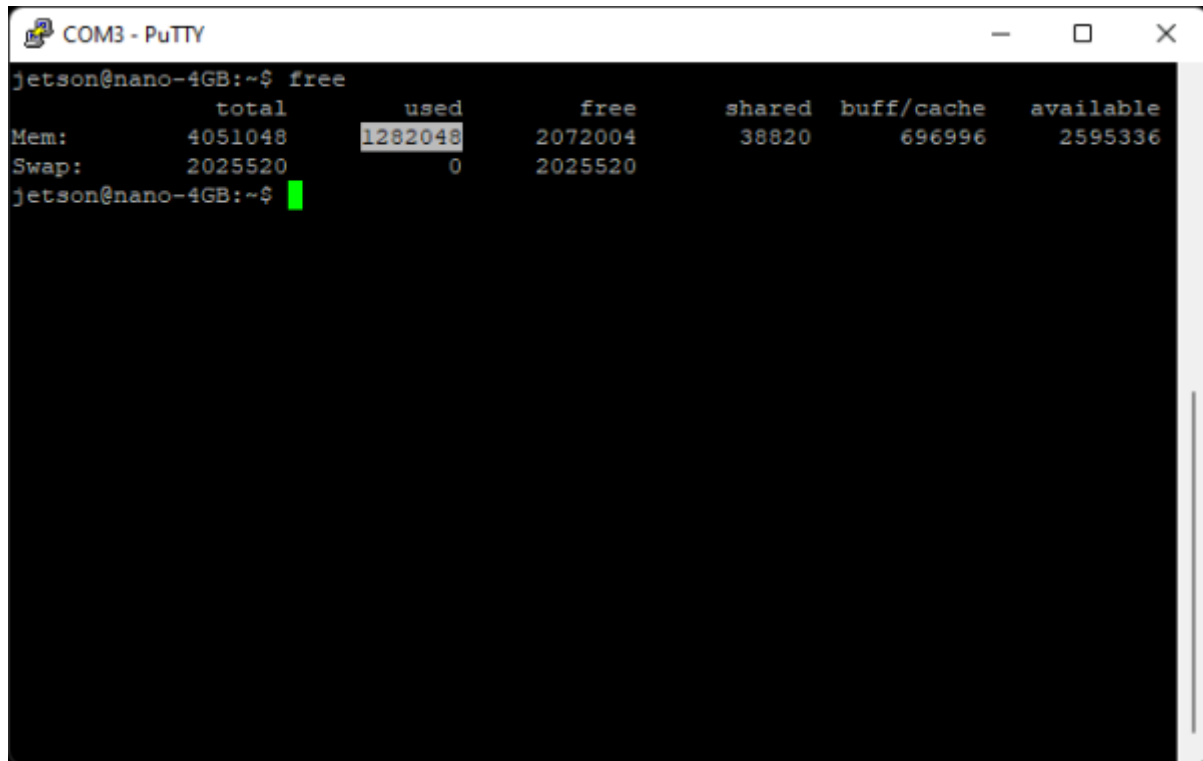


Improve Performance

By default the desktop environment used on Jetson is GNOME, which is a visual environment with animations in the interaction and usability, that has a direct impact on memory usage.

We can see the current amount of memory used by our jetson with the following command

```
$ free
```



The screenshot shows a terminal window titled 'COM3 - PuTTY'. The user 'jetson' is logged in on a 'nano-4GB' machine. They have run the 'free' command, which displays the following memory usage statistics:

	total	used	free	shared	buff/cache	available
Mem:	4051048	1282048	2072004	38820	696996	2595336
Swap:	2025520	0	2025520			

The 'used' value of 1,282,048 KB is highlighted with a green box in the original image.

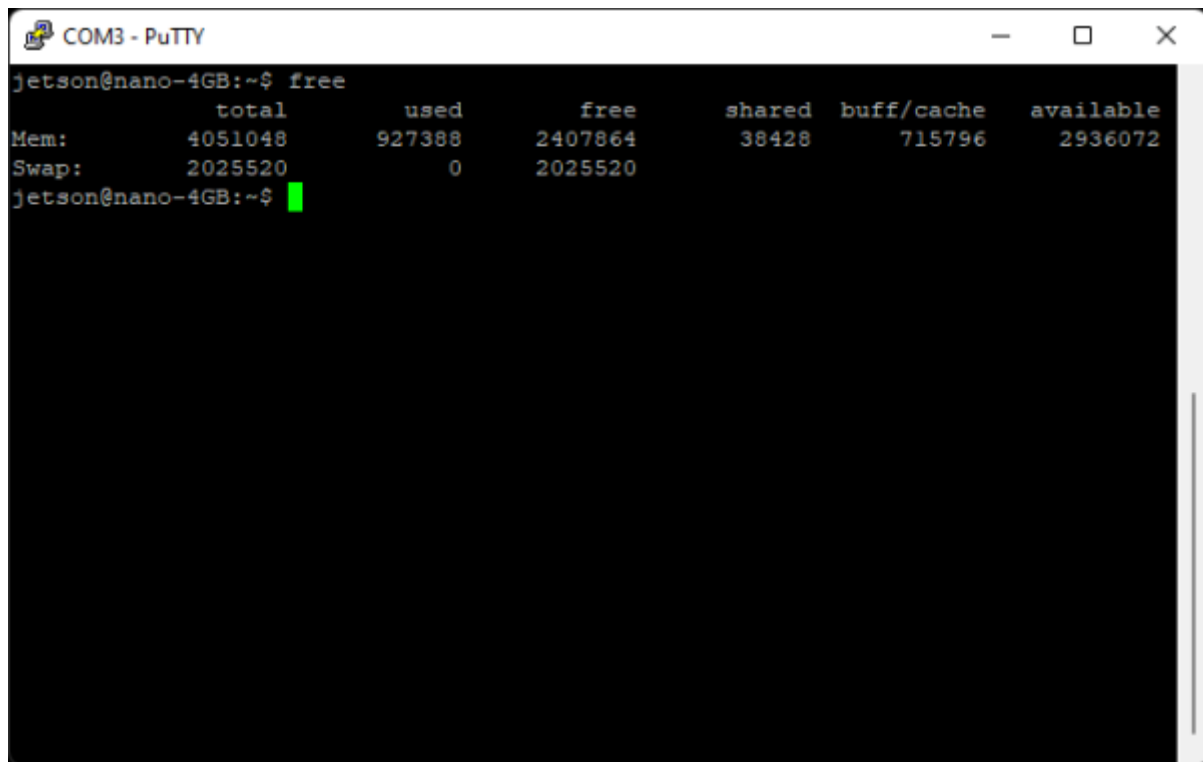
In this case the Jetson is using *1,282,048 KB* equivalent to *1.28 GB*.

