GRUB 2

Grub Configuration

GRUB settings are stored in the following locations:

- **/etc/default/grub** file Edit this file to change GRUB2's settings.
- **/etc/grub.d/** directory contains additional scripts that are loaded by the /etc/default/grub file. For example, on Ubuntu, there are scripts here that configure the default theme. There's also an os-prober script that checks the system's internal hard drives for other installed operating systems — Windows, other Linux distributions, Mac OS X, and so on — and automatically adds them to GRUB2's menu.
- **/boot/grub/grub.cfg** file that's created by update-grub and read at boot.

When you run the update-grub command, GRUB automatically combines the settings from the /etc/default/grub file, the scripts from the /etc/grub.d/ directory, and everything else, creating a /boot/grub/grub.cfg file that's read at boot. In other words, to customize your GRUB2 settings, you'll have to edit the **/etc/default/grub** file and then run the **update-grub** command. Subsequently install/update the Grub loader in the disk.

```
# /etc/default/grub
# update-grub
# grub-install /dev/sdX
# grub-install --recheck /dev/sdX
```

Probe installed OS

Open a terminal and run the os-prober command with root privileges. This will search for other operating system installations besides the current distro you're booted into.

```
$ sudo os-prober
```

It should find your Linux distro, the Windows installation, and possibly a memory test installation or recovery partition. To add these findings to the GRUB menu, execute the update-grub command with root permissions.

```
$ sudo update-grub
```

The output should show that Windows 10 has been found and added to the GRUB boot menu.

Repair, Restore, or Reinstall Grub 2 with Live USB

Grub 2 typically gets overridden when you install Windows or another Operating System. To make

Linux control the boot process, you need Reinstall (Repair/Restore) Grub using a Live CD.

Create a live USB and boot system from USB

Mount the partition your broken Linux installation is on. If you are not sure which it is, launch GParted (included in the Live CD) and find out. It is usually a EXT4 Partition. Replace the XY with the drive letter, and partition number, for example: sudo mount /dev/sda1 /mnt.

```
# mount /dev/sdXY /mnt
```

Now bind the directories that grub needs access to to detect other operating systems, like so.

```
# mount --bind /dev /mnt/dev
# mount --bind /dev/pts /mnt/dev/pts
# mount --bind /proc /mnt/proc
# mount --bind /sys /mnt/sys
```

Internet access For internet access inside chroot:

```
# mv /mnt/etc/resolv.conf /mnt/etc/resolv.conf.org
# cp /etc/resolv.conf /mnt/etc/resolv.conf
```

Now we jump into that using chroot.

```
# chroot /mnt
```

Now install, check, and update grub. This time you only need to add the drive letter (usually a) to replace X, for example: grub-install /dev/sda, grub-install –recheck /dev/sda.

```
# grub-install /dev/sdX
# grub-install --recheck /dev/sdX
```

Now grub is back, all that is left is to exit the chrooted system and unmount everything:

```
# exit
# umount /mnt/sys
# umount /mnt/proc
# umount /mnt/dev/pt
# umount /mnt/dev
# umount /mnt
```

Shut down and turn your computer back on, and you will be met with the default Grub2 screen.

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