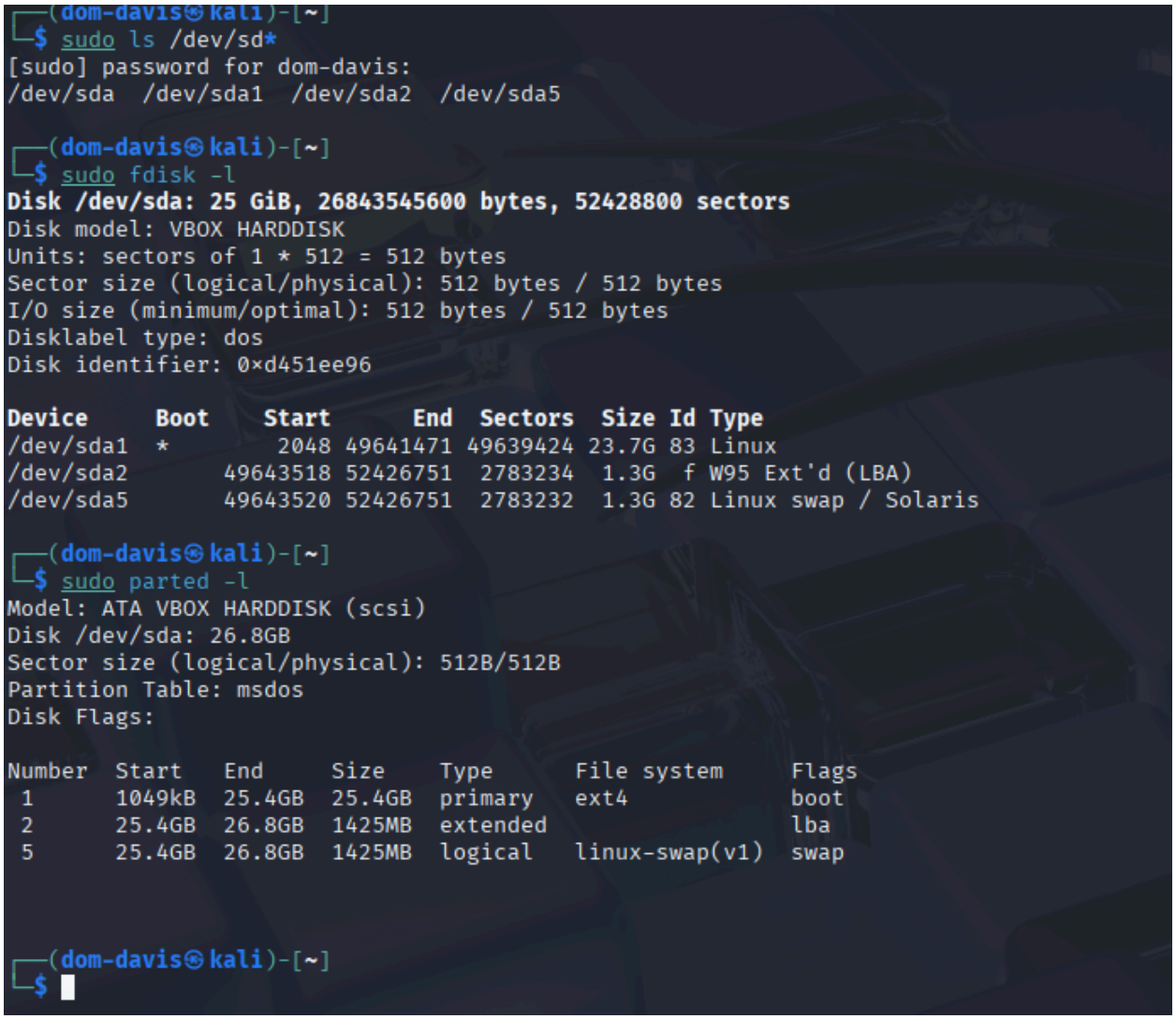
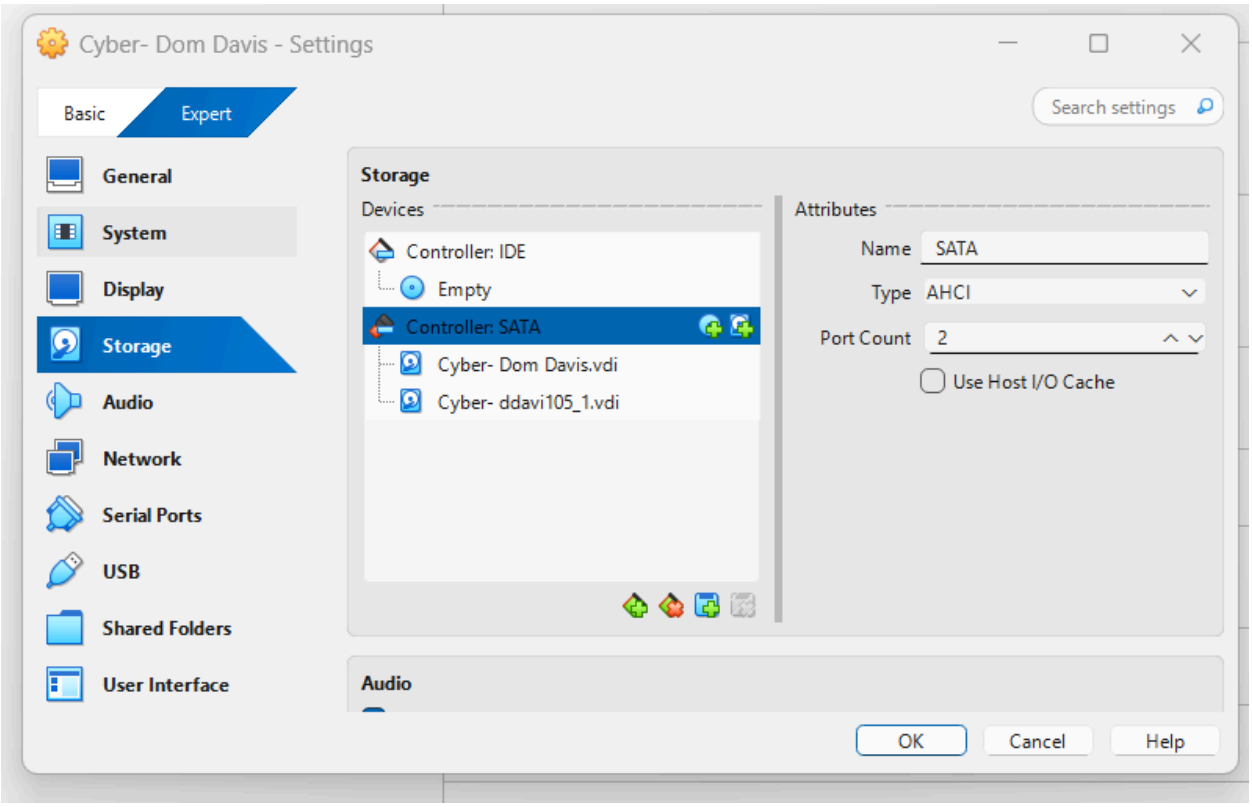
CYSE 270: Linux System for Cybersecurity
Lab 7 – Manage Local Storage
Dominic Davis

