

Version : **2024.01**

Dernière mise-à-jour : 2024/09/25 12:40

RH12403 - Aide et Documentation

Contenu du Module

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LAB #1 - Aide des Commandes

1.1 - L'Aide des Commandes Externes au Shell

Les commandes externes au shell sont des binaires exécutables ou des scripts, généralement situés dans /bin, /sbin, /usr/bin ou /usr/sbin :

```
[trainee@redhat9 ~]$ su -  
Password: fenestros  
[root@redhat9 ~]# type ifconfig  
ifconfig is /usr/sbin/ifconfig
```

L'aide d'une commande externe au shell peut être visualisée dans la plupart des cas en passant le paramètre **-help** en argument à la commande en question :

```
[root@redhat9 ~]# ifconfig --help
```

Usage:

```
ifconfig [-a] [-v] [-s] <interface> [[<AF>] <address>]
[add <address>[/<prefixlen>]]
[del <address>[/<prefixlen>]]
[[-]broadcast [<address>]] [[-]pointopoint [<address>]]
[netmask <address>] [dstaddr <address>] [tunnel <address>]
[outfill <NN>] [keepalive <NN>]
[hw <HW> <address>] [mtu <NN>]
[[-]trailers] [[-]arp] [[-]allmulti]
[multicast] [[-]promisc]
[mem_start <NN>] [io_addr <NN>] [irq <NN>] [media <type>]
[txqueuelen <NN>]
[[-]dynamic]
[up|down] ...
```

<HW>=Hardware Type.

List of possible hardware types:

```
loop (Local Loopback) slip (Serial Line IP) cslip (VJ Serial Line IP)
slip6 (6-bit Serial Line IP) cslip6 (VJ 6-bit Serial Line IP) adaptive (Adaptive Serial Line IP)
ash (Ash) ether (Ethernet) ax25 (AMPR AX.25)
netrom (AMPR NET/ROM) rose (AMPR ROSE) tunnel (IPIP Tunnel)
ppp (Point-to-Point Protocol) hdlc ((Cisco)-HDLC) lapb (LAPB)
arcnet (ARCnet) dlci (Frame Relay DLCI) frad (Frame Relay Access Device)
sit (IPv6-in-IPv4) fddi (Fiber Distributed Data Interface) hippi (HIPPI)
irda (IrLAP) x25 (generic X.25) infiniband (InfiniBand)
eui64 (Generic EUI-64)
```

<AF>=Address family. Default: inet

List of possible address families:

```
unix (UNIX Domain) inet (DARPA Internet) inet6 (IPv6)
ax25 (AMPR AX.25) netrom (AMPR NET/ROM) rose (AMPR ROSE)
```

```
ipx (Novell IPX) ddp (Appletalk DDP) ash (Ash)
x25 (CCITT X.25)
```

1.2 - L'Aide des Commandes Internes du Shell

Les commandes internes au shell sont des commandes telles **type**, **cd** ou **umask**. Pour vérifier le type de commande, il faut utiliser la commande **type** :

```
[root@redhat9 ~]# type type
type is a shell builtin
```

Le shell possède la commande **help**. Utilisée seule, cette commande fournit la liste des commandes internes :

```
[root@redhat9 ~]# help
GNU bash, version 5.1.8(1)-release (x86_64-redhat-linux-gnu)
These shell commands are defined internally.  Type `help' to see this list.
Type `help name' to find out more about the function `name'.
Use `info bash' to find out more about the shell in general.
Use `man -k' or `info' to find out more about commands not in this list.
```

