Create user and set up password enforcement: adduser passwd chage

I am in centos 7, beginning the creation of dozens of users in the /home directory, each with a their own unique password, which must be reset at first login.

Create one user, with password, and enforce password reset on login:

create user:

useradd -m olivia

In case the need arises, remove with:

userdel -r olivia

set password:

passwd olivia

set enforcement of password reset:

chage -d 0 olivia

On Centos 7, is useradd the same as addduser? I think it is, because the result of whereis useradd is similar to whereis adduser, their --help pages look the same, and then in addition to that, ls -la /usr/sbin | grep useradd is pretty convincing.

[root@centos7server home]# whereis useradd
useradd: /usr/sbin/useradd /usr/share/man/man8/useradd.8.gz

[root@centos7server home]# whereis adduser
adduser: /usr/sbin/adduser /usr/share/man/man8/adduser.8.gz

```
[root@centos7server home]# adduser --help
Usage: adduser [options] LOGIN
       adduser -D
       adduser -D [options]

Options:
  -b, --base-dir BASE_DIR       base directory for the home directory of the
                                new account
  -c, --comment COMMENT         GECOS field of the new account
  -d, --home-dir HOME_DIR       home directory of the new account
  -D, --defaults                print or change default useradd configuration
  -e, --expiredate EXPIRE_DATE  expiration date of the new account
  -f, --inactive INACTIVE       password inactivity period of the new account
  -g, --gid GROUP               name or ID of the primary group of the new
                                account
  -G, --groups GROUPS           list of supplementary groups of the new
                                account
  -h, --help                    display this help message and exit
  -k, --skel SKEL_DIR           use this alternative skeleton directory
  -K, --key KEY=VALUE           override /etc/login.defs defaults
  -l, --no-log-init             do not add the user to the lastlog and
                                faillog databases
  -m, --create-home             create the user's home directory
  -M, --no-create-home          do not create the user's home directory
  -N, --no-user-group           do not create a group with the same name as
                                the user
  -o, --non-unique              allow to create users with duplicate
                                (non-unique) UID
  -p, --password PASSWORD       encrypted password of the new account
  -r, --system                  create a system account
  -R, --root CHROOT_DIR         directory to chroot into
  -s, --shell SHELL             login shell of the new account
  -u, --uid UID                 user ID of the new account
  -U, --user-group              create a group with the same name as the user
  -Z, --selinux-user SEUSER     use a specific SEUSER for the SELinux user mapping
```

```
[root@centos7server home]# useradd --help
Usage: useradd [options] LOGIN
       useradd -D
       useradd -D [options]

Options:
  -b, --base-dir BASE_DIR       base directory for the home directory of the
                                new account
  -c, --comment COMMENT         GECOS field of the new account
  -d, --home-dir HOME_DIR       home directory of the new account
  -D, --defaults                print or change default useradd configuration
  -e, --expiredate EXPIRE_DATE  expiration date of the new account
  -f, --inactive INACTIVE       password inactivity period of the new account
  -g, --gid GROUP               name or ID of the primary group of the new
                                account
  -G, --groups GROUPS           list of supplementary groups of the new
                                account
  -h, --help                    display this help message and exit
  -k, --skel SKEL_DIR           use this alternative skeleton directory
  -K, --key KEY=VALUE           override /etc/login.defs defaults
  -l, --no-log-init             do not add the user to the lastlog and
                                faillog databases
  -m, --create-home             create the user's home directory
  -M, --no-create-home          do not create the user's home directory
  -N, --no-user-group           do not create a group with the same name as
                                the user
  -o, --non-unique              allow to create users with duplicate
                                (non-unique) UID
  -p, --password PASSWORD       encrypted password of the new account
  -r, --system                  create a system account
  -R, --root CHROOT_DIR         directory to chroot into
  -s, --shell SHELL             login shell of the new account
  -u, --uid UID                 user ID of the new account
  -U, --user-group              create a group with the same name as the user
  -Z, --selinux-user SEUSER     use a specific SEUSER for the SELinux user mapping
```

```
[root@centos7server home]# ls -la /usr/sbin | grep useradd
lrwxrwxrwx.  1 root root        7 May 15 16:08 adduser -> useradd
-rwxr-xr-x.  1 root root    15752 Apr 12  2018 luseradd
-rwxr-x---.  1 root root   118232 Oct 30  2018 useradd
```

Create one user, named olivia

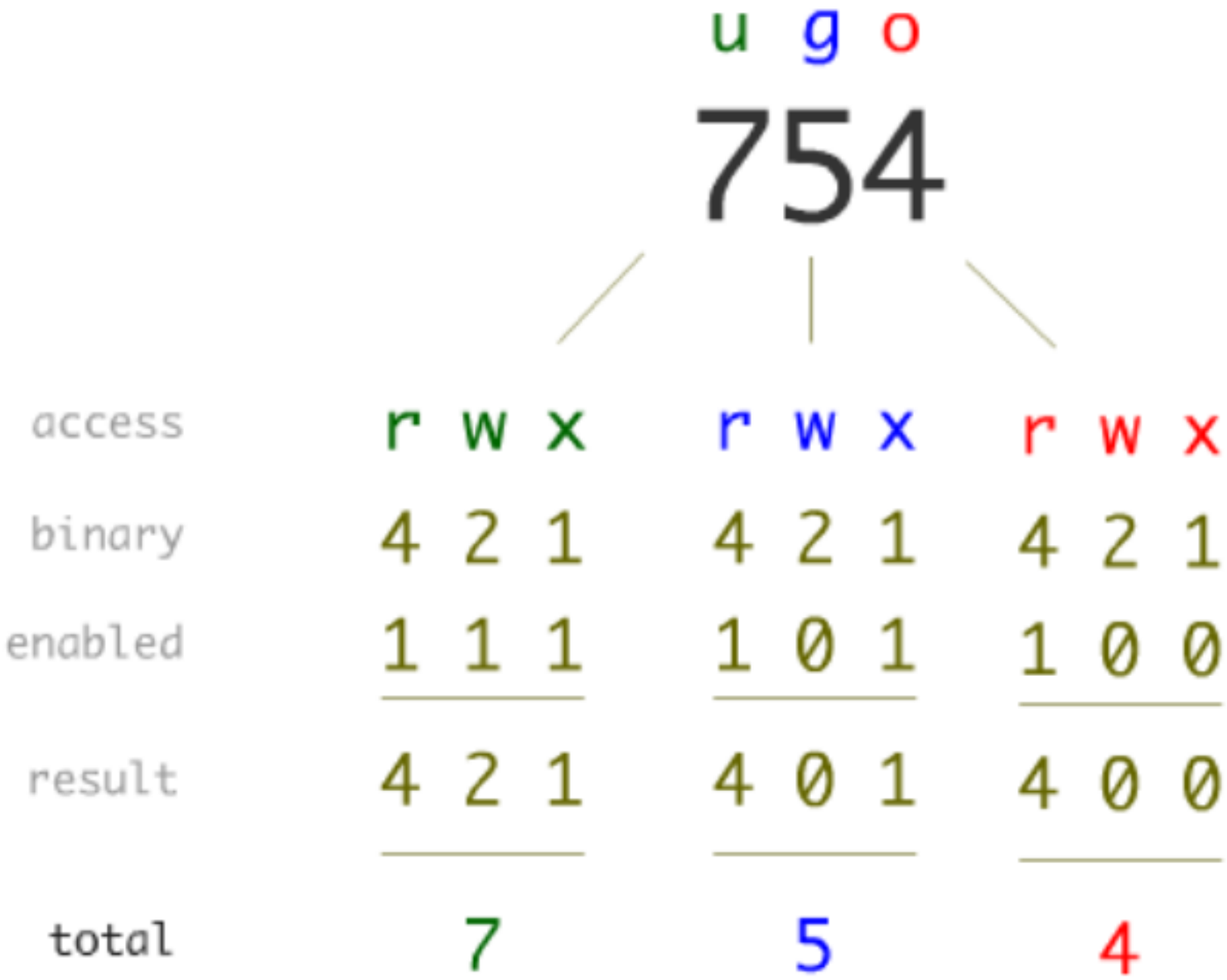
From --help, what do the different option do?

