

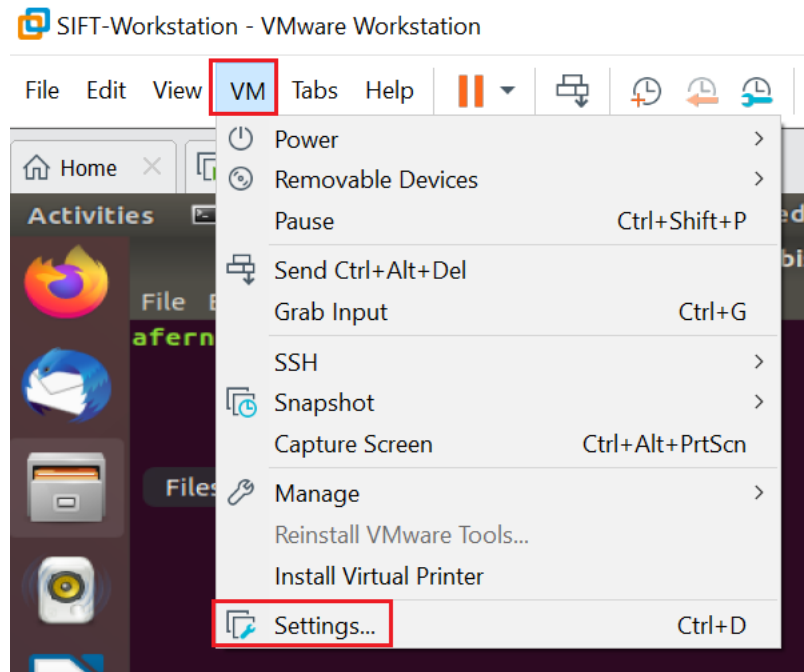
Practical1: Particiones

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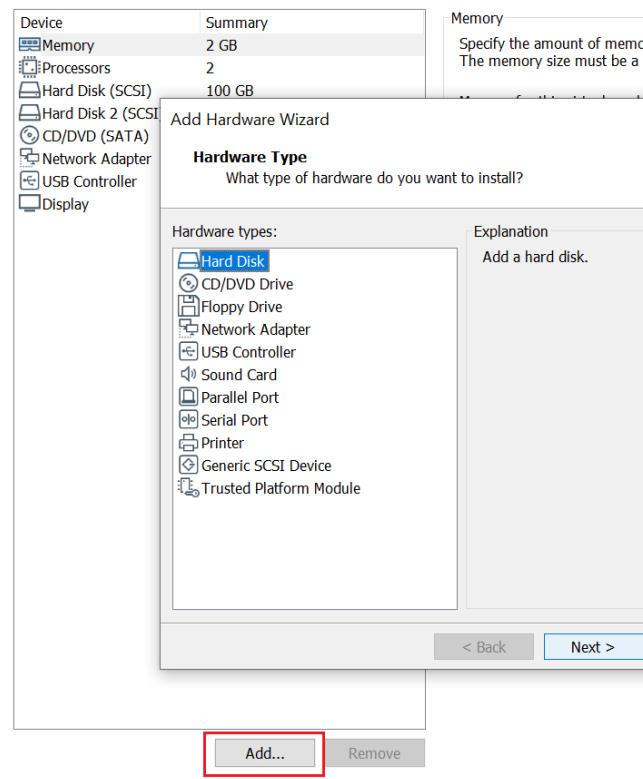
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1 Crear el disco duro virtual

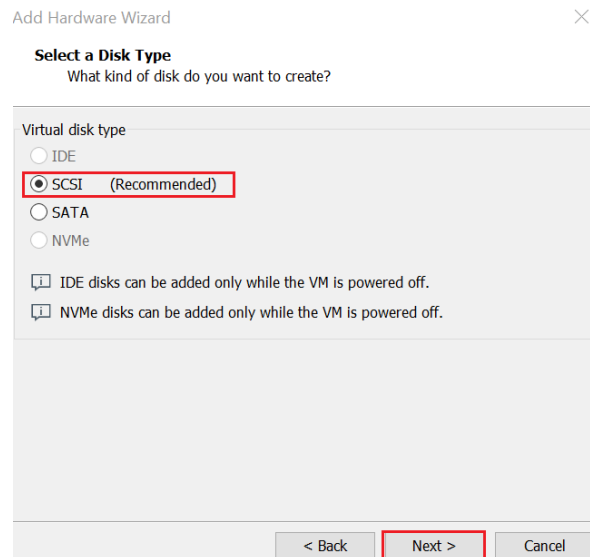
1. Entrar al menú de settings de VMware.