A star (*) next to a name means that the command is disabled.

```
job_spec [&]
(( expression ))
. filename [arguments]
:
[ arg... ]
[[ expression ]]
alias [-p] [name[=value] ... ]
bg [job_spec ...]
bind [-lpsvPSVX] [-m keymap] [-f filename] [->
break [n]
builtin [shell-builtin [arg ...]]
history [-c] [-d offset] [n] or history -anr>
if COMMANDS; then COMMANDS; [ elif COMMANDS;>
jobs [-lnprs] [jobspec ...] or jobs -x comma>
kill [-s sigspec | -n signum | -sigspec] pid>
let arg [arg ...]
local [option] name[=value] ...
logout [n]
mapfile [-d delim] [-n count] [-O origin] [->
popd [-n] [+N | -N]
printf [-v var] format [arguments]
pushd [-n] [+N | -N | dir]
```

```

caller [expr]
case WORD in [PATTERN [| PATTERN]...) COMMAND>
cd [-L|[-P [-e]] [-@]] [dir]
command [-pVv] command [arg ...]
compgen [-abcdefgjkusv] [-o option] [-A actio>
complete [-abcdefgjkusv] [-pr] [-DEI] [-o opt>
compopt [-o|+o option] [-DEI] [name ...]
continue [n]
coproc [NAME] command [redirections]
declare [-aAfFgiIlNrtux] [-p] [name[=value] .>
dirs [-clpv] [+N] [-N]
disown [-h] [-ar] [jobspec ... | pid ...]
echo [-neE] [arg ...]
enable [-a] [-dnps] [-f filename] [name ...]
eval [arg ...]
exec [-cl] [-a name] [command [argument ...]]>
exit [n]
export [-fn] [name[=value] ...] or export -p
false
fc [-e ename] [-lnr] [first] [last] or fc -s >
fg [job_spec]
for NAME [in WORDS ... ] ; do COMMANDS; done
for (( exp1; exp2; exp3 )); do COMMANDS; don>
function name { COMMANDS ; } or name () { COM>
getopts optstring name [arg ...]
hash [-lr] [-p pathname] [-dt] [name ...]
help [-dms] [pattern ...]
pwd [-LP]
read [-ers] [-a array] [-d delim] [-i text] >
readarray [-d delim] [-n count] [-O origin] >
readonly [-aAf] [name[=value] ...] or readon>
return [n]
select NAME [in WORDS ... ;] do COMMANDS; do>
set [-abefhkmnptuvxBCHP] [-o option-name] [->
shift [n]
shopt [-pqsu] [-o] [optname ...]
source filename [arguments]
suspend [-f]
test [expr]
time [-p] pipeline
times
trap [-lp] [[arg] signal_spec ...]
true
type [-afptP] name [name ...]
typeset [-aAfFgiIlNrtux] [-p] name[=value] .>
ulimit [-SHabcdefiklmnpqrstuvxPT] [limit]
umask [-p] [-S] [mode]
unalias [-a] name [name ...]
unset [-f] [-v] [-n] [name ...]
until COMMANDS; do COMMANDS; done
variables - Names and meanings of some shell>
wait [-fn] [-p var] [id ...]
while COMMANDS; do COMMANDS; done
{ COMMANDS ; }

```

L'aide concernant une commande spécifique peut être obtenu en passant la commande concernée en argument à la commande **help** :

```

[root@redhat9 ~]# help type
type: type [-afptP] name [name ...]
    Display information about command type.
    For each NAME, indicate how it would be interpreted if used as a

```

command name.

Options:

- a display all locations containing an executable named NAME; includes aliases, builtins, and functions, if and only if the '-p' option is not also used
- f suppress shell function lookup
- P force a PATH search for each NAME, even if it is an alias, builtin, or function, and returns the name of the disk file that would be executed
- p returns either the name of the disk file that would be executed, or nothing if 'type -t NAME' would not return 'file'
- t output a single word which is one of 'alias', 'keyword', 'function', 'builtin', 'file' or '', if NAME is an alias, shell reserved word, shell function, shell builtin, disk file, or not found, respectively

Arguments:

NAME Command name to be interpreted.

Exit Status:

Returns success if all of the NAMEs are found; fails if any are not found.

LAB #2 - La Commande man

La commande man donne accès au manuel de la commande passée en argument. Par exemple **man passwd** :

```
[root@redhat9 ~]# man passwd
```

```
PASSWD(1)
```

User utilities

```
PASSWD(1)
```

```
NAME
```

```
passwd - update user's authentication tokens
```

```
SYNOPSIS
```

```
passwd [-k] [-l] [-u [-f]] [-d] [-e] [-n mindays] [-x maxdays] [-w warndays] [-i inactivedays] [-S] [--stdin] [-?] [--usage] [username]
```

DESCRIPTION

The passwd utility is used to update user's authentication token(s).

