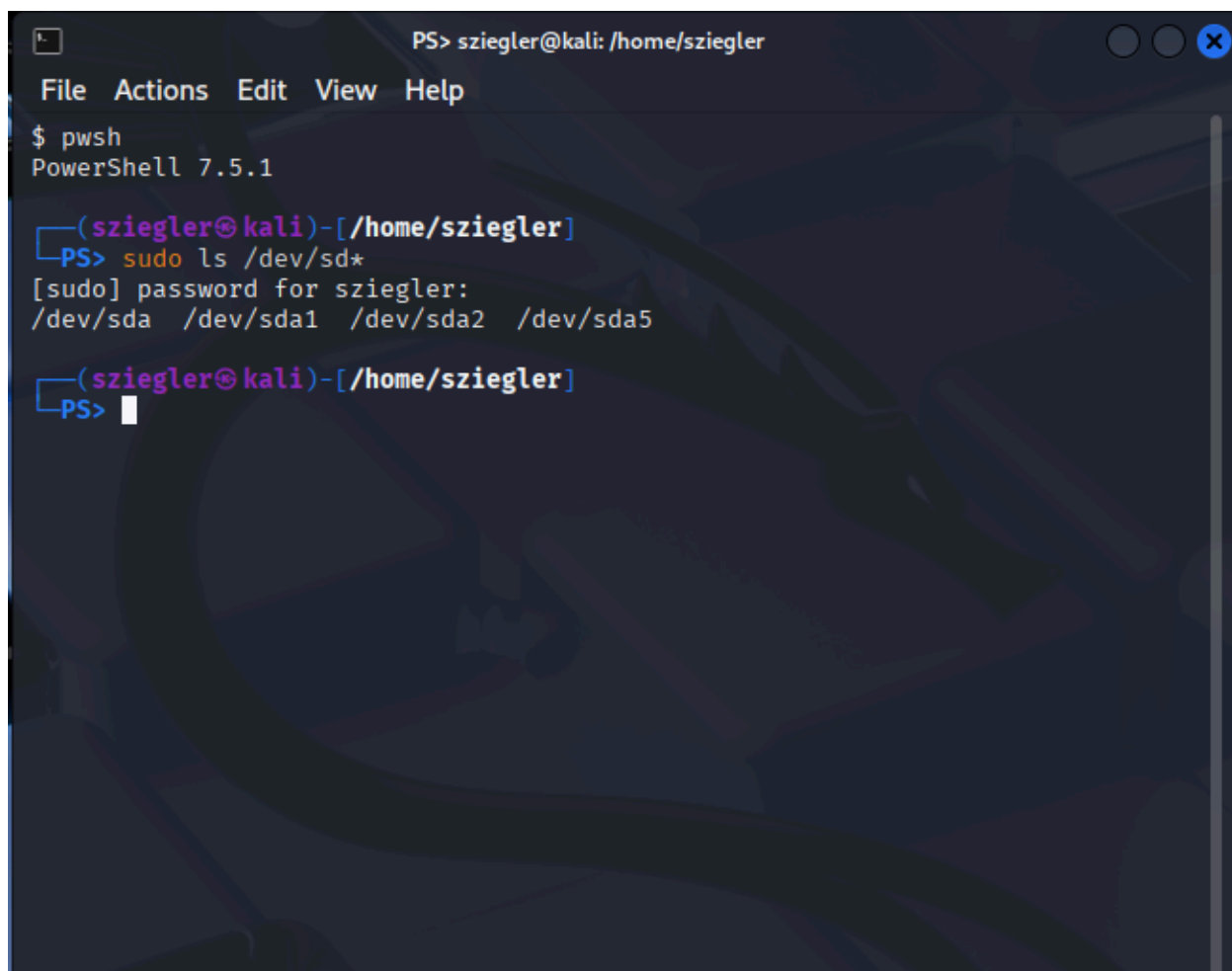


Shawn Ziegler

Part I

Step 1.

