LPIC-1   102

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* This document is unofficial in the sense that its creator has no relationship, business or other, with LPI.
* All the objetives are not included here, this is just a Reference card, please remember that you should look at the complete LPI objectives at http://www.lpi.org.

Localization and I18n

/etc/timezone - Contains the timezone string.

/etc/localtime - It's a symbolic link to a file in /usr/share/zoninfo/your/zone. This can be done with tzconfig.

tzselect - Prompts for region and country to set Time zone

tzconfig - Utility to set the local timezone.

iconv - This program converts text from one encoding to another encoding.

UTF-8 - 8-bit UCS/Unicode Transformation Format

ISO 8859-1 - Standard character encoding of the Latin alphabet. It is referred to as Latin-1

UNICODE - Includes most of the world's writing systems.

Kernel compilation

make config - Creates the .config file using a sequence of questions.

make menuconfig - Creates the .config file using a more intuitive interface using text mode menus and windows.

make xconfig - Creates the .config file using the X window system it's the most appealing visually method.

make oldconfig - Creates a default .config file without interaction from the user or based on a previous kernel release.

Steps to compile a kernel:

1. make menu/menuconfig/xconfig/oldconfig
2. make dep
3. make clean
4. make bzImage
5. make modules
6. make modules_install
/usr/src/linux/arch/i386/boot/bzImage
    - Localization of a new kernel image for a pentium processor
/boot/vmlinuz-X.X.X-XX - kernel image ready to boot.

Documentation

/usr/share/doc - Contains documentation for installed packages.
/usr/share/man - Directory where usually man pages are saved.
Man section Numbers:

1. Commands available to users
2. Unix and C system calls
3. C library routines for C programs
4. Special file names
5. File formats and conventions for files used by Unix
6. Games
7. Word processing packages.
8. System administration commands and procedures.

Networking Fundamentals

/etc/issue - display messages at the login prompt

/etc/issue.net - display messages at the login prompt when remote users telnet to the machine

/etc/services - Maps TCP/UDP ports and services

/etc/hosts - Maps the name of host to an ip address.

/etc/nsswitch.conf - Name service switch configuration file.

/etc/resolv.conf - Contains the dns servers used by the machine

/etc/ntp.conf - Configuration file for NTP Network Time Protocol

dig - Queries a dns server. Exam: dig hotmail.com mx, this gets the mail servers.

Class A   255.0.0.0   8bits=1byte
Class B   255.255.0.0   16bits=2bytes
Class C   255.255.255.0 24bits=3bytes

TCP - Connection-oriented protocol used to stablish a network connection. Services who use it: FTP,Telnet,SMTP

ICMP - Connectionless protocol used to send messages between networked systems. Exam Services: Ping

UDP - Connectionles protocol offers direct access to IP allowing minimum protocol overhead.

IP - It's the fundamental protocol of a network and provides datagram delivery service.

PPP - It's commonly used to provide dial-up network access via modem

ifconfig - Creates and configures interfaces and their parameters.
    Exam:
    ifconfig eth0 down, shutdown eth0

IANA Private addresses

10.0.0.0   through 10.255.255.255
172.16.0.0   through 172.31.255.255
192.168.0.0 through 192.168.255.255

exportfs - This command is used to update the current exported filesystems for NFS

/etc/exports - This file stores the NFS shares.

no_root_squash - This allows user root to mount a NFS share, which is disable by default (root_squash)

nmbd - Samba daemon that provides NETBIOS resolution to hosts.

testparm - Checks the config of the smb.conf file.

/var/run/utmp - Provides info to the who command

hwclock --systohc - Sets the CMOS internal clock with the system clock

ntpd -clock - Display the time set by NTP.

65535 - Highest number of TCP/IP ports

Kernel Modules

modprobe -loads a module and dependencies into the kernel

insmod - loads a module into the kernel

rmmod - removes (unload) the module from the kernel

/lib/modules/`uname -r` - directory where modules are stored

lsmod - list all the loaded modules and specific info: name, size, use count and referring modules.

/proc/modules - displays the same info as lsmod

modinfo - displays info about a module: author, description and parameters supported.

/etc/modules.conf - configuration file used by modprobe and depmod. It contains aliases and options for modules.

/lib/modules/`uname -r`/modules.dep - Contains all module dependencies and is used by modprobe.

depmod -a - Recreates and overwrites the file modules.dep

Users and groups

/etc/passwd - Contains all the users of the system. Each line includes seven fields: username:passwd:uid:gid: comment:homedir:shell

/etc/shadow - Stores user passwords in encrypted format. It contains one entry per line for each user: username:passwd:lastpasswd change:mindays:maxdays:warn: inactive:expire

/etc/group - Stores system groups and assigned users: groupname:passwd:gid:userlist

/etc/skel - Template directory, all the contents of the directory are copied to new users home dir

chage - Changes information about password expiration

passwd - Changes user password

useradd -m - Adds a user and creates home directory.

userdel -r - Removes a user and his home directory.

usermod -d newdir -m username - Modifies a new user home dir and moves current dir contents to it.

pwck - Checks the integrity of the /etc/passwd file.

Misc

dump - Makes a backup of a ext2 filesystem

restore - Restores files from backups made with dump

dmesg - Shows the messages displayed at boot time.