9. Setting Up Swap Space

🖥️ **tldp.org**/HOWTO/Partition/setting_up_swap.html

9.1. Swap Files

Normally, there are only two steps to setting up swap space, creating the partition and adding it to /etc/fstab. A typical fstab entry for a swap partition at /dev/hda6 would look like this:

```
/dev/hda6 swap swap
defaults 0 0
```

The next time you reboot, the initialization scripts will activate it automatically and there's nothing more to be done.

However, if you want to make use of it right away, you'll need to activate it maually. As root, type:

```
mkswap -f
/dev/hda6
swapon
/dev/hda6
```

9.2. Swap Files

There might be times when you've run out of swap space and it is not practical to repartition a drive or add a new one. In this case, you can use a regular file in an ordinary partition. All you have to do is create a file of the size you want

```
dd if=/dev/zero of=/var/my_swap bs=1024 count=131072
```

and activate it

```
mkswap -f
/var/my_swap
swapon
/var/my_swap
```

This invocation creates a file called `my_swap` in `/var`. It is 128 Mb long (128 x 1024 = 131072). Initially, it is filled with zeros. However, **mkswap** marks it as swap space and **swapon** tells the kernel to start using it as swap space. When you are done with it,

```
swapoff
/var/my_swap
rm
/var/my_swap
```

9.3. Multiple Swap Areas

More than one swap partition can be used on the same system. Consider an example fstab where there is a single swap partition:

```
/dev/hda5  /       ext3  defaults      1 1
/dev/hda1  /boot   ext2  defaults       1 2
none       /dev/pts devpts
gid=5,mode=620  0 0
none       /proc   proc  defaults      0 0
/dev/hda7  /usr    ext3  defaults       1 2
/dev/hda6  swap    swap  defaults       0
0
```

Imagine replacing the entry for the swap partition with these three lines:

```
/dev/hda6  none   swap   sw,pri=3
0 0
/dev/hdb2  none   swap   sw,pri=2
0 0
/dev/hdc2  none   swap   sw,pri=1
0 0
```

This configuration would cause the kernel to use /dev/hda6 first. it has the highest priority assigned to it (pri=3). The maximum priority can be 32767 and the lowest 0. If that space were to max out, the kernel would start using /dev/hdb2, and on to /dev/hdc2 after that. Why such a configuration? Imagine that the newest (fastest) drives are given the highest priority. This will minimize speed loss as swap space usage grows.

It is possible to write to all three simulataneously. If each has the same priority, the kernel will write to them much like a RAID, with commensurate speed increases.

```
/dev/hda6   none   swap   sw,pri=3
0  0
/dev/hdb2   none   swap   sw,pri=3
0  0
/dev/hdc2   none   swap   sw,pri=3
0  0
```

Notice that these three partitions are on separate drives, which is ideal in terms of speed enhancement.