

SWAP / Swappiness

Swappiness defines how fast processes, more accurate their consumed RAM, is sourced out to a disk. This is **only** required and recommended when there's not enough RAM available. Since hard drives are thousands of times slower than RAM, it is recommended for servers to keep the swap value as low as possible due to a higher performance. In general the physical storage location should be at least a SSD, better a NVMe.

To view the current swappiness:

```
cat /proc/sys/vm/swappiness
```

To change the swappiness permanently, edit /etc/sysctl.conf:

```
vm.swappiness=<value>
```

The variable vm.swappiness can have a value between 0 and 100, higher values mean a faster “outswapping” to the disk.

Sourced from linuxize.com

Add SWAP

Create SWAP file:

```
sudo fallocate -l 4G /swapfile
```

→ Change 4G to the size of the swap space.

Change permissions and format file:

```
sudo chmod 600 /swapfile
```

```
sudo mkswap /swapfile
```

Enable SWAP and verify:

```
sudo swapon /swapfile
```

```
sudo swapon --show
```

Make swap permanent by adding the following line to /etc/fstab:

```
/swapfile none swap sw 0 0
```

To change the swappiness look at the upper paragraph.

Sourced from tecatadmin.net

Disable SWAP permanently

To disable the SWAP on Debian and some other Linux Distributions just comment out the following line in /etc/fstab:

```
/swapfile          none      swap      sw
# 0      0
```

Increase SWAP-Storage (e.g. for Raspberry Pi)

Raspberry Pis are powerful, but sometimes the amount of RAM is too low, besides RAM-compression swapping can be a helpful solution.

Change/Increase SWAP Space on Raspberry Pi OS (Debian):

Firstly turn off swap (moves everything from swap to the RAM):

```
sudo dphys-swapfile swapoff
```

Then edit the SWAP size in (size in MBytes):

```
sudo nano /etc/dphys-swapfile
```

Set size to new size of swap-ram and initialize new swap file:

```
sudo dphys-swapfile setup
```

Should produce something like this: want /var/swap=4096MByte, checking existing: deleting wrong size file (2147483648), generating swapfile ... of 4096MBytes
Finally turn the swap back on, there's no reboot required:

```
sudo dphys-swapfile swapon
```

If getting want /var/swap=4096MByte, restricting to config limit: 2048MBytes, checking existing: keeping it as error when running setup, check CONFMAX of /sbin/dphys-swapfile. And re-run this command.

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