Advanced Linux System Administration: Lab Exam (Topics 4-7)

Prior Instructions:
In the following link you will find a file named ExamenParcial.zip. Download it to a local folder, uncompress the file and add the machine to Virtualbox.

　　　http://www.ce.unican.es/OCW/SI/Eval/2014-15/ExamenParcial2.zip

After booting the machine, log in as root user: login=root / password=root. **After finishing each exercise, <u>power off the virtual machine</u> and create a snapshot labeled Ej<X>Result (replace <X> with the exercise number).**

Exercise 1 (1p). Install the required software to complete the rest of the exam. First of all, perform a manual installation of LVM2 making use of its source code (https://git.fedorahosted.org/cgit/lvm2.git/snapshot/lvm2-2_02_98.tar.gz). Download it from the provided URL and perform the installation. Secondly, download the .deb package corresponding to the commands dump/restore from the Spanish mirror indicated in https://www.debian.org/distrib/packages and install the downloaded package. Finally, making use of the apt tool, install the required software for disk management with RAID.

Exercise 2 (1.25p). Add 4 SATA disks (Disk1, Disk2, Disk3 and Disk4) to your machine, 1GB each, VDI type and dynamically reserved size. With the first two (sdb and sdc) configure a RAID0 system and create one group volume (VG0) with a single logical volume (VL0) of maximum size. On top of the logical volume, create an ext4 file system. Repeat the operation for the remaining disks (sdd and sde), this time labeling the group as VG1 and the logical volume as VL1 and making use of a xfs file system.

Exercise 3 (1.25p). Mount permanently the logic volume VL0 on the directory /home/users. After this, use your scripting skills and the command adduser/useradd (the one you consider most appropriate) to create 20 user accounts with the configuration showed below. Run the script to create 20 users.

　　　User name: userX (X= number between 1 and 20)
　　　Passwd: userX
　　　Directory $HOME: /home/users/userX
　　　UID: 1000+X
　　　GID: 5000

Exercise 4 (0.5p). Mount the logic volume VL1 on the directory /home/backup. Perform a backup, at file system level, of the directory /home/users.

Once you have finished the exam, copy the following files to the device provided by the teacher:
　　　-ExamenParcial2.vbox
　　　-Snapshots (whole folder)
　　　-Disk1.vdi, Disk2.vdi, Disk3.vdi, Disk4.vdi