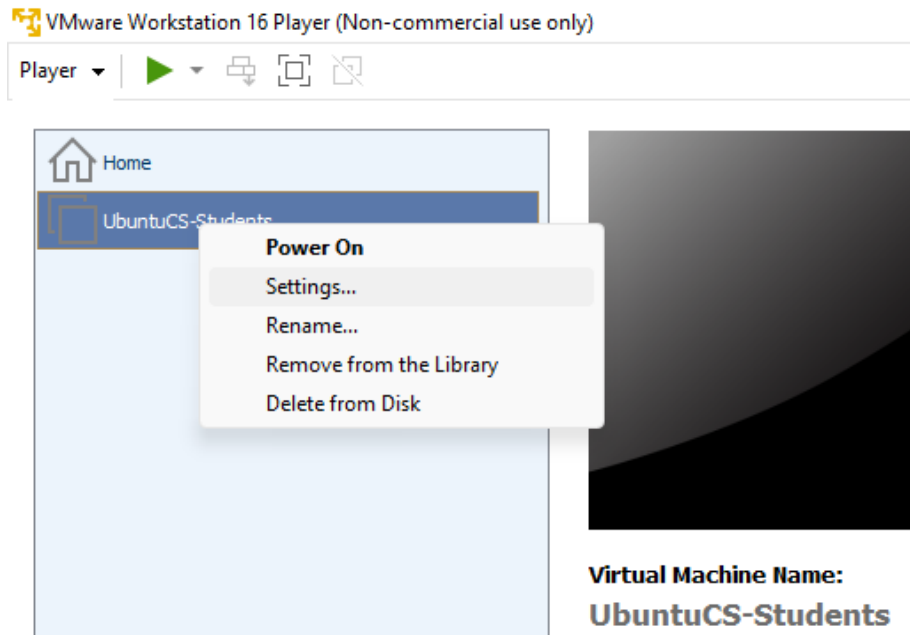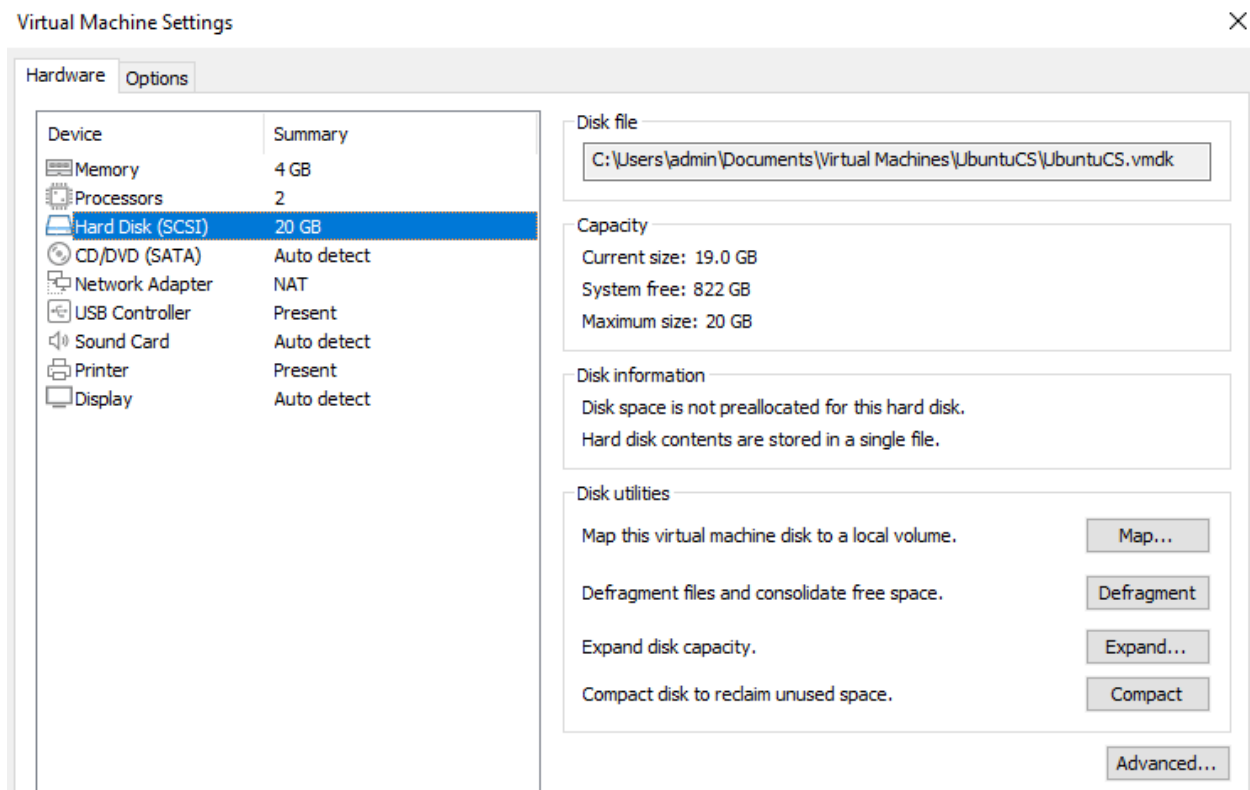**Resizing a VMware Workstation VM partition**
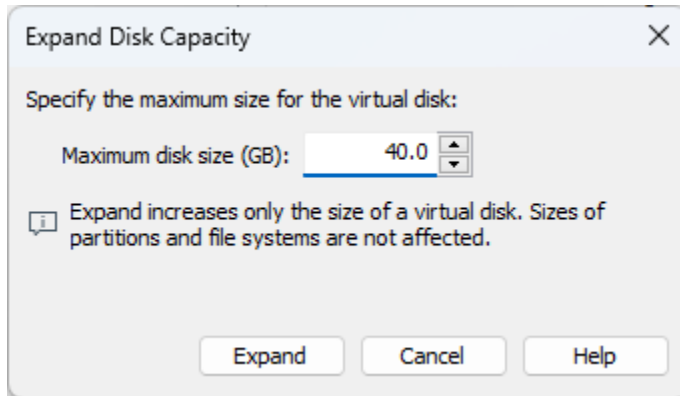
1. Make sure that the VM is shut down.
2. Right click the VM and select Settings…

