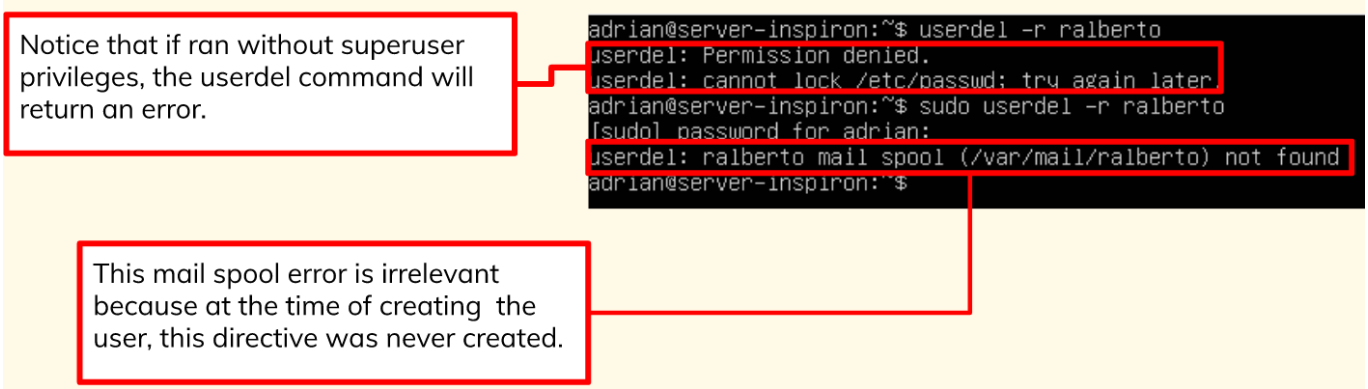
Managing Users and Groups

Managing User Accounts

- Managing user accounts involves adding, modifying and deleting user accounts and account's information
- To add user accounts we use the `useradd` or `adduser` command.

  In Ubuntu, the `adduser` program is recommended over `useradd` due to useradd being a low-level utility.
- To modify user's information we use the `usermod` program.
- To delete a users we use the `userdel` program.
- The following files are involved in the user creation process:
  - `/etc/login.defs` `/etc/default/useradd` `/etc/skel/`
  - `/etc/passwd` `/etc/shadow` `/etc/group`

- How do I add a user in Ubuntu?
  - Run the command **sudo adduser** followed by the **username**.
- How do I delete a user in Ubuntu?
  - To delete a user use the **userdel -r** command followed by the **username**.
    - The **-r** option for the command to delete the user and its home directory.

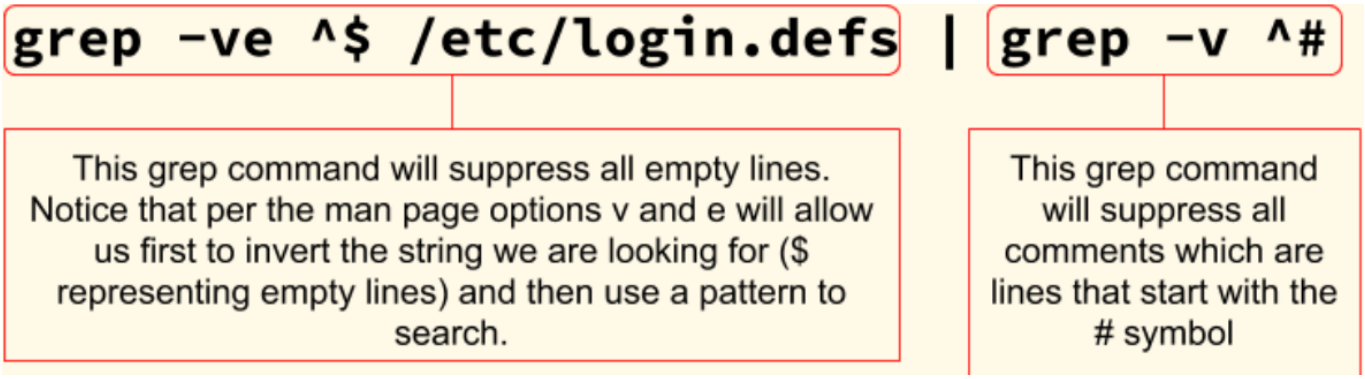


- Understanding the purpose of these files is canonical to the understanding of how users and groups work on in Linux.
  - /etc/default/useradd
  - /etc/passwd
  - /etc/group ...

The /etc/login.defs file

- It contains directives for use in various **shadow password suite commands**.

- **Shadow password suite** is an umbrella term for commands dealing with account.
    - grep -ve ^$ /etc/login.defs | grep -v ^#



Creating a user with useradd

The **useradd** utility, in Ubuntu, is considered a low-level utility and should not be used. However, you must understand how to create users with this low level utility since it is the standard in most linux distros. In fact, the **adduser** utility uses the **useradd** utility in the "backend". You can say that **adduser** is a user friendly version of **useradd**.

- **-md** are the options needed for adding a home directory to the new user.
- **-s** used for specifying the users login shell.

Maintaining Passwords

- The **useradd** utility does not create a password for users. For this case, we use the **passwd** utility.
- The passwd utility can update passwords for any user as well as update the password of the current user.
- To change the password of another user use: **passwd + username**
- To change the password of the current user, use **passwd** with no argument
- The passwd utility can also lock and unlock accounts with the **-l** and **-u** options.

Deleting User Accounts

- Deleting an account on Linux is fairly simple.
- The userdel utility is the key tool in this task. The most common option to use is the -r switch.
- This option will delete the account's home directory tree and any files within it.
- Delete the sampleuser account: **`sudo userdel -r sampleuser`**
- Before deleting user accounts make sure to read the company's account deletion policies.

Managing Groups

- Groups are organizational structures that are part of Linux's discretionary access control (DAC).
- DAC is the traditional Linux security control, where access to a file, or any object, is based upon the user's identity and current group membership.
- When a user account is created, it is given membership to a particular group, called the account's default group.

```
adrian@server-inspiron:~$ cat /etc/passwd | grep "adrian"
adrian:x:1000:1000:adrian:/home/adrian:/bin/bash
adrian@server-inspiron:~$ cat /etc/group | grep ^"adrian"
adrian:x:1000:
adrian@server-inspiron:~$
```

Delete me

- Groups can also have passwords, although, setting them is a bad idea.
- The **`/etc/gshadow`** file is where group passwords are stored
- If you need to modify a particular group, the groupmod command is helpful.

```
adrian@server-inspiron:~$ sudo getent gshadow developers
developers:!::adrian
adrian@server-inspiron:~$ sudo groupmod -n devs developers
adrian@server-inspiron:~$ sudo getent group devs
devs:x:1003:adrian
adrian@server-inspiron:~$
```

Bash Aliases

- Bash aliases
  - Bash aliases are essentially shortcuts to save time when you work with long/complicated commands. In Ubuntu, you can place aliases in the ~/.bash_aliases file or in the ~/.bashrc file itself.
  - For example: https://robertalberto.com/cis106/bash_aliases
  - How to create an alias:
  - alias + word + = + command
  - Example:
    - `alias ll='ls -alF'`