

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

Part I

Steps 1, 2, 3

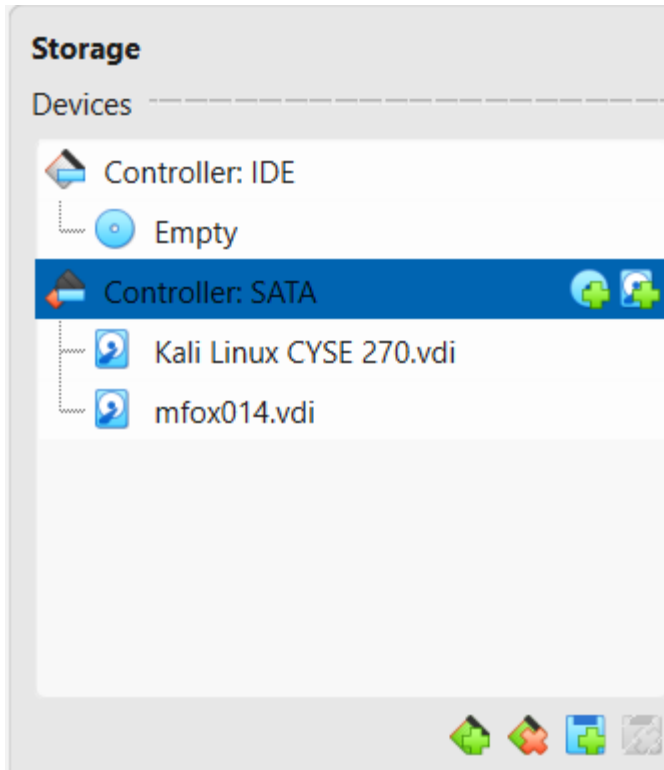
```
(matthew-f@kali)-[~]
└─$ sudo ls /dev/sd*
/dev/sda /dev/sda1 /dev/sda2 /dev/sda5
File System
(matthew-f@kali)-[~]
└─$ sudo fdisk -l
Disk /dev/sda: 25 GiB, 26843545600 bytes, 52428800 sectors
Disk model: VBOX HARDDISK
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: dos
Disk identifier: 0xa45fb564

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

(matthew-f@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
```

Part II



Step 1, 2

Step 3

```
(matthew-f@kali)-[~]
└─$ sudo ls /dev/sd*
[sudo] password for matthew-f:
/dev/sda /dev/sda1 /dev/sda2 /dev/sda5 /dev/sdb

(matthew-f@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: 0xa45fb564

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

(matthew-f@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
  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 III

Step 1

```
Be careful before using the write command.

Device does not contain a recognized partition table.
Created a new DOS (MBR) disklabel with disk identifier 0xf641f5a8.

Command (m for help): m

Help:

DOS (MBR)
a  toggle a bootable flag
b  edit nested BSD disklabel
c  toggle the dos compatibility flag

Generic
d  delete a partition
F  list free unpartitioned space
l  list known partition types
n  add a new partition
p  print the partition table
t  change a partition type
v  verify the partition table
i  print information about a partition
e  resize a partition
T  discard (trim) sectors

Misc
m  print this menu
u  change display/entry units
x  extra functionality (experts only)

Script
I  load disk layout from sfdisk script file
O  dump disk layout to sfdisk script file

Save & Exit
w  write table to disk and exit
q  quit without saving changes

Create a new label
g  create a new empty GPT partition table
G  create a new empty SGI (IRIX) partition table
o  create a new empty MBR (DOS) partition table
s  create a new empty Sun partition table

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.
```

Step 2

```
(matthew-f@kali)-[~]
└─$ sudo mkfs -t ext4 /dev/sdb1
mke2fs 1.47.2 (1-Jan-2025)
Creating filesystem with 203776 1k blocks and 51000 inodes
Filesystem UUID: ac1bcd5c-d556-48af-b5a1-39f97191e050
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

```
(matthew-f@kali)-[~]
└─$ sudo ls /dev/sd*
/dev/sda /dev/sda1 /dev/sda2 /dev/sda5 /dev/sdb /dev/sdb1
```

```
(matthew-f@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: 0xa45fb564
```

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: 0xf641f5a8
```

Device	Boot	Start	End	Sectors	Size	Id	Type
/dev/sdb1		2048	409599	407552	199M	83	Linux

```
(matthew-f@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
```

```
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
```

Step 4, 5

```
(matthew-f@kali)-[~/cyse]
└─$ sudo mount /dev/sdb1 /cyse

(matthew-f@kali)-[~/cyse]
└─$ 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   7.6G  66% /
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  116K  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

```
(matthew-f@kali)-[~/cyse]
└─$ sudo touch mfox014.txt
```

Step 7

```
(matthew-f@kali)-[~]
└─$ sudo umount /dev/sdb1 /cyse
```

Step 8

```
(matthew-f@kali)-[~]
└─$ sudo ls /cyse
lost+found  mfox014.txt
```

(I created 2 files, but the first file goes to the “lost+found” file)