

ITI bash script Project

User and Group Management System

Done by:

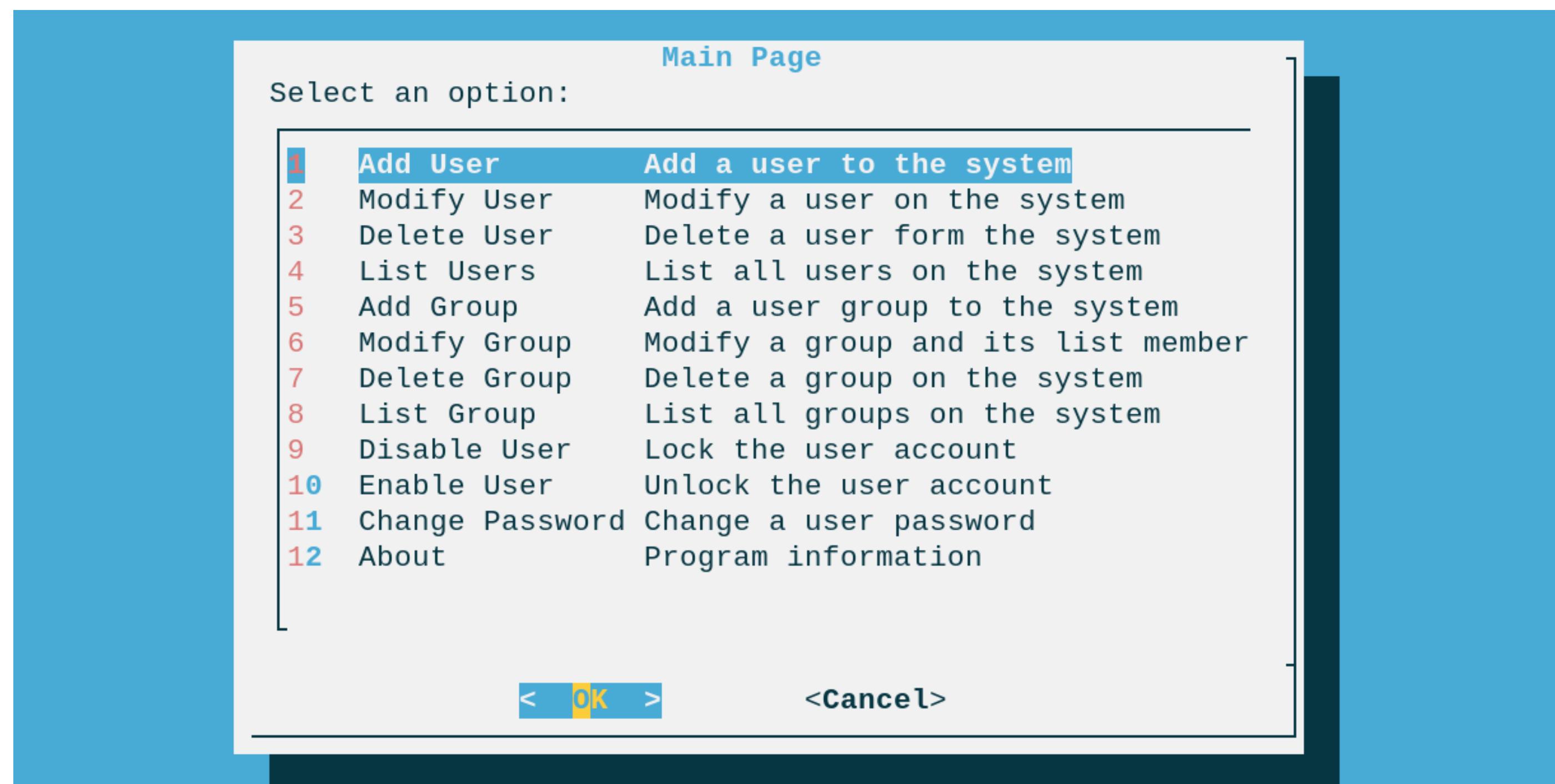
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Supervisor:

Eng/ Romany Nagy

Introduction

- This project is a **Bash script** designed to manage **users and groups** in Red hat operating system using **Dialog, Whiptail and Cases**.



program

Program contain:

1. Welcome Page when started script

- Greets the user with a Yes/No dialog.
- If “No” → exits program.
- If “Yes” → opens check administrator .

```
#!/bin/bash
#welcome page

dialog --title "User Management System" --yesno "Welcome to the User and Group Management System!\n\n💡 Note! You MUST be administrator for start the program!!\n\nWould you like to start?" 10 60

if [ $? -ne 0 ]
then
    dialog --title "Goodbye" --msgbox "Exiting... See You Later" 8 40
    clear
    exit 0
fi
```

Welcome page

User Management System

Welcome to the User and Group Management System!

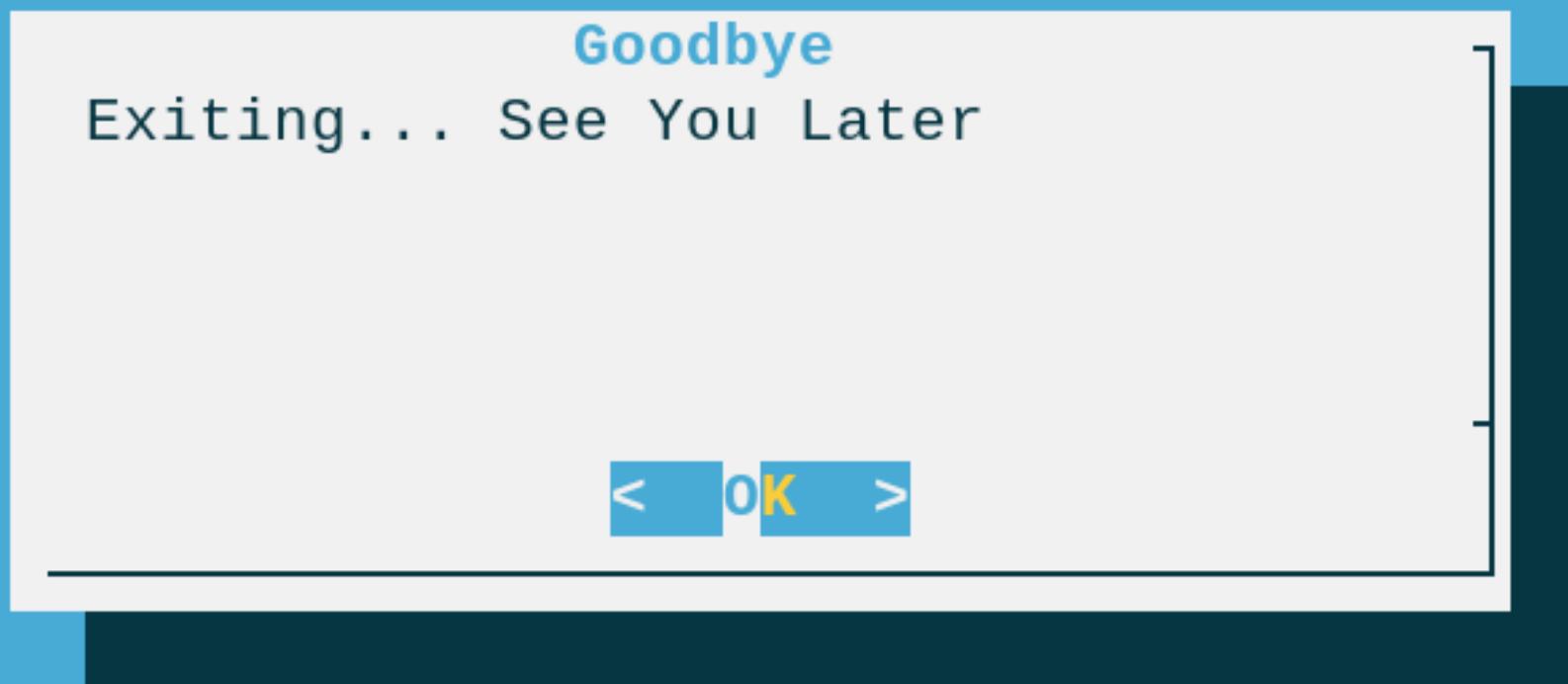
 Note! You MUST be administrator for start the program!!

Would you like to start?

[**< Yes >**](#) [**< No >**](#)

Welcome page

If click no



program

Program contain:

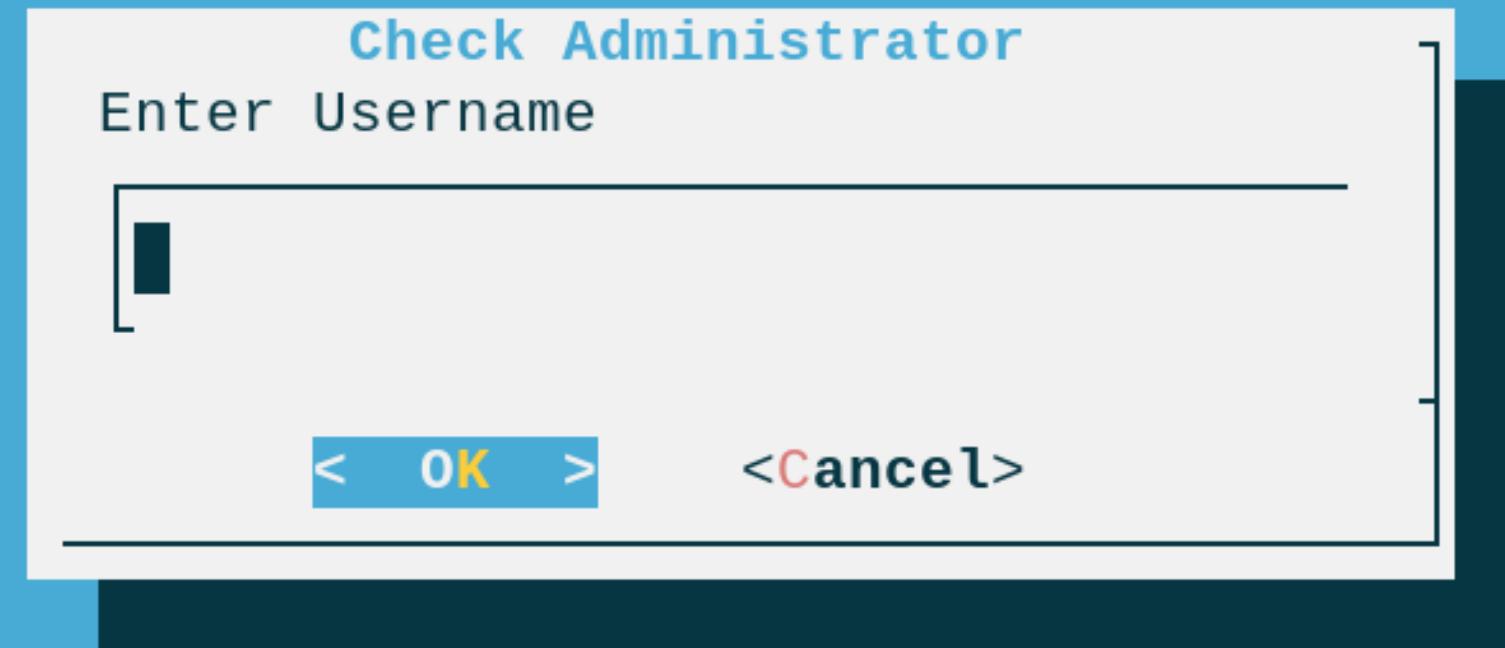
2. Check administrator

- ❑ If “No” → exits program.
 - ❑ If “Yes” → open the menu .

```
username=$(dialog --title "Check Administrator" --inputbox "Enter Username" 8 40 3>&1 1>&2 2>&3)
if groups "$username" | grep -E -q "(sudo|root|wheel)"
then
    dialog --msgbox "✓ $username is an Administrator!" 6 50
# chosen command
while true
do
    CH=$(dialog --title "Main Page" --menu "Select an option:" 20 60 12 \
        "1. Check Admin" "2. Exit"
    if [ $CH = 1 ]; then
        . /check-admin.sh
    else
        exit 0
    fi
done
```

