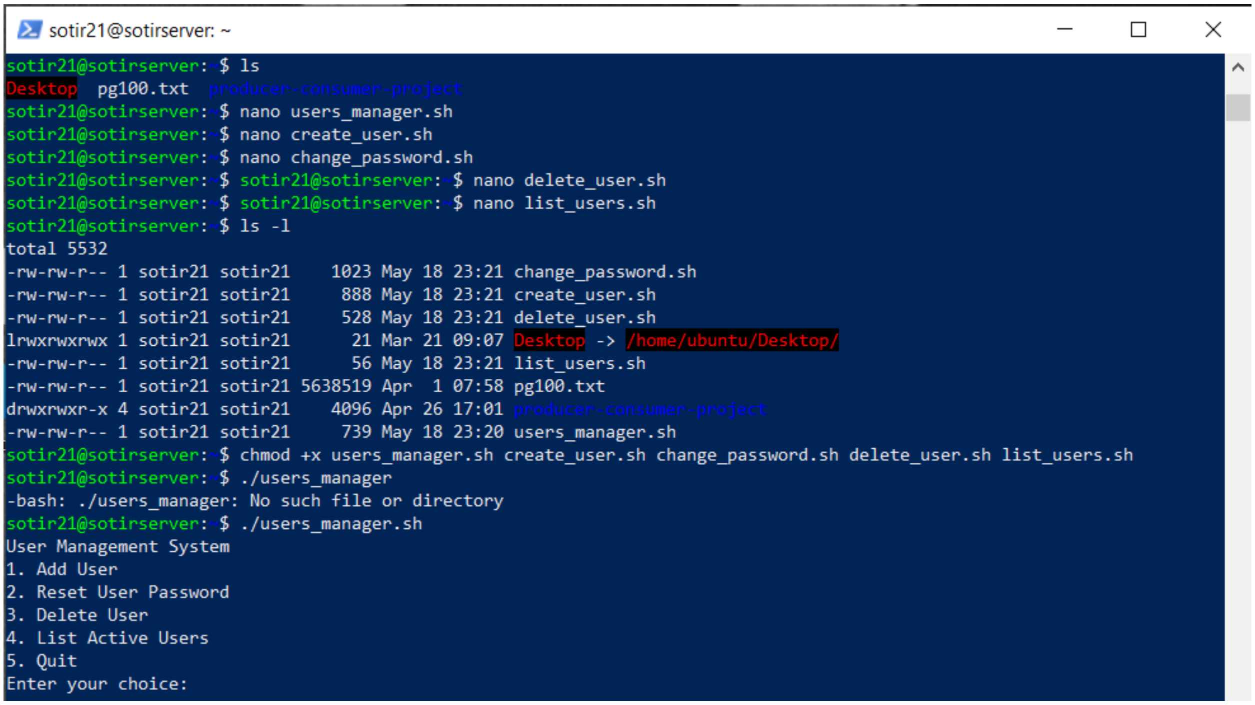
Users-Manager-App using Bash Scripting

To create the Users-Manager-App, surely I had to go through some steps, but firstly I would like to give a short description of the general work idea and my thinking process about it. I will try to associate every step with screenshots, in order to visualize the word and be more transparent.

As seen in the photo of this page, firstly I have created files as **users_manager.sh**, **create_user.sh**, **change_password.sh**, **delete_user.sh** and **list_users.sh** by using ***nano*** command. The code for each one will be attached to the zip folder.

Then ***ls –l*** command is used just to provide more detailed information about the environment where the files and directories are placed, as well as information about the time they were created. This is done for transparence purposes as well.

Next, by running ***chmod +x*** command, we make sure that every file that we created is executable. After that, I have used ***./users_manager*** to run the main script. As shown in the photo, there is the first line printed saying "User Management System", 5 options to choose from and "Enter you choice:" line. This is the first look. Continuing further I will take a look at each choice.

