

Grub

From MTU LUG wiki

There are two methods two reinstall grub. These can be used to fix the dreaded GRUB *error 15* on boot. These will not help you if you simply get dropped to the grub shell instead of seeing a menu.

Method 1

This method will install the grub bootloader from the live cd onto your hard drive.

NOTE: You can use a 32-bit live cd with a 64-bit installation of linux.

1. Acquire a live cd with grub on it.
2. Boot the live cd.
3. Open a terminal
4. Become root (from now on being root is implied for this guide)

```
.....  
sudo -i  
.....
```

5. Create a temporary working area. I like to use /target, its a debian habit.

```
.....  
mkdir /target  
.....
```

6. Mount your root partition. I'll be assuming its the first partition on sda for my examples

```
.....  
mount /dev/sda1 /target  
.....
```

7. If you have a seperate boot partition (the 2nd partition on sda in my example) then you have to mount that as well. Skip this step otherwise.

```
.....  
mount /dev/sda2 /target/boot  
.....
```

8. I don't want to catch anyone not drinking

```
.....  
cd /usr; more beer  
.....
```

9. Run the grub installation command (If this command isn't found then switch to Method 2, you can start with step 7. See the NOTE at the start of method 2 though)

```
.....  
grub-install --root-directory=/target /dev/sda  
.....
```

10. Unmount your boot partition if you had one

```
.....  
umount /target/boot  
.....
```

11. Unmount your root partition

```
.....  
umount /target  
.....
```

12. Reboot (make sure to remove the livecd at some point)

Method 2

This method creates a fakeroot containing your actual installed linux distro and then installs the grub from that to your hard disk.

NOTE: If your linux install is 64-bit, then you **must** use a 64-bit live cd!

1. Acquire a live cd
2. Boot the live cd.
3. Open a terminal
4. Become root (from now on being root is implied for this guide)

```
.....  
sudo -i  
.....
```

5. Create a temporary working area. I like to use /target, its a debian habit.

```
.....  
mkdir /target  
.....
```

6. Mount your root partition. I'll be assuming its the first partition on sda for my examples

```
.....  
mount /dev/sda1 /target  
.....
```

7. If you have other partitions you'll want to mount them now at the appropriate places under /target. You must have atleast /usr and /boot mounted if they are seperate partitions:

```
.....  
mount /dev/sda2 /target/boot  
mount /dev/sda3 /target/usr  
.....
```

8. Now we need to mount some extra virtual partitions

```
.....  
mount -o bind /dev /target/dev  
mount -o bind /dev/shm /target/dev/shm  
mount -o bind /dev/pts /target/dev/pts  
mount -o bind /sys /target/sys  
mount -o bind /proc /target/proc  
mount -o bind /proc/bus/usb /target/proc/bus/usb  
.....
```

9. Enter the fakeroot

```
.....  
chroot /target  
.....
```

10. Run the grub installation command (If this command isn't found then see method 2)

```
.....  
grub-install /dev/sda  
.....
```

11. Exit the fakeroot

```
.....  
exit  
.....
```

12. Unmount the virtual partitions

```
.....  
umount /target/proc/bus/usb  
umount /target/proc  
umount /target/sys  
umount /target/dev/pts  
umount /target/dev/shm  
umount /target/dev  
.....
```

13. Unmount your other partitions if you have them

```
.....  
umount /target/usb  
umount /target/boot  
.....
```

14. Unmount your root partition

```
.....  
umount /target  
.....
```

15. Reboot (make sure to remove the livecd at some point)

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