Check administrator page

Enter username for check if you administrator or not



Check administrator page

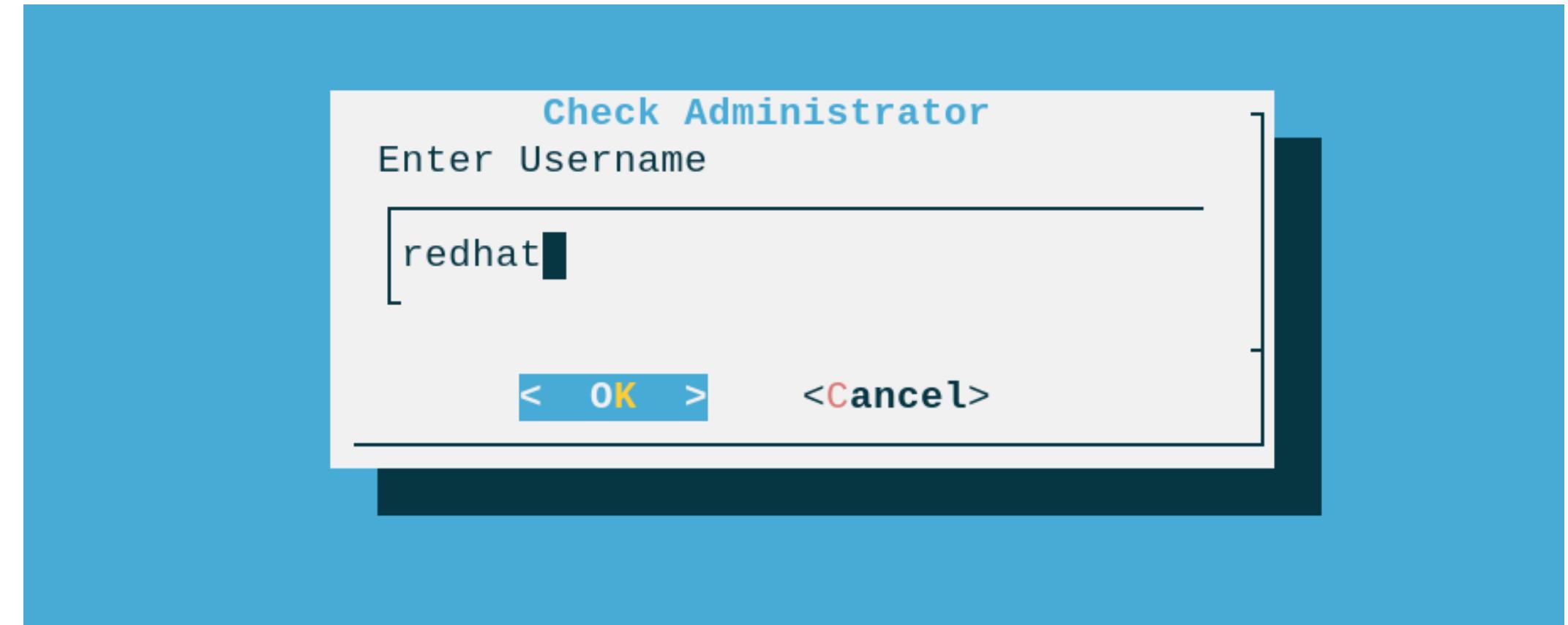
username redhat is administrator

Check Administrator

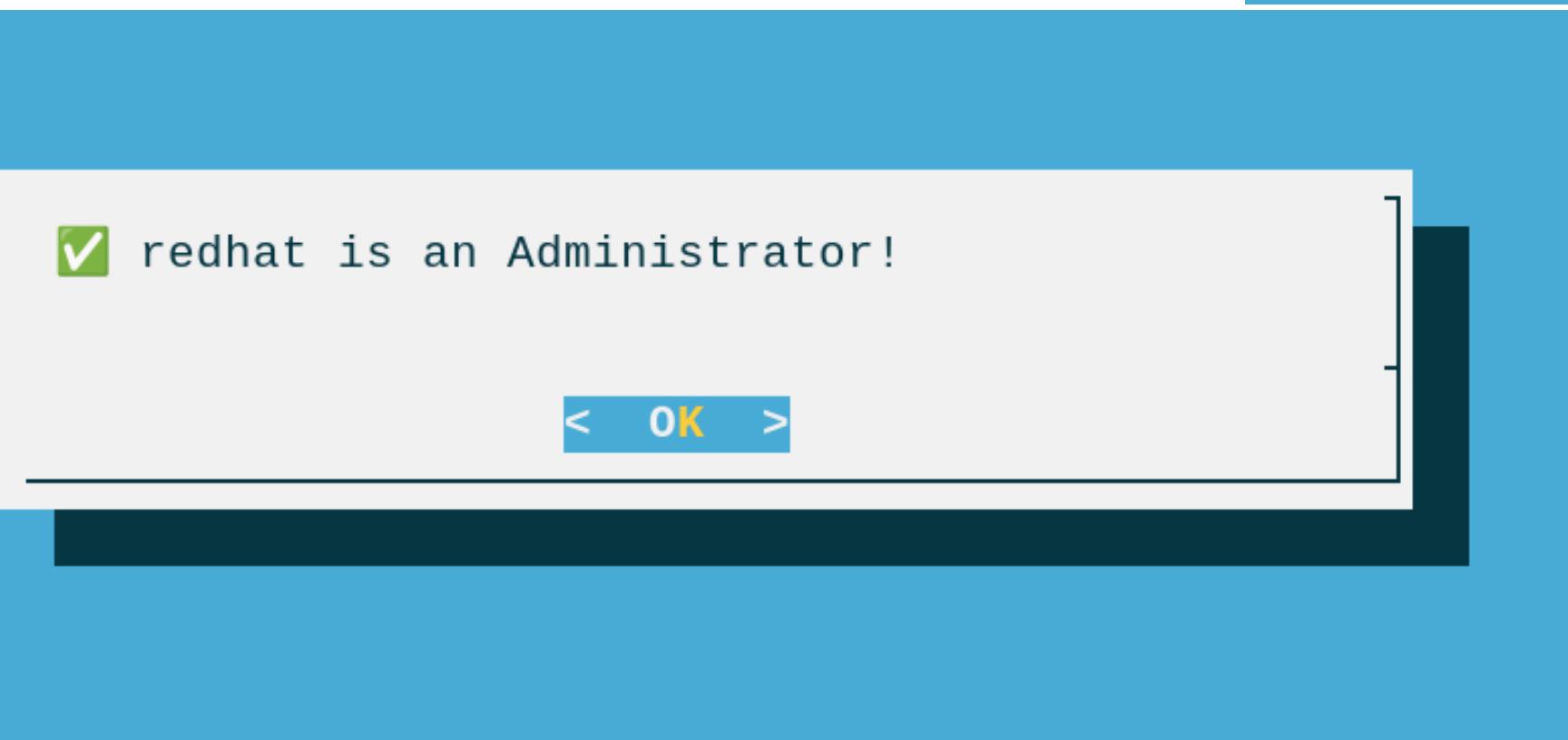
Enter Username

redhat

< OK > <Cancel>

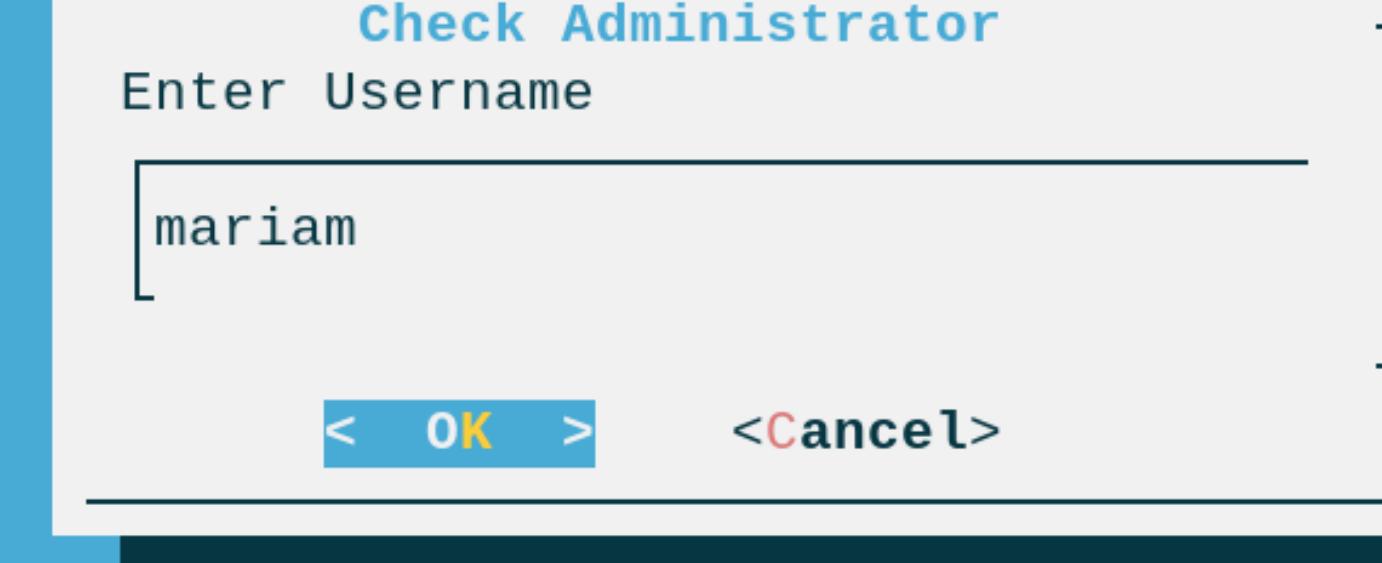


Enter to go to the menu

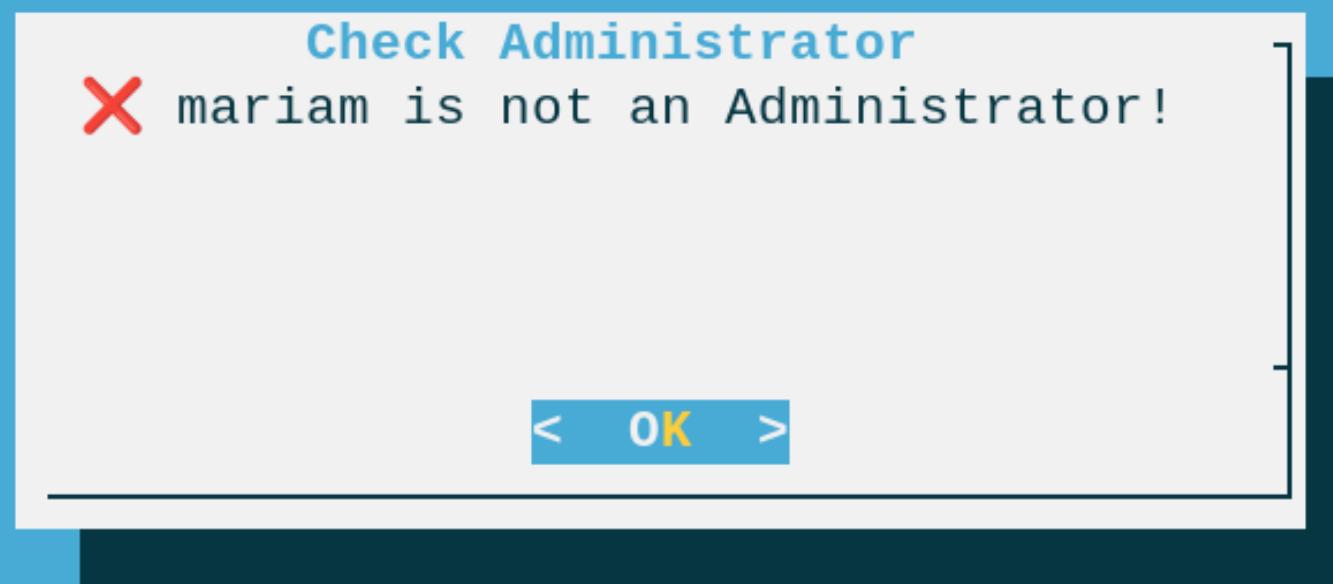


Check administrator page

username mariam is not administrator



You cannot go to the menu, and
the program is exit



program

Program contain:

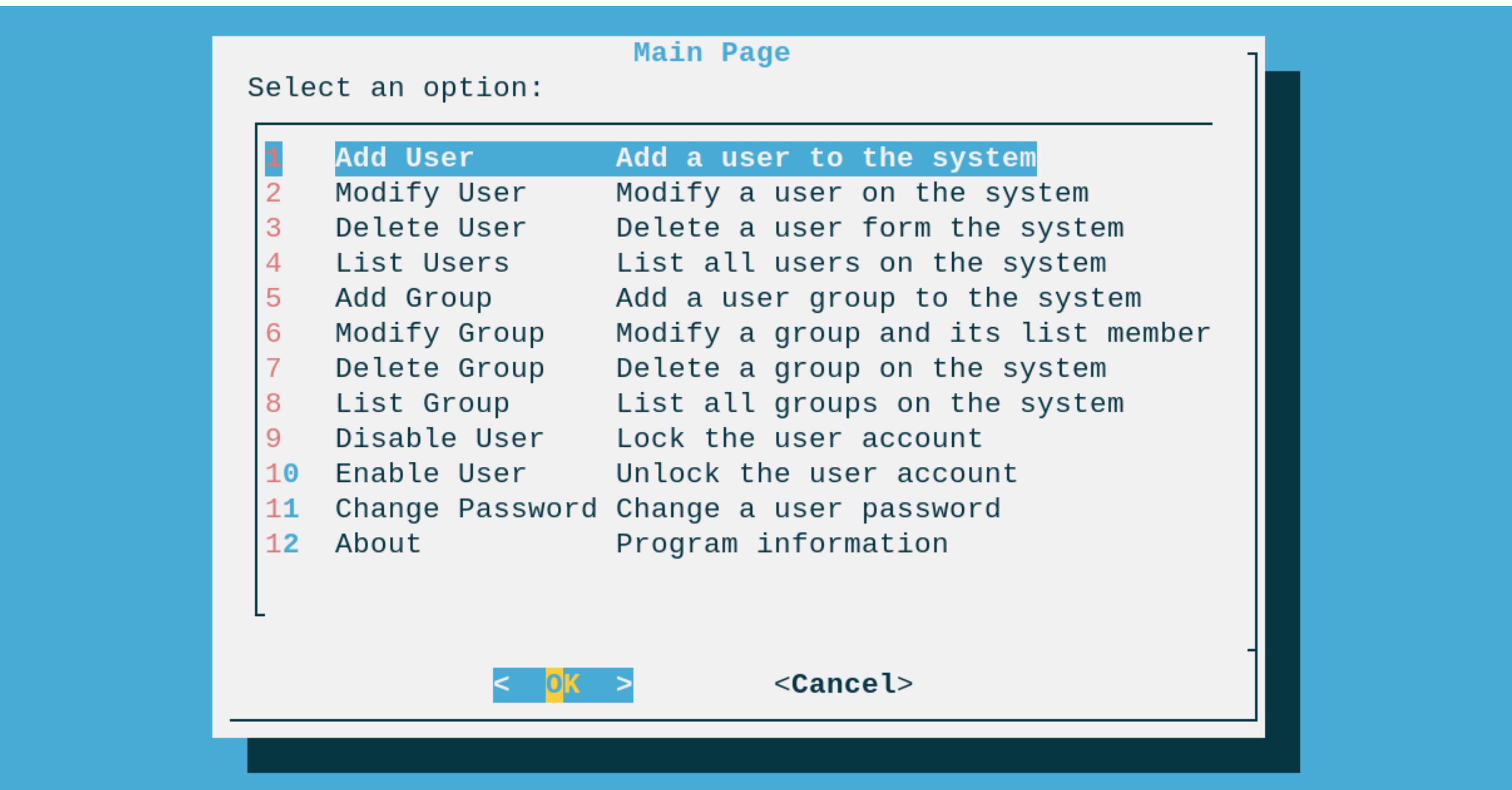
3. Menu for choosing option

- If “1” → Add a user to the system
- If ”2“ → Modify a user on the system
- If ”3“ → Delete a user form the system
- If ”4“ → List all users on the system
- If ”5“ → Add a user group to the system
- If ”6“ → Modify a group and its list members
- If ”7“ → Delete a group on the system
- If ”8“ → List all groups on the system
- If ”9“ → Lock the user account
- If ”10“ → Unlock the user account
- If ”11“ → Change a user password