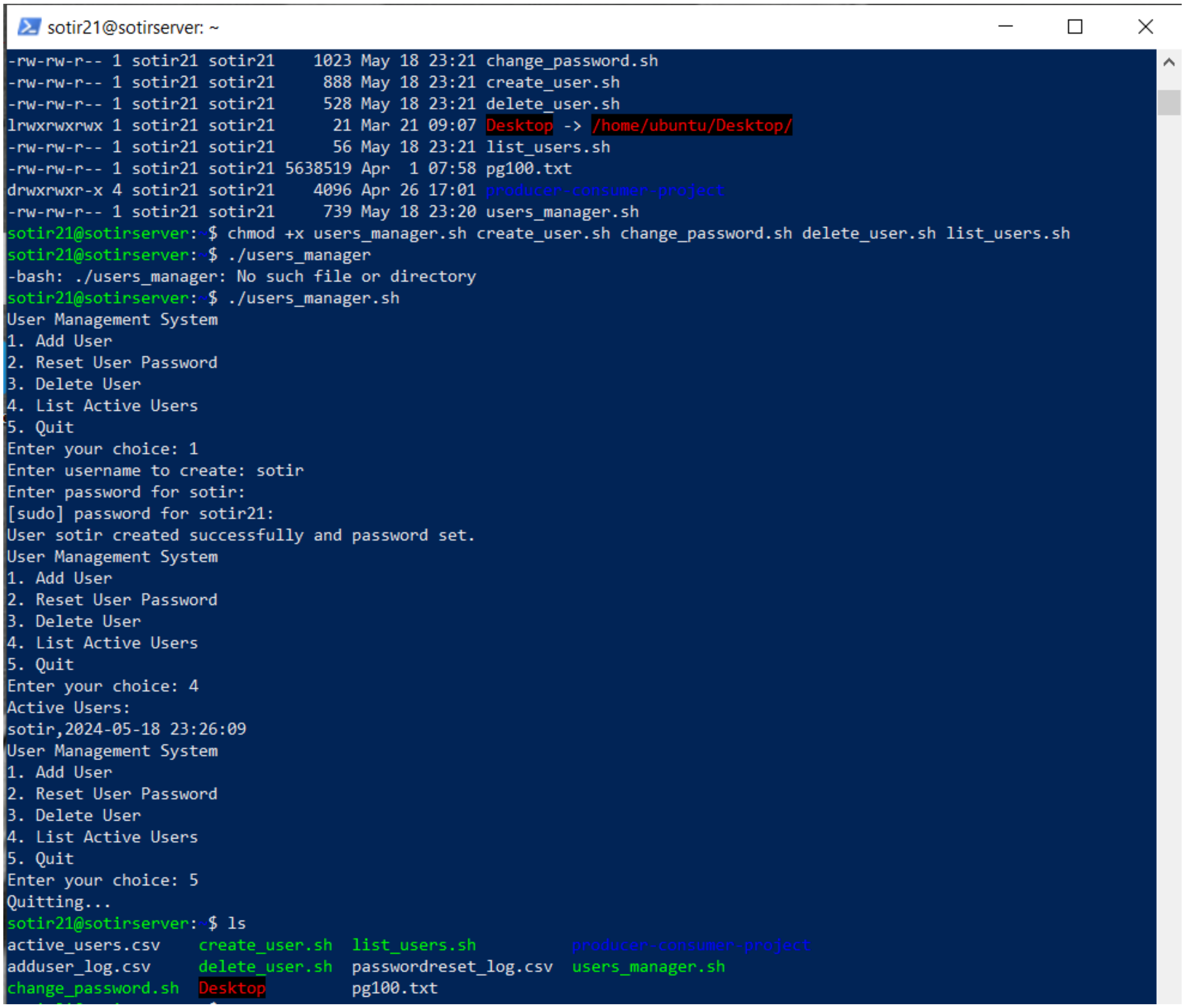


sotir21@sotirserver: ~

```
sotir21@sotirserver:~$ ls
Desktop  pg100.txt  producer-consumer-project
sotir21@sotirserver:~$ nano users_manager.sh
sotir21@sotirserver:~$ nano create_user.sh
sotir21@sotirserver:~$ nano change_password.sh
sotir21@sotirserver:~$ sotir21@sotirserver:~$ nano delete_user.sh
sotir21@sotirserver:~$ sotir21@sotirserver:~$ nano list_users.sh
sotir21@sotirserver:~$ ls -l
total 5532
-rw-rw-r-- 1 sotir21 sotir21    1023 May 18 23:21 change_password.sh
-rw-rw-r-- 1 sotir21 sotir21     888 May 18 23:21 create_user.sh
-rw-rw-r-- 1 sotir21 sotir21     528 May 18 23:21 delete_user.sh
lrwxrwxrwx 1 sotir21 sotir21      21 Mar 21 09:07 Desktop -> /home/ubuntu/Desktop/
-rw-rw-r-- 1 sotir21 sotir21      56 May 18 23:21 list_users.sh
-rw-rw-r-- 1 sotir21 sotir21 5638519 Apr  1 07:58 pg100.txt
drwxrwxr-x 4 sotir21 sotir21    4096 Apr 26 17:01 producer-consumer-project
-rw-rw-r-- 1 sotir21 sotir21     739 May 18 23:20 users_manager.sh
sotir21@sotirserver:~$ chmod +x users_manager.sh create_user.sh change_password.sh delete_user.sh list_users.sh
sotir21@sotirserver:~$ ./users_manager
-bash: ./users_manager: No such file or directory