This task is achieved through calls to the Linux-PAM and Libuser API. Essentially, it initializes itself as a "passwd" service with Linux-PAM and utilizes configured password modules to authenticate and then update a user's password.

A simple entry in the global Linux-PAM configuration file for this service would be:

```
#  
# passwd service entry that does strength checking of  
# a proposed password before updating it.  
#  
passwd password requisite pam_cracklib.so retry=3  
passwd password required pam_unix.so use_authtok  
#
```

Note, other module types are not required for this application to function correctly.

OPTIONS

-k, --keep-tokens

The option -k is used to indicate that the update should only be for expired authentication tokens (passwords); the user wishes to keep their non-expired tokens as before.

-l, --lock

This option is used to lock the password of specified account and it is available to root only. The locking is performed by rendering the encrypted password into an invalid string (by prefixing the encrypted string with an !). Note that the account is not fully locked - the user can still log in by other means of authentication such as the ssh public key authentication. Use `chage -E 0 user` command instead for full account locking.

--stdin

This option is used to indicate that passwd should read the new password from standard input, which can be a pipe.

-u, --unlock

This is the reverse of the **-l** option - it will unlock the account password by removing the **!** prefix. This option is available to root only. By default passwd will refuse to create a passwordless account (it will not unlock an account that has only **!** as a password). The force option **-f** will override this protection.

-d, --delete

This is a quick way to delete a password for an account. It will set the named account passwordless. Available to root only.

Note that if the password was locked, this implicitly removes the password lock as well.

-e, --expire

This is a quick way to expire a password for an account. The user will be forced to change the password during the next login attempt. Available to root only.

-f, --force

Force the specified operation.

-n, --minimum DAYS

This will set the minimum password lifetime, in days, if the user's account supports password lifetimes. Available to root only.

-x, --maximum DAYS

This will set the maximum password lifetime, in days, if the user's account supports password lifetimes. Available to root only.

Manual page passwd(1) line 1 (press h for help or q to quit)

Une page de manuel peut contenir plusieurs sections :

Section	Contenu
NOM	Nom et rôle de la commande
SYNOPSIS	Syntaxe de la commande, paramètres et arguments
DESCRIPTION	Mode d'emploi et les arguments principaux
OPTIONS	Descriptions détaillées de chaque paramètre
EXEMPLES / EXAMPLES	Exemples d'utilisation de la commande
ENVIRONNEMENT / ENVIRONMENT VARIABLES	Fonctionnement selon l'environnement du shell
CONFORMITÉ / STANDARDS / CONFORMING TO	Éventuelles normes auxquelles la commande se conforme
BOGUES / BUGS/TO DO	Éventuelles bogues connues
DIAGNOSTICS/RETOUR / EXIT STATUS/RETURN VALUE	Codes d'erreur et leur signification
VOIR AUSSI / SEE ALSO	Commandes liées à celle du manuel actuel

La navigation dans la page de manuel se fait grâce à l'utilisation de certaines touches :

Touche	Fonction
Espace	Faire défiler une page complète
Entrée	Faire défiler la page ligne par ligne
↑	Faire défiler la page une ligne vers le haut
↓	Faire défiler la page une ligne vers le bas
PageHaut	Faire défiler une demi-page vers le haut
PageBas	Faire défiler une demi-page vers le bas
Début	Se positionner au début du manuel
Fin	Se positionner à la fin du manuel
/	Rechercher la chaîne qui suit la touche /. La touche n recherche l'occurrence suivante. La touche N recherche l'occurrence précédente
Q	Quitter le manuel

Un manuel complet est fait de plusieurs sections :

Section	Contenu
1	Instructions exécutables ou commandes shell
2	Appels système
3	Appels des bibliothèques