- If ”12“ → Program information

Menu

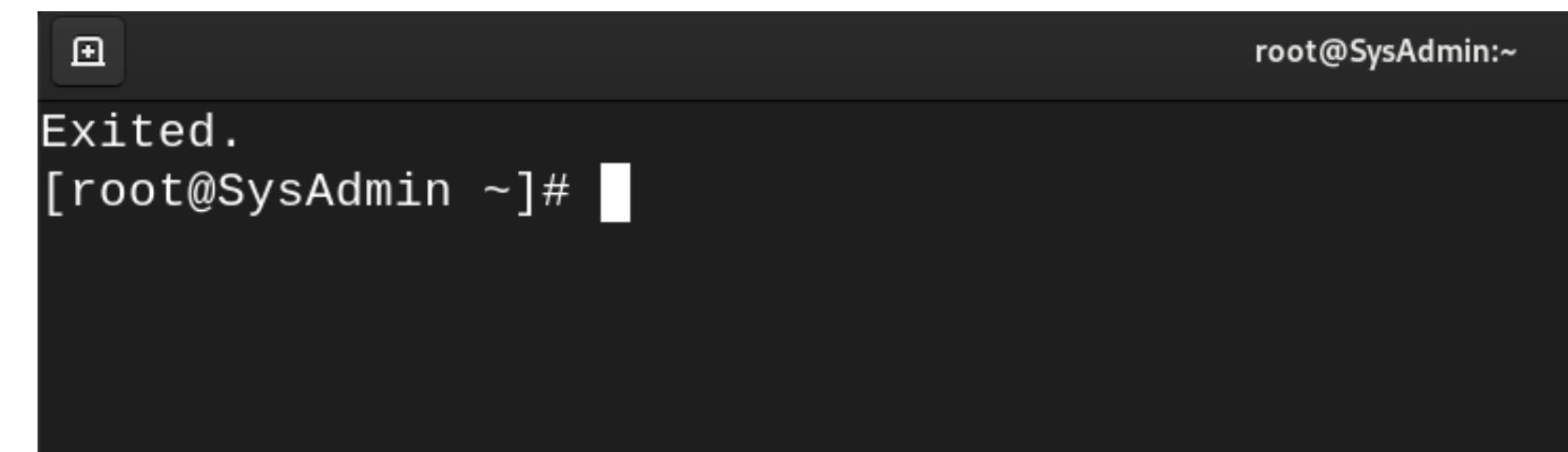
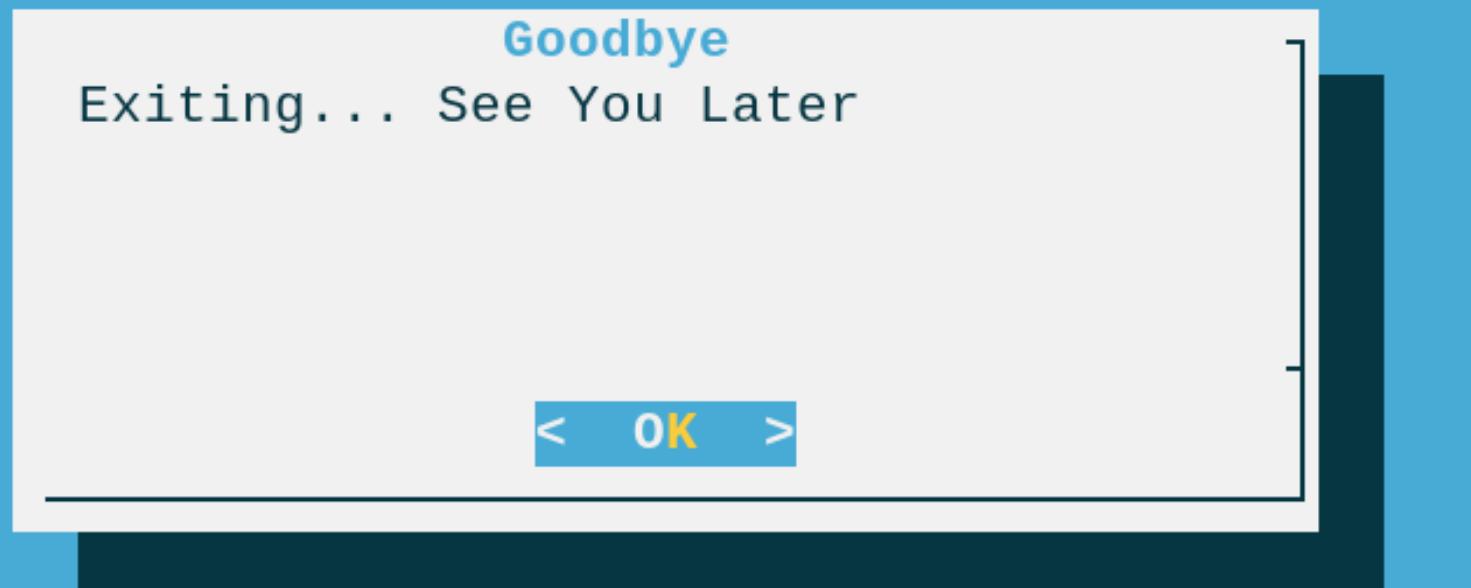
```
# chosen command
while true
do
    CH=$(dialog --title "Main Page" --menu "Select an option:" 20 60 12 \
        1      "Add User          Add a user to the system"\n
        2      "Modify User       Modify a user on the system"\n
        3      "Delete User       Delete a user from the system"\n
        4      "List Users         List all users on the system"\n
        5      "Add Group          Add a user group to the system"\n
        6      "Modify Group        Modify a group and its list members"\n
        7      "Delete Group        Delete a group on the system"\n
        8      "List Group          List all groups on the system"\n
        9      "Disable User        Lock the user account"\n
        10     "Enable User         Unlock the user account"\n
        11     "Change Password     Change a user password"\n
        12     "About               Program information" 3>&1 1>&2 2>&3)
```