I am especially interested in these ones:

```
[root@centos7server home]# useradd --help
  -b, --base-dir BASE_DIR       base directory for the home directory of the
                                new account
  -d, --home-dir HOME_DIR       home directory of the new account
  -D, --defaults                print or change default useradd configuration
   -m, --create-home            create the user's home directory
```

a) No options specified:

Also note: it seems that the default permissions is set to 700 (rwx------ means (4+2+1) (0+0+0) (0+0+0) = (7) (0) (0); 700), which are the persmissions for Owner, Group, Other



from: https://danielmiessler.com/study/unixlinux_permissions/

[root@centos7server home]# adduser olivia

[root@centos7server home]# ls -ltr
total 4
drwx------. 15 johndoe johndoe 4096 May 16 13:39 johndoe
drwx------. 5 pavlos pavlos   160 May 16 13:41 pavlos
drwx------. 5 justin justin   160 May 16 16:23 justin
drwx------. 5 mark   mark   160 May 16 16:23 mark
drwx------. 3 olivia olivia   98 May 18 08:57 olivia

****
In some cases the -m option is not necessary, so check the defaults as follows:

[root@centos7server home]# cd /etc/default
[root@centos7server default]# ls
grub nss useradd

[root@centos7server default]# more useradd
# useradd defaults file
GROUP=100

```
HOME=/home
INACTIVE=-1
EXPIRE=
SHELL=/bin/bash
SKEL=/etc/skel
CREATE_MAIL_SPOOL=yes

[root@centos7server default]# useradd -D
GROUP=100
HOME=/home
INACTIVE=-1
EXPIRE=
SHELL=/bin/bash
SKEL=/etc/skel
CREATE_MAIL_SPOOL=yes
[root@centos7server default]#
```

b) Using -b /home/ as the option

```
[root@centos7server home]# adduser oliviab -b /home/

[root@centos7server home]# ls
johndoe  justin  mark  olivia  oliviab  pavlos

[root@centos7server home]# cd oliviab

[root@centos7server home]# ls -ltr
total 4
drwx------. 15 johndoe johndoe 4096 May 16 13:39 johndoe
drwx------.  5 pavlos  pavlos   160 May 16 13:41 pavlos
drwx------.  5 justin  justin   160 May 16 16:23 justin
drwx------.  5 mark    mark     160 May 16 16:23 mark
drwx------.  3 olivia  olivia    98 May 18 08:57 olivia
drwx------.  3 oliviab oliviab   98 May 18 09:10 oliviab
```

This is actually for putting a user's home directory inside of a specific other directory than /home

```
[root@centos7server home]# adduser -b /home/STUDENTS johnStudent
[root@centos7server home]# ls
john  johnathan  johnathanm  johndoe  justin  mark  olivia  oliviab  pavlos  STUDENTS
[root@centos7server home]# ls STUDENTS/
johnStudent
[root@centos7server home]# ls -la
total 12
drwxr-xr-x. 12 root       root       197 May 23 13:21 .
dr-xr-xr-x. 17 root       root       242 May 23 12:03 ..
drwx------.  3 john       john        78 May 23 13:10 john
drwx------.  3 johnathan  johnathan    78 May 23 13:15 johnathan
drwx------.  3 johnathanm johnathanm   78 May 23 13:16 johnathanm
drwx------. 15 johndoe    johndoe    4096 May 21 15:56 johndoe
drwx------.  5 justin     justin      160 May 16 16:23 justin
drwx------. 15 mark       mark       4096 May 21 16:08 mark
drwx------.  5 olivia     olivia      160 May 21 16:42 olivia
drwx------.  3 oliviab    oliviab      98 May 18 09:10 oliviab
drwx------. 15 pavlos     pavlos     4096 May 21 16:12 pavlos
drwxr-xr-x.  3 root       root        25 May 23 13:23 STUDENTS
[root@centos7server home]# cd STUDENTS/
[root@centos7server STUDENTS]# ls -la
total 0
drwxr-xr-x.  3 root        root        25 May 23 13:23 .
drwxr-xr-x. 12 root        root       197 May 23 13:21 ..
drwx------.  3 johnStudent johnStudent  98 May 23 13:23 johnStudent
```

c) Using -d /home/ as the option

Why did things get wierd?
1) I dont see the user having been created. Where's their directory? I see their /etc/passwd entry, and their id
2) The shell looks different for this new user

```
[root@centos7server home]# adduser oliviad -d /home/
adduser: warning: the home directory already exists.
```

Not copying any file from skel directory into it.

```
[root@centos7server home]# ls -ltr
total 4
drwx------. 15 johndoe johndoe 4096 May 16 13:39 johndoe
drwx------.  5 pavlos  pavlos   160 May 16 13:41 pavlos
drwx------.  5 justin  justin   160 May 16 16:23 justin
drwx------.  5 mark    mark     160 May 16 16:23 mark
drwx------.  3 olivia  olivia    98 May 18 08:57 olivia
drwx------.  3 oliviab oliviab   98 May 18 09:10 oliviab

[root@centos7server home]# adduser oliviad -d /home/oliviad
adduser: user 'oliviad' already exists

[root@centos7server home]# cat /etc/passwd | grep oliviad
oliviad:x:1006:1006::/home/:/bin/bash

[root@centos7server home]# su - oliviad

-bash-4.2$ id
uid=1006(oliviad) gid=1006(oliviad) groups=1006(oliviad) context=unconfined_u:unconfined_r:unconfined_t:s0-s0:c0.c1023

-bash-4.2$ cd $HOME

-bash-4.2$ pwd
/home

-bash-4.2$ ls
johndoe  justin  mark  olivia  oliviab  pavlos

-bash-4.2$ ls -ltr
total 4
drwx------. 15 johndoe  johndoe  4096  May 16 13:39 johndoe
drwx------.  5  justin      justin      160    May 16 16:23 justin
drwx------.  5  mark      mark       160   May 16 16:23 mark
drwx------.  3  olivia      olivia       98     May 18 08:57 olivia
drwx------.  3  oliviab    oliviab      98     May 18 09:10 oliviab
drwx------.  5  pavlos   pavlos      160   May 16 13:41 pavlos
```