Section	Contenu
4	Fichiers spéciaux
5	Format des fichiers
6	Jeux, économiseurs d'écrans, gadgets
7	Divers et commandes non standard
8	Commandes d'administration du système Linux
9	Sous-programmes du noyau

Les différentes sections disponibles sont visibles grâce à l'utilisation de la commande **whereis** :

```
[root@redhat9 ~]# whereis passwd
passwd: /usr/bin/passwd /etc/passwd /usr/share/man/man5/passwd.5.gz /usr/share/man/man1/passwd.1ossl.gz
/usr/share/man/man1/passwd.1.gz
```

Pour visualiser une section spécifique, il convient de préciser son numéro :

```
[root@redhat9 ~]# man 5 passwd
passwd(5)
passwd(5)
passwd(5)
File Formats Manual

NAME
    passwd - password file

DESCRIPTION
    The /etc/passwd file is a text file that describes user login accounts for the system. It should have
    read permission allowed for all users (many utilities, like ls(1) use it to map user IDs to
    usernames), but write access only for the superuser.

    In the good old days there was no great problem with this general read permission. Everybody could read
    the encrypted passwords, but the hardware was too slow to crack a well-chosen password, and
    moreover the basic assumption used to be that of a friendly user-community. These days many people
    run some version of the shadow password suite, where /etc/passwd has an 'x' character in the
    password field, and the encrypted passwords are in /etc/shadow, which is readable by the superuser only.
```

If the encrypted password, whether in `/etc/passwd` or in `/etc/shadow`, is an empty string, login is allowed without even asking for a password. Note that this functionality may be intentionally disabled in applications, or configurable (for example using the "nullok" or "nonull" arguments to `pam_unix(8)`).

If the encrypted password in `/etc/passwd` is `"*NP"` (without the quotes), the shadow record should be obtained from an NIS+ server.

Regardless of whether shadow passwords are used, many system administrators use an asterisk (*) in the encrypted password field to make sure that this user can not authenticate themselves using a password. (But see NOTES below.)

If you create a new login, first put an asterisk (*) in the password field, then use `passwd(1)` to set it.

Each line of the file describes a single user, and contains seven colon-separated fields:

```
name:password:UID:GID:GECOS:directory:shell
```

The field are as follows:

name This is the user's login name. It should not contain capital letters.

password This is either the encrypted user password, an asterisk (*), or the letter 'x'. (See `pwconv(8)` for an explanation of 'x'.)

UID The privileged root login account (superuser) has the user ID 0.

GID This is the numeric primary group ID for this user. (Additional groups for the user are defined in the system group file; see `group(5)`).

GECOS This field (sometimes called the "comment field") is optional and used only for informational purposes. Usually, it contains the full username. Some programs (for example, `finger(1)`) display information from this field.

GECOS stands for "General Electric Comprehensive Operating System", which was renamed to GCOS when GE's large systems division was sold to Honeywell. Dennis Ritchie has reported:

"Sometimes we sent printer output or batch jobs to the GCOS machine. The gcos field in the password file was a place to stash the information for the \$IDENTcard. Not elegant."

directory This is the user's home directory: the initial directory where the user is placed after logging in. The value in this field is used to set the HOME environment variable.

shell This is the program to run at login (if empty, use /bin/sh). If set to a nonexistent executable, the user will be unable to login through login(1). The value in this field is used to set the SHELL environment variable.

FILES

/etc/passwd

NOTES

If you want to create user groups, there must be an entry in /etc/group, or no group will exist.

If the encrypted password is set to an asterisk (*), the user will be unable to login using login(1), but may still login using rlogin(1), run existing processes and initiate new ones through rsh(1), cron(8), at(1), or mail filters, etc. Trying to lock an account by simply changing the shell field yields the same result and additionally allows the use of su(1).

SEE ALSO

Manual page passwd(5) line 1 (press h for help or q to quit)

2.1 - Les Commandes mandb et whatis

Chaque page de manuel contient une brève description. Ces descriptions ainsi que le nom du manuel sont stockés dans la base de données **whatis**.

Cette base de données peut être maintenue manuellement par root en invoquant l'exécutable **/usr/bin/mandb**.

