## NAME

passwd, group, shadow − user and group databases, shadow passwords

## SYNOPSIS

**/etc/passwd**
**/etc/group**
**/etc/shadow**

## DESCRIPTION

**/etc/passwd** lists all the users of the system, and **/etc/group** lists all the groups the users may belong to. Both files also contain encrypted passwords, numeric ID's etc. Encrypted passwords may be hidden in the file **/etc/shadow** if extra protection is warranted.

Each file is an text file containing one line per user or group. The data fields on a line are separated by colons. Each line in the password file has the following form:

*name:passwd:uid:gid:gecos:dir:shell*

The *name* field is the login name of a user, it is up to 8 letters or numbers long starting with a letter. The login name must be unique. The *password* field is either empty (no password), a 13 character encrypted password as returned by **crypt**(3), or a login name preceded by two number signs (#) to index the shadow password file. Anything else (usually ∗) is invalid. The *uid* and *gid* fields are two numbers indicating the users user-id and group-id. These id's do not have to be unique, there may be more than one name with the same id's. The *gecos* field can be set by the user. It is expected to be a comma separated list of personal data where the first item is the full name of the user. The *dir* field is the path name of the users home directory. Lastly the *shell* field is the path name of the users login shell, it may be empty to indicate **/bin/sh**. A Minix specific extension allows the shell field to contain extra space separated arguments for the shell.

Lines in the group file consist of four fields:

*name:passwd:gid:mem*

The *name* field is the name of the group, same restrictions as a login name. The *passwd* field may be used to let users change groups. The *gid* field is a number telling the group-id. The group-id is unique for a group. The *mem* field is a comma separated list of login names that are special members of the group. If a system supports supplementary group id's then a user's set of supplementary group id's is set to all the groups they are a member of. If a system allows one to change groups then one can change to a group one is a member of without using the group's password.

The shadow password file has precisely the same form as the password file, except that only the *name* or *passwd* fields are used as yet. The other fields are zero or empty. A password in the password file may have the form **##***user* to indicate the entry *user* in the shadow password file. The password in this entry is then used for authentication of the user. The shadow file can only be read by the privileged utility **pwdauth**(8), so that the encrypted passwords in the shadow file are kept secret, and thus safe from a dictionary attack.

### Special password and group file entries

There are several entries in the password and group files that are preallocated for current or future use. All id's less than 10 are reserved. The special password file entries are:

```
root:##root:0:0:Big Brother:/usr/src:
daemon:*:1:1:The Deuce:/etc:
bin:##root:2:0:Binaries:/usr/src:
uucp:*:5:5:UNIX to UNIX copy:/usr/spool/uucp:/usr/sbin/uucico
news:*:6:6:Usenet news:/usr/spool/news:
ftp:*:7:7:Anonymous FTP:/usr/ftp:
nobody:*:9999:99::/tmp:
ast:*:8:3:Andrew S. Tanenbaum:/usr/ast:
```

The **root** id is of course the super user. The **daemon** id is used by some daemons. Some devices are protected so that only those daemons can access them. The **bin** id owns all sources and most binaries. The **uucp**, **news** and **ftp** id's are for serial line data transfer, usenet news, or ftp if so needed. The

**nobody** id is used in those cases that a program may not have any privileges at all. The **ast** id is the honorary home directory for Andrew S. Tanenbaum, the creator of Minix. You can also find the initial contents for a new home directory there.

The special group file entries are:

```
operator:*:0:
daemon:*:1:
bin:*:2:
other:*:3:
tty:*:4:
uucp:*:5:
news:*:6:
ftp:*:7:
kmem:*:8:
nogroup:*:99:
```

Groups with the same name as special user id are used with those id's. The **operator** group is for the administrators of the system. Users in this group are granted special privileges. The **other** group is for ordinary users. The **tty** group is for terminal devices, and associated set-gid commands. Same thing with the **kmem** group and memory devices.

## FILES

**/etc/passwd** The user database.

**/etc/group** The group database.

**/etc/shadow** The shadow password file.

## SEE ALSO

**login**(1), **passwd**(1), **su**(1), **crypt**(3), **getpwent**(3), **getgrent**(3), **pwdauth**(8).

## NOTES

The **nobody** and **nogroup** id's are likely to be renumbered to the highest possible id's once it is figured out what they are.

## AUTHOR

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