********* LOOK AT THE ERROR CODE!!!!
The proper use of the -d option is that you need to create home that does not already exist. My problem was that I was creating a /home that already exist

d) Using D as the option

looks like this just tells you what the current defaults are set as, which is useful.

```
[root@centos7server home]# adduser -D
GROUP=100
HOME=/home
INACTIVE=-1
EXPIRE=
SHELL=/bin/bash
SKEL=/etc/skel
CREATE_MAIL_SPOOL=yes
```

Change Password:

as root user, it does not ask me for the current password:

```
[root@centos7server home]# passwd olivia
Changing password for user olivia.
New password:
```

If olivia tries to change her password, it first asks for current password. Also, when it is olivia changing her password, she doent have to specify “olivia”; just type passwd, and then it will go through the reset steps:

```
[root@centos7server home]# su - olivia
Last login: Thu May 21 16:49:06 MST 2020 from 192.168.5.41 on pts/1
[olivia@centos7server ~]$ passwd olivia
passwd: Only root can specify a user name.
[olivia@centos7server ~]$ passwd
```

Changing password for user olivia.
Changing password for olivia.
(current) UNIX password:
New password:
Retype new password:
passwd: all authentication tokens updated successfully.

Set password age to zero, so it forces a rest on first login:

[root@centos7server ~]# chage -d 0 olivia

If you dont put in a specific option, it will prompt you:

[root@centos7server ~]# chage olivia
Changing the aging information for olivia
Enter the new value, or press ENTER for the default

Minimum Password Age [0]:

No, you can log in as olivia. It will prompt you for the current password, and then force you to reset your password before you can do anything else:

[justin@centos7server ~]$ su - olivia
Password:
You are required to change your password immediately (root enforced)
Changing password for olivia.
(current) UNIX password:
New password:
Retype new password:
Last login: Thu May 21 17:22:31 MST 2020 on pts/1
[olivia@centos7server ~]$

??? Why do I see oliviad here in /etc/passwd, and in /etc/shadow, but not when I ls the /home directory?

********** This is because she existed, but did not have a home directory; because of the error in creating with the misuse of the -d option.

reminder, I used adduser oliviad -d /home/ to created oliviad.
"d", as in oliviad

[root@centos7server home]# cat /etc/passwd
...
...
...
johndoe:x:1000:1000:johndoe:/home/johndoe:/bin/bash
pavlos:x:1001:1001::/home/pavlos:/bin/bash
mark:x:1002:1002::/home/mark:/bin/bash
justin:x:1003:1003::/home/justin:/bin/bash
olivia:x:1004:1004::/home/olivia:/bin/bash
oliviab:x:1005:1005::/home//oliviab:/bin/bash
oliviad:x:1006:1006::/home/:/bin/bash

[root@centos7server home]# cat /etc/passwd
...
...
...
johndoe:6SImd1QY1zBzm0P/D
$dTq9J.PCkEXJ2xHS3WqVUvKgs4jZjiEx2CPoUQngGUztMpLYGS6UxRzLyThzVOYJj5QLmzAcyvwiglA8hyXts/::0:99999:7:::
pavlos:6T8k2MNx0$rt0ZD01r5vrGT8NBQds4xwLm0/SjqNmn9MpkSeTCVWwhaRfDWb5JIx7ffakq5fpYOtLIbk8h4O0cF/
Mw1xuYL0:18398:0:99999:7:::
mark:6IiElO/L/$Kie/Ld7YHkgt3Ya/g2vbbipyn67qK6bDGP/
xz71xWhcZt113lU7MGj4yWJdT3UHyg2ksqpg9EArxoql3fimUC1:18398:0:99999:7:::
justin:6a5u6XXpi
$4JUWukiIREoWqwpjNERUXODIPFFBcwp1AigUOQXXAdOnQOdV9a5zHmH.MJGvD9m8vVy8DQZ9ROd9.zt8IAbxW.:18403:0:99999:7:::
olivia:$6$0U81BNu0$HXCpddqCPtQfeha0JZhl/
O3Y397FMWaddNXQHz.dHcPcxwpE2oDTUSRqkLj4z9J77WpQfOC30FM2tDv.kWhZR/:18403:0:99999:7:::
oliviab:!!:18400:0:99999:7:::
oliviad:!!:18400:0:99999:7:::

!!! CONCLUSION: !!! Create users using this method:

create user:

useradd -m olivia

In case the need arises, remove with:

userdel -r olivia

set password:

passwd olivia

set enforcement of password reset:

chage -d 0 olivia

Call w/John

The Linux Documentation Project

tldp

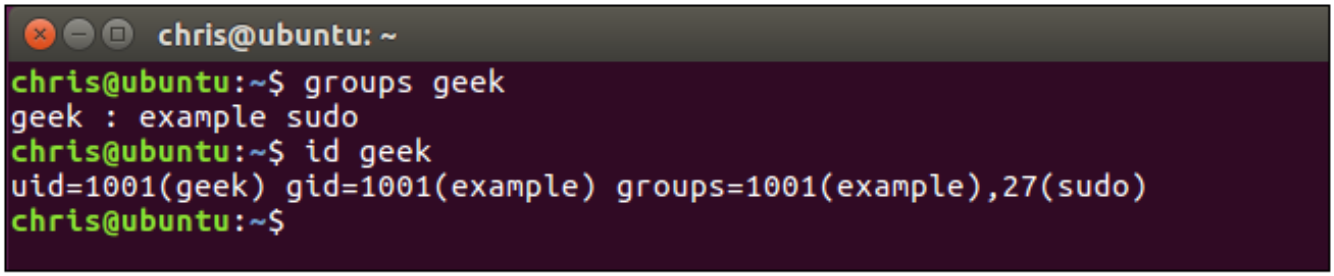
linux.de
    hankie

https://linux.die.net/

https://tldp.org/LDP/Bash-Beginners-Guide/html/sect_07_03.html

Set Groups upon User Creation

https://www.howtogeek.com/50787/add-a-user-to-a-group-or-second-group-on-linux/



Create a New User and Assign a Group in One Command

You may sometimes want to create a new user account that has access to a particular resource or directory, like a new FTP user. You can specify the groups a user account will be assigned to while creating the user account with the `useradd` command, like so:

```
useradd -G examplegroup exampleusername
```

For example, to create a new user account named jsmith and assign that account to the ftp group, you'd run:

```
useradd -G ftp jsmith
```

Premade Folders in Home

What is /etc/skel ?

