

Hands-on course , 4
day(s)
Ref : LXM

Pre-requisites

The learners should have computer knowledge but not necessarily a Linux knowledge.

Next sessions

Linux Essentials, Hands-on

OBJECTIVES

This training will allow you to discover Linux through progressive exercises. It will enable you to master the necessary skills to install and use efficiently the system.

1) What is Linux ?

2) Starting a Linux system

3) Working environment

4) Managing files

5) Managing processes

6) Using Linux on a network with Windows (Samba)

7) Installing Linux

8) System administration complements

1) What is Linux ?

Architecture supported

- Freeware, open source, GPL licence, GNU and Linux.
- Why so many distributions.
- And Unix ?
- Where to find documentation for Linux system ?
- Online documentation, howtos and FAQ.
- Web sites, newsgroup and forums.

2) Starting a Linux system

Boot, starting the kernel

- Files involved during the boot sequence (grub, lilo, inittab).
- Runlevel techniques.

3) Working environment

Command line (bash)

- Decoding a command line : \$, *, ', ", ', etc.
- Redirections and pipes (>, |).
- Special characters (summary).
- Executing commands (alias, function, build-in commands, PATH).

Text environment

- .bashrc, .bash_profile, .bash_history files...
- Essential bash variables (PS1, HOME, PATH). The vim editor.

Graphical environment

- Role and customization of the X server (xorg.conf, gdm.conf, DISPLAY).
- Working with Gnome or KDE (libraries involved, specific applications).

Useful graphical programs

- Browsers, mail tools, managing files, text editors, bookmarks, multi-platform anti-virus, burning media, multimedia.
- Doing everything with a browser (usermin).

4) Managing files

Tree structure

- Standard directories (/bin, /home, /usr).
- File systems (mount, df).
- Basic commands : mkdir, cd, pwd, ls, rm, file, cat...
- Managing file permission (umask, chmod).
- Symbolic links.

Partitions and file systems

- Why using disk partitioning ?
- Mounting file systems (ext2, ext3, mount...).
- Removable devices (CDROM, USB removable devices).

5) Managing processes

Linux multitasking

- How to execute scripts or other programs: &, service, shebang, bash script.
- Looking at processus : ps, top, gtop.

Processes communication

- Sending a signal with the kill command.
- Arguments used with the service command (start, stop, restart, reload).

6) Using Linux on a network with Windows (Samba)

Protocols, services (TCP/IP, NFS, SMTP, DNS, DHCP, ...)

- Remote logins : telnet, ssh.
- File transfer : (s)ftp, rcp.
- Linux and Windows (Samba, server and client). And security !

IP configuration of a Linux server

- Looking and managing your configuration (IP, DNS, Gateway) to access the web.
- Managing user parameters related to mail and web browsers.

7) Installing Linux

- Hardware supported and minimal configuration.
- Information to gather before installing.
- Which partitioning and which file system to use ?
- Working with Windows (multiboot). Usual tricks and tips.

Workshop

Installing Linux (partitioning the disk, choosing packages, network configuration). Usual problems and solutions (graphical cards, Windows).

8) System administration complements

- System administration through graphical tools (webmin, system tools, etc.).
- Creating your own account.
- Installing a software (package and source). Examples of rpm and apt-get use. Usual problems and solutions.

Workshop

Creating a user account using the useradd command and webmin. Installing a software using its source code (tar). Installing a rpm package.