A terminal window titled "PS> sziegler@kali: /home/sziegler" with a menu bar (File, Actions, Edit, View, Help) and window controls. The terminal shows the following sequence of commands and output:

```
$ pwsh
PowerShell 7.5.1

(sziegler@kali)-[/home/sziegler]
└─┬─ PS> sudo ls /dev/sd*
   │ [sudo] password for sziegler:
   │ /dev/sda /dev/sda1 /dev/sda2 /dev/sda5
   └─┬─ (sziegler@kali)-[/home/sziegler]
      └─┬─ PS> █
```

Step 2.

```
PS> sziegler@kali: /home/sziegler
File Actions Edit View Help
$ pwsh
PowerShell 7.5.1

(sziegler@kali)-[/home/sziegler]
└─┬─ PS> sudo ls /dev/sd*
   │ [sudo] password for sziegler:
   └─ /dev/sda /dev/sda1 /dev/sda2 /dev/sda5

(sziegler@kali)-[/home/sziegler]
└─┬─ PS> sudo fdisk -l
   │ Disk /dev/sda: 20 GiB, 21474836480 bytes, 41943040 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: 0xedfd9c89
   │
   │ Device Boot Start End Sectors Size Id Type
   │ /dev/sda1 * 2048 39684095 39682048 18.9G 83 Linux
   │ /dev/sda2 39686142 41940991 2254850 1.1G f W95 Ext'd (LBA)
   │ /dev/sda5 39686144 41940991 2254848 1.1G 82 Linux swap / Solaris
   │
   └─ (sziegler@kali)-[/home/sziegler]
      └─ PS> █
```