2. Añadir un disco



3. Elegir el tipo de disco a crear.



4. Elegir entre creación uso de un disco virtual o usar un disco físico.

The screenshot shows the 'Add Hardware Wizard' dialog box with the title 'Add Hardware Wizard' and a close button. The main heading is 'Select a Disk' with the subtext 'Which disk do you want to use?'. Below this, there is a section titled 'Disk' containing three radio button options. The first option, 'Create a new virtual disk', is selected and highlighted with a red rectangle. It includes a description: 'A virtual disk is composed of one or more files on the host file system, which will appear as a single hard disk to the guest operating system. Virtual disks can easily be copied or moved on the same host or between hosts.' The other two options are 'Use an existing virtual disk' and 'Use a physical disk (for advanced users)'. At the bottom of the dialog, there are three buttons: '< Back', 'Next >' (highlighted with a red rectangle), and 'Cancel'.

Add Hardware Wizard

Select a Disk
Which disk do you want to use?

Disk

- ☒ Create a new virtual disk
A virtual disk is composed of one or more files on the host file system, which will appear as a single hard disk to the guest operating system. Virtual disks can easily be copied or moved on the same host or between hosts.
- ☐ Use an existing virtual disk
Choose this option to reuse a previously configured disk.
- ☐ Use a physical disk (for advanced users)
Choose this option to give the virtual machine direct access to a local hard disk. Requires administrator privileges.

< Back Next > Cancel

5. Definir el tamaño del disco virtual.

The screenshot shows the 'Add Hardware Wizard' dialog box with the title 'Add Hardware Wizard' and a close button. The main heading is 'Specify Disk Capacity' with the subtext 'How large do you want this disk to be?'. Below this, there is a section titled 'Maximum disk size (GB):' with a text input field containing the value '2' and a spinner control, which is highlighted with a red rectangle. Below the input field, it says 'Recommended size for Ubuntu 64-bit: 20 GB'. There are three radio button options: 'Allocate all disk space now.', 'Store virtual disk as a single file', and 'Split virtual disk into multiple files', which is selected. Below the selected option, there is a description: 'Splitting the disk makes it easier to move the virtual machine to another computer but may reduce performance with very large disks.' At the bottom of the dialog, there are three buttons: '< Back', 'Next >' (highlighted with a blue rectangle), and 'Cancel'.

Add Hardware Wizard

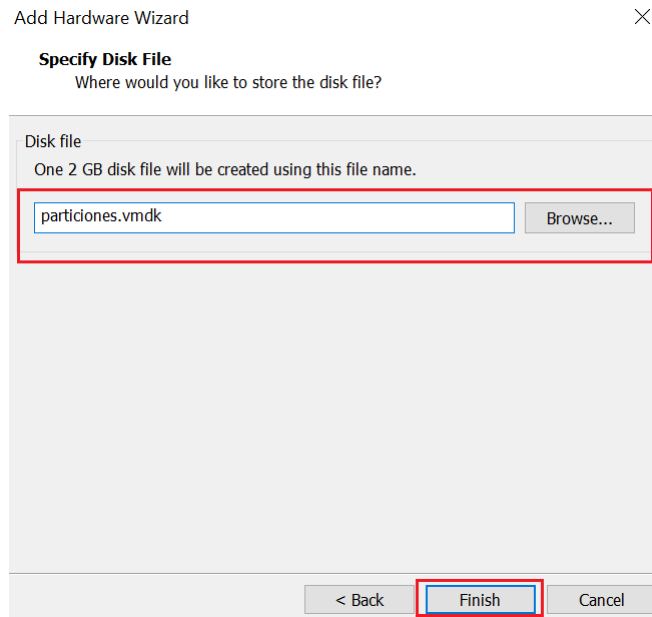
Specify Disk Capacity
How large do you want this disk to be?

