Configuration HOWTO

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This HOWTO would be the main doc from which every others can refer to configure most common hardware and services.

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1. Introduction

This document is one of the most important for LDP, because by configuring hardware and software you can get your own Linux box. This HOWTO was born in the Golden Age of developers, mainly for the command line. As it became too big and old for the current distros, I rewrote it more simple as I could.

Fundamentally, to configure the system, Linux users have to write some configuration files. To do it easyer, today programs and wizards are avaliable to manage them. This programs may be quite different for the various distributions.

In this HOWTO, I will speak about Mandrake−Linux and about Red Hat.

1.1 Copyright

1.2 Disclaimer

This document is provided "as is". I put great effort into writing it accurately, but you use contained informations at your own risk. In no event shall I be liable for any damages resulting from the use of this work.

1.3 Credits

Many thanks to all other HOWTO authors and man pages writers, from which I have got my knowledge, and to all people who provided me with feedback.

1.4 Description

Even if the earlier versions of this document discussed about several distributions, I chose Mandrake−Linux and Red Hat, because they are the most representative, with kernels range from 2.4.3 to 2.6.11, of wich last release you can easily purchase. For more informations, or if you don't understand anything, you can refer to other HOWTOs, among which is available the source code of this document, at Linux Documentation Project site. The hardware we shall go to configure is for x86 architectures: modem, printer, scanner. A tablet is very common also.

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2. Configuration tools

Fundamentally, this document is made in two sections: the first, for the machines with a big hard disk and a working graphical interface, the second, for other which are in low resources, forced to work by typing from the command line.

2.1 Control Center

Of course, if you have a working graphical interface, to configure everything is very easy. As a matter of fact, starting from release 8.0, each Mandrake−Linux release comes with *drakconf* package. Other disrtibutions have their own control−center. This wizard allows to change the settings of

- Users
- Bootloader
- Disk management
- Display
- Firewall
- Network
- Keyboard
- Mouse

- Printer
- Services

2.2 Display

Now let me explain how you can change X server configuration through the following two steps.

Step 1

Linux operating system uses a Graphical User Interface (GUI) called XFree, just because it is a free version of X windows system, wich was developed by X.org website members, also getting some IBM contyibutions. Today, X server configuration is totally automatic, so in the end of your new Linux system installation, if you are lucky, you can reboot, without having anything to do. Nevertheless, often it happens that, in spite of an installation of a lot of packages, it display a message saying that you are not able to start X server. The reason why this happens is that your monitor, or your graphic card, is not rightly detected. So you have only to update the whole installation, until to the Summary. Here, you can change your graphical interface settings, but, be very careful, when the opportunity knocks: when ask, disable the automatic starting Option for X server after the reboot. This allows to use your PC in text mode, so if you want to start X server, you have manually to run "startx" command.

Step 2

If X server doesn't work yet, try with

```
# XFdrake
```

It allows to change current settings with minimal ones:

```
Monitor:                SVGA (not interlaced) 1024 x 768
Frequency:              60 Hz
Graphic card:           VGA standard
Resolution:             640 x 480
Colours dept.:          8 bpp
```

You can increase these values, by degrees, but without overclocking frequency speed. It may damages your monitor! When you are ready, run XFdrake again and select to start Xfree, upon booting. This has always worked for me, so I suggest you to write down these values, before.

2.3 Keyboard

First of some old raw applications, upon which was built current control−center. Of course if you work by typing from command line, it is very important to set your keyboard accordingly. For many countries and keyboard types appropriate keymaps are available already. So you can give "loadkeys" command followed by the two last letters of any your country URLs.

2.4 Users

Expecially if you want autologin, you have to add an user. Type "adduser" command, then set up his password whith "passwd −n", followed by the user name.

2.5 Mouse

If you chose to work by typing from command line only, you have no need to configure your mouse. Nevertheless, whith a working graphical interface you cannot use itself to change wrong settings. Open a console as a root user and type "mousedrake".

2.6 Printer

Lastly, if you want to set up your printer, you have to install CUPS driver. Type "printerdrake".

2.7 Bootloader

The program which loads the kernel into the memory at the boot time is called bootloader. The bootloaders that come with Linux distributions are LILO and GRUB. If you want change LILO configuration, you have to open the file /etc/lilo.conf. using your favorite editor. In this file each line has its meaning.

```
boot=/dev/hda               Install LILO in the MBR
prompt                      If you want select another section
timeout=50                  Wait five seconds before booting
default=linux               The section to boot after the timeout

image=/boot/vmlinuz-x.x.x
  label=Linux               Name we give to this section
  read-only                 Start with a read-only root
  root=/dev/hda3            Location of the root filesystem

other=/dev/hdaX             The host where Windows is installed
  label=windows
```

Typical is how GRUB refers to hard drives and partitions.

2.8 Firewall

If your system is attached directly to Internet, or is on a large public network, enable it to help prevent unauthorized access.

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3. Others

These have their own websites, where you can find everything you need.

3.1 Scanner

SANE (Scanner Access Now Easy) package, offers the suppport for scanners. It can be downloaded from ftp://ftp.mostang.com/pub/sane. Documentation are avaliable at SANE webpage, where you can also find several frontends and backends.

3.2 Tablet

Today at The Linux Wacom Project website there are useful tools to manage a Wacom pen tablet: drivers, libraries, documentation for configuring and getting it running. Not only but also diagnostic applications and of course mailing lists and FAQ. This website is maintained by John E. Joganic j–arkadia.com>