**Add new partitions and logical volumes, and swap to a system non-destructively.**

**Presentation**

You’ve got three options when adding some swap space to a system:

* use a logical volume inside a volume group,
* use a new partition,
* use a file system (this is not a good solution performance-wise but could be required if all partitions are already used).

**Logical Volume Configuration**

If you decide to create a logical volume, follow these steps:  
Create a logical volume (here called **lv\_swap** with a size of **1G** in the **vg** volume group):

# lvcreate --size 1G --name lv\_swap vg

Prepare the swap logical volume:

# mkswap /dev/vg/lv\_swap

Add the swap logical volume to the system:

# swapon /dev/vg/lv\_swap

Choose one of these commands to check the result:

# swapon -s

# cat /proc/swaps

Edit the **/etc/fstab** file and add the following line (you can replace the beginning of the line with the **UUID** of the swap logical volume):

/dev/mapper/vg-lv\_swap swap swap defaults 0 0

Note: to remove the swap logical volume, remove the line previously created in the **/etc/fstab** file and type:

# swapoff /dev/vg/lv\_swap

# lvremove /dev/vg/lv\_swap

**Partition Configuration**

If you decide to create a new partition, follow these steps:  
Create a new partition with fdisk (here on the **/dev/vda** disk):

# fdisk /dev/vda

At the fdisk prompt, type ‘**c**‘, then ‘**u**‘ and finally ‘**p**‘ to print the partition table.  
Still at the fdisk prompt, type ‘**n**‘ to create a new partition, type the partition number, the first sector and the partition size.  
Don’t forget to give the swap type to this partition: press ‘**t**‘, then the partition number, then ‘**82**‘.  
Exit the fdisk prompt with the ‘**w**‘ to write the partition table on disk.

Ask the kernel to read again the partition table (where X is the number of the swap partition):

# partprobe /dev/vdaX

Prepare the swap partition:

# mkswap /dev/vdaX

Add the swap partition to the system:

# swapon /dev/vdaX

Choose one of these commands to check the result:

# swapon -s

# cat /proc/swaps

Edit the **/etc/fstab** file and add the following line (you can replace the beginning of the line with the **UUID** of the swap partition):

/dev/vdaX swap swap defaults 0 0

Note: to remove the swap partition, remove the line previously created in the **/etc/fstab** file and type:

# swapoff /dev/vdaX