Maximum disk size (GB): 20 GB
Recommended size for Ubuntu 64-bit: 20 GB

- ☐ Allocate all disk space now.
Allocating the full capacity can enhance performance but requires all of the physical disk space to be available right now. If you do not allocate all the space now, the virtual disk starts small and grows as you add data to it.
- ☐ Store virtual disk as a single file
- ☒ Split virtual disk into multiple files
Splitting the disk makes it easier to move the virtual machine to another computer but may reduce performance with very large disks.

< Back Next > Cancel

6. Especificar el archivo del disco



7. Finalmente podemos observar que se ha creado el disco para la VM. Ya solo queda reiniciarla para poder trabajar sobre esta.

Device	Summary
Memory	2 GB
Processors	2
Hard Disk (SCSI)	100 GB
Hard Disk 2 (SCSI)	1 GB
New Hard Disk (SCSI)	2 GB
CD/DVD (SATA)	Using unknown backend
Network Adapter	NAT
USB Controller	Present
Display	Auto detect

2 Particionar

1. Listar los discos para asegurarse que se encuentra el disco creado.

```
Disk /dev/sdc: 2 GiB, 2147483648 bytes, 4194304 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
```

2. Con fdisk seleccionar el disco con el que se trabajará.

```
afernandez@abisinia-fernandez:~$ sudo fdisk /dev/sdc
Welcome to fdisk (util-linux 2.31.1).
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 disklabel with disk identifier 0x8692348e.

Command (m for help): █
```

2.1 Linux

- Definir el numero de particion, su sector inicial y final. Al listar las particiones se puede observar que una partición de Linux ha sido creada.

```
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):
```

```

Partition number (1-4, default 1):
First sector (2048-4194303, default 2048):
Last sector, +sectors or +size[K,M,G,T,P] (2048-4194303, default 4194303): +256MB

Created a new partition 1 of type 'Linux' and of size 244 MiB.

Command (m for help): p
Disk /dev/sdc: 2 GiB, 2147483648 bytes, 4194304 sectors
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: 0x0ea2834d

Device      Boot Start      End Sectors  Size Id Type
/dev/sdc1             2048 501759  499712   244M 83 Linux

Command (m for help): █

```

2.2 Swap

1. Se crea una partición Linux.

```

Command (m for help): n
Partition type
  p   primary (1 primary, 0 extended, 3 free)
  e   extended (container for logical partitions)
Select (default p):

Using default response p.
Partition number (2-4, default 2): 2
First sector (501760-4194303, default 501760):
Last sector, +sectors or +size[K,M,G,T,P] (501760-4194303, default 4194303): +512

Created a new partition 2 of type 'Linux' and of size 256.5 KiB.

Command (m for help): p
Disk /dev/sdc: 2 GiB, 2147483648 bytes, 4194304 sectors
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: 0x0ea2834d

Device      Boot Start      End Sectors  Size Id Type
/dev/sdc1             2048 501759  499712   244M 83 Linux
/dev/sdc2          501760 502272     513   256.5K 83 Linux

Command (m for help):

```

2. Posterior a esto se cambia el tipo de particion, en este caso eligiendo Linux Swap.

```

Command (m for help): t
Partition number (1,2, default 2): 2
Hex code (type L to list all codes): 82

Changed type of partition 'Linux' to 'Linux swap / Solaris'.

Command (m for help):

Command (m for help): p

Disk /dev/sdc: 2 GiB, 2147483648 bytes, 4194304 sectors
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: 0x0ea2834d

Device      Boot  Start      End  Sectors   Size Id Type
/dev/sdc1             2048  501759    499712   244M 83 Linux
/dev/sdc2             501760 502272      513 256.5K 82 Linux swap / Solaris

Command (m for help): █