Menu page



Menu

If click cancel



```
exit_status=$?
if [ $exit_status != 0 ]; then
    dialog --title "Goodbye" --msgbox "Exiting... See You Later" 8 40
    clear
    echo "Exited."
    exit
fi
```

1. Add user

When administrator choose add user it be in case 1

```
case $CH in
  1)
    # add user to your system
    username=$(dialog --inputbox "Enter username: " 8 40 3>&1 1>&2 2>&3)
    sudo useradd ${username} && dialog --msgbox "User 🚶 ${username} added successfully!" 8 40
  ;;

```

```
[root@SysAdmin ~]# tail -n 5 /etc/passwd
mariam5:x:1337:1337::/home/mariam5:/bin/bash
mariam6:x:1338:1338::/home/mariam6:/bin/bash
anay:x:1339:1339::/home/anay:/bin/bash
mayo:x:1340:1340::/home/mayo:/bin/bash
ahmedd:x:1341:1341::/home/ahmedd:/bin/bash
[root@SysAdmin ~]#
```

1. Add user

When administrator choose add user it be in case 1

The first two screenshots show the 'Main Page' and a sub-menu for 'Add User'. The third screenshot shows the 'Enter username:' field with 'esraa' typed in. The fourth screenshot shows a success message and the user entry in the /etc/passwd file.

Main Page
Select an option:
1 Add User Add a user to the system

Enter username:
esraa
< OK > <Cancel>

User esraa added successfully!
< OK >

[root@SysAdmin ~]# tail -n 5 /etc/passwd
mariam6:x:1338:1338::/home/mariam6:/bin/bash
anay:x:1339:1339::/home/anay:/bin/bash
mayo:x:1340:1340::/home/mayo:/bin/bash
ahmedd:x:1341:1341::/home/ahmedd:/bin/bash
esraa:x:1342:1342::/home/esraa:/bin/bash
[root@SysAdmin ~]#

User esraa added →

2. Modify user

When administrator choose modify user it be in case 2

```
2)
# modify user in your system
username=$(dialog --inputbox "Enter username to Modify:" 8 40 3>&1 1>&2 2>
&3)
# please write your option without '-'
option=$(dialog --inputbox "Enter option (as: aG group)" 8 40 3>&1 1>&2 2>
&3)
sudo usermod -${option} ${username} && dialog --msgbox "User 🔧 ${username}
} modified!" 6 40
;;
```

1	Add User	Add a user to the system
2	Modify User	Modify a user on the system
3	Delete User	Delete a user from the system
4	Exit	Exit the program

2. Modify user

When administrator choose modify user it be in case 2

Enter username to Modify:

< OK > <Cancel>

Enter option (as: aG group)

< OK > <Cancel>

User  esraa modified!

< OK >

```
[root@SysAdmin ~]# tail -n 5 /etc/passwd
mariam6:x:1338:1338::/home/mariam6:/bin/bash
anay:x:1339:1339::/home/anay:/bin/bash
mayo:x:1340:1340::/home/mayo:/bin/bash
ahmedd:x:1341:1341::/home/ahmedd:/bin/bash
esraa:x:10011:1342::/home/esraa:/bin/bash
[root@SysAdmin ~]#
```

Note that: when add option don't put “-”

2. Modify user

When administrator choose modify user it be in case 2



```
[root@SysAdmin ~]# tail -n 5 /etc/group
anay:x:1339:
mayo:x:1340:
adminnn:x:2000:herry,natashaa,anay,mayo
ahmedd:x:1341:
esraa:x:1342:
[root@SysAdmin ~]#
```

```
[root@SysAdmin ~]# tail -n 5 /etc/group
mayo:x:1340:
adminnn:x:2000:herry,natashaa,anay,mayo,esraa
ahmedd:x:1341:
esraa:x:1342:
system:x:30004:esraa
```

And you can add user to group by use option aG name of group

Note that: when add option don't put “-”

3. Delete user

When administrator choose delete user it be in case 3

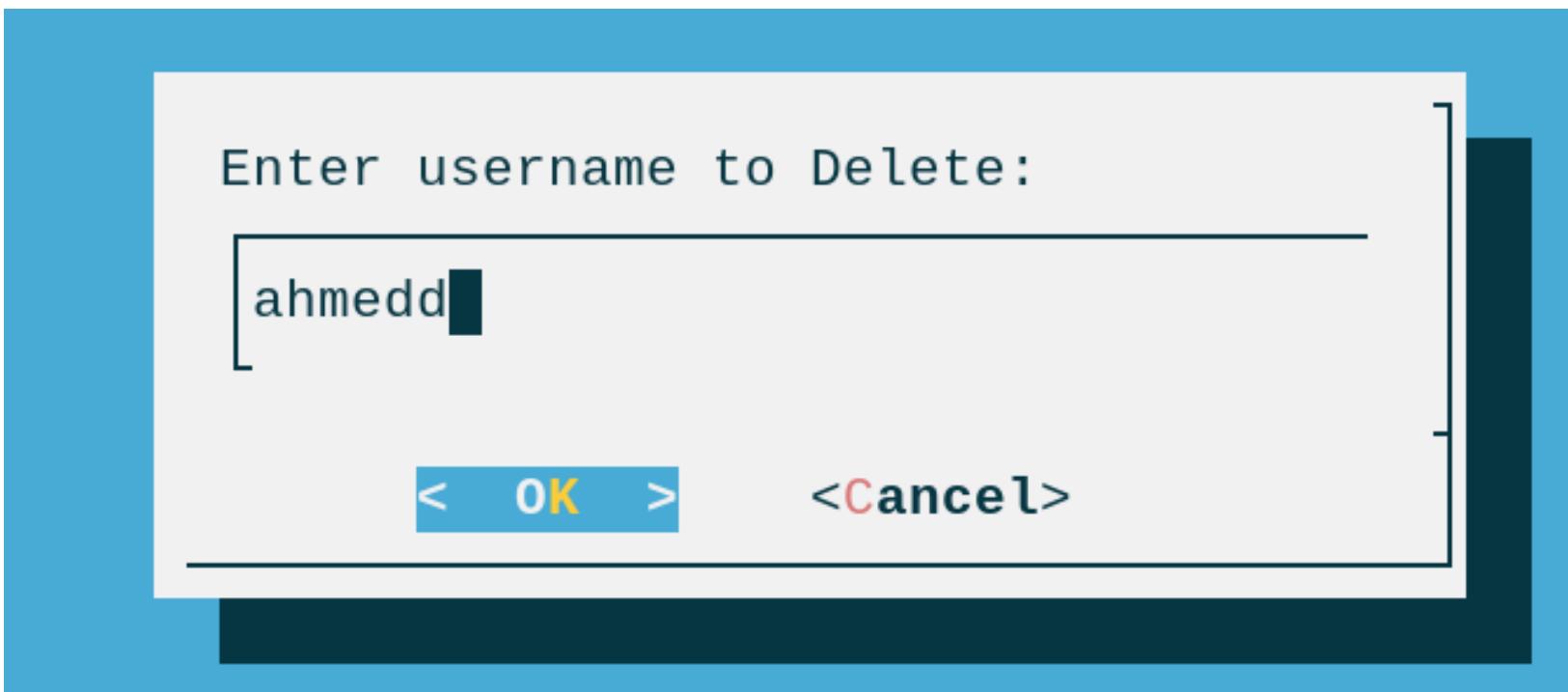
```
3)
# delete user in your system
username=$(dialog --inputbox "Enter username to Delete:" 8 40 3>&1 1>&2 2
>&3)
sudo userdel ${username} && dialog --msgbox "User X${username} Deleted!" 6 40
```



```
[root@SysAdmin ~]# tail -n 5 /etc/passwd
mariam6:x:1338:1338::/home/mariam6:/bin/bash
anay:x:1339:1339::/home/anay:/bin/bash
mayo:x:1340:1340::/home/mayo:/bin/bash
ahmedd:x:1341:1341::/home/ahmedd:/bin/bash
esraa:x:1342:1342::/home/esraa:/bin/bash
[root@SysAdmin ~]#
```

3. Delete user

When administrator choose delete user it be in case 3



```
[root@SysAdmin ~]# tail -n 5 /etc/passwd
mariam5:x:1337:1337::/home/mariam5:/bin/bash
mariam6:x:1338:1338::/home/mariam6:/bin/bash
anay:x:1339:1339::/home/anay:/bin/bash
mayo:x:1340:1340::/home/mayo:/bin/bash
esraa:x:10011:1342::/home/esraa:/bin/bash
[root@SysAdmin ~]#
```

User ahmedd deleted

4. List all users

When administrator choose list all users it be in case 4

```
; ;  
4)  
# list users and numbered it  
dialog --msgbox "$(cut -d: -f1 /etc/passwd | nl)" 20 50
```

	3	Delete User	Delete a user form the system
	4	List Users	List all users on the system
	5	Add Group	Add a user group to the system
	6	Logout	Logout from the system

4. List all users

When administrator choose list all users it be in case 4

```
1 root  
2 bin  
3 daemon  
4 adm  
5 lp  
6 lp  
7 sync  
8 shutdown  
9 halt  
10 mail  
11 operator  
12 games  
13 ftp  
14 nobody  
15 systemd-coredump  
16 dbus
```

< 0K >

21%

```
60 garb  
61 mysql  
62 apache  
63 saslauth  
64 herry  
65 natashaa  
66 sara  
67 mariam1  
68 mariam2  
69 mariam3  
70 mariam4  
71 mariam5  
72 mariam6  
73 anay  
74 mayo  
75 esraa
```

< 0K >

100%

5. Add group

When administrator choose add group it be in case 5

5)

```
# add group to your system
group=$(dialog --inputbox "Enter Group Name: " 8 40 3>&1 1>&2 2>&3)
sudo groupadd $group && dialog --msgbox "Group ${group} Added!" 6 40
;;
```