sotir21@sotirserver:~$ ./users_manager.sh
User Management System
1. Add User
2. Reset User Password
3. Delete User
4. List Active Users
5. Quit
Enter your choice:
```

First case scenario is of course entering choice 1. After pressing 1, “Enter username to create” is printed. I have chosen my name in this example as for the username. Immediately “Enter password for sotir:” or the username just entered, is printed. Then is asking for permission from the super-user by asking for its password. Finally, by the end is printed “User sotir created successfully and password set.” giving us the confirmation that everything went successfully.

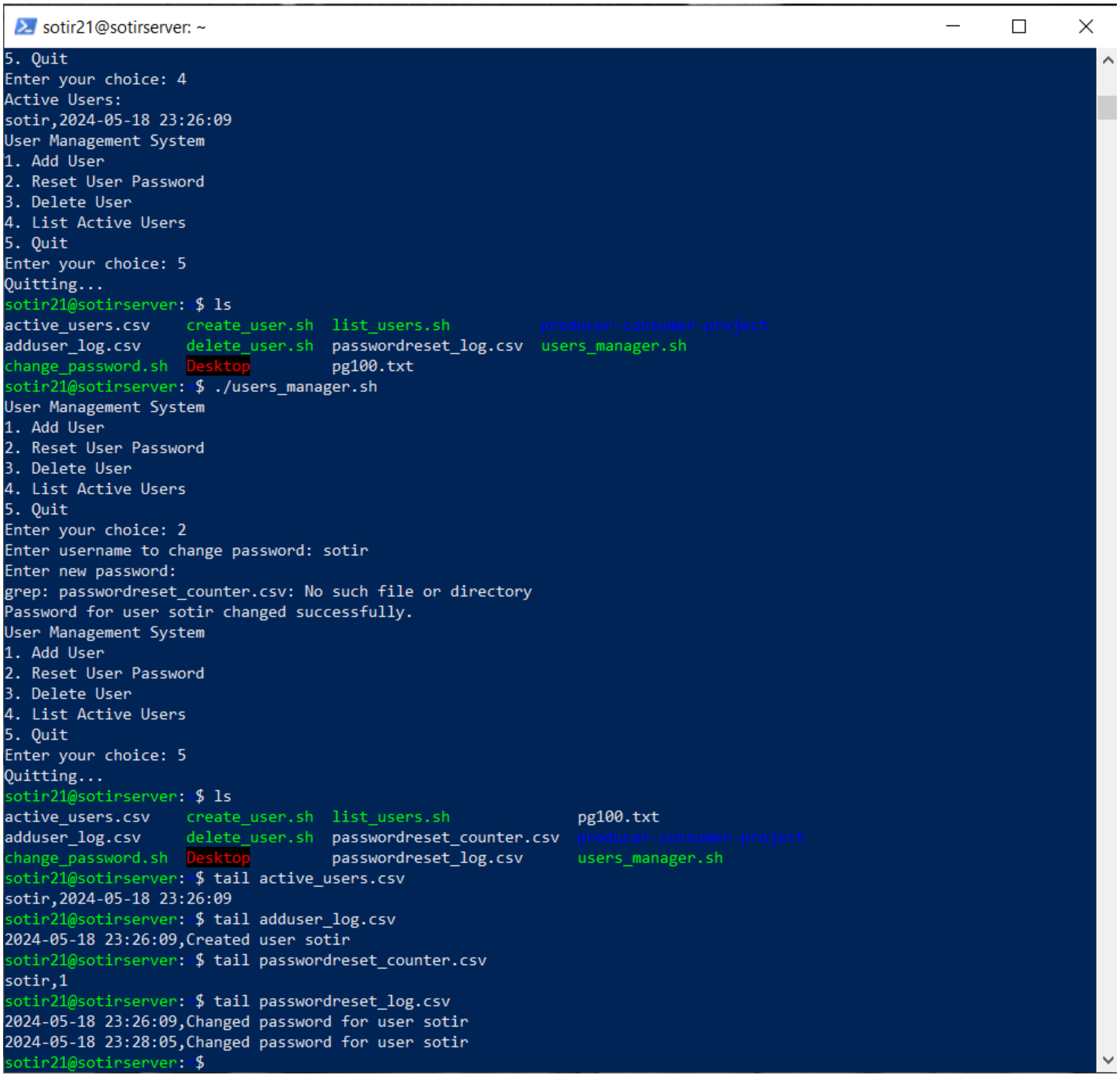
Just to check if the code has really created the user successfully, we press option 4 for the next iteration in order to print the list of active user. As seen in the photo it says “Active Users:” and it has printed the username we just created and the time when it was created. Then the same protocol of 7 lines is printed in an infinite loop, where we can quit by choosing option 5. Now we can see that our code has created **active_users.csv**, **adduser_log.csv** and **passwordreset_log.csv**.