L'utilisation de **mandb** est très simple :

```
[root@redhat9 ~]# mandb
Purging old database entries in /usr/share/man/overrides...
Processing manual pages under /usr/share/man/overrides...
Purging old database entries in /usr/share/man...
Processing manual pages under /usr/share/man...
Purging old database entries in /usr/share/man/overrides...
Processing manual pages under /usr/share/man/overrides...
Purging old database entries in /usr/share/man/ru...
Processing manual pages under /usr/share/man/ru...
Purging old database entries in /usr/share/man/cs...
Processing manual pages under /usr/share/man/cs...
Purging old database entries in /usr/share/man/da...
Processing manual pages under /usr/share/man/da...
Purging old database entries in /usr/share/man/de...
Processing manual pages under /usr/share/man/de...
Purging old database entries in /usr/share/man/fr...
Processing manual pages under /usr/share/man/fr...
Purging old database entries in /usr/share/man/hu...
Processing manual pages under /usr/share/man/hu...
Purging old database entries in /usr/share/man/id...
Processing manual pages under /usr/share/man/id...
Purging old database entries in /usr/share/man/it...
Processing manual pages under /usr/share/man/it...
Purging old database entries in /usr/share/man/ja...
Processing manual pages under /usr/share/man/ja...
Purging old database entries in /usr/share/man/ko...
Processing manual pages under /usr/share/man/ko...
Purging old database entries in /usr/share/man/pl...
Processing manual pages under /usr/share/man/pl...
Purging old database entries in /usr/share/man/pt_BR...
Processing manual pages under /usr/share/man/pt_BR...
Purging old database entries in /usr/share/man/sv...
Processing manual pages under /usr/share/man/sv...
Purging old database entries in /usr/share/man/tr...
```

```
Processing manual pages under /usr/share/man/tr...
Purging old database entries in /usr/share/man/zh_CN...
Processing manual pages under /usr/share/man/zh_CN...
Purging old database entries in /usr/share/man/zh_TW...
Processing manual pages under /usr/share/man/zh_TW...
Purging old database entries in /usr/share/man/uk...
Processing manual pages under /usr/share/man/uk...
Purging old database entries in /usr/share/man/es...
Processing manual pages under /usr/share/man/es...
Purging old database entries in /usr/share/man/sk...
Processing manual pages under /usr/share/man/sk...
Purging old database entries in /usr/share/man/nl...
Processing manual pages under /usr/share/man/nl...
Purging old database entries in /usr/share/man/ca...
Processing manual pages under /usr/share/man/ca...
Purging old database entries in /usr/share/man/pt...
Processing manual pages under /usr/share/man/pt...
Purging old database entries in /usr/share/man/sr...
Processing manual pages under /usr/share/man/sr...
Purging old database entries in /usr/local/share/man...
Processing manual pages under /usr/local/share/man...
0 man subdirectories contained newer manual pages.
0 manual pages were added.
0 stray cats were added.
24 old database entries were purged.
```

La commande **whatis** peut maintenant être utilisée pour identifier les sections des manuels disponibles pour une commande donnée :

```
[root@redhat9 ~]# whatis passwd
passwd (5)          - password file
passwd (1)          - update user's authentication tokens
passwd (1openssl)  - OpenSSL application commands
```

2.2 - La Commande apropos

La commande **apropos** cherche dans la base de données **whatis** la chaîne de caractères passée en argument à la commande. Sans option, la sortie obtenue est identique à la commande **man -k** :

```
[root@redhat9 ~]# apropos passwd
chgpaswd (8)          - update group passwords in batch mode
chpaswd (8)          - update passwords in batch mode
fgetpwent_r (3)      - get passwd file entry reentrantly
getpwent_r (3)      - get passwd file entry reentrantly
gpaswd (1)          - administer /etc/group and /etc/gshadow
grub2-mkpasswd-pbkdf2 (1) - generate hashed password for GRUB
lpaswd (1)          - Change group or user password
openssl-paswd (1ssl) - compute password hashes
pam_localuser (8)   - require users to be listed in /etc/passwd
passwd (1)          - update user's authentication tokens
passwd (1ssl)      - OpenSSL application commands
passwd (5)          - password file
passwd2des (3)      - RFS password encryption
pwhistory_helper (8) - Helper binary that transfers password hashes from passwd or shadow to opaswd
smbpasswd (5)      - The Samba encrypted password file
```

Le résultat est une liste de commandes suivies par une description brève de celles-ci.