Part 1.
Steps 1-3



Part 2.

Steps 1-2



Step 3

The new disk (/dev/sdb) is now listed meaning a new storage device has been created. It's now a separate disk or drive on the VM.

```
┌──(dom-davis㉿kali)-[~]
└─$ sudo ls /dev/sd*
[sudo] password for dom-davis:
/dev/sda  /dev/sda1  /dev/sda2  /dev/sda5  /dev/sdb

┌──(dom-davis㉿kali)-[~]
└─$ sudo fdisk -l
Disk /dev/sda: 25 GiB, 26843545600 bytes, 52428800 sectors
Disk model: VBOX HARDDISK
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: dos
Disk identifier: 0×d451ee96

Device     Boot    Start      End  Sectors  Size Id Type
/dev/sda1  *        2048 49641471 49639424 23.7G 83 Linux
/dev/sda2       49643518 52426751  2783234  1.3G  f W95 Ext'd (LBA)
/dev/sda5       49643520 52426751  2783232  1.3G 82 Linux swap / Solaris


Disk /dev/sdb: 200 MiB, 209715200 bytes, 409600 sectors
Disk model: VBOX HARDDISK
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
```

```
┌──(dom-davis㉿kali)-[~]
└─$ sudo parted -l
Model: ATA VBOX HARDDISK (scsi)
Disk /dev/sda: 26.8GB
Sector size (logical/physical): 512B/512B
Partition Table: msdos
Disk Flags:

Number  Start   End     Size    Type      File system     Flags
 1      1049kB  25.4GB  25.4GB  primary   ext4            boot
 2      25.4GB  26.8GB  1425MB  extended                  lba
 5      25.4GB  26.8GB  1425MB  logical   linux-swap(v1)  swap


Error: /dev/sdb: unrecognised disk label
Model: ATA VBOX HARDDISK (scsi)
Disk /dev/sdb: 210MB
Sector size (logical/physical): 512B/512B
Partition Table: unknown
Disk Flags:
```

Part 3

Step 1.

