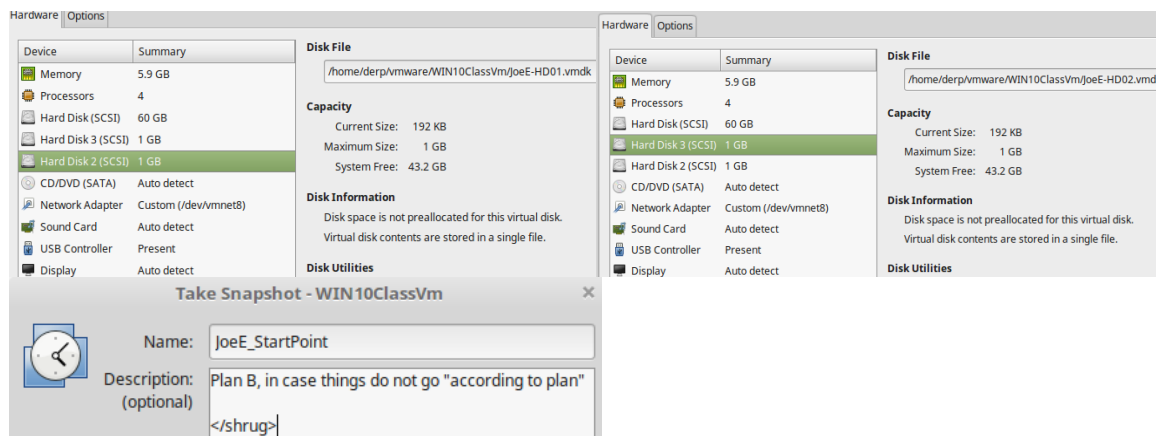


Backup Lab

We covered a number of items around the topic of backups, and now we're going to explore. Spoiler: there may or may not be traps here (Maybe General Ackbar was right?), so you have to think around or through those items to win. ☺

High level summary: You'll prep your VM, add 2 hard drives, do some RAID'ing, and then back up & restore files. With all the sessions we have covered thus far, I know you got this!!!

- 1) First, it would be wise to build your own insurance policy ...
 - a) Select (not Run!) your Windows 10 VM via VMware.
 - b) Then under VM > Snapshot > Take Snapshot > Name it: *your_name_StartPoint*
- 2) Next, let's add 2 same size drives to your VM (1Gb)
 - a) Edit VM settings > Add Hard Disk > SCSI > Create New > 1.18 GB as a Single File > Name the new disk with your Name-HD0x.vmdk > Finish.
 - b) Repeat same steps for 2nd disk, renaming the 2nd. vmdk hard drive accordingly.
 - c) **Snip** VM Setting, including your 2 new disks.



- 3) Ok, now we're ready to do some cyber cooking ... Boot up your Windows 10 VM. [Engage!](#)
- 4) Initialize 2 new disks.
 - a) Disk Management > Initialize both new disks w/ GPT.
- 5) Time for a RAID party!
 - a) Disk Management's Lower Pane > Create Striped Volume > Add both disks > Assign drive letter > Label it: *FirstName_Stripe* & Perform Quick format for this volume using NTFS > Next & OK out.
 - b) QUESTION: What is the Total volume size? _____
 - c) QUESTION: What is the Max available space? _____
 - d) QUESTION: Explain why is this the case? _____
 - e) **Snip** Disk Management, including all disks.
- 6) We need a "volunteer" ...
 - a) In File Explorer, go to your new drive and create a new file called "Striped File".
 - b) **Snip** the new file in the new drive.
- 7) Next, we break things!
 - a) Disk Management's Lower Pane > Select Disk 2 & make it Offline.
 - b) In File Explorer, go to your new drive with your new Stripe File.

- c) QUESTION: What happened to your new file? _____
 - d) Disk Management's Lower Pane > Select Disk 2 & make it Online again.
 - e) In File Explorer, go to your new drive with your new Striped File.
 - f) QUESTION: What happened to your new folder? Explain why. _____
- 8) Now, we make things go boom!
- a) Disk Management's Lower Pane > Delete Volumes
- 9) Must build anew.
- a) Disk Management > New Mirrored Volume > Add both disks > Assign different drive letter > Label it: *FirstName_Mirror* & Perform Quick format for this volume using NTFS > Next & OK out.
 - b) QUESTION: What is the Total volume size? _____
 - c) QUESTION: What is the Max available space? _____
 - d) QUESTION: Explain why is this the case? _____
 - e) **Snip** Disk Management, including all disks
- 10) Need another "volunteer" [red shirt](#).
- a) In File Explorer, go to your new drive and create a new file called "Mirrored File"
 - b) **Snip** the new file in the new drive.
- 11) Time to break some more stuff!
- a) On Partition 1 or 2, Remove Disk 2 from the Mirror.
 - b) Go to your new drive letter with your new Mirrored File.
 - c) QUESTION: What happened to your new file? Explain why. _____
 - d) **Snip** Disk Management, including all disks.
- 12) Backing up is so much fun
- a) Ok, so now we're going to do a quick backup & restore. Additionally, we're going to change up the process a bit ... to make it more of a "go find & win" challenge.
 - b) First, let's make a second VM snapshot, called "*your_name's* mid save point".
 - c) Notice on the bottom status bar of VMware, there's a "Saving State" with a progress bar.
 - i) **Snip** the "Saving State" with a progress bar.
 - ii) QUESTION: What does this really mean? Why should you truly wait until it is complete? _____
 - d) Next, after your VM state is fully saved, download a fun cat meme picture, name it "Cat_meme", & save it under your Pictures directory. Also, pretty sure cat memes rule the Internet, though just a hunch.
 - e) Find the default Windows 10 tool under Settings for backing up file history.
 - f) Add your remaining new Disk 1's volume drive, and make sure to automatically back up your files.
 - g) For more options, run backup up now.
 - h) **Snip** the overview data after your back up is complete.
 - i) Now delete your picture.
 - j) You guessed it ... Under the same backup tool, restore the file from the current backup.
 - k) **Snip** the backed up file under File History's restore window.
 - l) Validate the backed up file actually was restored. Yeah, cat memes!
- 13) Now, from the beginning ...
- a) Let's explore Snapshot Manager in VMware.
 - b) **Snip** the Snapshot Manager & your snapshots.
 - c) Select your mid save point snapshot, and then Go To and Restore it.
 - d) Double-check your cat meme picture.

- e) QUESTION: Was your file there? Explain why, or why not. _____
- f) Now let's select your StartPoint Snapshot, and restore it.
- g) QUESTION: What just happened? Are your new hard drives you created there? Explain why, or why not. _____