# Part A: Create partitions and filesystems

1. Connect the USB to the laptop and **then** power on the computer.
2. Press “**CTRL-ALT-F2**” switch to command mode.
3. Log in to the system as administrator

Username: root

Password : LNXrocks!

1. Run “**fdisk -l**” in the command mode to see all the partitions.
2. Check and write down the USB Disk device name\_\_\_\_\_\_\_\_\_\_\_\_. (The device name for the usb might be **/dev/sdb** ).
3. Unmount the usb from the filesystem, so that we are able to write to it. If it is still mounted, the device will be “busy”, and we will be unable to partition it.

**umount /dev/sdb**

1. View the partitions on the USB
   1. Type **fdisk /dev/sdb**

**\*\*\*\* do not try to edit ANY OTHER disks \*\*\*\*\***

* 1. At the fdisk command prompt, type: “p” to print the partition table.  
     Make note of the partitions device name of the disk. (For example: “/dev/sdb1”).

1. Delete all the partitions on the USB
   1. Check out all of the options available using the **m** option
   2. Use the **p** option to print the partition table and the **d** option to delete a partition.
   3. Do this until you delete all the partitions on the usb.
   4. Now, make sure that you **write the changes to the disk** (using the **w** option)
   5. Exit out of the fdisk program and then go back in and make sure that the partitions are really deleted.
2. Create new **Primary** partition on the USB
   1. At the fdisk command prompt, type: “n” to add a new partition.
   2. Then select “p” to create a primary partition.
   3. Use the default partition number.
   4. Use the default first sector number.
   5. Enter ‘+30M’ to set the partition size.
   6. At the fdisk command prompt, type: “t” to change the partition’s system id. Enter “7” to change the partition to an NTFS partition.
3. Now create new **Extended** partition on the USB
   1. Make this 90MB in size and use the default settings for the partition number and first sector number.
4. Create a **Logical** partition containing a **FAT12** filesystem
   1. Make this 25MB in size and use the default settings for the partition number and first sector number.
   2. The hex code for a FAT12 filesystem is **1**.
5. Create a **Logical** partition containing a **FAT16** filesystem
   1. Make this 20MB in size and use the default settings for the partition number and first sector number.
   2. The hex code for a FAT12 filesystem is **6**.
6. Now, in the same way, create the following logical partitions:
   1. FAT32 (20M)
   2. Linux (10M)
7. View the new partition table
   1. Make notes for each partition device name.

NTFS: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

FAT12: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

FAT16: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

FAT32: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Linux: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Make sure that you **write the new partition table to the disk**
2. Now you get to **create** filesystems in these partitions
   1. At the Linux command mode, type: “mkfs.ntfs /dev/sdb…” to format the NTFS partition.
   2. At the Linux command mode, type: “mkfs.msdos –F 12 /dev/sdb…” to format the FAT12 partition.
   3. At the Linux command mode, type: “mkfs.msdos –F 16 /dev/sdb…” to format the FAT16 partition.
   4. At the Linux command mode, type: “mkfs.msdos –F 32 /dev/sdb…” to format the FAT32 partition.
   5. At the Linux command mode, type: “mkfs.ext2 /dev/sdb…” to format the the linux partition with an ext2 filesystem.
   6. At the Linux command mode, type: “shutdown now” to shutdown the Linux.

# Part B: Capture a the Disk Image

1. Boot to Windows, Log on the administrator user.
2. Start FTK Image
3. Select **File> Create Disk Image**, Then complete the following:  
   3a select **Physical Drive**  
   3b select **PHYSICALDRIVE1 – USB Disk**  
   3c Click **Finish**
4. Click “**Add**” button on the **Create Image** Window.   
   4a select **Raw(dd)** click **Next**  
   4b enter case information, Click **Next**   
   4c Click **Browse** and select **Desktop** to save the image, Click **OK**.   
   4d Enter filename on **Image filename** text box.  
   4e enter 2500 on the **image fragment size the image** text box, Click **Finish**.  
   4f Click **Start** to create Disk Image.
5. On the Desktop, you can find the new disk image just created. You can open it with FTK Imager.