Swap space in Linux is used when the amount of physical memory (RAM) is full. If the system needs more memory resources and the RAM is full, inactive pages in memory are moved to the swap space. While swap space can help machines with a small amount of RAM, it should not be considered a replacement for more RAM. Swap space is located on hard drives, which have a slower access time than physical memory.

Swap space can be a dedicated swap partition (recommended), a swap file, or a combination of swap partitions and swap files.

1. Create the file to be used for swap.
2. sudo fallocate -l 1G /mnt/1GB.swap

If fallocate fails or is not installed, run the following command.

sudo dd if=/dev/zero of=/mnt/1GB.swap bs=1024 count=1048576

give chmod 600 permissions to swap file

1. Format the file for swap.
2. sudo mkswap /mnt/1GB.swap
3. Add the file to the system as a swap file.
4. sudo swapon /mnt/1GB.swap
5. Add this line to the end of /etc/fstab to make the change permanent.
6. /mnt/1GB.swap none swap sw 0 0
7. To change the swappiness value edit /etc/sysctl.conf and add the following line.
8. vm.swappiness=10

Start with a value of 10 and increase if needed. A typical default value for swappiness is 60. The higher the number (up to 100), the more often swap is utilized.

How much swappiness affects performance depends on how your memory is being used, so experiment to find an optimal value. At 0 the swap file will only be used when the system runs completely out of memory. Higher values let the system swap idle processes out to allow the system to free memory for disk caching, potentially improving overall system performance.

1. Check that the swap file was created.
2. sudo swapon -s
3. Reboot the server to ensure that the changes go into effect.