Step 3.

```
PS> sziegler@kali: /home/sziegler
File Actions Edit View Help
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: 0xedfd9c89

Device      Boot      Start          End  Sectors  Size Id Type
/dev/sda1   *                2048 39684095 39682048 18.9G 83 Linux
/dev/sda2                   39686142 41940991 2254850   1.1G  f W95 Ext'd (LBA)
/dev/sda5                   39686144 41940991 2254848   1.1G 82 Linux swap / Solaris

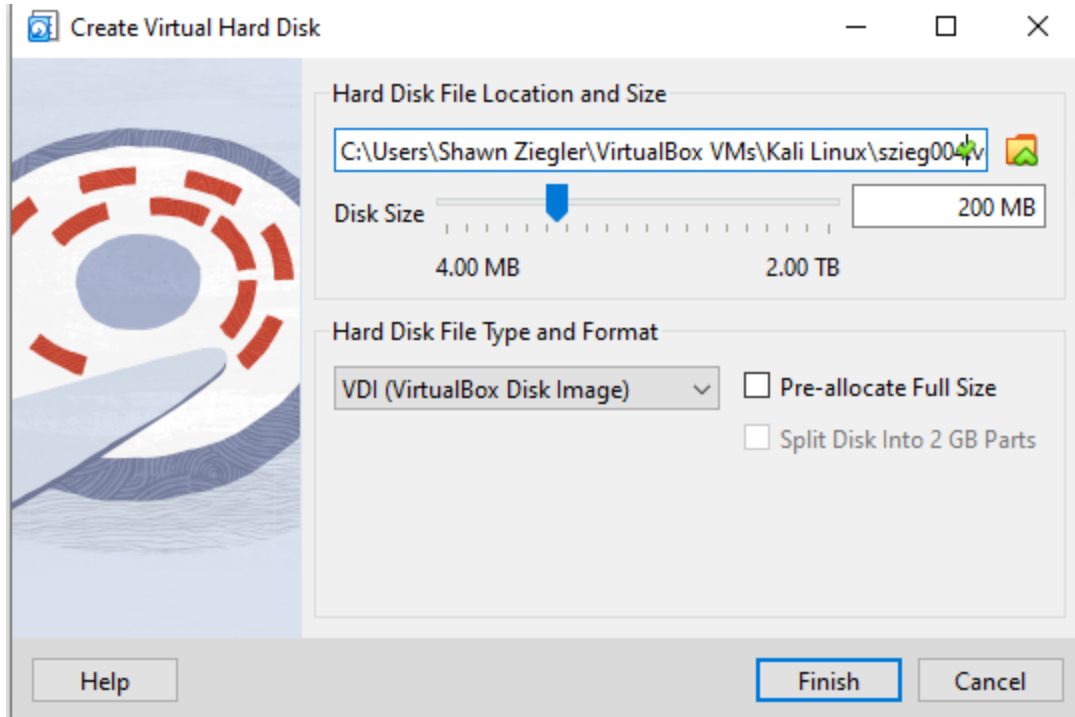
(sziegler@kali)-[/home/sziegler]
└─┬─ PS> sudo parted -l
Model: ATA VBOX HARDDISK (scsi)
Disk /dev/sda: 21.5GB
Sector size (logical/physical): 512B/512B
Partition Table: msdos
Disk Flags:

Number  Start   End     Size    Type     File system  Flags
  1      1049kB 20.3GB 20.3GB  primary ext4          boot
  2      20.3GB 21.5GB 1154MB extended lba
  5      20.3GB 21.5GB 1154MB logical linux-swap(v1) swap

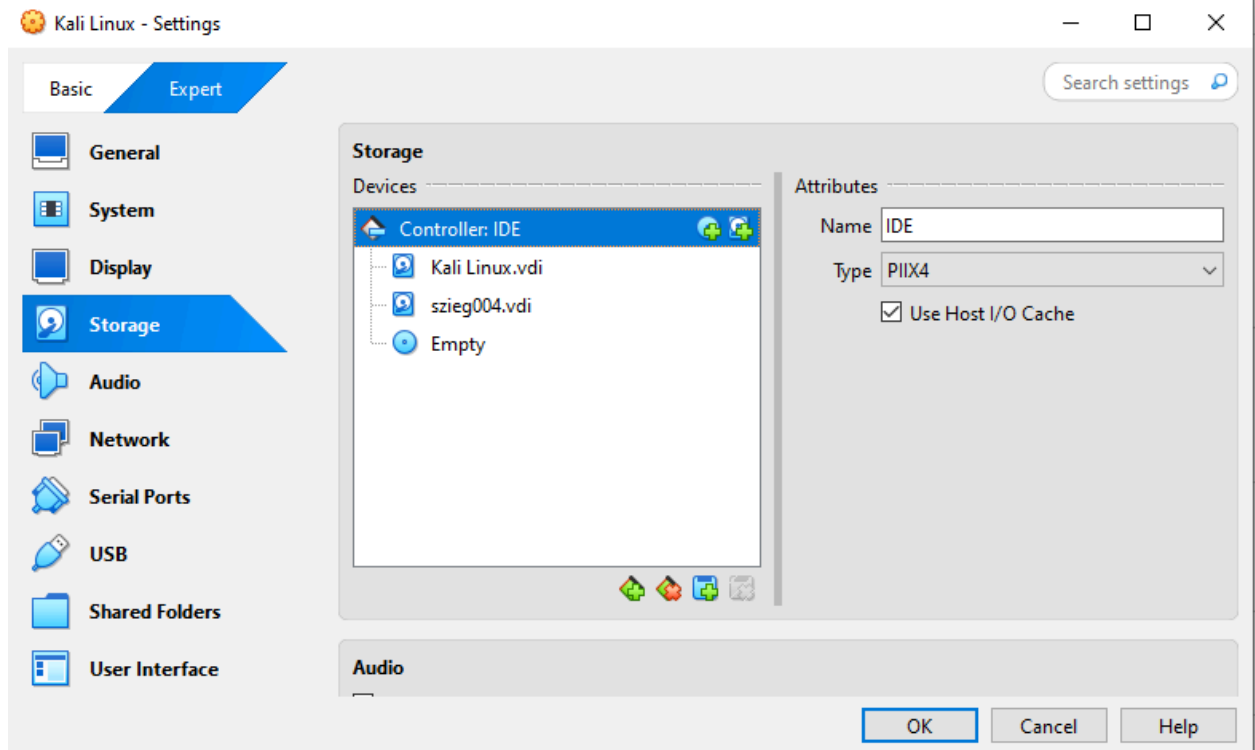
(sziegler@kali)-[/home/sziegler]
└─┬─ PS> █
```

Part II

Step 1.



Step 2.