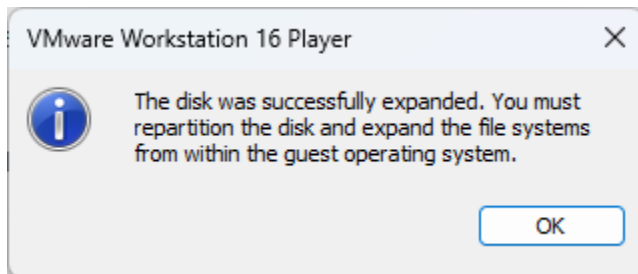3. Select the hard disk you would like to extend

4. On the right-hand side, click the Expand button and in the popped up window make the provisioned size as large as you need it (in the following example we added 5GB of extra space).

Expand Disk Capacity   ✕

Specify the maximum size for the virtual disk:

    Maximum disk size (GB):   40.0 ⏶⏷

   ⓘ Expand increases only the size of a virtual disk. Sizes of
       partitions and file systems are not affected.

               [Expand]   [Cancel]   [Help]

5. Click Expand to start the process.

VMware Workstation 16 Player

Expanding virtual disk...

[████████   ]

                       [Cancel]

6. When the process is over, please click OK

VMware Workstation 16 Player   ✕

  ⓘ The disk was successfully expanded. You must
      repartition the disk and expand the file systems
      from within the guest operating system.

                [OK]

7. Close the popped up window (click the OK button).
8. Power on the VM
9. Log in as csdeptucy
10. Connect to the command line of the Linux VM via the console or putty session
11. Install GParted. GParted is a free partition editor for graphically managing your disk partitions. Run
    the following command: `sudo apt install gparted`
12. Run the `gparted` command to initiate the graphical user interface (GUI) and follow the
    screenshots.