sotir21@sotirserver: ~

```
-rw-rw-r-- 1 sotir21 sotir21    1023 May 18 23:21 change_password.sh
-rw-rw-r-- 1 sotir21 sotir21     888 May 18 23:21 create_user.sh
-rw-rw-r-- 1 sotir21 sotir21     528 May 18 23:21 delete_user.sh
lrwxrwxrwx 1 sotir21 sotir21      21 Mar 21 09:07 Desktop -> /home/ubuntu/Desktop/
-rw-rw-r-- 1 sotir21 sotir21      56 May 18 23:21 list_users.sh
-rw-rw-r-- 1 sotir21 sotir21 5638519 Apr  1 07:58 pg100.txt
drwxrwxr-x 4 sotir21 sotir21    4096 Apr 26 17:01 producer-consumer-project
-rw-rw-r-- 1 sotir21 sotir21     739 May 18 23:20 users_manager.sh
sotir21@sotirserver:~$ chmod +x users_manager.sh create_user.sh change_password.sh delete_user.sh list_users.sh
sotir21@sotirserver:~$ ./users_manager
-bash: ./users_manager: No such file or directory
sotir21@sotirserver:~$ ./users_manager.sh
User Management System
1. Add User
2. Reset User Password
3. Delete User
4. List Active Users
5. Quit
Enter your choice: 1
Enter username to create: sotir
Enter password for sotir:
[sudo] password for sotir21:
User sotir created successfully and password set.
User Management System
1. Add User
2. Reset User Password
3. Delete User
4. List Active Users
5. Quit
Enter your choice: 4
Active Users:
sotir,2024-05-18 23:26:09
User Management System
1. Add User
2. Reset User Password
3. Delete User
4. List Active Users
5. Quit
Enter your choice: 5
Quitting...
sotir21@sotirserver:~$ ls
active_users.csv    create_user.sh  list_users.sh          producer-consumer-project
adduser_log.csv     delete_user.sh  passwordreset_log.csv  users_manager.sh
change_password.sh  Desktop         pg100.txt
```

