

Лабораторная работа 6

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Анализ файловой системы Linux.
Команды для работы с файлами и
каталогами.

Цель лабораторной работы

Ознакомление с файловой системой Linux, её структурой, именами и содержанием каталогов. Приобретение практических навыков по применению команд для работы с файлами и каталогами, по управлению процессами (и работами), по проверке использования диска и обслуживанию файловой системы.

- Выполнить все примеры из первой части
- Копирование заданных файлов в каталоги
- Создание директорий и каталогов
- Перемещение файлов
- Переименование файлов
- Изменение прав доступа к файлам
- Просмотр содержимого файлов
- Работа со справкой man

Основная работа

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isdequy@b08b0d2:~$ cat /usr/include/types.h | egrep
isdequy@b08b0d2:~$ ls
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[illegible]

Полученные справки (1/2)

```
ksheyan@ksheyan:~$ cat /usr/share/doc/mount/README.Debian.gz
mount(8)
NAME
    mount - mount a filesystem
SYNOPSIS
    mount [-l] [-h] [-w]
    mount -a [-f] [-r] [-t fstype] [-O options]
    mount [-f] [-r] [-t fstype] [-O options] device dir
    mount [-f] [-r] [-t fstype] [-O options] device dir
DESCRIPTION
    All files accessible in a Unix system are arranged in one big tree, the file hierarchy, rooted at /. These files can be spread out over several devices. The mount command serves to attach the filesystem found on some device to the big file tree. Conversely, the umount command will detach it again. The filesystem is used to control how data is stored on the device or provided in a virtual way by network or another service.
    The standard form of the mount command is:
    mount -t type device dir
    This tells the kernel to attach the filesystem found on device (which is of type type) at the directory dir. The option -t type is optional. The mount command is usually able to detect a filesystem. The root permissions are necessary to mount a filesystem by default. See section "Non-superuser mounts" below for more details. The previous contents (if any) and owner and mode of dir become invisible, and as long as this filesystem remains mounted, the pathname dir refers to the root of the filesystem on device.
    If only the directory or the device is given, for example:
    mount /dir
    then mount looks for a mountpoint (and if not found then for a device) in the /etc/fstab file. It's possible to use the --target or --source options to avoid ambiguous interpretation of the given argument. For example:
    mount --target /mountpoint
    The same filesystem may be mounted more than once, and in some cases (e.g., network filesystems) the same filesystem may be mounted on the same mountpoint more times. The mount command does not implement any policy to control this behavior. All behavior is controlled by the kernel and it is usually specific to the filesystem driver. The exception is --all, in this case already mounted filesystems are ignored (see --all below for more details).
    Listing the mounts
    The listing mode is maintained for backward compatibility only.
    For more robust and customizable output use findmnt(8), especially in your scripts. Note that control characters in the mountpoint name are replaced with "?".
    The following command lists all mounted filesystems (of type type):
    # mount | grep type | grep -v "type"
    # mount | grep type | grep -v "type"
ksheyan@ksheyan:~$ cat /usr/share/doc/fsck/README.Debian.gz
fsck(8)
NAME
    fsck - check and repair a Linux filesystem
SYNOPSIS
    fsck [-t fstype] [-r] [-f] [-l] [-L] [-t fstype] [filesystem...] [-v] [-n] [-p] [-o options]
DESCRIPTION
    fsck is used to check and optionally repair one or more Linux filesystems. filesystems can be a device name (e.g., /dev/sda1, /dev/cdrom), a mount point (e.g., /usr, /home), or an filesystem label or UUID specifier (e.g., UUID=00000000-0000-0000-0000-000000000000 or LABEL=LABEL). Normally, the fsck program will try to handle filesystems on different physical disk drives in parallel to reduce the total amount of time needed to check all of them.
    If no filesystems are specified on the command line, and the -A option is not specified, fsck will default to checking filesystems in /etc/fstab serially. This is equivalent to the -A option.
    The exit code returned by fsck is the sum of the following conditions:
    0 No errors
    1 Filesystem errors corrected
    2 System should be rebooted
    4 Filesystem errors left uncorrected
    8 Operational error
    16 Usage or syntax error
    32 Checking cancelled by user request
    128 Shared-library error
    The exit code returned when multiple filesystems are checked is the bit-wise OR of the exit codes for each filesystem that is checked.
    In actuality, fsck is simply a front-end for the various filesystem checkers (fsck.fstype) available under Linux. The filesystem-specific checker is searched for in the PATH environment variable. If the PATH is undefined then fallback to "/sbin".
    Please see the filesystem-specific checker manual pages for further details.
    OPTIONS
    -l Create an exclusive lock(2) lock file (/run/lock/lockname.lock) for whole-disk device. This option can be used with one device only (this means that -A and -l are mutually exclusive). This option is recommended when more fsck(8) instances are executed in the same time. The option is ignored when used for multiple devices or for non-rotating disks. fsck does not lock underlying device when checking stacked devices (e.g. MD or DM) - this feature is not implemented yet.
    -f Report certain statistics for each fsck when it completes. These statistics include the exit status, the maximum run set size (in kilobytes), the elapsed all-clock time and the user and system CPU time used by the fsck run. For example:
    /dev/sda1: status 0, r/s 30729, reb 4.002084, user 2.077392, sys 0.801086
    Not front-end may specify a file descriptor fd, in which case the progress bar information will be sent to that file descriptor in a machine parsable format. For example:
    # fsck -f /dev/sda1 3 >/dev/null 2>/dev/null
```