I think I read that somewhere.
Is this how you make it so that the new user's $HOME directory has Documents, Downloads, Pictures, Music, and all like this:

```
[root@centos7server home]# cd johndoe/
[root@centos7server johndoe]# ls
Desktop  Documents  Downloads  Music  Pictures  Public  Templates  Videos
```

???Why is this?
When I am logged in through SSH as pavlos, for example, I dont see any of that.

```
[pavlos@centos7server home]$ pwd
/home
[pavlos@centos7server home]$ whoami
pavlos
[pavlos@centos7server home]$ cd pavlos
[pavlos@centos7server ~]$ ls
```

but then I log in through the GUI, it then creates all of these folders. I just now went to the GUI and switched users to pavlos, and logged in with th password that I set before. Now I am seeing those folders. Look at this:

```
[pavlos@centos7server ~]$ whoami
pavlos
[pavlos@centos7server ~]$ pwd
/home/pavlos
[pavlos@centos7server ~]$ ls
Desktop  Documents  Downloads  Music  Pictures  Public  Templates  Videos
```

********* READ man PAGE FOR SKEL **************************

```
[root@centos7server skel]# man useradd | col -b | grep skel
       -k, --skel SKEL_DIR
           The skeleton directory, which contains files and directories to be copied in the
           If this option is not set, the skeleton directory is defined by the SKEL variable in
           /etc/default/useradd or, by default, /etc/skel.
           contained in the skeleton directory (which can be defined with the -k option) will be
       /etc/skel/ directory (or any other skeleton directory specified in /etc/default/useradd or
       /etc/skel/
```

The solution is to mkdir inside of the /etc/skel directory, and those directories will be made upon new user creation

Login with GUI, passwd, and shadow

When using the GUI, I cant see the user's name when there isnt a password set.

When I do “Not Listed”, I can type in the name olivia, for example, but I cant get past the password entry stage. I think that is because I did not set a password during the account setup stage.
When you do this through the terminal, it just lets you log in as that user, without entering a password at all. You have to be ssh'd in as some user to begin with, but if I try to ssh in as a user who does not have a password, it wont let me.

Do the command:
[root@centos7server home]# cat /etc/shadow

You will notice, the only login options you see on the login page are the ones who also have passwords. What is going to happen when I have all 30 users set up then? What will the login screen look lik then?

These users do not have their pw set up, as you can see here:

justin:!!:18398:0:99999:7:::
olivia:!!:18400:0:99999:7:::
oliviab:!!:18400:0:99999:7:::
oliviad:!!:18400:0:99999:7:::

These are the users who already have their pw set, and they are also the login options that I see on the logon screen

johndoe:6SImd1QY1zBzm0P/D
$dTq9J.PCkEXJ2xHS3WqVUvKgs4jZjiEx2CPoUQngGUztMpLYGS6UxRzLyThzVOYJj5QLmzAcyvwiglA8hyXts/::0:99999:7:::
pavlos:6T8k2MNx0$rt0ZD01r5vrGT8NBQds4xwLm0/SjqNmn9MpkSeTCVWwhaRfDWb5JIx7ffakq5fpYOtLIbk8h4O0cF/
Mw1xuYL0:18398:0:99999:7:::
mark:6IiElO/L/$Kie/Ld7YHkgt3Ya/g2vbbipyn67qK6bDGP/
xz71xWhcZt113lU7MGj4yWJdT3UHyg2ksqpg9EArxoql3fimUC1:18398:0:99999:7:::

I will now set justin's password, and I will now see his name as a login option, and I will see his name in the /etc/passwd file

??? What is /etc/passwd for compared to /etc/shadow ???

**** Looks like passwd shows where the home directory is, and the default shell. WHat are those other numbers, and the x for? ****

[root@centos7server home]# cat /etc/passwd
...
...
...
johndoe:x:1000:1000:johndoe:/home/johndoe:/bin/bash
pavlos:x:1001:1001::/home/pavlos:/bin/bash
mark:x:1002:1002::/home/mark:/bin/bash
justin:x:1003:1003::/home/justin:/bin/bash
olivia:x:1004:1004::/home/olivia:/bin/bash
oliviab:x:1005:1005::/home//oliviab:/bin/bash
oliviad:x:1006:1006::/home/:/bin/bash

**** Looks like shadow indicates wether there is apassword set or not. What are the other numbers at the end?***
justin through oliviad do not have passwords set. Is that what the !! means?

[root@centos7server home]# cat /etc/shadow
...
...
...
johndoe:6SImd1QY1zBzm0P/D
$dTq9J.PCkEXJ2xHS3WqVUvKgs4jZjiEx2CPoUQngGUztMpLYGS6UxRzLyThzVOYJj5QLmzAcyvwiglA8hyXts/::0:99999:7:::
pavlos:6T8k2MNx0$rt0ZD01r5vrGT8NBQds4xwLm0/SjqNmn9MpkSeTCVWwhaRfDWb5JIx7ffakq5fpYOtLIbk8h4O0cF/
Mw1xuYL0:18398:0:99999:7:::
mark:6IiElO/L/$Kie/Ld7YHkgt3Ya/g2vbbipyn67qK6bDGP/
xz71xWhcZt113lU7MGj4yWJdT3UHyg2ksqpg9EArxoql3fimUC1:18398:0:99999:7:::
justin:!!:18398:0:99999:7:::
olivia:!!:18400:0:99999:7:::
oliviab:!!:18400:0:99999:7:::
oliviad:!!:18400:0:99999:7:::

I set justin's password, and now he shows differently in the /etc/shadow file:

[root@centos7server home]# passwd justin
Changing password for user justin.
New password:
Retype new password:
passwd: all authentication tokens updated successfully.