4

List Users

List all users on the system

5

Add Group

Add a user group to the system

6

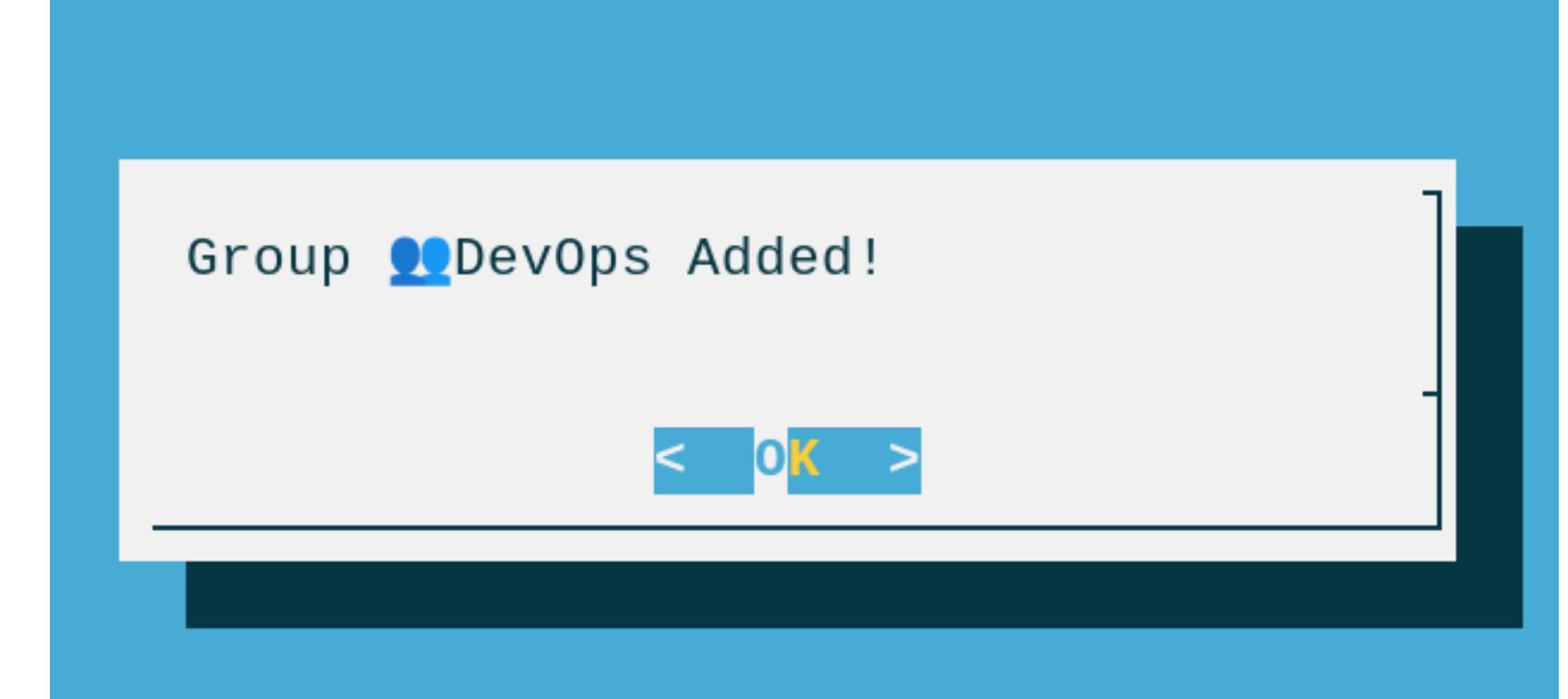
Modify Group

Modify a group and its list member

```
[root@SysAdmin ~]# tail -n 5 /etc/group
anay:x:1339:
mayo:x:1340:
adminn:x:2000:herry,natashaa,anay,mayo,esraa
esraa:x:1342:
system:x:30004:esraa
```

5. Add group

When administrator choose add group it be in case 5



```
[root@SysAdmin ~]# tail -n 5 /etc/group
mayo:x:1340:
adminn:x:2000:herry,natashaa,anay,mayo,esraa
esraa:x:1342:
system:x:30004:esraa
DevOps:x:30005:
```

6. Modify group

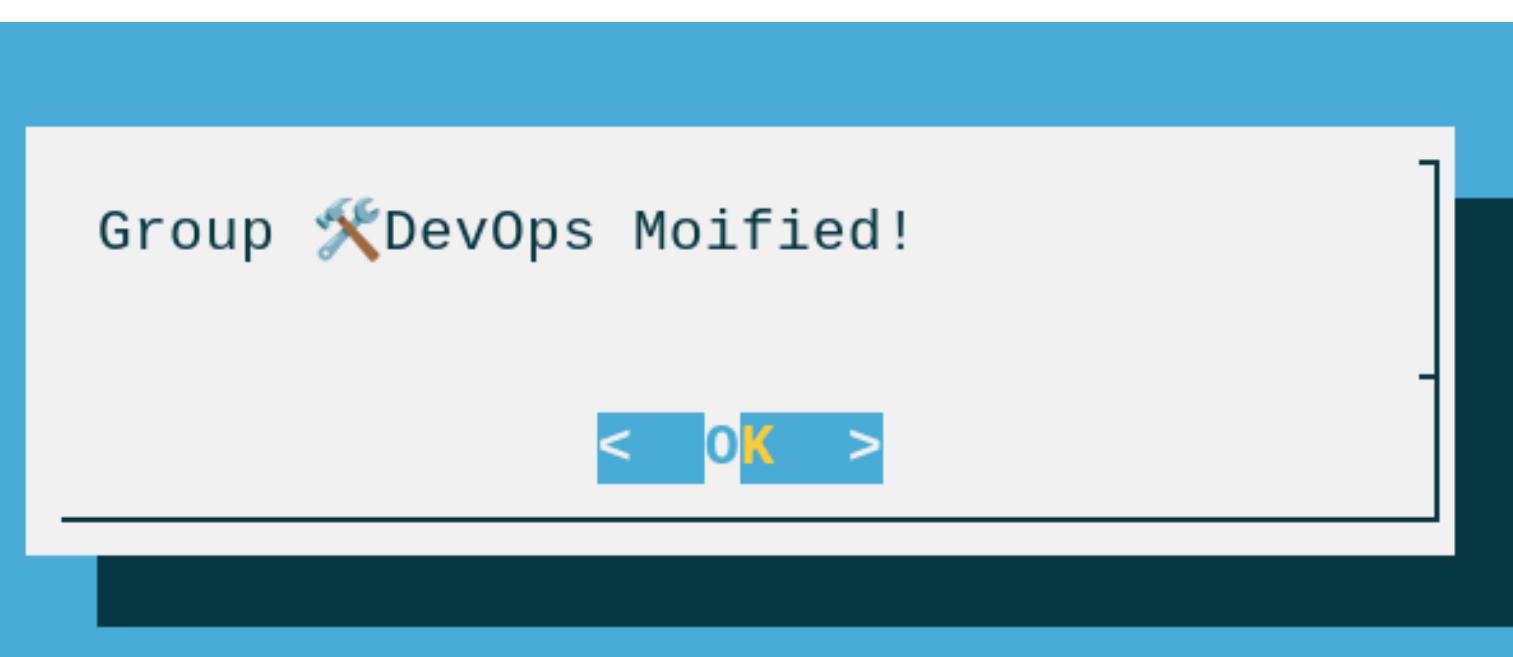
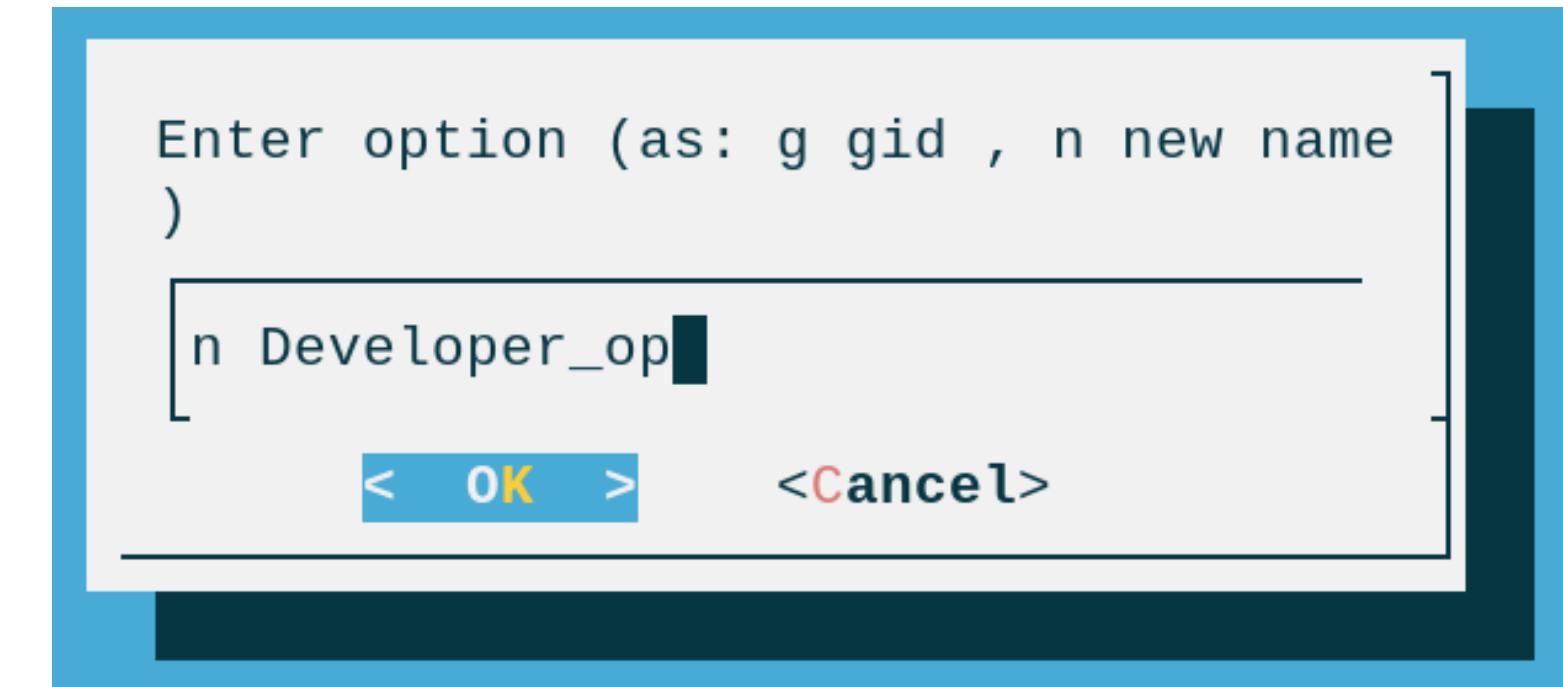
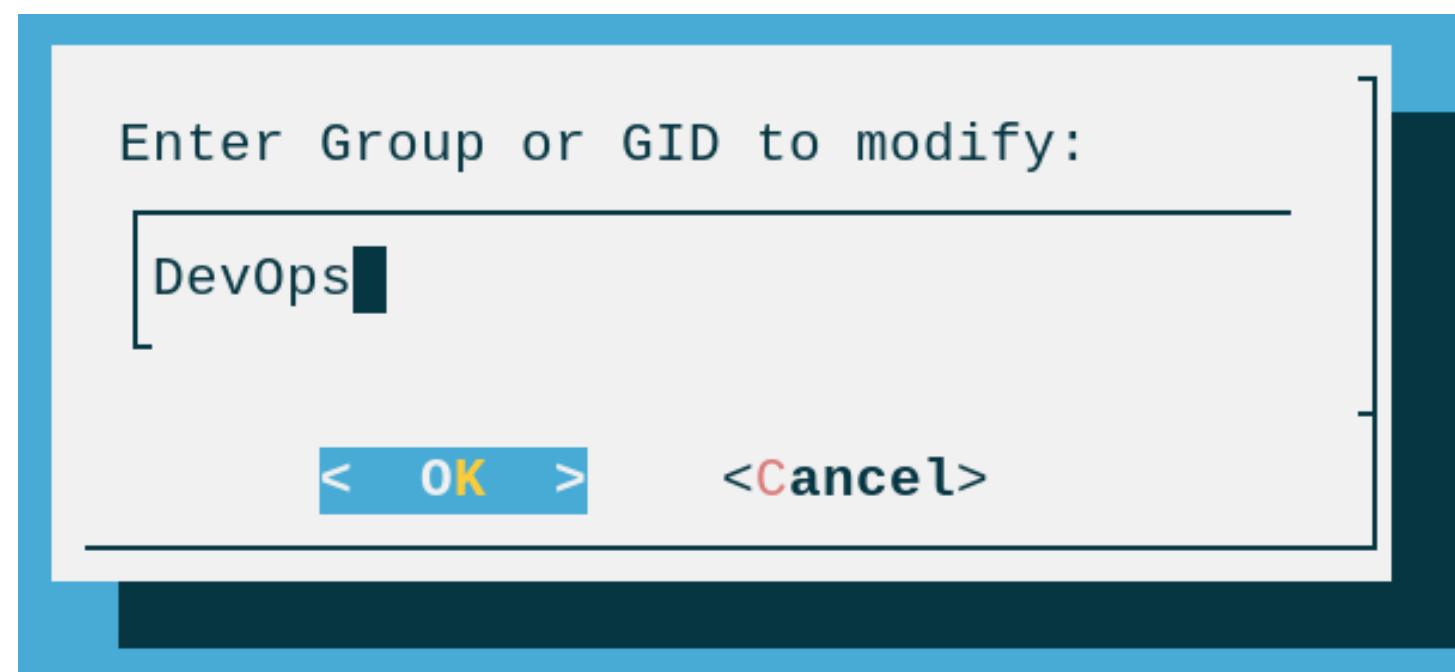
When administrator choose modify group it be in case 6

```
6)
    # modify group
group=$(dialog --inputbox "Enter Group or GID to modify: " 8 40 3>&1 1>&2
2>&3)
    # enter your option without '-'
option=$(dialog --inputbox "Enter option (as: g gid , n new name )" 8 40 3
>&1 1>&2 2>&3)
    sudo groupmod -${option} ${group} && dialog --msgbox "Group 🔨 ${group} Mo
ified!" 6 40
```

