

# SYSTEM INFORMATION



How can I know which kernel version is currently running?

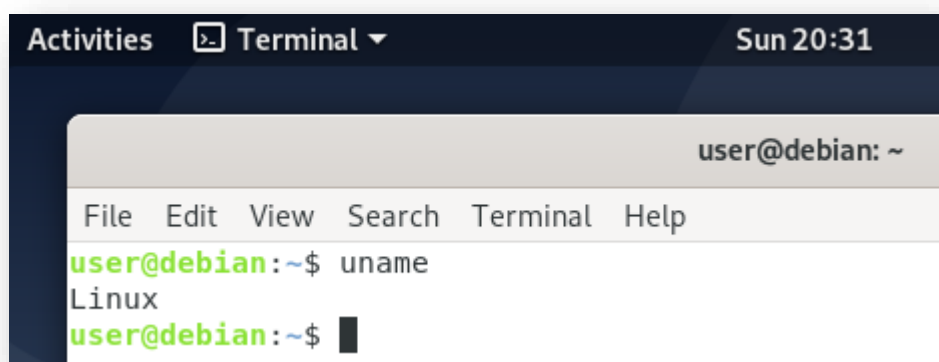
How can I know how much disk space the system has?

How can I find out how much RAM the system has?

Linux systems come equipped with a series of very simple but very useful commands to get to know our own server or our desktop.

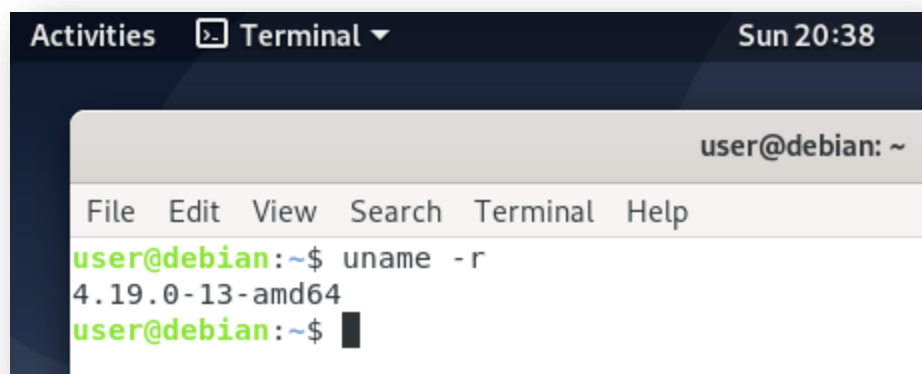
Let's start with the one that gives us a general idea of what type of systems we are working with:

1. **uname**: this command brings information about the system. It depends on which option or flag we use it with so that the information varies, for example if we used just “**uname**” we’re going to have this output



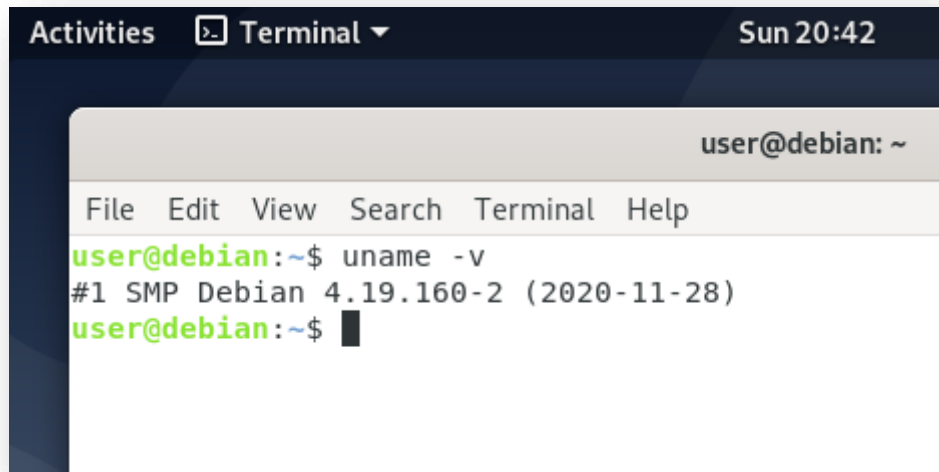
```
Activities Terminal Sun 20:31
user@debian: ~
File Edit View Search Terminal Help
user@debian:~$ uname
Linux
user@debian:~$
```

With this command we verify that we are working with a Linux kernel. But let's try with a flag like -r we can get the kernel release: “**uname -r**”



```
Activities Terminal Sun 20:38
user@debian: ~
File Edit View Search Terminal Help
user@debian:~$ uname -r
4.19.0-13-amd64
user@debian:~$
```