Important - Notez que les numéros entre parenthèses indiquent les sections disponibles.

LAB #3 - La Commande info

En plus du système des manuels, des informations concernant des exécutable peuvent être trouvées dans le système **info**. De l'information détaillée, des exemples et des tutoriels peuvent être absents du système des manuels. Pour cette raison le système **info** a été créé.

Dans le système **info**, de multiples pages d'informations concernant un exécutable, appelées nœuds, sont regroupées. La navigation entre nœuds est simple et utilise un système de liens hypertexte.

Afin de faciliter la navigation chaque page contient une entête qui inclut de l'information sur le nœud courant, le nœud parent, le nœud précédent et le nœud suivant. Pour naviguer entre les nœuds il convient d'utiliser les touches suivantes :

Touch	Fonction
n	Nœud suivant.
p	Nœud précédent.
u	Nœud parent.
Espace	Défiler une page vers le bas.
Suppr	Défiler une page vers le haut.
b	Retour au début du nœud courant.
Tab ↗	Sélectionner le lien hypertexte suivant.
m <lien>	Aller au sous-nœud spécifié. En appuyant sur [Tab], on obtient la liste de tous les sous-nœuds.
↵ Entrée	Suivre le lien hypertexte courant. Un lien hypertexte commence avec un astérisque et se termine avec le caractère :.
q	Quitter le système info .

Pour accéder au premier nœud, utilisez la commande suivante :

```
[root@redhat9 ~]# info
File: dir,      Node: Top,      This is the top of the INFO tree.
```

```
This is the Info main menu (aka directory node).
A few useful Info commands:
```

```
'q' quits;
'H' lists all Info commands;
'h' starts the Info tutorial;
'mTexinfo RET' visits the Texinfo manual, etc.
```

* Menu:

Archiving

- * Cpio: (cpio). Copy-in-copy-out archiver to tape or disk.
- * Tar: (tar). Making tape (or disk) archives.

Basics

- * Bash: (bash). The GNU Bourne-Again SHell.
- * Common options: (coreutils)Common options.
- * Coreutils: (coreutils). Core GNU (file, text, shell) utilities.
- * Date input formats: (coreutils)Date input formats.
- * Ed: (ed). The GNU line editor
- * File permissions: (coreutils)File permissions.
Access modes.
- * Finding files: (find). Operating on files matching certain criteria.
- * Time: (time). GNU time utility.

Compression

- * Gzip: (gzip). General (de)compression of files (lzw).

Editors

- * nano: (nano). Small and friendly text editor.

Encryption

- * Nettle: (nettle). A low-level cryptographic library.

GNU Gettext Utilities

- * autopoint: (gettext)autopoint Invocation.
Copy gettext infrastructure.
 - * envsubst: (gettext)envsubst Invocation.
Expand environment variables.
 - * gettextize: (gettext)gettextize Invocation.
Prepare a package for gettext.
 - * gettext: (gettext). GNU gettext utilities.
-

```
* ISO3166: (gettext)Country Codes.  
           ISO 3166 country codes.  
* ISO639: (gettext)Language Codes.  
           ISO 639 language codes.  
* msgattrib: (gettext)msgattrib Invocation.  
           Select part of a PO file.  
* msgcat: (gettext)msgcat Invocation.  
           Combine several PO files.  
* msgcmp: (gettext)msgcmp Invocation.  
           Compare a PO file and template.  
* msgcomm: (gettext)msgcomm Invocation.  
           Match two PO files.  
* msgconv: (gettext)msgconv Invocation.  
-----Info: (dir)Top, 318 lines --Top-----  
-----  
Welcome to Info version 6.7. Type H for help, h for tutorial.
```