The way to improve memory consumption is to change the desktop environment from GNOME to LXDE (Lightweight X11 Desktop Environment). LXDE prioritizes performance and memory usage which makes it perfect for applications with hardware limitations or simply optimizing performance, and is also the recommended [lightweight window manager alternative](#) by NVIDIA.

```
$ wget  
https://raw.githubusercontent.com/jetsonhacks/installLXDE/main/installLXDE.sh  
&& bash installLXDE.sh  
$ sudo reboot
```

After reboot and login with LXDE desktop environment the memory consumption is *927,388 KB* equivalent to *0.92 GB*.

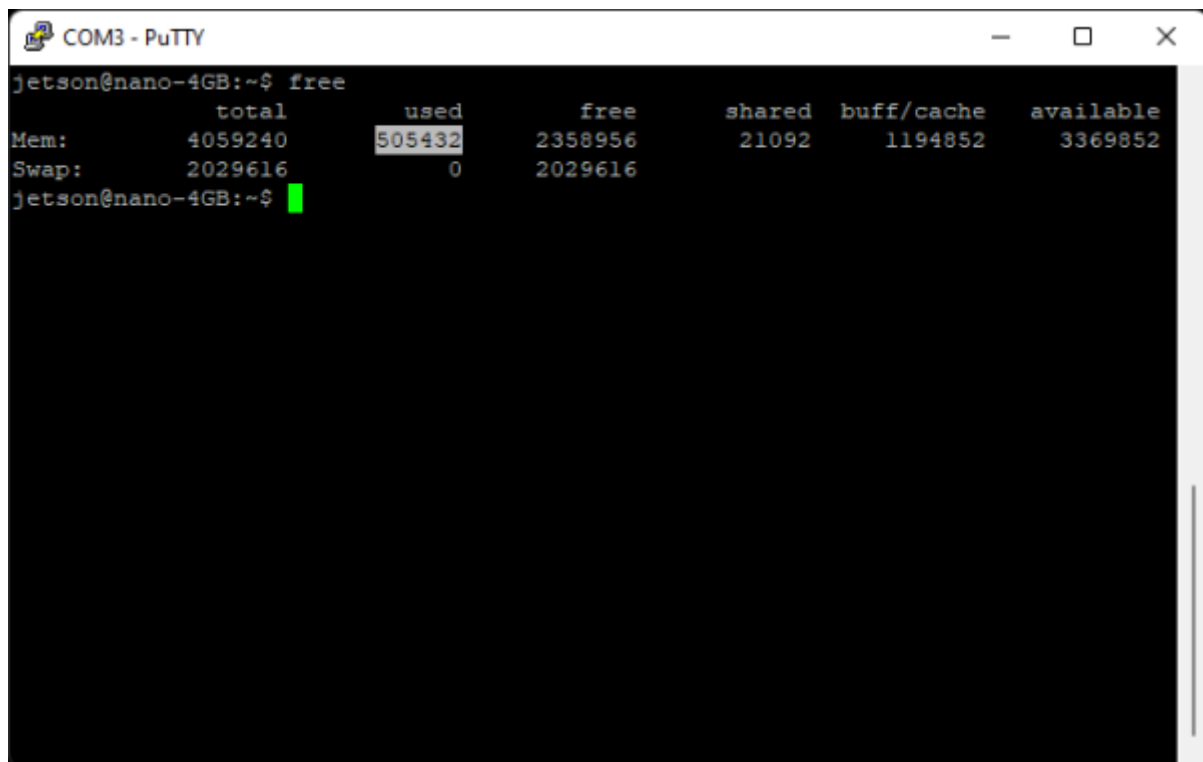
```
$ free
```



```
COM3 - PuTTY
jetson@nano-4GB:~$ free
              total        used        free      shared  buff/cache   available
Mem:        4051048        927388       2407864        38428       715796       2936072
Swap:        2025520            0       2025520
```

Best Performance

However, even if the desktop environment is changed, the best performance is achieved in **Headless Mode**.



```
COM3 - PuTTY
jetson@nano-4GB:~$ free
              total        used        free      shared  buff/cache   available
Mem:        4059240       505432       2358956        21092      1194852      3369852
Swap:        2029616            0       2029616
```

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