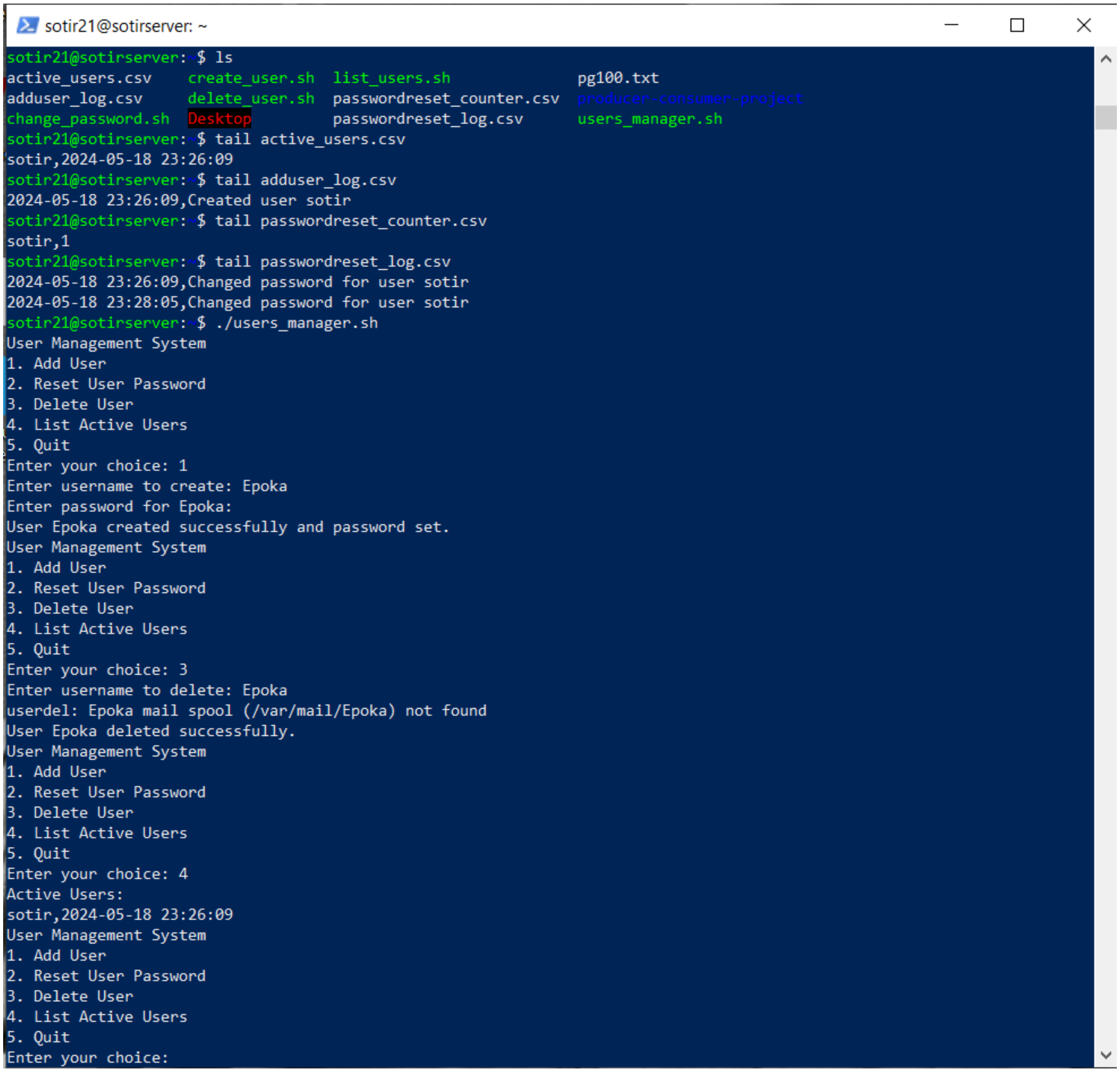
In the next case, I tried option 2 in order to reset an existing user password. The code asks “Enter username to change password” and after entering the username of the user that we just created, it asks for the new password. It gives us confirmation by printing “Password for user sotir changed successfully”. If quit again from the infinite loop, we will see that this time our code has created another csv: **passwordreset_counter.csv**. But why it didn’t create the previous time? Because there were no passwords that were reset by that time of course. By using the ***tail*** command we can see each csv content as seen in the photo.



```
5. Quit
Enter your choice: 4
Active Users:
sotir,2024-05-18 23:26:09
User Management System
1. Add User
2. Reset User Password
3. Delete User
4. List Active Users
5. Quit
Enter your choice: 5
Quitting...
sotir21@sotirserver:~$ ls
active_users.csv    create_user.sh  list_users.sh          producer-consumer-project
adduser_log.csv     delete_user.sh  passwordreset_log.csv  users_manager.sh
change_password.sh  Desktop         pg100.txt
sotir21@sotirserver:~$ ./users_manager.sh
User Management System
1. Add User
2. Reset User Password
3. Delete User
4. List Active Users
5. Quit
Enter your choice: 2
Enter username to change password: sotir
Enter new password:
grep: passwordreset_counter.csv: No such file or directory
Password for user sotir changed successfully.
User Management System
1. Add User
2. Reset User Password
3. Delete User
4. List Active Users
5. Quit
Enter your choice: 5
Quitting...
sotir21@sotirserver:~$ ls
active_users.csv    create_user.sh  list_users.sh              pg100.txt
adduser_log.csv     delete_user.sh  passwordreset_counter.csv  producer-consumer-project
change_password.sh  Desktop         passwordreset_log.csv      users_manager.sh
sotir21@sotirserver:~$ tail active_users.csv
sotir,2024-05-18 23:26:09
sotir21@sotirserver:~$ tail adduser_log.csv
2024-05-18 23:26:09,Created user sotir
sotir21@sotirserver:~$ tail passwordreset_counter.csv
sotir,1
sotir21@sotirserver:~$ tail passwordreset_log.csv
2024-05-18 23:26:09,Changed password for user sotir
2024-05-18 23:28:05,Changed password for user sotir
sotir21@sotirserver:~$
```