Step 3.

```
PS> sziegler@kali: /home/sziegler
File Actions Edit View Help
$ pwh
PowerShell 7.5.1

(sziegler@kali)-[/home/sziegler]
└─PS> sudo ls /dev/sd*
[sudo] password for sziegler:
/dev/sda /dev/sda1 /dev/sda2 /dev/sda5 /dev/sdb

(sziegler@kali)-[/home/sziegler]
└─PS> █
```

```
PS> sziegler@kali: /home/sziegler
File Actions Edit View Help
└─PS> sudo ls /dev/sd*
[sudo] password for sziegler:
/dev/sda /dev/sda1 /dev/sda2 /dev/sda5 /dev/sdb

(sziegler@kali)-[/home/sziegler]
└─PS> sudo fdisk -l
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

Disk /dev/sda: 20 GiB, 21474836480 bytes, 41943040 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: 0xedfd9c89

Device Boot Start End Sectors Size Id Type
/dev/sda1 * 2048 39684095 39682048 18.9G 83 Linux
/dev/sda2 39686142 41940991 2254850 1.1G f W95 Ext'd (LBA)
/dev/sda5 39686144 41940991 2254848 1.1G 82 Linux swap / Solaris

(sziegler@kali)-[/home/sziegler]
└─PS> █
```

```
PS> sziegler@kali: /home/sziegler
File Actions Edit View Help
/dev/sda1 *          2048 39684095 39682048 18.9G 83 Linux
/dev/sda2           39686142 41940991 2254850 1.1G f W95 Ext'd (LBA)
/dev/sda5           39686144 41940991 2254848 1.1G 82 Linux swap / Solaris

(sziegler@kali)-[/home/sziegler]
└─┬─ PS> sudo parted -l
Model: ATA VBOX HARDDISK (scsi)
Disk /dev/sda: 21.5GB
Sector size (logical/physical): 512B/512B
Partition Table: msdos
Disk Flags:

Number  Start   End     Size    Type     File system  Flags
  1      1049kB  20.3GB  20.3GB  primary  ext4         boot
  2      20.3GB  21.5GB  1154MB  extended lba
  5      20.3GB  21.5GB  1154MB  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:

(sziegler@kali)-[/home/sziegler]
└─┬─ PS> █
```

Part III

Step 1.

```
PS> sziegler@kali: /home/sziegler
File Actions Edit View Help

(sziegler@kali)-[/home/sziegler]
└─┬─ PS> sudo fdisk /dev/sdb

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 0x5bfadcc3.

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): w
The partition table has been altered.
Calling ioctl() to re-read partition table.
Syncing disks.
```

Step 2.

```
PS> sziegler@kali: /home/sziegler
File Actions Edit View Help
Command (m for help): n
All space for primary partitions is in use.

Command (m for help): clear
DOS Compatibility flag is set (DEPRECATED!)

Command (m for help): w
The partition table has been altered.
Calling ioctl() to re-read partition table.
Syncing disks.

(sziegler@kali)-[/home/sziegler]
└─$ sudo mkfs -t ext4 /dev/sdb1
mke2fs 1.47.2 (1-Jan-2025)
Creating filesystem with 203776 1k blocks and 51000 inodes
Filesystem UUID: 78b15bc0-5643-4a1f-8ae3-24277f54d4b9
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

(sziegler@kali)-[/home/sziegler]
└─$
```