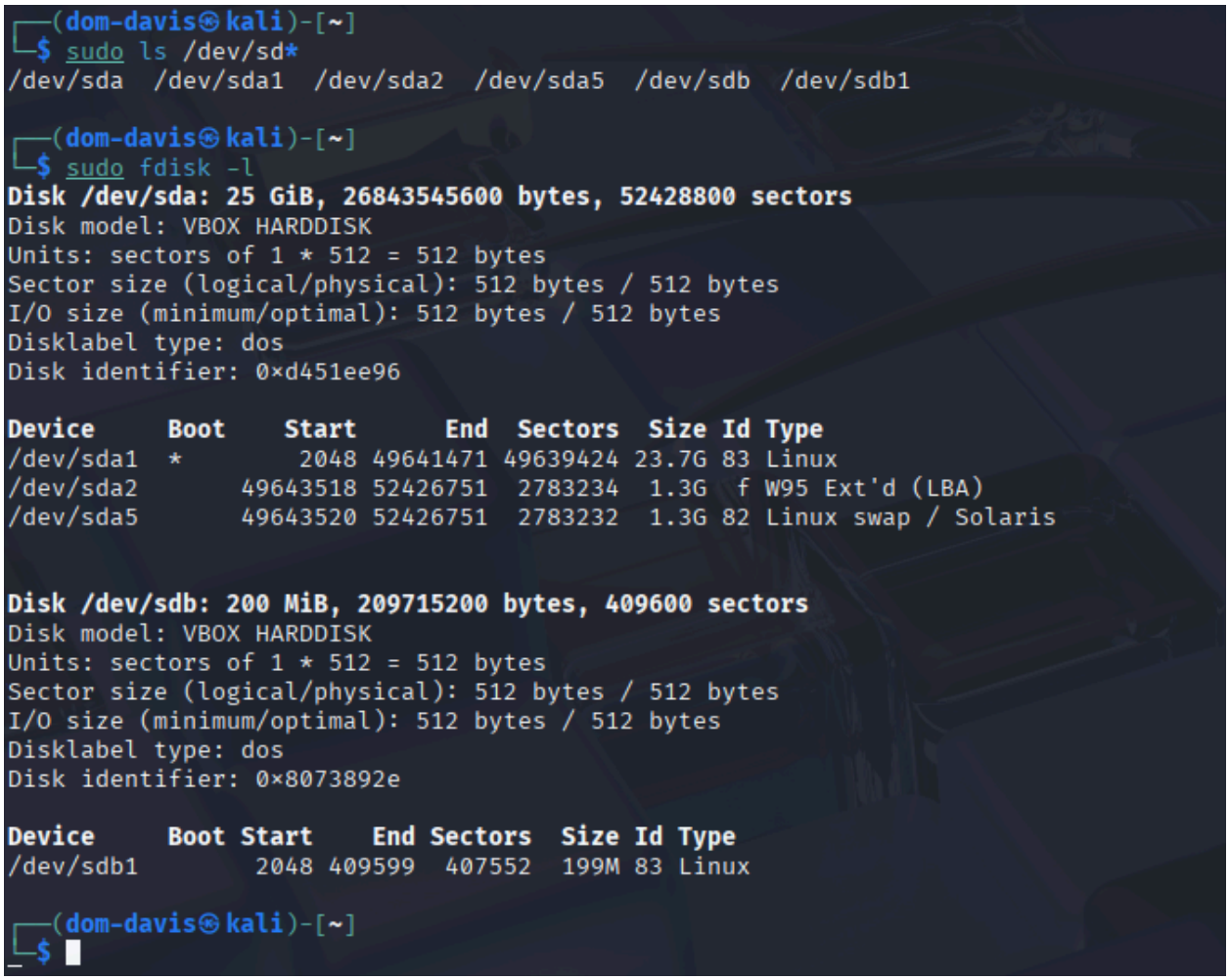
```
└─$ sudo fdisk /dev/sdb
[sudo] password for dom-davis:

Welcome to fdisk (util-linux 2.41).
Changes will remain in memory only, until you decide to write them.
Be careful before using the write command.

Device does not contain a recognized partition table.
Created a new DOS (MBR) disklabel with disk identifier 0x8073892e.

Command (m for help): m
```

```
Command (m for help): n
Partition type
   p   primary (0 primary, 0 extended, 4 free)
   e   extended (container for logical partitions)
Select (default p): p
Partition number (1-4, default 1): 1
First sector (2048-409599, default 2048):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (2048-409599, default 409599):

Created a new partition 1 of type 'Linux' and of size 199 MiB.

Command (m for help):
```

Step 2.

```
┌──(dom-davis㉿kali)-[~]
└─$ sudo mkfs.ext4 /dev/sdb1
mke2fs 1.47.2 (1-Jan-2025)
Creating filesystem with 203776 1k blocks and 51000 inodes
Filesystem UUID: f935cdc9-6431-4ff3-a900-711f2fc660d6
Superblock backups stored on blocks:
        8193, 24577, 40961, 57345, 73729

Allocating group tables: done
Writing inode tables: done
Creating journal (4096 blocks): done
Writing superblocks and filesystem accounting information: done
```

Step 3.