Last, but not least important scenario, I entered again the infinite loop and chose option 1 firstly by creating another user with username “Epoka”. After the username is created successfully, I chose option 3. After asking the application to delete the user, the application asks us enter the username that we want to delete. I entered the same username that just created before. It gives us a confirmation line saying “User Epoka deleted successfully.” but we do not trust the application so we double checking the option 4 to list active users. As seen in the photo, “Epoka” user is really deleted successfully.

Each script will be attached. I have written comment inside them in form of comments, that is why I thought it would be unnecessary to include them here.



```
sotir21@sotirserver:~$ ls
active_users.csv    create_user.sh  list_users.sh             pg100.txt
adduser_log.csv     delete_user.sh  passwordreset_counter.csv producer-consumer-project
change_password.sh  Desktop         passwordreset_log.csv     users_manager.sh
sotir21@sotirserver:~$ tail active_users.csv
sotir,2024-05-18 23:26:09
sotir21@sotirserver:~$ tail adduser_log.csv
2024-05-18 23:26:09,Created user sotir
sotir21@sotirserver:~$ tail passwordreset_counter.csv
sotir,1
sotir21@sotirserver:~$ tail passwordreset_log.csv
2024-05-18 23:26:09,Changed password for user sotir
2024-05-18 23:28:05,Changed password for user sotir
sotir21@sotirserver:~$ ./users_manager.sh
User Management System
1. Add User
2. Reset User Password
3. Delete User
4. List Active Users
5. Quit
Enter your choice: 1
Enter username to create: Epoka
Enter password for Epoka:
User Epoka created successfully and password set.
User Management System
1. Add User
2. Reset User Password
3. Delete User
4. List Active Users
5. Quit
Enter your choice: 3
Enter username to delete: Epoka
userdel: Epoka mail spool (/var/mail/Epoka) not found
User Epoka deleted successfully.
User Management System
1. Add User
2. Reset User Password
3. Delete User
4. List Active Users
5. Quit
Enter your choice: 4
Active Users:
sotir,2024-05-18 23:26:09
User Management System
1. Add User
2. Reset User Password
3. Delete User
4. List Active Users
5. Quit
Enter your choice:
```