Step 3.

```
(sziegler@kali)-[/home/sziegler]
└─$ ls /dev/sd*
/dev/sda /dev/sda1 /dev/sda2 /dev/sda5 /dev/sdb /dev/sdb1
```

```
PS> sziegler@kali: /home/sziegler
File Actions Edit View Help

(sziegler@kali)-[/home/sziegler]
└─┬─ PS> sudo fdisk -l
  └─ 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: 0x5bfadcc3

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

     Disk /dev/sda: 20 GiB, 21474836480 bytes, 41943040 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: 0xedfd9c89

     Device      Boot      Start          End Sectors  Size Id Type
     /dev/sda1   *             2048 39684095 39682048  18.9G 83 Linux
     /dev/sda2             39686142 41940991  2254850    1.1G  f W95 Ext'd (LBA)
     /dev/sda5             39686144 41940991  2254848    1.1G  82 Linux swap / Solaris
```

```
PS> sziegler@kali: /home/sziegler
File Actions Edit View Help

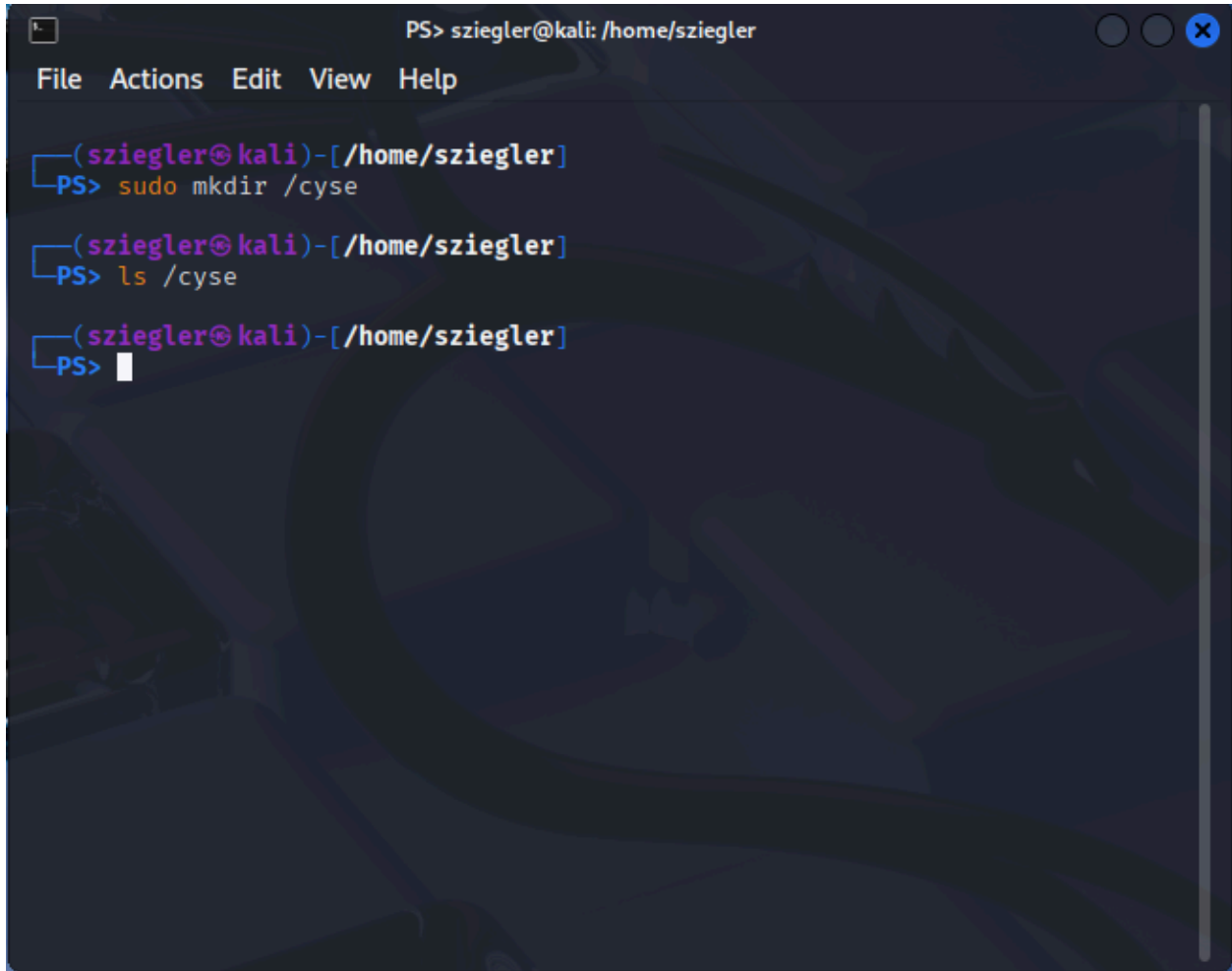
(sziegler@kali)-[/home/sziegler]
└─$ sudo parted -l
Model: ATA VBOX HARDDISK (scsi)
Disk /dev/sda: 21.5GB
Sector size (logical/physical): 512B/512B
Partition Table: msdos
Disk Flags:

Number  Start   End     Size    Type     File system  Flags
  1      1049kB  20.3GB  20.3GB  primary  ext4         boot
  2      20.3GB  21.5GB  1154MB  extended lba
  5      20.3GB  21.5GB  1154MB  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.



