Use a File for Additional Swap Space:

What is swap? – CentOS.org

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

Recommended swap size = Twice the size of RAM

Lets say,

M = Amount of RAM in GB, and S = Amount of swap in GB, then

If M < 2

then   S = M *2

Else   S = M + 2

Commands

dd

mkswap

swapon or swapoff

Steps to Create Swap Space from Existing Disk:

If you don't have any additional disks, you can create a file somewhere on your filesystem, and use that file for swap space.

The following dd command example creates a swap file with the name "newswap" under / directory with a size of 1024MB (1.0GB).

```
# dd if=/dev/zero of=/newswap bs=1M count=1024
```

Where

if = read from FILE instead of stdin

of = write to FILE instead of stdout

bs = read and write BYTES at a time

count = total size of the file

Change the permission of the swap file so that only root can access it.

```
# chmod go-r /newswap     OR
# chmod 0600 /newswap
```

Make this file as a swap file using mkswap command.

```
# mkswap /newswap
```

Enable the newly created newswap.

```
# swapon /newswap
```

To make this swap file available as a swap area even after the reboot, add the following line to the /etc/fstab file.

```
# cat /etc/fstab
/newswap  swap swap defaults  0    0
```

Verify whether the newly created swap area is available for your use.

```
# swapon -s
# free -h
```

If you don't want to reboot to verify whether the system takes all the swap space mentioned in the /etc/fstab, you can do the following, which will disable and enable all the swap partition mentioned in the /etc/fstab

```
# swapoff -a
# swapon -a
```