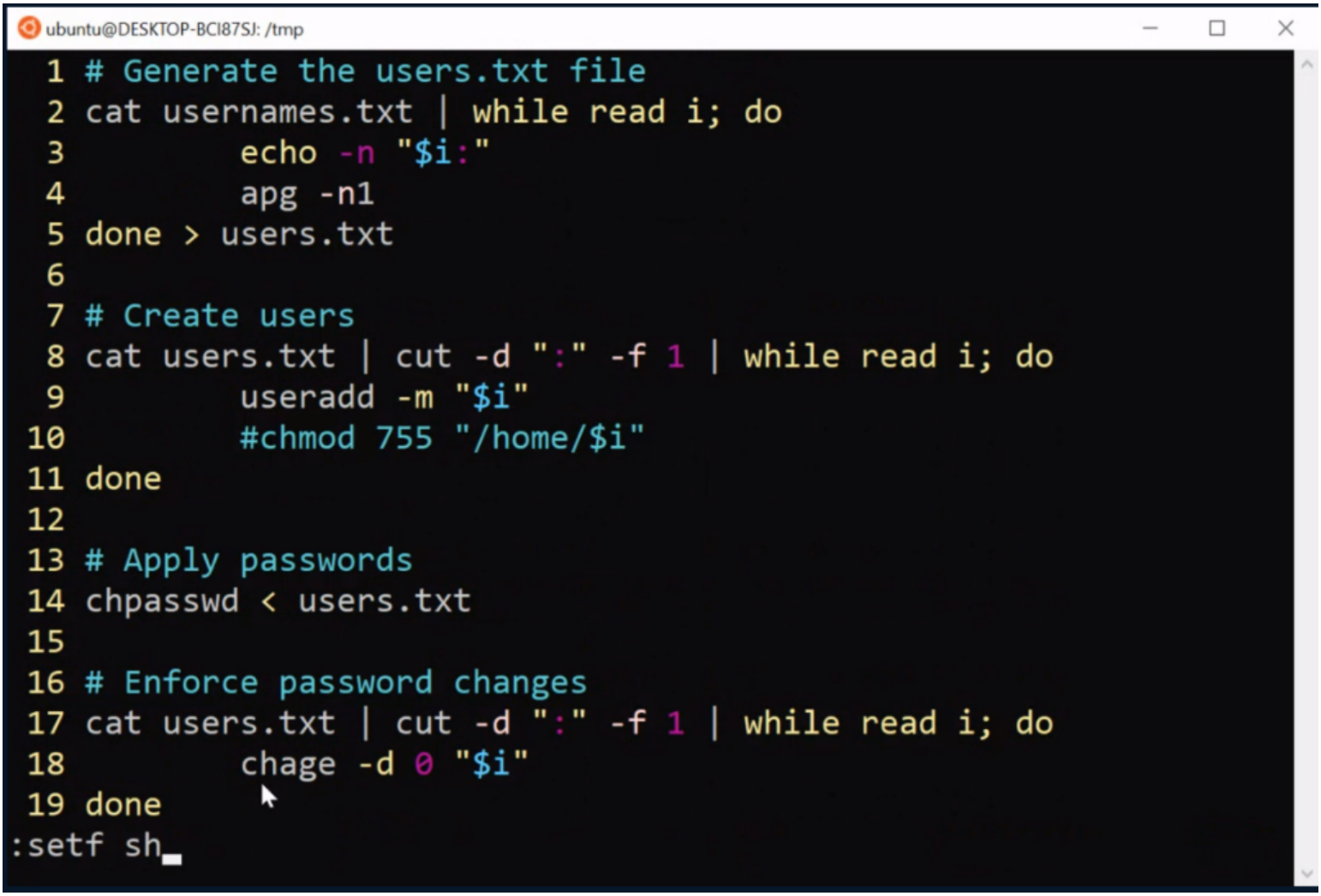
[root@centos7server home]# cat /etc/shadow
...
...
...
johndoe:6SImd1QY1zBzm0P/D
$dTq9J.PCkEXJ2xHS3WqVUvKgs4jZjiEx2CPoUQngGUztMpLYGS6UxRzLyThzVOYJj5QLmzAcyvwiglA8hyXts/::0:99999:7:::
pavlos:6T8k2MNx0$rt0ZD01r5vrGT8NBQds4xwLm0/SjqNmn9MpkSeTCVWwhaRfDWb5JIx7ffakq5fpYOtLIbk8h4O0cF/
Mw1xuYL0:18398:0:99999:7:::
mark:6IiElO/L/$Kie/Ld7YHkgt3Ya/g2vbbipyn67qK6bDGP/
xz71xWhcZt113lU7MGj4yWJdT3UHyg2ksqpg9EArxoql3fimUC1:18398:0:99999:7:::
justin:6Vot8ffYC$jV/
s76CPvh4Bx9TO0U86HOZy4DbmxbICgOGYfJyiRhfmAV2NfsXpaCbeUmILCDlGDIHkx6m7h5jStwTlOmvTF/:18403:0:99999:7:::
olivia:!!:18400:0:99999:7:::
oliviab:!!:18400:0:99999:7:::
oliviad:!!:18400:0:99999:7:::

Now, justing also shows up in the list of users who I can log in as on the GUI login screen

Server Setup Username and Password (Justin)

Justin from Installfest:

This is the “answer key”. However, for maximum learning, I need to try to do this on my own before copying this one.



in line 9, might need to set default shell to bash by adding -s /bin/bash

Time to go for the script, all errors and mistakes included

Generate user:password pair using apg (epel)

Start with a text file of names, like the class roster, for example:

usernames.txt

[root@centos7server home]# cat usernames.txt
billy
victoria
valerie
steven
anthony
ceasar
monica
alberto
felicia
mateo
veronica

Copy this class list into an experiment directory, so I can just delete the directory if things get messy. Later, when Im ready to do it for reals, I can move it elsehwere. Like the /home directory or something.

[root@centos7server home]# cp usernames.txt ./experiment/usernames.txt

[root@centos7server home]# cd experiment/

[root@centos7server experiment]# pwd
/home/experiment

[root@centos7server experiment]# ls -la
total 4
drwxr-xr-x. 2 root root 27 May 25 21:22 .
drwxr-xr-x. 14 root root 264 May 25 21:09 ..
-rw-r--r--. 1 root root 83 May 25 21:22 usernames.txt

[root@centos7server experiment]# cat usernames.txt
billy
victoria
valerie
steven
anthony
ceasar
monica
alberto
felicia
mateo
veronica

**********APG REQUIRES EPEL FIRST **********
apg: Automated Password Generator

epel: Extral Packages for Enterprise Linux

apg requires epel to be installed on CentOS 7

https://www.cyberciti.biz/faq/installing-rhel-epel-repo-on-centos-redhat-7-x/

The procedure to enable EPEL repository for a CentOS/RHEL 7.x server is as follows:
1. Open a shell prompt.
2. Or login to a host called server1 using ssh client.
3. Install epel using the following command: yum -y install epel-release
4. Refresh repo by typing the following command: yum repolist

Worked as expected:

[root@centos7server experiment]# yum update
[root@centos7server experiment]# yum install epel-release
[root@centos7server experiment]# yum repolist
[root@centos7server experiment]# yum install apg

****

Create a script to make user:password pairs with apg, so that later, I can use chpasswd.
chpasswd is expecting the format user:passowrd. Note that I made it executable by only root.

```
[root@centos7server experiment]# chmod u+x create_users.txt

[root@centos7server experiment]# ls -la
total 8
drwxr-xr-x.  2 root root  51 May 25 21:30 .
drwxr-xr-x. 14 root root 264 May 25 21:09 ..
-rwxr--r--.  1 root root 212 May 25 21:30 create_users.sh
-rw-r--r--.  1 root root  83 May 25 21:22 usernames.sh

[root@centos7server experiment]# cat create_users.sh
#!/bin/bash

#Use apg to create user:password pairs, based on the usernames.txt file,
#and output that as a file named users.txt

cat usernames.txt | while read i; do
        echo -n "$i:"
        apg -n1
done > users.txt
```

.....

```
[root@centos7server experiment]# ./create_users.txt

[root@centos7server experiment]# ls -la
total 16
drwxr-xr-x.  2 root root  86 May 25 21:36 .
drwxr-xr-x. 14 root root 264 May 25 21:09 ..
-rwxr--r--.  1 root root 212 May 25 21:30 create_users.sh
-rw-r--r--.  1 root root 975 May 25 21:36 index.html
-rw-r--r--.  1 root root  83 May 25 21:22 usernames.txt
-rw-r--r--.  1 root root 196 May 25 22:06 users.txt
```

!!!!!!! YAY, I'm part of the way there...!!!!!!!! I now have my username and password pairs, so I can use those in chpasswd later

```
root@centos7server experiment]# cat users.txt
billy:nabOlgye
victoria:ViFagsUf
valerie:SkeshtIgbo
steven:cobrAbDycs
anthony:drenVonVet
ceasar:AgDeelDyri
monica:kucDitRem
alberto:floavteytr
felicia:KreOwIdWy
mateo:Rehidnod
veronica:GrylgurEg8
```

.....