```
PS> sziegler@kali: /home/sziegler
File Actions Edit View Help

(sziegler@kali)-[/home/sziegler]
└─$ sudo mkdir /cyse

(sziegler@kali)-[/home/sziegler]
└─$ ls /cyse

(sziegler@kali)-[/home/sziegler]
└─$
```

Step 5.

```
PS> sziegler@kali: /home/sziegler
File Actions Edit View Help

(sziegler@kali)-[/home/sziegler]
└─$ sudo mkdir /cyse

(sziegler@kali)-[/home/sziegler]
└─$ ls /cyse

(sziegler@kali)-[/home/sziegler]
└─$ sudo df
Filesystem      1K-blocks    Used Available Use% Mounted on
udev            5503332         0  5503332  0% /dev
tmpfs           1114248         988  1113260  1% /run
/dev/sda1       19353424 14680168  3664824 81% /
tmpfs           5571240          4  5571236  1% /dev/shm
tmpfs            5120            0     5120  0% /run/lock
tmpfs           1024            0     1024  0% /run/credentials/systemd-jou
rnald.service
tmpfs           5571240         12  5571228  1% /tmp
tmpfs           1024            0     1024  0% /run/credentials/getty@tty1.
service
tmpfs           1114248         116  1114132  1% /run/user/1000

(sziegler@kali)-[/home/sziegler]
└─$
```

Step 6.

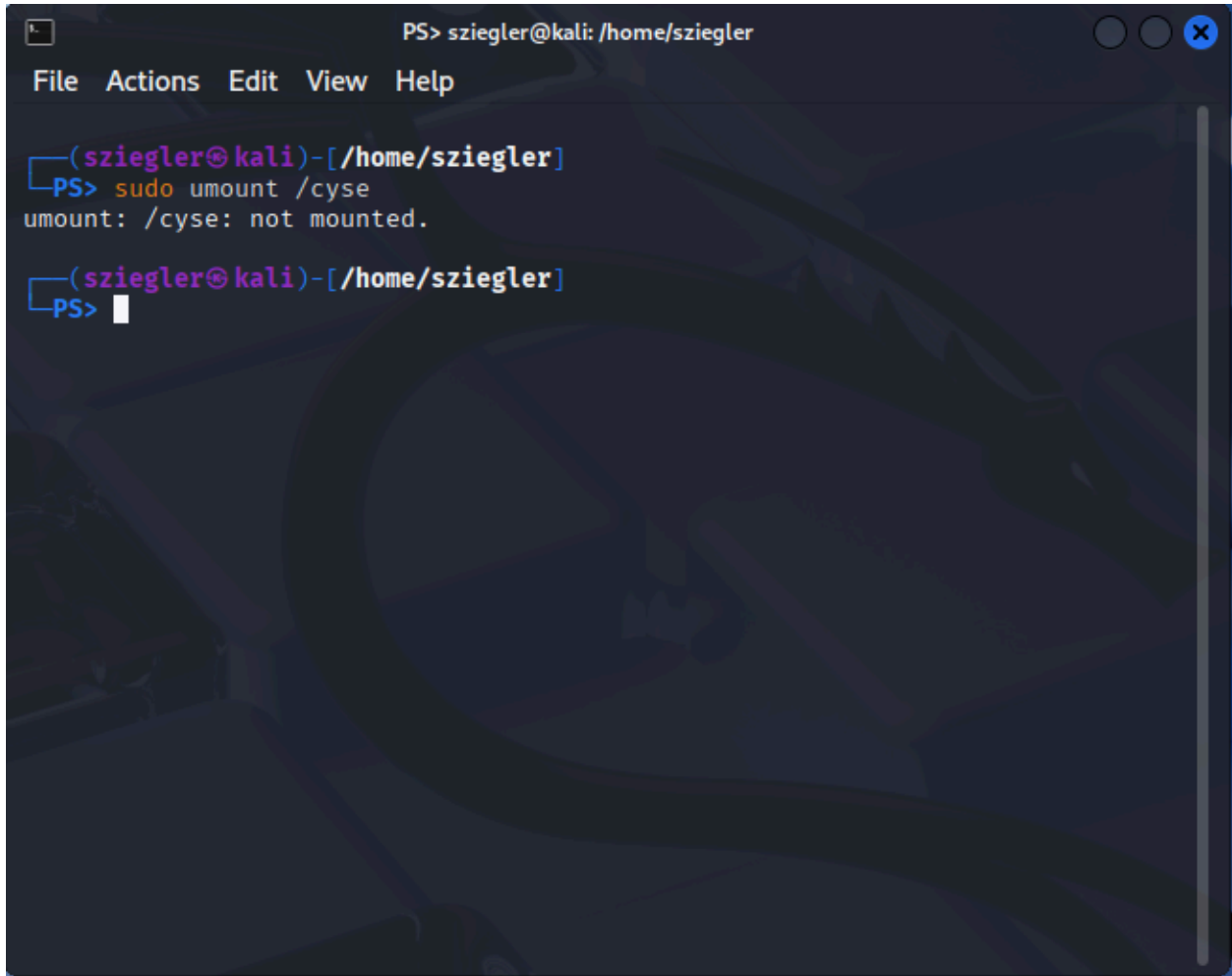
```
PS> sziegler@kali: /home/sziegler
File Actions Edit View Help
$ pwsh
PowerShell 7.5.1

