

Users and Groups

/etc/passwd : eg: www-data : x : 33 : 33 : www-data : /var/www : /usr/sbin/nologin

↓
username

encrypted password
if "x" in /etc/shadow

uid gid
first group
others listed in /etc/group

comment
homedir

login shell

shadow passwd is saved in

/etc/shadow, since /etc/passwd is readable by all users.

/etc/group : eg: adm : x : 4 : syslog, didid

group name encrypted password if 'x', in /etc/gshadow

gid

List of users whose gid (first group) is not this group

functions not reading shadow passwords

struct passwd* getpwnam (const char* name);
struct passwd* getpwuid (uid_t uid);
struct group* getgrnam (const char* name);
struct group* getgrgid (gid_t gid);

scan all records
struct passwd* getpwent()
: read entry
void setpwent()
: restart read entry
void endpwent()
: stop read entry

functions reading shadow passwords

struct spwd* getspnam (const char* name);
struct spwd* getspent (void)
void setspent (void)
void endspent (void)

encrypt password

char* crypt (const char* key, const char* salt)

key is ~~password~~ password, salt is only read two chars, salt is added on top of encrypted result (which is saved in /etc/shadow)
we can therefore just pass in /etc/shadow password in salt for verification.