5	Add Group	Add a user group to the system
6	Modify Group	Modify a group and its list member
7	Delete Group	Delete a group on the system
8	List Group	List all groups on the system

6. Modify group

When administrator choose modify group it be in case 6
n option for change group name

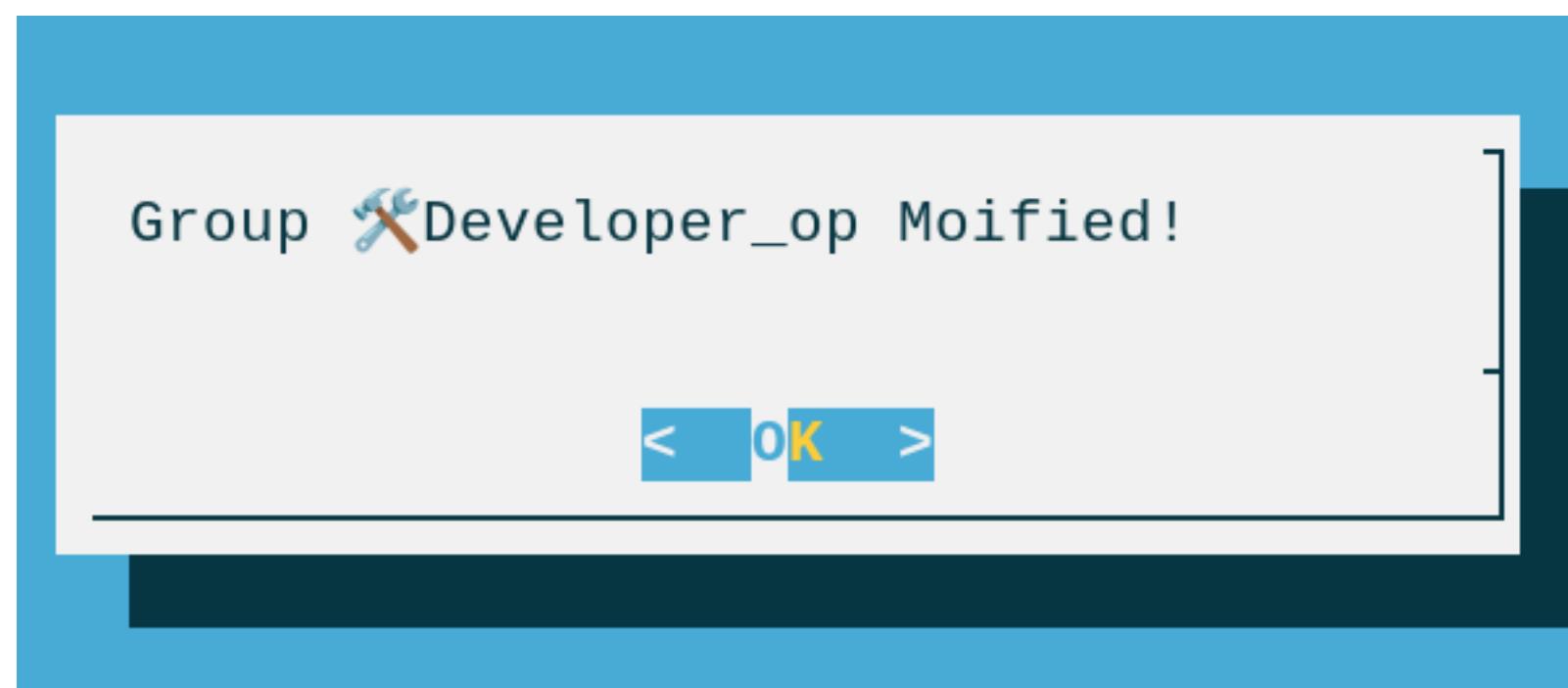
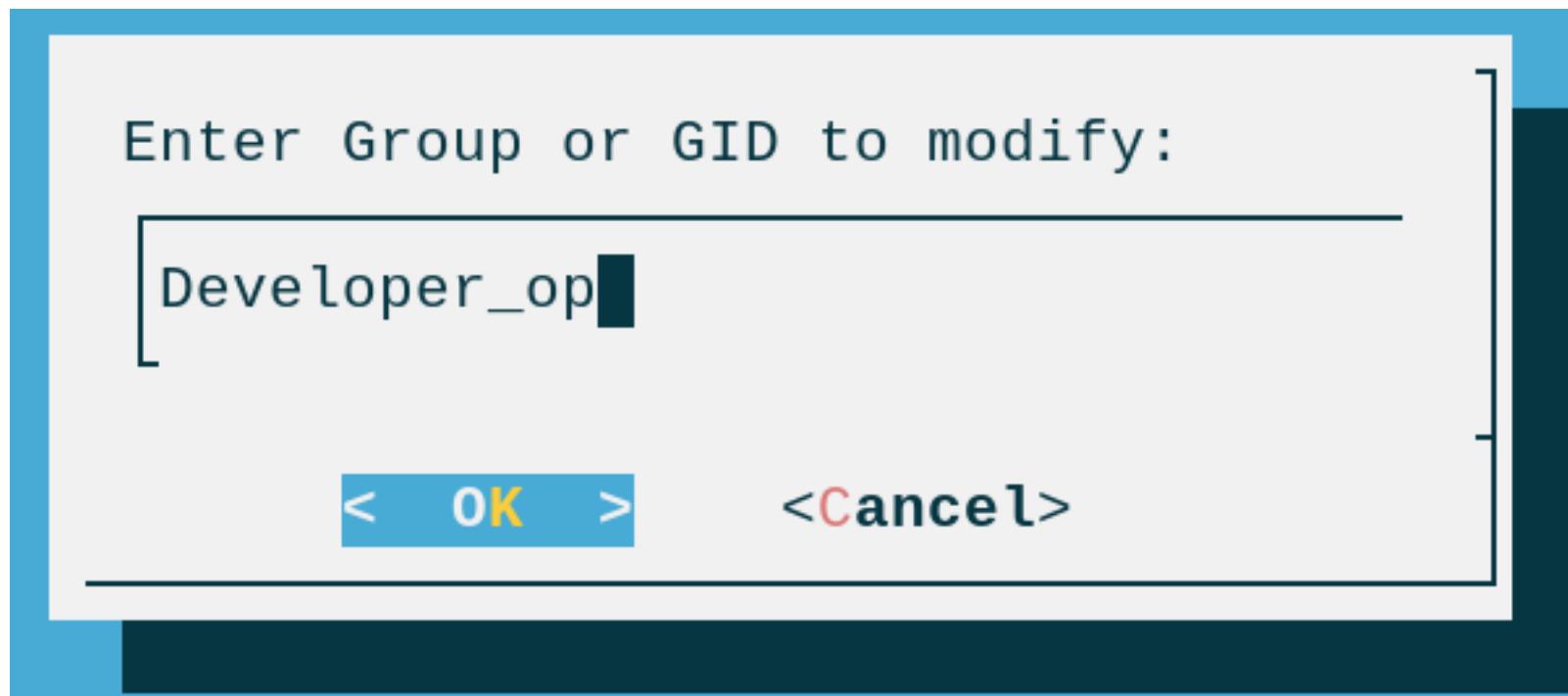


```
[root@SysAdmin ~]# tail -n 5 /etc/group
mayo:x:1340:
adminn:x:2000:herry,natashaa,anay,mayo,esraa
esraa:x:1342:
system:x:30004:esraa
Developer op:x:30005:
```

Note that: when add option don't put “-”

6. Modify group

When administrator choose modify group it be in case 6
g option for change group id



```
[root@SysAdmin ~]# tail -n 5 /etc/group
mayo:x:1340:
adminn:x:2000:herry,natashaa,anay,mayo,esraa
esraa:x:1342:
system:x:30004:esraa
Developer_op:x:30092:
```

