

Basics of Users and Groups

Linux Users

- All Linux users are assigned a unique user ID, which is just an integer, as well as one or more group IDs (one of which is the default one and is the same as the user ID)
- The normal prescription is that normal users start with a user ID of 1000 and then go up from there
- These numbers are associated with more convenient strings, or names, through the files **/etc/passwd** and **/etc/group**
 - For example, the first file may contain:
george:x:1000:1000:George Metesky:/home/george:/bin/bash
 - And the second one:
george:x:1000:

/etc/passwd

- **/etc/passwd (george:x:1000:1000:George Metesky:/home/george:/bin/bash)**

contains some important pieces of information, separated by colons:

- Account name: **(george)**
The name of the user on the system, which should not contain capital letters
- Password: **(x)**
This can be an encrypted password, an asterisk, or an x depending on how security is set up on the system
- User ID: **(1000)**
The numerical value for the User ID
- Group ID: **(1000)**
The numerical value for the primary Group ID

/etc/passwd (Cont.)

- **/etc/passwd** (**george:x:1000:1000:George Metesky:/home/george:/bin/bash**) contains some important pieces of information, separated by colons:
 - Full user name: (**George Metesky**)
This field can be used for other purposes, but is almost always the full user name
 - Directory: (**/home/george**)
The user's home directory
 - Shell: (**/bin/bash**)
The user's default shell, which is the program run when logging in; if you see a **/sbin/nologin** or any non-executable program, this means the user cannot directly login (this is used for a lot of system daemons)
- If you look at **/etc/passwd**, you will see that almost all entries do not correspond to real users in the normal sense, but are special entities used for certain system utilities and functions

/etc/group

- **/etc/group** (**fuse:x:106:root,george**) is also straightforward and says that the **fuse** group, with numerical Group ID **106**, has as members **root** and **george**
- Groups are used to establish a set of users who have common interests for the purposes of access rights, privileges, and security considerations
- Access rights to files (and devices) are granted on the basis of the user and the group it belongs to