The extra space of 20GB we added to the virtual machine is illustrated as unallocated space.

Select /dev/sda2 and then right click on it.

Resize/Move /dev/sda2

Minimum size: 19966 MiB   Maximum size: 40446 MiB

Free space preceding (MiB):	0	—	+
New size (MiB):	19966	—	+
Free space following (MiB):	20481	—	+
Align to:	MiB	▼	

Cancel   >| Resize/Move

Resize the blue rectangle towards the right-hand side as instructed by the red arrow so as to resize /dev/sda2 and use all the available 20 GB.

Resize/Move /dev/sda2

Minimum size: 19966 MiB   Maximum size: 40446 MiB

Free space preceding (MiB):	0	—	+
New size (MiB):	40446	—	+
Free space following (MiB):	0	—	+
Align to:	MiB	▼	

Cancel   >| Resize/Move

/dev/sda - GParted

GParted   Edit   View   Device   Partition   Help

/dev/sda (40.00 GiB) ▼

| /dev/sda5 | unallocated |
| 19.50 GiB | 20.00 GiB |

Partition	File System	Mount Point	Size	Used	Unused	Flags
/dev/sda1 🔍 ▪	fat32	/boot/efi	512.00 MiB	1.02 MiB	510.98 MiB	boot
▼ /dev/sda2 🔍	extended		39.50 GiB	---	---	
/dev/sda5 🔍 ▪	ext4	/	19.50 GiB	17.29 GiB	2.20 GiB	
unallocated ▪	unallocated		20.00 GiB	---	---	

Now resize /dev/sda5 (which is inside /dev/sda2) to all the available 20 GB that were allocated by /dev/sda2.

⊳| Grow /dev/sda2 from 19.50 GiB to 39.50 GiB

1 operation pending

Resize /dev/sda5

Minimum size: 19965 MiB   Maximum size: 40446 MiB

Free space preceding (MiB):   0   −   +

New size (MiB):   40446   −   +

Free space following (MiB):   0   −   +

Align to: MiB ▼

Cancel   ⊳| Resize

/dev/sda - GParted

GParted Edit View Device Partition Help

/dev/sda (40.00 GiB) ▾

/dev/sda5
39.50 GiB

Partition	File System	Mount Point	Size	Used	Unused	Flags
/dev/sda1 🔍 ▪	fat32	/boot/efi	512.00 MiB	1.02 MiB	510.98 MiB	boot
▾ /dev/sda2 🔍 ▪	extended		39.50 GiB	---	---	
/dev/sda5 🔍 ▪	ext4	/	39.50 GiB	17.29 GiB	22.20 GiB	
unallocated ▪	unallocated		1.00 MiB	---	---	

Both resize operations are pending. To finalize the process, we need to Apply All Operations as shown in the last figure below.

⊳| Grow /dev/sda2 from 19.50 GiB to 39.50 GiB
⊳| Grow /dev/sda5 from 19.50 GiB to 39.50 GiB

2 operations pending

/dev/sda - GParted

GParted Edit View Device Partition Help

/dev/sda (40.00 GiB) ▾

Apply All Operations

39.50 GiB

Partition	File System	Mount Point	Size	Used	Unused	Flags
/dev/sda1 🔍 ▪	fat32	/boot/efi	512.00 MiB	1.02 MiB	510.98 MiB	boot
▾ /dev/sda2 🔍 ▪	extended		39.50 GiB	---	---	
/dev/sda5 🔍 ▪	ext4	/	39.50 GiB	17.29 GiB	22.20 GiB	
unallocated ▪	unallocated		1.00 MiB	---	---	

⊳| Grow /dev/sda2 from 19.50 GiB to 39.50 GiB
⊳| Grow /dev/sda5 from 19.50 GiB to 39.50 GiB

2 operations pending

13. Close the GParted GUI.
14. You can now run on terminal again the `df -h` command to verify that you have more space