Полученные справки (2/2)

```
lukayyan@osafpofpy:IP-Poflwin-17-Notebook:~$
bash: Theme: RHEL: Theme: Tefamenu: Options

System Administration
NAME
  mkefs - build a Linux filesystem

SYNOPSIS
  mkefs [options] [-t type] [fs-options] device [size]

DESCRIPTION
  This mkefs frontend is deprecated in favour of filesystem specific mkefs.-type utils.

  mkefs is used to build a Linux filesystem on a device, usually a hard disk partition. The device argument is either the device name (e.g. /dev/hda1, /dev/nvml), or a regular file that shall contain the filesystem. The size argument is the number of blocks to be used for the filesystem.

  The exit code returned by mkefs is 0 on success and 1 on failure.

  In actuality, mkefs is simply a front-end for the various filesystem builders (mkefs.fsutils) available under Linux. The filesystem-specific builder is searched for via your PATH environment setting only. Please see the filesystem-specific builder manual pages for further details.

OPTIONS
  -t, --type type
    Specify the type of filesystem to be built. If not specified, the default filesystem type (currently ext2) is used.

  fs-options
    Filesystem-specific options to be passed to the real filesystem builder.

  -v, --verbose
    Produce verbose output, including all filesystem-specific commands that are executed. Specifying this option more than once inhibits execution of any filesystem-specific commands. This is really only useful for testing.

  -V, --version
    Display version information and exit. (Option -V will display version information only when it is the only parameter, otherwise it will work as --verbose.)

  -h, --help
    Display help text and exit.

NOTES
  All generic options must precede and not be combined with filesystem-specific options. Some filesystem-specific programs do not automatically detect the device size and require the size parameter to be specified.

AUTHORS
  David Engel (david@dufs.com)
  Fred N. van Kempen (walt@duwalt.nl.magnet.org)
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  The manual page was shamelessly adopted from Mory Card's version for the ext2 filesystem.

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

lukayyan@osafpofpy:~$
bash: Theme: RHEL: Theme: Tefamenu: Options

User Commands
NAME
  kill - send a signal to a process

SYNOPSIS
  kill [options] qpid [...3]

DESCRIPTION
  The default signal for kill is TERM. The -l or -L is list available signals. Particularly useful signals include KILL, INT, STOP, CONT, and 0. Alternate signals may be specified in three ways: -s, -SIGID or -SIGNAL. Negative PID values may be used to choose whole process groups; use the PID value in ps command output. A PID of -1 is special; it indicates all processes except the kill process itself and init.

OPTIONS
  -qpid [...3]
    Send signal to every qpid-listed.

  -s signal
    -s signal
    --signal=signal
    Specify the signal to be sent. The signal can be specified by using name or number. The behavior of signals is explained in signal(7) manual page.

  -l, --list signal
    List signal names. This option has optional argument, which will convert signal number to signal name, or other way round.

  -L, --table
    List signal names in a nice table.

NOTES
  Your shell (command line interpreter) may have a built-in kill command. You may need to run the command described here as /bin/kill to solve the conflict.

EXAMPLES
  kill -9 -1
    Kill all processes you can kill.

  kill -1 0
    Translate number 1 into a signal name.

  kill -L
    List the available signal choices in a nice table.

  kill 123 543 2341 345
    Send the default signal, SIGTERM, to all those processes.

SEE ALSO
  kill(2), killall(1), nice(1), ps(1), renice(1), signal(7), ukill(1)

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

lukayyan@osafpofpy:~$
```

Я удачно ознакомилась с файловой системой Linux, её структурой, именами и содержанием каталогов. Приобрела практические навыки по применению команд для работы с файлами и каталогами, по управлению процессами (и работами), по проверке использования диска и обслуживанию файловой системы.