7. Delete group

When administrator choose delete group it be in case 7

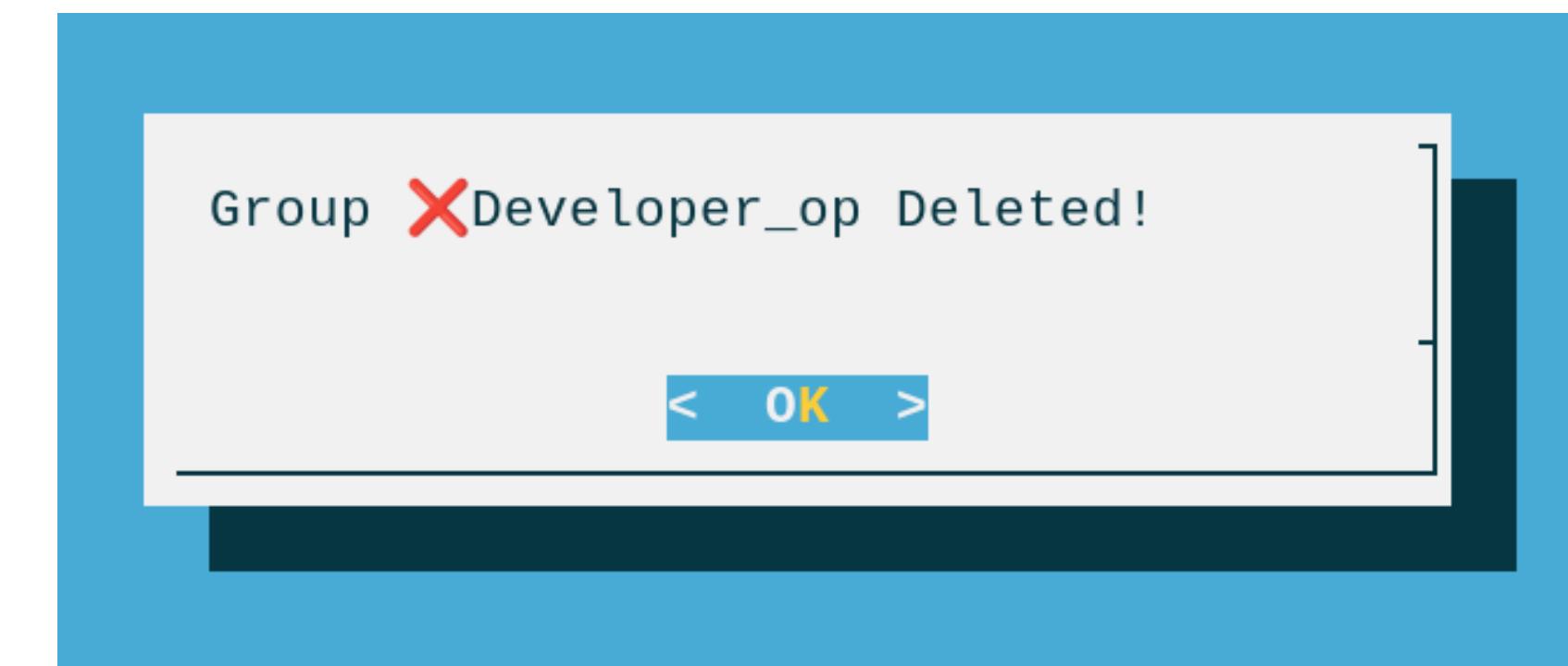
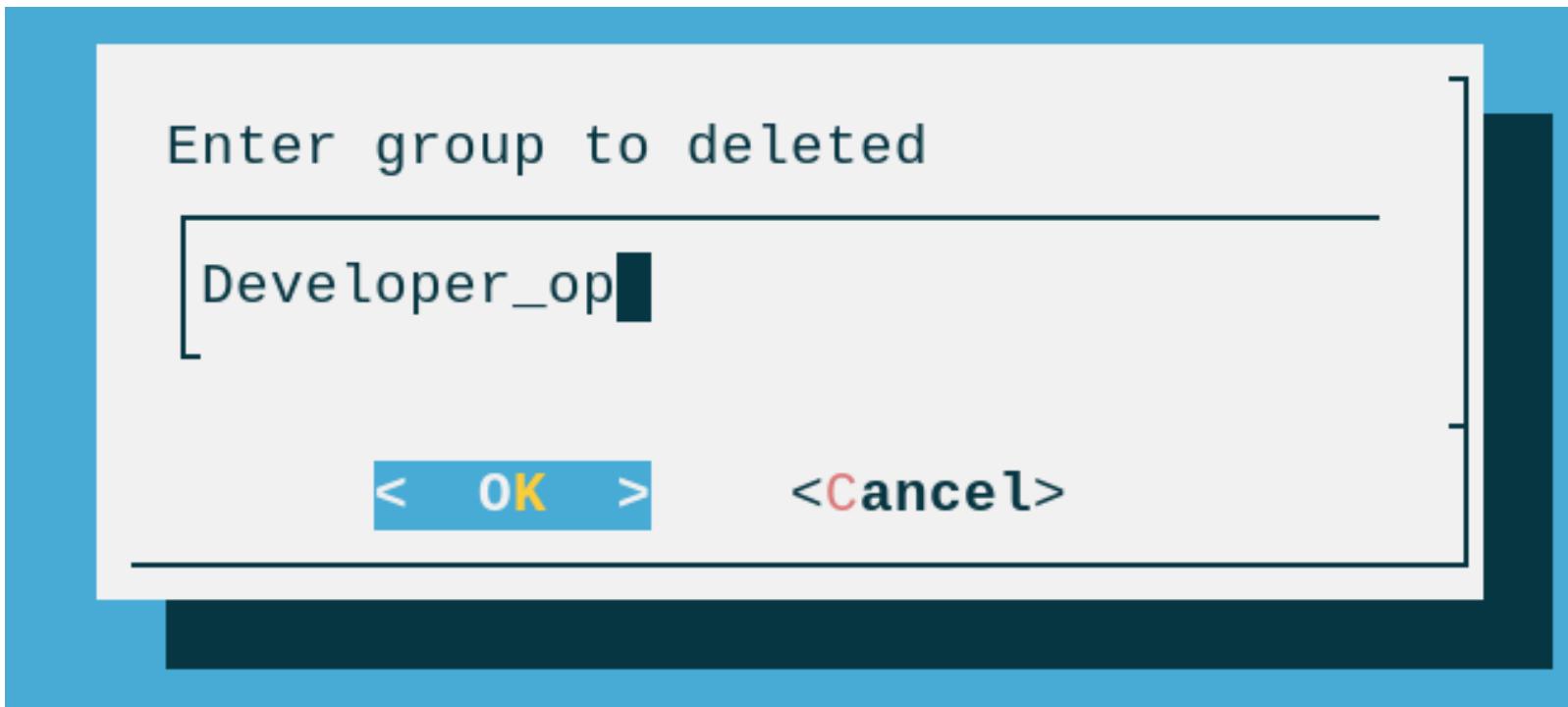
```
7 )
# Delete group
group=$(dialog --inputbox "Enter group to deleted " 8 40 3>&1 1>&2 2>&3)
sudo groupdel ${group} && dialog --msgbox "Group X${group} Deleted!" 6 40
;;
```

6	Modify Group	Modify a group and its list member
7	Delete Group	Delete a group on the system
8	List Group	List all groups on the system

```
[root@SysAdmin ~]# tail -n 5 /etc/group
mayo:x:1340:
adminn:x:2000:herry,natashaa,anay,mayo,esraa
esraa:x:1342:
system:x:30004:esraa
Developer_op:x:30092:
```

7. Delete group

When administrator choose delete group it be in case 7



```
[root@SysAdmin ~]# tail -n 5 /etc/group
anay:x:1339:
mayo:x:1340:
adminn:x:2000:herry,natashaa,anay,mayo,esraa
esraa:x:1342:
system:x:30004:esraa
[root@SysAdmin ~]#
```

8. List groups

When administrator choose list groups it be in case 8

```
8 )
    '
# List group
dialog --msgbox "$(cut -d: -f1 /etc/group | nl)" 20 50
;;
```

8

List Group

Q

Disable User

List all groups on the system

Lock the user account

8. List groups

When administrator choose list groups it be in case 8

```
1 root  
2 bin  
3 daemon  
4 sys  
5 adm  
6 tty  
7 disk  
8 lp  
9 mem  
10 kmem  
11 wheel  
12 cdrom  
13 mail  
14 man  
15 dialout  
16 floppy
```

< OK >

15%

```
89 apache  
90 saslauth  
91 herry  
92 natashaa  
93 sara  
94 mariam1  
95 mariam2  
96 mariam3  
97 mariam4  
98 mariam5  
99 mariam6  
100 anay  
101 mayo  
102 adminn  
103 esraa  
104 system
```