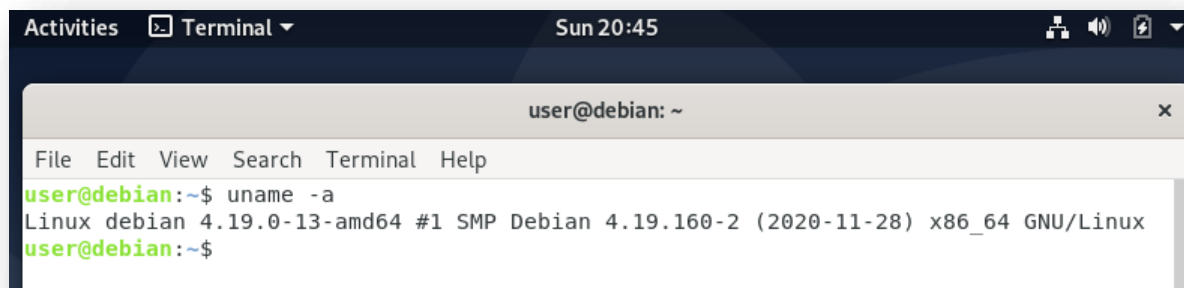
With the flag `-v` we can find out which kernel version we have: “**uname -v**”

A terminal window titled 'Terminal' with a menu bar (File, Edit, View, Search, Terminal, Help) and a status bar (Sun 20:42). The prompt is 'user@debian: ~'. The command 'uname -v' has been executed, resulting in the output: '#1 SMP Debian 4.19.160-2 (2020-11-28)'.

```
user@debian: ~  
File Edit View Search Terminal Help  
user@debian:~$ uname -v  
#1 SMP Debian 4.19.160-2 (2020-11-28)  
user@debian:~$
```

With this output we already know that we are facing a Debian Linux version 4.19.160.-2

But we also have a parameter that allows us to know all the related information in a single output: “**uname -a**”

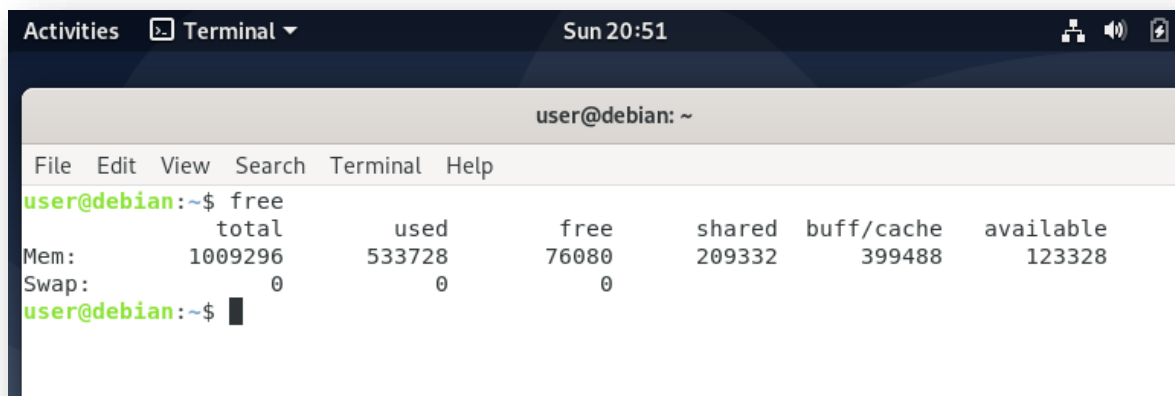
A terminal window titled 'Terminal' with a menu bar (File, Edit, View, Search, Terminal, Help) and a status bar (Sun 20:45). The prompt is 'user@debian: ~'. The command 'uname -a' has been executed, resulting in the output: 'Linux debian 4.19.0-13-amd64 #1 SMP Debian 4.19.160-2 (2020-11-28) x86\_64 GNU/Linux'.

```
user@debian: ~  
File Edit View Search Terminal Help  
user@debian:~$ uname -a  
Linux debian 4.19.0-13-amd64 #1 SMP Debian 4.19.160-2 (2020-11-28) x86_64 GNU/Linux  
user@debian:~$
```

It will depend on what information you need, if a very specific one, such as the kernel version or the release date or if all the information in a single command.