```

2.3 Windows

1. Se crea una partición Linux.

```

Command (m for help): n
Partition type
  p   primary (2 primary, 0 extended, 2 free)
  e   extended (container for logical partitions)
Select (default p):

Using default response p.
Partition number (3,4, default 3):
First sector (502273-4194303, default 503808): +256
Value out of range
First sector (502273-4194303, default 503808):
Last sector, +sectors or +size[K,M,G,T,P] (503808-4194303, default 4194303): +256

Created a new partition 3 of type 'Linux' and of size 128.5 KiB.

Command (m for help): p
Disk /dev/sdc: 2 GiB, 2147483648 bytes, 4194304 sectors
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: 0x0ea2834d

Device      Boot  Start      End  Sectors   Size Id Type
/dev/sdc1             2048  501759    499712   244M 83 Linux
/dev/sdc2             501760 502272      513 256.5K 82 Linux swap / Solaris
/dev/sdc3             503808 504064      257 128.5K 83 Linux

Command (m for help):

```

2. Se cambia el tipo de partición a NTFS.

```

Command (m for help): t
Partition number (1-3, default 3):
Hex code (type L to list all codes): 86

Changed type of partition 'Linux' to 'NTFS volume set'.

Command (m for help): p
Disk /dev/sdc: 2 GiB, 2147483648 bytes, 4194304 sectors
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: 0x0ea2834d

Device      Boot   Start      End  Sectors   Size Id Type
/dev/sdc1             2048    501759   499712    244M 83 Linux
/dev/sdc2             501760    502272     513 256.5K 82 Linux swap / Solaris
/dev/sdc3             503808   1503231   999424    488M 86 NTFS volume set
Command (m for help): █

```

2.4 Extendida

1. Se crea una nueva particion, pero en este caso se crea extendida.

```

Device      Boot   Start      End  Sectors   Size Id Type
/dev/sdc1             2048    501759   499712    244M 83 Linux
/dev/sdc2             501760    502272     513 256.5K 82 Linux swap / Solaris
/dev/sdc3             503808   1503231   999424    488M 86 NTFS volume set
/dev/sdc4             1503232   4194303  2691072    1.3G  5 Extended
Command (m for help):

```

Una vez se han creado todas las particiones requeridas, se guardan los cambios.

```

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

afernandez@abisinia-fernandez:~$

```

3 Salida de Hexdump

```

afernandez@abisinia-fernandez:~$ sudo dd if=/dev/sdc count=1 | hd
1+0 records in
1+0 records out
512 bytes copied, 0.00140977 s, 363 kB/s
00000000  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |.....|
*
000001b0  00 00 00 00 00 00 00 00 4d 83 a2 0e 00 00 00 20 |.....M....|
000001c0  21 00 83 3b 1c 1f 00 08 00 00 00 a0 07 00 00 3b |!.;.....;|
000001d0  1d 1f 82 43 25 1f 00 a8 07 00 01 02 00 00 00 5b |...C%.....[|
000001e0  3d 1f 86 91 34 5d 00 b0 07 00 00 40 0f 00 00 91 |=...4].....@...|
000001f0  35 5d 05 15 50 05 00 f0 16 00 00 10 29 00 55 aa |5]..P.....).U.|
00000200
afernandez@abisinia-fernandez:~$

```

 Linux
 Windows
 Swap
 Extendida

Byte	Linux	Swap	Windows	Extendida
0: Bandera de particion de arranque	0x00 (no activo)	0x00 (no activo)	0x00 (no activo)	0x00 (no activo)
1: Cabezal donde inicia	0x20	0x3b	0x5b	0x91
2,3: Sector y cilindro donde inicia	0x21, 0x00	0x1d, 0x1f	0x3d, 0x1f	0x35, 0x5d
4: Tipo de partición	83 (Linux)	82 (Linux swap)	86 (NTFS)	05 (Extendida)
5:Cabezal donde finaliza	0x3b	0x43	0x91	0x15
6,7: Sector y cilindro donde finaliza	0x1c, 0x1f	0x25, 0x1f	0x34, 0x5d	0x50, 0x05
8-11: Distancia en sectores.	0x00000800	0x0007a800	0x0007b000	0x0016f000
12-15: Numero de sectores en la particion.	0x0007a000	0x00000201	0x000f4000	0x00291000