┌──(dom-davis㉿kali)-[~]
└─$ sudo ls /dev/sd*
/dev/sda /dev/sda1 /dev/sda2 /dev/sda5 /dev/sdb /dev/sdb1
┌──(dom-davis㉿kali)-[~]
└─$ sudo fdisk -l
Disk /dev/sda: 25 GiB, 26843545600 bytes, 52428800 sectors
Disk model: VBOX HARDDISK
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: dos
Disk identifier: 0xd451ee96
Device Boot Start End Sectors Size Id Type
/dev/sda1 * 2048 49641471 49639424 23.7G 83 Linux
/dev/sda2 49643518 52426751 2783234 1.3G f W95 Ext'd (LBA)
/dev/sda5 49643520 52426751 2783232 1.3G 82 Linux swap / Solaris
Disk /dev/sdb: 200 MiB, 209715200 bytes, 409600 sectors
Disk model: VBOX HARDDISK
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: dos
Disk identifier: 0x8073892e
Device Boot Start End Sectors Size Id Type
/dev/sdb1 2048 409599 407552 199M 83 Linux
┌──(dom-davis㉿kali)-[~]
└─$

```
┌──(dom-davis㉿kali)-[~]
└─$ sudo parted -l
Model: ATA VBOX HARDDISK (scsi)
Disk /dev/sda: 26.8GB
Sector size (logical/physical): 512B/512B
Partition Table: msdos
Disk Flags:

Number  Start   End     Size    Type      File system     Flags
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 5      25.4GB  26.8GB  1425MB  logical   linux-swap(v1)  swap


Model: ATA VBOX HARDDISK (scsi)
Disk /dev/sdb: 210MB
Sector size (logical/physical): 512B/512B
Partition Table: msdos
Disk Flags:

Number  Start   End    Size   Type     File system  Flags
 1      1049kB  210MB  209MB  primary  ext4
```

The /dev/sdb1 is now an ext4 partition

Step 4.

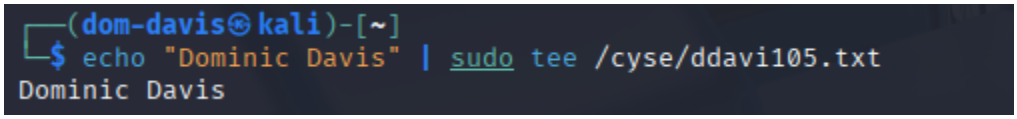
```
┌──(dom-davis㉿kali)-[~]
└─$ sudo mkdir /cyse

┌──(dom-davis㉿kali)-[~]
└─$ sudo mount /dev/sdb1 /cyse
```

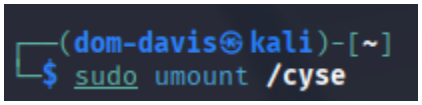
Step 5.

```
┌──(dom-davis㉿kali)-[~]
└─$ df -h
Filesystem      Size  Used Avail Use% Mounted on
udev            921M     0  921M   0% /dev
tmpfs           198M 1000K  197M   1% /run
/dev/sda1        24G   15G  7.9G  65% /
tmpfs           987M  4.0K  987M   1% /dev/shm
tmpfs           5.0M     0  5.0M   0% /run/lock
tmpfs           1.0M     0  1.0M   0% /run/credentials/systemd-journald.service
tmpfs           987M   72K  987M   1% /tmp
tmpfs           1.0M     0  1.0M   0% /run/credentials/getty@tty1.service
tmpfs           198M  116K  198M   1% /run/user/1000
/dev/sdb1       181M   63K  167M   1% /cyse
```

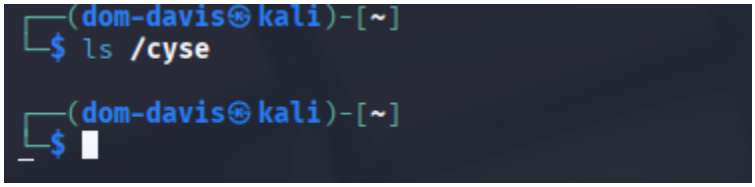
Step 6.



Step 7.



Step 8.



There’s nothing in the file anymore since the partition is unmounted