My advice is that for more detail we always consult the internal documentation of the command, for example “**man uname**”

On the other hand, we need to know what our ram memory capacity is. to achieve that we have the command “**free**”

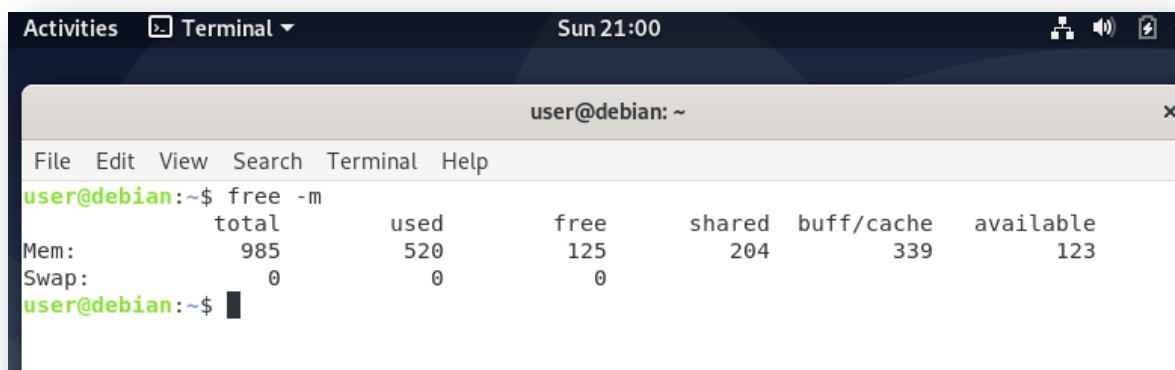


A terminal window titled "user@debian: ~" showing the output of the `free` command. The output is a table with 7 columns: total, used, free, shared, buff/cache, and available. The rows are for Mem and Swap.

	total	used	free	shared	buff/cache	available
Mem:	1009296	533728	76080	209332	399488	123328
Swap:	0	0	0			

In this output we can get the Total installed memory, the memory used, the free memory among other details.

The default information is expressed in kilobytes, but if it is difficult for us to read that format, we can use the options “-m” or “-g” that expresses the output in megabytes or in gigabytes.

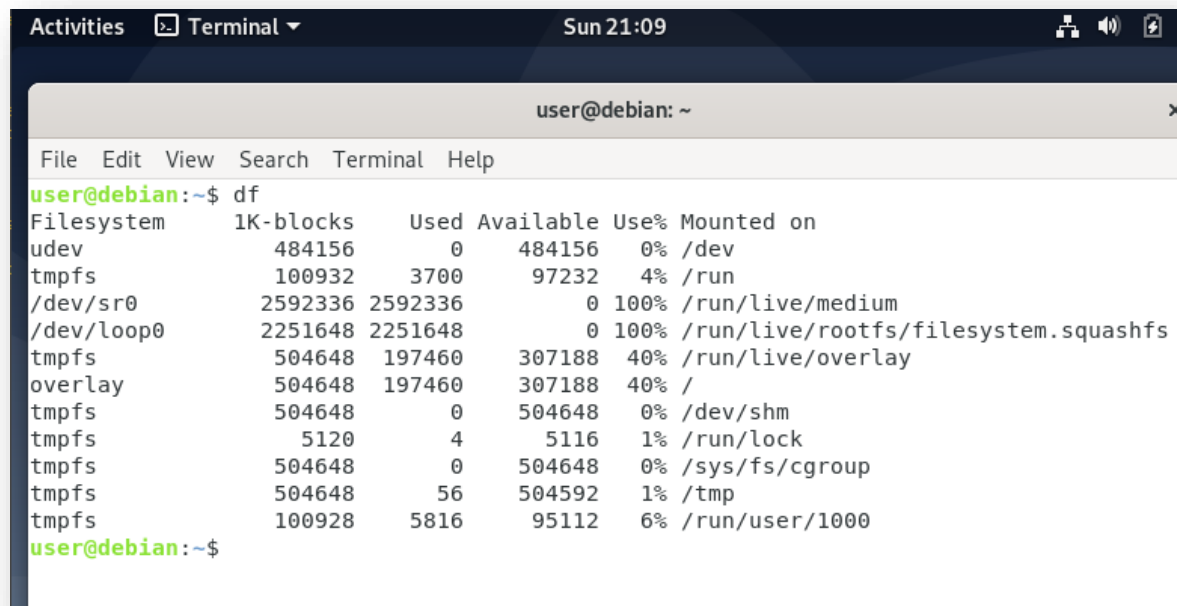


A terminal window titled "user@debian: ~" showing the output of the `free -m` command. The output is a table with 7 columns: total, used, free, shared, buff/cache, and available. The rows are for Mem and Swap.

	total	used	free	shared	buff/cache	available
Mem:	985	520	125	204	339	123
Swap:	0	0	0			

Now let's find out about our hard drive space. This is very important, especially when we administer services that generate a large amount of information.

