

Grub files

uname -r

- Tells you the current kernel that is currently being used
- If you are getting unknown symbol errors and you have set everything else up currently it is probably because uname -r is returning the wrong kernel.
 - Also try restarting your machine then running uname -r to check it
- To fix this we need to change the default kernel from what it currently is to our 4.14.12 kernel

grub file

- It holds the settings relating to what kernel is being loaded when you boot up the kernel
- Has settings for which kernel is the default one and when the grub menu should be displayed.

Editing the grub file

- To change the default kernel we need to change the value of:
 - GRUB_DEFAULT=0
 - This is in: /etc/default/grub
- To either the number or name of the kernel we want.
- To find the names of the current available kernels run the command:
 - `grep gnulinux /boot/grub/grub.cfg`
- Look for the one that says something like menuentry 'Ubuntu, with Linux 4.14.12' or menuentry 'test_kernel'
 - There may be multiple versions that say things like (recovery) at the end
 - We want the one with out any extra things at the end
- Then scroll to the end to where it says:
- `$menuentry_id_option 'some big string of data here'`

Editing the grub file

- Copy that string of data and paste it as the value for DEFAULT_GRUB
- It should look something like this when you are done:
 - GRUB_DEFAULT="gnulinux-4.18.0-0.bpo.1-amd64-advanced-38ea4a12-6cfe-4ed9-a8b5-036295e62ffc"
 - Note the change in quotation types, it went from ' to "
- Note, your kernel might be in a submenu for some reason
- For submenus instead of just setting GRUB_DEFAULT to the kernel name. You will set it to "submenu_id>kernel_id"

Example

```
opsys@opsys-VirtualBox:~$ grep gnulinux /boot/grub/grub.cfg
menuentry 'Ubuntu' --class ubuntu --class gnu-linux --class gnu --class os $menuentry_id_option 'gnulinux-simple-99502445-1a4a-4cd7-84e3-c2def1b7ab59' {
submenu 'Advanced options for Ubuntu' $menuentry_id_option 'gnulinux-advanced-99502445-1a4a-4cd7-84e3-c2def1b7ab59' {
  menuentry 'Ubuntu, with Linux 4.13.0-36-generic' --class ubuntu --class gnu-linux --class gnu --class os $menuentry_id_option 'gnulinux-4.13.0-36-generic-advanced-99502445-1a4a-4cd7-84e3-c2def1b7ab59' {
  menuentry 'Ubuntu, with Linux 4.13.0-36-generic (upstart)' --class ubuntu --class gnu-linux --class gnu --class os $menuentry_id_option 'gnulinux-4.13.0-36-generic-init-upstart-99502445-1a4a-4cd7-84e3-c2def1b7ab59' {
  menuentry 'Ubuntu, with Linux 4.13.0-36-generic (recovery mode)' --class ubuntu --class gnu-linux --class gnu --class os $menuentry_id_option 'gnulinux-4.13.0-36-generic-recovery-99502445-1a4a-4cd7-84e3-c2def1b7ab59' {
opsys@opsys-VirtualBox:~$
```

- We have a menu entry who's menuentry_id_option is:
 - gnulinux-simple-99502445-1a4a-4cd7-84e3-c2def1b7a59
- We have a submenu with the menuentry_id_option:
 - gnulinux-advanced-9950244501a4a04cd7084e30c2def1b7a59
- So for the first item in the submenu you would set the grub file to be:
 - DEFAULT_GRUB= "gnulinux-advanced-9950244501a4a04cd7084e30c2def1b7a59>genulinux-4.13.0-36-generic-init-upstart-99502445-1a4a-4cd7-84e3-c2def1b7ab59"

Update grub

- After you update the grub file remember you need to run:
 - `sudo update-grub`
 - `sudo shutdown -r 0`
- Now when you turn on your computer again it should boot to the correct kernel.