Now, I will erase that users.txt file and expand my script to do the next step of creating hose users and setting their passwords.

```
[root@centos7server experiment]# rm users.txt
rm: remove regular file 'users.txt'? yes
```

Check that it's really gone:

```
[root@centos7server experiment]# ls -la
total 12
drwxr-xr-x.  2 root root  69 May 25 22:15 .
drwxr-xr-x. 14 root root 264 May 25 21:09 ..
-rwxr--r--.  1 root root 212 May 25 21:30 create_users.sh
-rw-r--r--.  1 root root 975 May 25 21:36 index.html
-rw-r--r--.  1 root root  83 May 25 21:22 usernames.txt
```

Use script to adduser and chpasswd

```
#!/bin/bash

########################
#Use apg to create user:password pairs, based on the usernames.txt file,
#and output that as a file named users.txt

cat usernames.txt | while read i; do
        echo -n "$i:"
        apg -n1
done > users.txt

########################
#Create the users from the users.txt file, which is the user:password pairs
#There is no reason this could not also be done using usernames.txt, I suppose.
#cat will read users.txt and cut field 1 with the ":" as the delimeter

cat users.txt | cut -d ":" -f 1 | while read i; do
        adduser -b /home/STUDENTS/experiment "$i"
done

########################
#Use the users.txt file, with the username:password pairs, to set the passwords
#of the users made in the previous step

cat users.txt | chpasswd
```

Add on the chage part

```
#!/bin/bash

########################
#Use apg to create user:password pairs, based on the usernames.txt file,
#and output that as a file named users.txt

cat usernames.txt | while read i; do
        echo -n "$i:"
        apg -n1
done > users.txt

########################
#Create the users from the users.txt file, which is the user:password pairs
#There is no reason this could not also be done using usernames.txt, I suppose.
#cat will read users.txt and cut field 1 with the ":" as the delimeter

cat users.txt | cut -d ":" -f 1 | while read i; do
        adduser -b /home/STUDENTS/experiment "$i"
done

########################
#Use the users.txt file, with the username:password pairs, to set the passwords
#of the users made in the previous step

cat users.txt | chpasswd

########################
#Set the password age to zero for each user, from the users.txt file, so they
#have to reset their password at first login

cat users.txt | cut -d ":" -f 1 | while read i; do
        chage -d 0 "$i"
done
```

****
On first try, did not work. I think I have to have created the /home/STUDENTS/experiment/ directory for each account first
Here is what I got:

```
[root@centos7server experiment]# ./create_users.sh
adduser: cannot create directory /home/STUDENTS/experiment/billy
adduser: cannot create directory /home/STUDENTS/experiment/victoria
adduser: cannot create directory /home/STUDENTS/experiment/valerie
adduser: cannot create directory /home/STUDENTS/experiment/steven
adduser: cannot create directory /home/STUDENTS/experiment/anthony
adduser: cannot create directory /home/STUDENTS/experiment/ceasar
adduser: cannot create directory /home/STUDENTS/experiment/monica
adduser: cannot create directory /home/STUDENTS/experiment/alberto
adduser: cannot create directory /home/STUDENTS/experiment/felicia
adduser: cannot create directory /home/STUDENTS/experiment/mateo
adduser: cannot create directory /home/STUDENTS/experiment/veronica

[root@centos7server experiment]# cd /home

[root@centos7server home]# ls -la
total 16
drwxr-xr-x. 14 root      root       264 May 25 21:09 .
dr-xr-xr-x. 18 root      root       275 May 25 21:20 ..
drwxr-xr-x.  3 root      root        25 May 23 13:23 STUDENTS
drwxr-xr-x.  2 root      root        86 May 25 22:42 experiment
drwx------.  3 john      john        78 May 23 13:10 john
drwx------.  3 johnathan  johnathan    78 May 23 13:15 johnathan
drwx------.  3 johnathanm johnathanm   78 May 23 13:16 johnathanm
drwx------. 15 johndoe    johndoe    4096 May 21 15:56 johndoe
drwx------.  5 justin     justin      160 May 16 16:23 justin
drwx------. 15 mark       mark       4096 May 21 16:08 mark
drwx------.  5 olivia     olivia      160 May 21 16:42 olivia
drwx------.  3 oliviab    oliviab      98 May 18 09:10 oliviab
```

```
drwx------. 15 pavlos     pavlos     4096 May 21 16:12 pavlos
drwx------.  3 userSkel   userSkel     98 May 23 14:02 userSkel
-rw-r--r--.  1 root       root         83 May 25 21:11 usernames.txt

[root@centos7server home]# cd STUDENTS/

[root@centos7server STUDENTS]# pwd
/home/STUDENTS

[root@centos7server STUDENTS]# ls -la
total 0
drwxr-xr-x.  3 root    root        25 May 23 13:23 .
drwxr-xr-x. 14 root    root       264 May 25 21:09 ..
drwx------.  5 oliviaz johnStudent 160 May 23 16:25 johnStudent

[root@centos7server STUDENTS]# mkdir experiment

[root@centos7server STUDENTS]# ls -la
total 0
drwxr-xr-x.  4 root    root        43 May 25 22:46 .
drwxr-xr-x. 14 root    root       264 May 25 21:09 ..
drwxr-xr-x. 13 root    root       214 May 25 23:00 experiment
drwx------.  5 oliviaz johnStudent 160 May 23 16:25 johnStudent
```

So now, the place to create each user's $HOME, according to the script, exists. Eaach user's $HOME will be created in /home/STUDENTS/experiment

had problem, now remove all of those users

```
#!/bin/bash

cat usernames.txt | while read i; do
        userdel -r "$i"
done
```

****

I thought it did not work, because I got this:

```
[root@centos7server experiment]# chmod u+x remove_users.txt
[root@centos7server experiment]# ./remove_users.txt
userdel: billy mail spool (/var/spool/mail/billy) not found
userdel: billy home directory (/home/STUDENTS/experiment/billy) not found
userdel: victoria mail spool (/var/spool/mail/victoria) not found
userdel: victoria home directory (/home/STUDENTS/experiment/victoria) not found
userdel: valerie mail spool (/var/spool/mail/valerie) not found
userdel: valerie home directory (/home/STUDENTS/experiment/valerie) not found
userdel: steven mail spool (/var/spool/mail/steven) not found
userdel: steven home directory (/home/STUDENTS/experiment/steven) not found
userdel: anthony mail spool (/var/spool/mail/anthony) not found
userdel: anthony home directory (/home/STUDENTS/experiment/anthony) not found
userdel: ceasar mail spool (/var/spool/mail/ceasar) not found
userdel: ceasar home directory (/home/STUDENTS/experiment/ceasar) not found
userdel: monica mail spool (/var/spool/mail/monica) not found
userdel: monica home directory (/home/STUDENTS/experiment/monica) not found
userdel: alberto mail spool (/var/spool/mail/alberto) not found
userdel: alberto home directory (/home/STUDENTS/experiment/alberto) not found
userdel: felicia mail spool (/var/spool/mail/felicia) not found
userdel: felicia home directory (/home/STUDENTS/experiment/felicia) not found
userdel: mateo mail spool (/var/spool/mail/mateo) not found
userdel: mateo home directory (/home/STUDENTS/experiment/mateo) not found
userdel: veronica mail spool (/var/spool/mail/veronica) not found
userdel: veronica home directory (/home/STUDENTS/experiment/veronica) not found
```

