Lab Assignment 1: Securing the boot in Linux

- The virtual machine supplied has the *grub* as its bootloader installed
- Modifications made to its configuration file (`/boot/grub/grub.cfg`) will get lost when *grub* updates its configuration
- Changes made to `/etc/grub.d/*` will influence how the (`/boot/grub/grub.cfg`) is generated each time *grub* gets updated (this can be done with `update-grub`)
- The contents of file `/boot/grub/custom.cfg` are appended to its configuration when booting

Securing the boot in Linux, grub boot loader I

1. Interrupt booting and get the crypted form of the root password
2. Become root by editing the parameters passed to the kernel when booting (either from the command line or by editing the menu)
3. Define two grub superusers, two grub users and set passwords for them (two of them in plain text and two in crypted form) so that they still exist when grub configuration gets updated
4. Verify that only the grub superusers can get to the grub command line

Securing the boot in Linux, grub boot loader II

5. Add two entries named UserOnly and AlwaysAvailable (both can be copies of already available menu entries)
   - The *AlwaysAvailable* entry can be booted by anyone (this is the default boot)
   - The UserOnly entry can be booted by any of the users
   - Only the supersusers can boot the remaining entries

Securing the boot in Linux, lilo boot loader I

1. download the package for lilo bootloader from

   `https://archive.debian.org/debian-archive/debian/pool/main/l/lilo/lilo_24.2-4_amd64.deb`

2. install the package (`dpkg -i ./lilo_24.2-4_amd64.deb`)
3. configure and install the lilo the bootloader (`liloconfig`, review `/etc/lilo.conf` and run `/sbin/lilo`)
4. check that the machine is actually booted by the lilo bootloader instead of the grub
5. interrupt the boot procedure (TAB) and pass init=/bin/sh to the image being booted.
6. experiment with the `password` and `restricted` options when defining a boot entry

Work submission (I)

- After performing the corresponding tasks of the lab assigment, a pdf document, describing what has been done (including screenshots showing the behaviour of the virtual machine, changes made to configuraton files, output from commands...) should be sent to
  - `david.otero.freijeiro@udc.es`. (students at udc)
  - `yolanda@det.uvigo.es`. (students at uvigo)
- The document has to cover only the tasks specific to the Lab Assignment (not the *preparation*)
- The subject of the mail should be *FSO: practica-1*

Work submission (II)

- The attachement should be named with the lab assignment number and the surname and name of the student, in the form P1-Surname-Name.pdf, avoiding non-ascii characteres (á, é, ñ . . .)
  - For example, for this lab assigment, the work submitted by student *Donald Trump Núñez* should come as an attached file named `P1-TrumpNunez-Donald.pdf` to a mail with the subject *FSO: practica-1*
- The work must be submitted within 15 minutes of the end of the lab assignment class