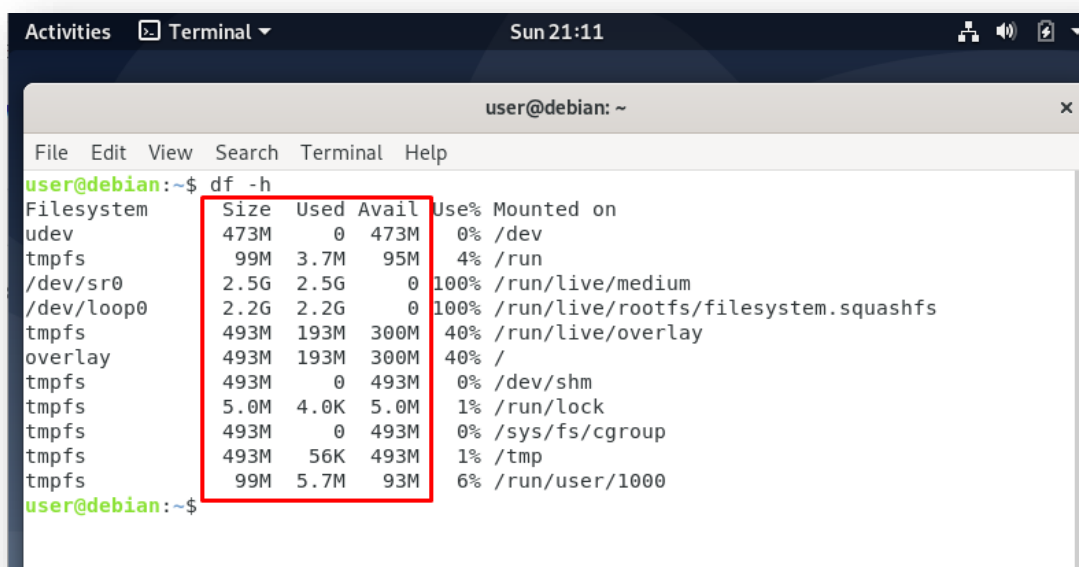
To access our information on hard drives and their available space, we have the command “df”



A terminal window titled "user@debian: ~" showing the output of the `df` command. The output is a table with columns: Filesystem, 1K-blocks, Used, Available, Use%, and Mounted on. The data shows various filesystems and their usage.

```
user@debian:~$ df
Filesystem      1K-blocks    Used Available Use% Mounted on
udev            484156         0    484156   0% /dev
tmpfs           100932     3700     97232   4% /run
/dev/sr0        2592336 2592336         0 100% /run/live/medium
/dev/loop0      2251648 2251648         0 100% /run/live/rootfs/filesystem.squashfs
tmpfs           504648    197460    307188  40% /run/live/overlay
overlay         504648    197460    307188  40% /
tmpfs           504648         0    504648   0% /dev/shm
tmpfs           5120         4      5116   1% /run/lock
tmpfs           504648         0    504648   0% /sys/fs/cgroup
tmpfs           504648         56    504592   1% /tmp
tmpfs          100928     5816     95112   6% /run/user/1000
```

Once again, in order to read this information a little easier, we have the “-h” option that refers to Human (h) for understanding the output.



A terminal window titled "user@debian: ~" showing the output of the `df -h` command. The output is a table with columns: Filesystem, Size, Used, Avail, Use%, and Mounted on. The data is presented in human-readable units (M, G, K). A red box highlights the first four columns (Size, Used, Avail, Use%) for the first seven rows of data.

```
user@debian:~$ df -h
Filesystem      Size  Used Avail Use% Mounted on
udev            473M     0  473M   0% /dev
tmpfs           99M   3.7M   95M   4% /run
/dev/sr0        2.5G  2.5G     0 100% /run/live/medium
/dev/loop0      2.2G  2.2G     0 100% /run/live/rootfs/filesystem.squashfs
tmpfs           493M  193M  300M  40% /run/live/overlay
overlay         493M  193M  300M  40% /
tmpfs           493M     0  493M   0% /dev/shm
tmpfs           5.0M   4.0K   5.0M   1% /run/lock
tmpfs           493M     0  493M   0% /sys/fs/cgroup
tmpfs           493M   56K  493M   1% /tmp
tmpfs           99M   5.7M   93M   6% /run/user/1000
```