So, I changed the script to not have the -r option on userdel:

```
#!/bin/bash

cat usernames.txt | while read i; do
        userdel -r "$i"
done
```

But the when I ran that, I got this:

```
[root@centos7server experiment]# ./remove_users.txt
userdel: user 'billy' does not exist
userdel: user 'victoria' does not exist
userdel: user 'valerie' does not exist
userdel: user 'steven' does not exist
userdel: user 'anthony' does not exist
userdel: user 'ceasar' does not exist
userdel: user 'monica' does not exist
userdel: user 'alberto' does not exist
userdel: user 'felicia' does not exist
userdel: user 'mateo' does not exist
userdel: user 'veronica' does not exist
[root@centos7server experiment]# nano remove_users.txt
[root@centos7server experiment]#
```

So I checked /etc/passwd and /etc/shadow:

```
[root@centos7server experiment]# vipw

...
...
...
johndoe:x:1000:1000:johndoe:/home/johndoe:/bin/bash
pavlos:x:1001:1001::/home/pavlos:/bin/bash
mark:x:1002:1002::/home/mark:/bin/bash
```

```
justin:x:1003:1003::/home/justin:/bin/bash
olivia:x:1004:1004::/home/olivia:/bin/bash
oliviab:x:1005:1005::/home//oliviab:/bin/bash
oliviad:x:1006:1006::/home/:/bin/bash
john:x:1007:1007::/home/john:/bin/bash
johnathan:x:1008:1008::/home/johnathan:/bin/bash
johnathanm:x:1009:1009::/home/johnathanm:/bin/bash
johnStudent:x:0:0::/home/STUDENTS/johnStudent:/bin/bash
oliviaz:x:1010:1011::/example:/bin/bash
userSkel:x:1011:1012::/home/userSkel:/bin/bash
cockpit-ws:x:988:982:User for cockpit-ws:/nonexisting:/sbin/nologin

:q!

vipw: /etc/passwd is unchanged
[root@centos7server experiment]#
```

Second Go, fixed initial error

Check if the users were created, using vipw:

```
[root@centos7server experiment]# vipw
...
...
...
johndoe:x:1000:1000:johndoe:/home/johndoe:/bin/bash
pavlos:x:1001:1001::/home/pavlos:/bin/bash
mark:x:1002:1002::/home/mark:/bin/bash
justin:x:1003:1003::/home/justin:/bin/bash
olivia:x:1004:1004::/home/olivia:/bin/bash
oliviab:x:1005:1005::/home//oliviab:/bin/bash
oliviad:x:1006:1006::/home/:/bin/bash
john:x:1007:1007::/home/john:/bin/bash
johnathan:x:1008:1008::/home/johnathan:/bin/bash
johnathanm:x:1009:1009::/home/johnathanm:/bin/bash
johnStudent:x:0:0::/home/STUDENTS/johnStudent:/bin/bash
oliviaz:x:1010:1011::/example:/bin/bash
userSkel:x:1011:1012::/home/userSkel:/bin/bash
cockpit-ws:x:988:982:User for cockpit-ws:/nonexisting:/sbin/nologin
billy:x:1012:1013::/home/STUDENTS/experiment/billy:/bin/bash
victoria:x:1013:1014::/home/STUDENTS/experiment/victoria:/bin/bash
valerie:x:1014:1015::/home/STUDENTS/experiment/valerie:/bin/bash
steven:x:1015:1016::/home/STUDENTS/experiment/steven:/bin/bash
anthony:x:1016:1017::/home/STUDENTS/experiment/anthony:/bin/bash
ceasar:x:1017:1018::/home/STUDENTS/experiment/ceasar:/bin/bash
monica:x:1018:1019::/home/STUDENTS/experiment/monica:/bin/bash
alberto:x:1019:1020::/home/STUDENTS/experiment/alberto:/bin/bash
felicia:x:1020:1021::/home/STUDENTS/experiment/felicia:/bin/bash
mateo:x:1021:1022::/home/STUDENTS/experiment/mateo:/bin/bash
veronica:x:1022:1023::/home/STUDENTS/experiment/veronica:/bin/bash
```

Yes, they were. There at the end.

Now, check if their directories were created in /home/STUDENTS/experiment , like they were supposed to be:

```
[root@centos7server experiment]# cd /home/STUDENTS/experiment

[root@centos7server experiment]# ls -la
total 0
drwxr-xr-x. 13 root       root          214    May 25 23:00 .
drwxr-xr-x.  4 root       root           43    May 25 22:46 ..
drwx------.  4 alberto    alberto       119    May 25 23:00 alberto
drwx------.  4 anthony    anthony       119    May 25 23:00 anthony
drwx------.  4 billy      billy         119    May 25 23:00 billy
drwx------.  4 ceasar     ceasar        119    May 25 23:00 ceasar
drwx------.  4 felicia    felicia       119    May 25 23:00 felicia
drwx------.  4 mateo      mateo         119    May 25 23:00 mateo
drwx------.  4 monica     monica         95    May 25 23:00 monica
drwx------.  4 steven     steven        119    May 25 23:00 steven
drwx------.  4 valerie    valerie        95    May 25 23:00 valerie
drwx------.  4 veronica   veronica       95    May 25 23:00 veronica
drwx------.  4 victoria   victoria      119    May 25 23:00 victoria
```

==========

Confirm that it works, by loggin in as a different user. Switch from Olivia to Ceasar

```
[olivia@centos7server home]$ su ceasar
Password:
You are required to change your password immediately (root enforced)
Changing password for ceasar.
(current) UNIX password:
New password:
Retype new password:
[ceasar@centos7server home]$
```

TIGHT.

FINAL SCRIPT

Make this final script create the users' $HOME in the /home directory, so the script changes, slightly.

```
#!/bin/bash

########################
#Use apg to create user:password pairs, based on the usernames.txt file,
#and output that as a file named users.txt

cat usernames.txt | while read i; do
        echo -n "$i:"
        apg -n1
done > users.txt

########################
#Create the users from the users.txt file, which is the user:password pairs
#There is no reason this could not also be done using usernames.txt, I suppose.
#cat will read users.txt and cut field 1 with the ":" as the delimeter

cat users.txt | cut -d ":" -f 1 | while read i; do
        adduser -m "$i"
done

########################
#Use the users.txt file, with the username:password pairs, to set the passwords
#of the users made in the previous step

cat users.txt | chpasswd

########################
#Set the password age to zero for each user, from the users.txt file, so they
#have to reset their password at first login

cat users.txt | cut -d ":" -f 1 | while read i; do
        chage -d 0 "$i"
done
```

