Video – Disk Partitioning (6 min)

I'm working with a Windows 7 computer. I've added two new hard drives to my system and I want to now go in, initialize the hard drives, partition them, and format them with a file system.

Let's see how we do this in Windows 7. I'll go to the Start menu, Control Panel, System and Security. I'll go down to Administrative Tools and choose Create and format hard disk partitions. This opens the Disk Management tool for me. You can see that I'm prompted to initialize the disks. It says, "You must initialize a disk "before Logical Disk Manager can access it." Disk 1. Disk 2. I need to choose whether I want to use the MBR or Master Boot Record Partition Table, or the newer GPT, GUID Partition Table. The GPT can handle much larger disk drives and more partitions. I'll choose the GPT and click OK. You can see that now Disk 1 and Disk 2 have been initialized and are present and selectable in the Disk Management tool.

Let's take a look at Disk 0 which is my hard drive that holds my operating system. You can see that under Disk 0 there are two partitions, a System Reserved partition and my C drive. You can also see it up here. If you do the default installation in Windows 7, the installer will create two partitions automatically. One partition is 100 megabytes and is called the System Reserved partition. This partition has the Boot Manager code and Boot Configuration database installed on it. You can see here: System Reserved, 100 Megabytes. It's the Active partition and it's a Primary Partition. The second partition is your C drive. It's also a Primary Partition. And this is the drive or the partition that holds the Windows System Files. If we expand this part which says Status, we can see that both partitions are Primary Partitions. We can see they're both Healthy and they're both using the NTFS File System. They're also both Basic disks. My two new hard drives are Disk 1 and Disk 2. They're both Basic disks and they're currently just unallocated space.

Let's see if we can partition Disk 1 and then put a File System on it. I'll right click it and say New Simple Volume. This opens up the New Simple Volume Wizard. I'll click Next and choose the size of my partition.

Let's make the partition half the size of the disk. So I'll put in 20,000 megabytes and press Next. I can assign a drive letter. I'll assign the following drive letter which is letter E and press Next. And then it asks me "Do I want to format this volume "with the following settings, "File system: NTFS?" You can see that that's the default. I can put a volume label on it if I wish. I can perform a quick format and I can choose Enable file and folder compression if I want to. I'll just choose the default and press Next, and then Finish. You can see that the unallocated space on Disk 1 has been divided into two regions.

Now I have a 20 gigabyte partition that's being formatted and I have the other 20 gigabyte partition which is unallocated. The partition has finished formatting and now I have an E drive, a Healthy, Primary Partition, where I can save my files. If I go to Start, Computer, you can now see that I have a new drive, Volume E which is my E drive, 20 gigabytes in size. Now, what happens if I change my mind and I decide that I want to add the rest of the unallocated space into my E drive? What I can do is I'll right-click on the partition and choose Extend Volume. This opens up the Extend Volume Wizard. I'll press Next and you can see that already the 20,829 megabytes from Disk 1 has been selected. This will make the total 40,829. I'll choose Next and Finish. And you can see that now my E drive is 39.87 gigabytes or the entire size of the drive. If I want to delete the partition and start over, it's as simple as right-clicking and choosing Delete Volume. It warns me that deleting the volume will erase all of the data on the volume and if I wish to continue. Since I don't have any files on this E drive, I'll choose Yes and now the drive is back to unallocated space.