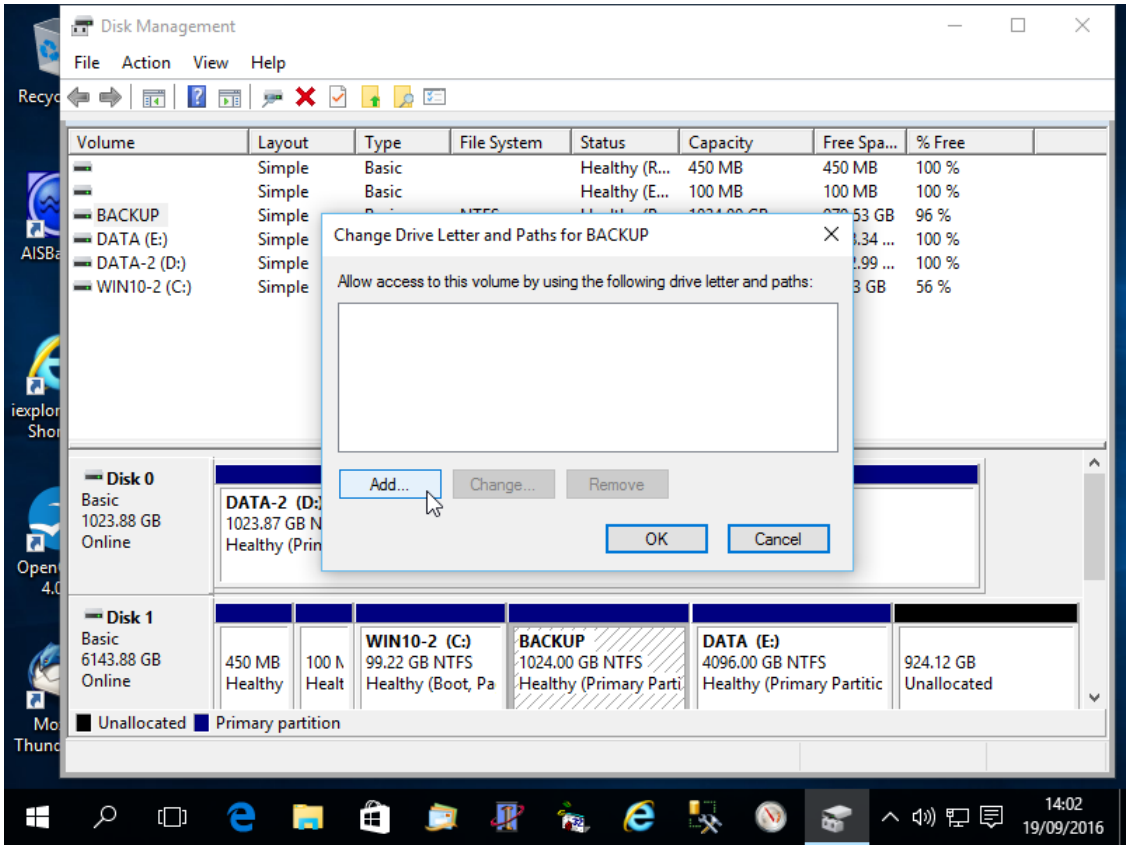
Select *Assign the following drive letter* **E:**



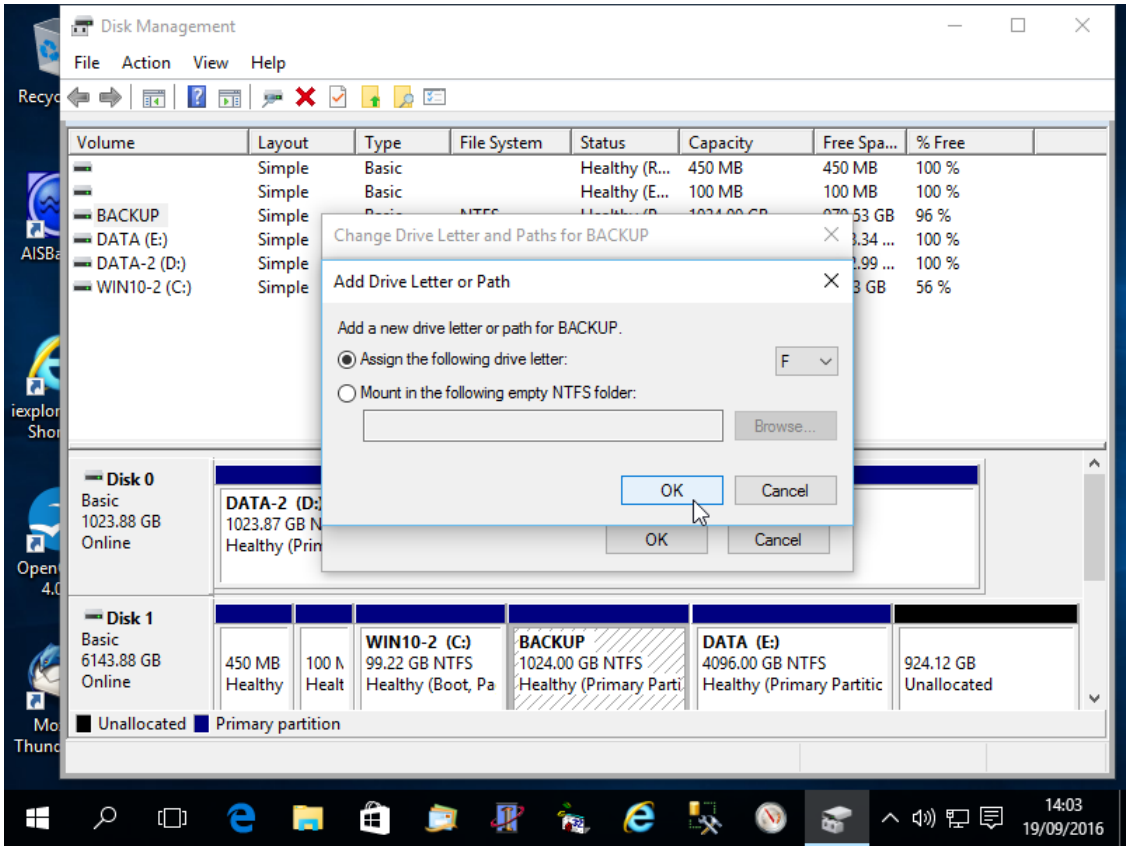
Right click the BACKUP partition and choose **Change Drive Letter and Paths….**



Click **Add**.



Select *Assign the following drive letter* **F:**



The completed drive assignments are shown below.