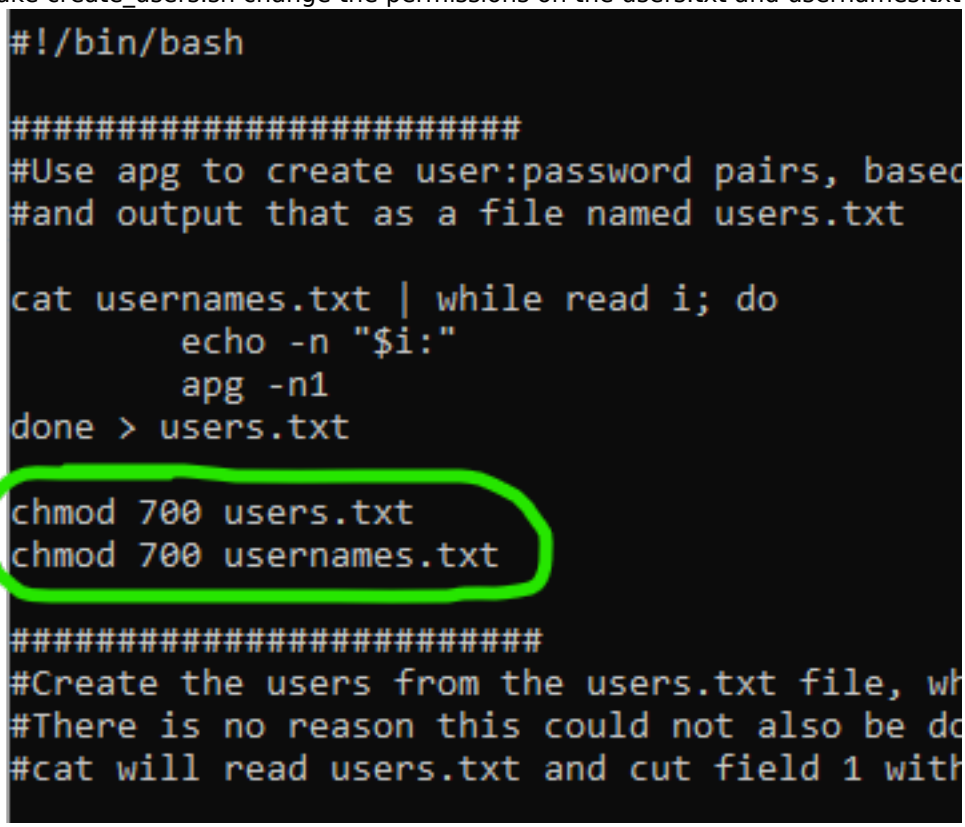
Now, I can get my class roster for next year, and all I really have to manually configure is the part where I created the usernames.txt file, and go thorugh that to make sure the formatting is okay (ie no spaces or punctuation), and make sure all of the usernames are unique. Then, the script will do all of the rest of the work.

**** Make sure the usernmaes.txt file is in the same folder as the create_users.sh script is located in. Maybe that should be in one of the administrators' home directory.

**** Also, make sure the create_users.sh script is chmod u+x for the admin who is running it. I think the script should actually be run by root, so there are less prompts that come up, which could interrupt the script from executing properly.

Improvements 06/23/2020

Make create_users.sh change the permissions on the users.txt and usernames.txt files to 700



```
#!/bin/bash

##########################
#Use apg to create user:password pairs, basec
#and output that as a file named users.txt

cat usernames.txt | while read i; do
        echo -n "$i:"
        apg -n1
done > users.txt

chmod 700 users.txt
chmod 700 usernames.txt

##########################
#Create the users from the users.txt file, wh
#There is no reason this could not also be dc
#cat will read users.txt and cut field 1 with
```

CONFIRM:

[root@centos7server userManagement]# ./create_users.sh

```
[root@centos7server userManagement]# cat /etc/passwd
...
...
...
johndoe:x:1000:1000:johndoe:/home/johndoe:/bin/bash
pavlos:x:1001:1001::/home/pavlos:/bin/bash
mark:x:1002:1002::/home/mark:/bin/bash
justin:x:1003:1003::/home/justin:/bin/bash
olivia:x:1004:1004::/home/olivia:/bin/bash
john:x:1007:1007::/home/john:/bin/bash
cockpit-ws:x:988:982:User for cockpit-ws:/nonexisting:/sbin/nologin
robert:x:1008:1008::/home/robert:/bin/bash
billy:x:1009:1009::/home/billy:/bin/bash
victoria:x:1010:1011::/home/victoria:/bin/bash
valerie:x:1011:1012::/home/valerie:/bin/bash
steven:x:1012:1013::/home/steven:/bin/bash
anthony:x:1013:1014::/home/anthony:/bin/bash
ceasar:x:1014:1015::/home/ceasar:/bin/bash
monica:x:1015:1016::/home/monica:/bin/bash
alberto:x:1016:1017::/home/alberto:/bin/bash
felicia:x:1017:1018::/home/felicia:/bin/bash
mateo:x:1018:1019::/home/mateo:/bin/bash
veronica:x:1019:1020::/home/veronica:/bin/bash
steve:x:1020:1021::/home/steve:/bin/bash
chelsea:x:1021:1022::/home/chelsea:/bin/bash
carl:x:1022:1023::/home/carl:/bin/bash
erin:x:1023:1024::/home/erin:/bin/bash
dwayne:x:1024:1025::/home/dwayne:/bin/bash
elaine:x:1025:1026::/home/elaine:/bin/bash
```

```
[root@centos7server userManagement]# ./create_users.sh
[root@centos7server userManagement]# ls -ltr
total 16
-rwx------. 1 root root  121 Jun  7 23:51 usernames.txt
-rwx------. 1 root root   94 Jun 23 12:04 remove_users.sh
-rwx------. 1 root root 1005 Jun 23 12:14 create_users.sh
-rwx------. 1 root root  296 Jun 23 12:15 users.txt
```

Make remove_users.sh delete the users.txt file when the users are all remove.

```
#!/bin/bash

cat usernames.txt | while read i; do
        userdel -r "$i"

done

rm users.txt
```

CONFIRM:

[root@centos7server userManagement]# ./remove_users.sh

```
[root@centos7server userManagement]# cat /etc/passwd
...
...
...
johndoe:x:1000:1000:johndoe:/home/johndoe:/bin/bash
pavlos:x:1001:1001::/home/pavlos:/bin/bash
mark:x:1002:1002::/home/mark:/bin/bash
justin:x:1003:1003::/home/justin:/bin/bash
olivia:x:1004:1004::/home/olivia:/bin/bash
john:x:1007:1007::/home/john:/bin/bash
cockpit-ws:x:988:982:User for cockpit-ws:/nonexisting:/sbin/nologin
robert:x:1008:1008::/home/robert:/bin/bash
```

```
[root@centos7server userManagement]# ls -ltr
total 12
-rwx------. 1 root root  121 Jun  7 23:51 usernames.txt
-rwx------. 1 root root   94 Jun 23 12:04 remove_users.sh
-rwx------. 1 root root 1005 Jun 23 12:14 create_users.sh
```

Python3

Python 3

https://www.liquidweb.com/kb/how-to-install-python-3-on-centos-7/

[root@centos7server ~]# yum update -y

[root@centos7server ~]# yum install -y python3

[root@centos7server ~]# python3
Python 3.6.8 (default, Apr 2 2020, 13:34:55)
[GCC 4.8.5 20150623 (Red Hat 4.8.5-39)] on linux
Type "help", "copyright", "credits" or "license" for more information.
>>>