(sziegler@kali)-[/home/sziegler]
PS> echo "Shawn Ziegler" | sudo tee /cyse/szieg004.txt
[sudo] password for sziegler:
Shawn Ziegler

(sziegler@kali)-[/home/sziegler]
PS> cat /cyse/szieg004.txt
Shawn Ziegler

(sziegler@kali)-[/home/sziegler]
PS> █
```

Step 7.

A terminal window with a dark blue background and light blue text. The title bar at the top reads "PS> sziegler@kali: /home/sziegler". Below the title bar is a menu bar with "File", "Actions", "Edit", "View", and "Help". The terminal content shows a prompt "(sziegler@kali)-[~/home/sziegler]" followed by the command "PS> sudo umount /cyse". The output is "umount: /cyse: not mounted.". A second prompt "(sziegler@kali)-[~/home/sziegler]" is shown with "PS>" and a white cursor character.

```
PS> sziegler@kali: /home/sziegler
File Actions Edit View Help

(sziegler@kali)-[~/home/sziegler]
PS> sudo umount /cyse
umount: /cyse: not mounted.

(sziegler@kali)-[~/home/sziegler]
PS> █
```

Step 8.

```
PS> sziegler@kali: /home/sziegler
File Actions Edit View Help

(sziegler@kali)-[/home/sziegler]
└─┬─ PS> sudo umount /cyse
    │ umount: /cyse: not mounted.
    └─┬─ (sziegler@kali)-[/home/sziegler]
        │ └─ PS> ls -l /cyse
        │     total 8
        │     -rw-r--r-- 1 root root 14 Oct 25 20:21 szieg004.txt
        │     -rw----- 1 root root  1 Oct 25 20:19 szieg004.txt.save
        └─┬─ (sziegler@kali)-[/home/sziegler]
            │ └─ PS> ls -la /cyse
            │     total 16
            │     drwxr-xr-x  2 root root 4096 Oct 25 20:21 .
            │     drwxr-xr-x 20 root root 4096 Oct 25 20:14 ..
            │     -rw-r--r--  1 root root  14 Oct 25 20:21 szieg004.txt
            │     -rw-----  1 root root   1 Oct 25 20:19 szieg004.txt.save
            └─┬─ (sziegler@kali)-[/home/sziegler]
                │ └─ PS> █
```

There is no content in the directory because the mount point directory returns to its state before the mount was implemented. The contents are still in the /dev/sdb1 partition.