< OK >

100%

9. Locked user

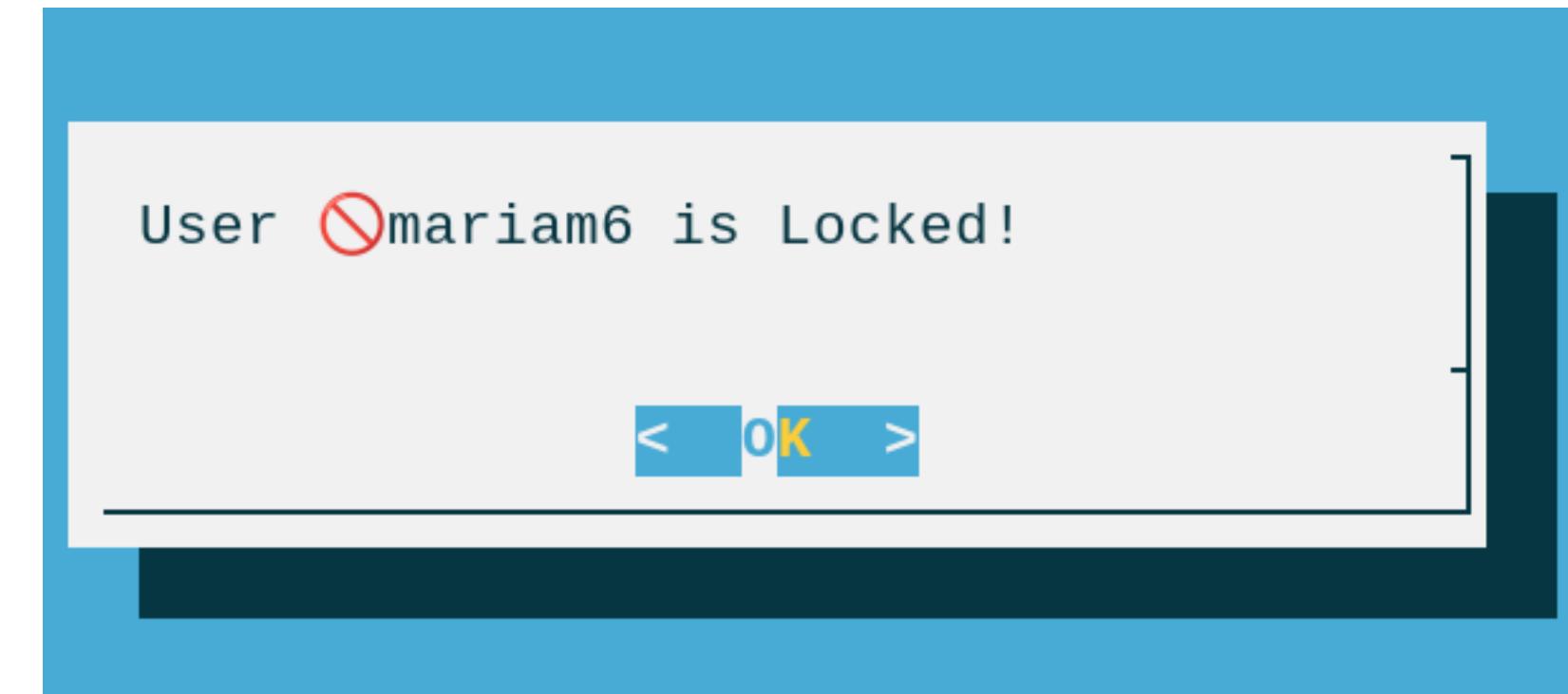
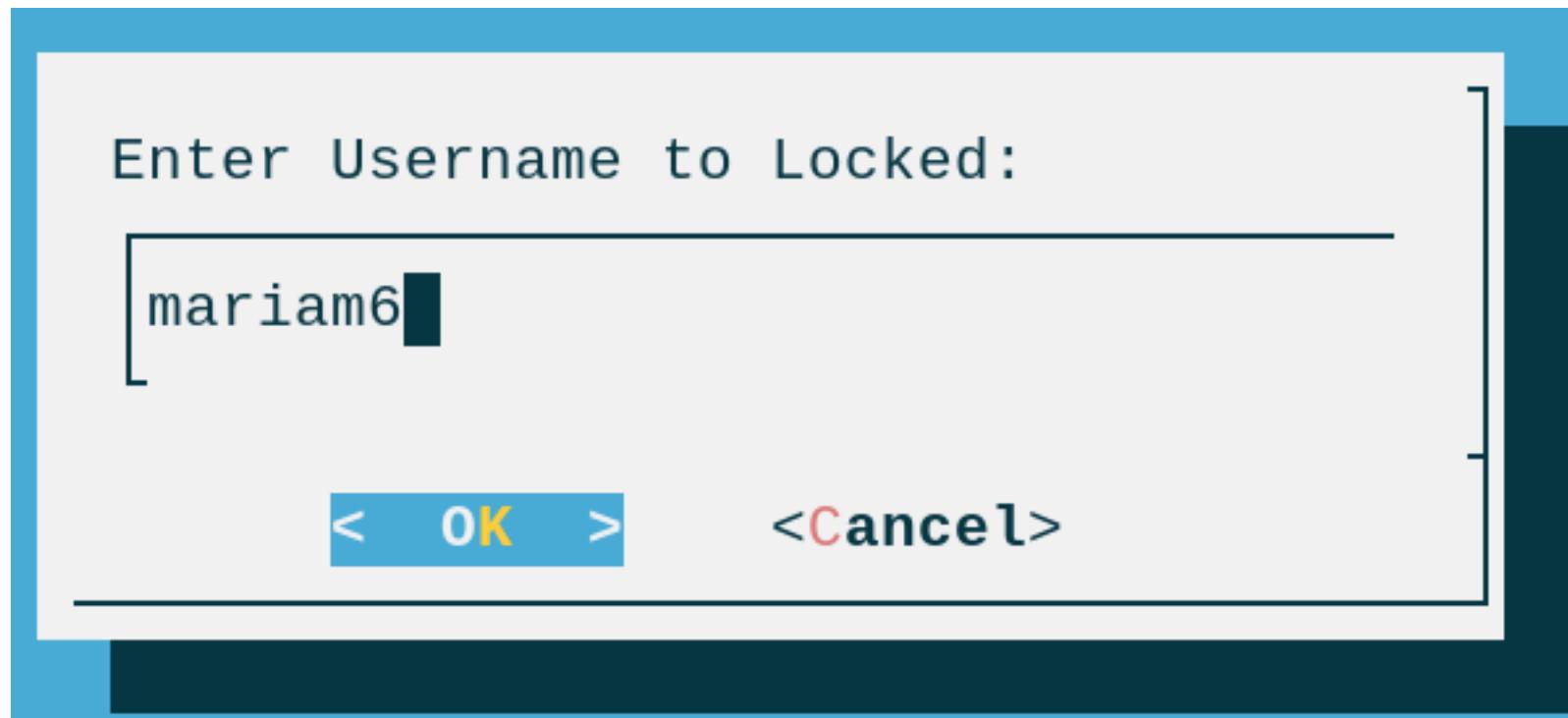
When administrator choose locked user it be in case 9

```
9)
    #Lock user
    user=$(dialog --inputbox "Enter Username to Locked:" 8 40 3>&1 1>&2 2>&3)
    sudo usermod -L ${user} && dialog --msgbox "User ${user} is Locked!" 6 4
0
;;
;
```

8	List Group	List all groups on the system
9	Disable User	Lock the user account
10	Enable User	Unlock the user account

9. Locked user

When administrator choose locked user it be in case 9



10. Unlocked user

When administrator choose unlocked user it be in case 10

```
10) #Unlock user
    user=$(dialog --inputbox "Enter Username to Unlocked:" 8 40 3>&1 1>&2 2>&3
)
    sudo usermod -U ${user} && dialog --msgbox "User ✓${user} is Unlocked!" 6
40
;;
;
```

10

Enable User

Unlock the user account

11

Change Password

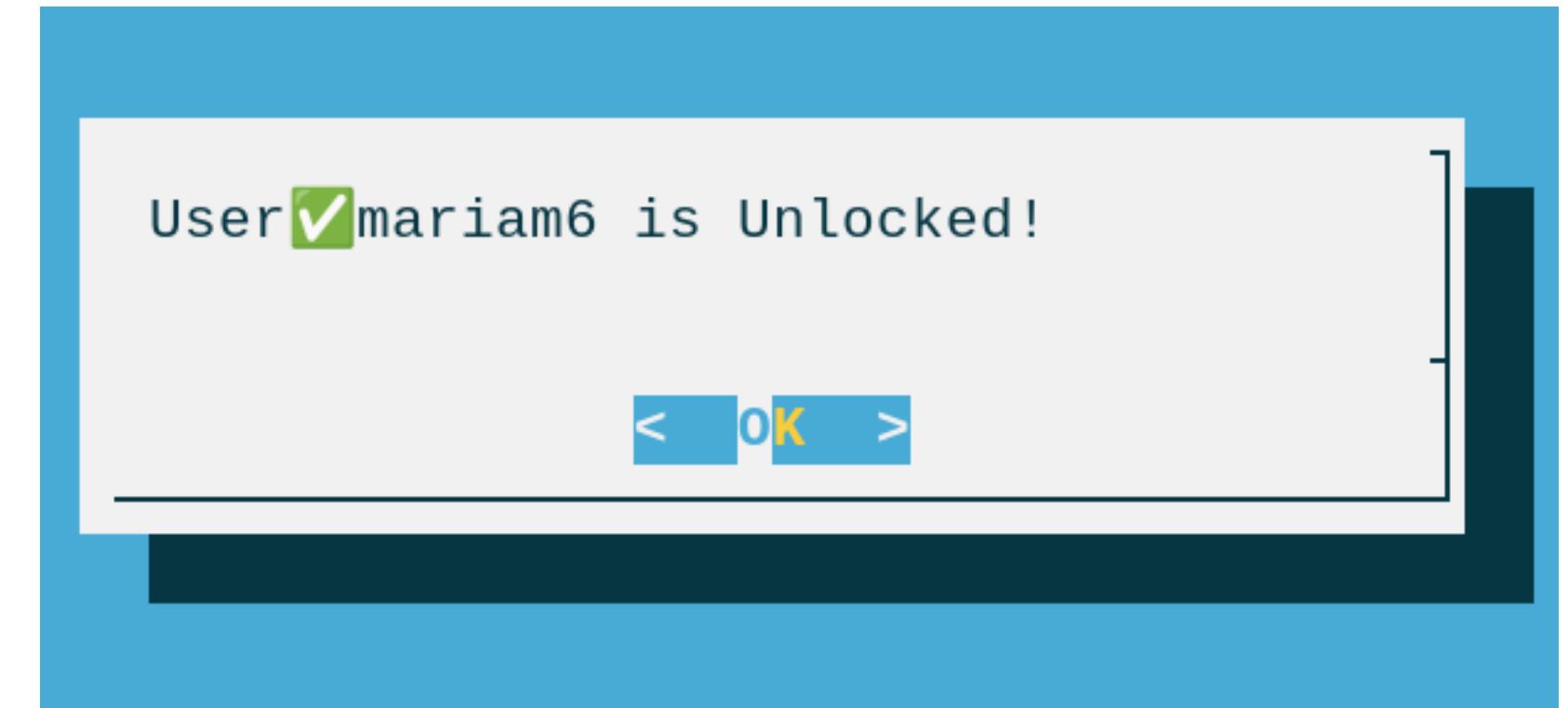
Change a user password

10. Unlocked user

When administrator choose unlocked user it be in case 10

Enter Username to Unlocked:

< OK > <Cancel>



11. change password

When administrator choose change password it be in case 11

```
11)
#Change Password
user=$(dialog --inputbox "Enter Username:" 8 40 3>&1 1>&2 2>&3)
passwd=$(whiptail --passwordbox "Enter Strong Password:" 8 40 3>&1 1>&2 2>&3)
echo "${passwd}" | sudo passwd --stdin "${user}" && dialog --msgbox "User
🔑 ${user} your password is changed" 6 40
;;
```

| 10 Enable user UNLOCK the user account
| 11 Change Password Change a user password
| 12 About Program information

11. change password

When administrator choose change password it be in case 11

Enter Username:

< OK > <Cancel>

Enter Strong Password:

<Ok> <Cancel>

User mariam6 your password is changed

< OK >

```
[redhat@SysAdmin ~]$ su - mariam6
Password:
[mariam6@SysAdmin ~]$
```

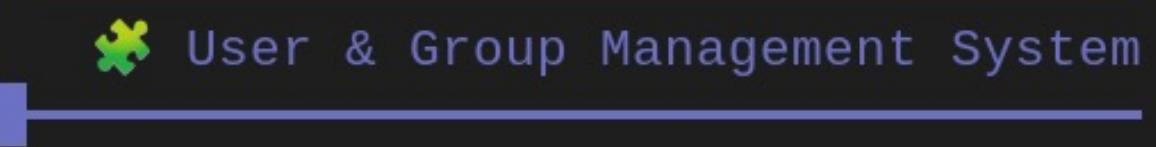
Use new password in log in

12. Information about system

When administrator choose information about system it be in case 12

12)

```
#information about system  
dialog --title "✨ About This Program ✨" --msgbox "\
```



- System: Red Hat Linux
- Language: Bash Script
- Developer: Mariam Said
- Supervisor: Eng/Romany Nageh

- ✨ Features:
- Add / Modify / Delete users
 - Manage user groups
 - Lock / Unlock accounts
 - Change passwords securely

```
⌚ $(date +"%A, %d %B %Y - %H:%M")
```

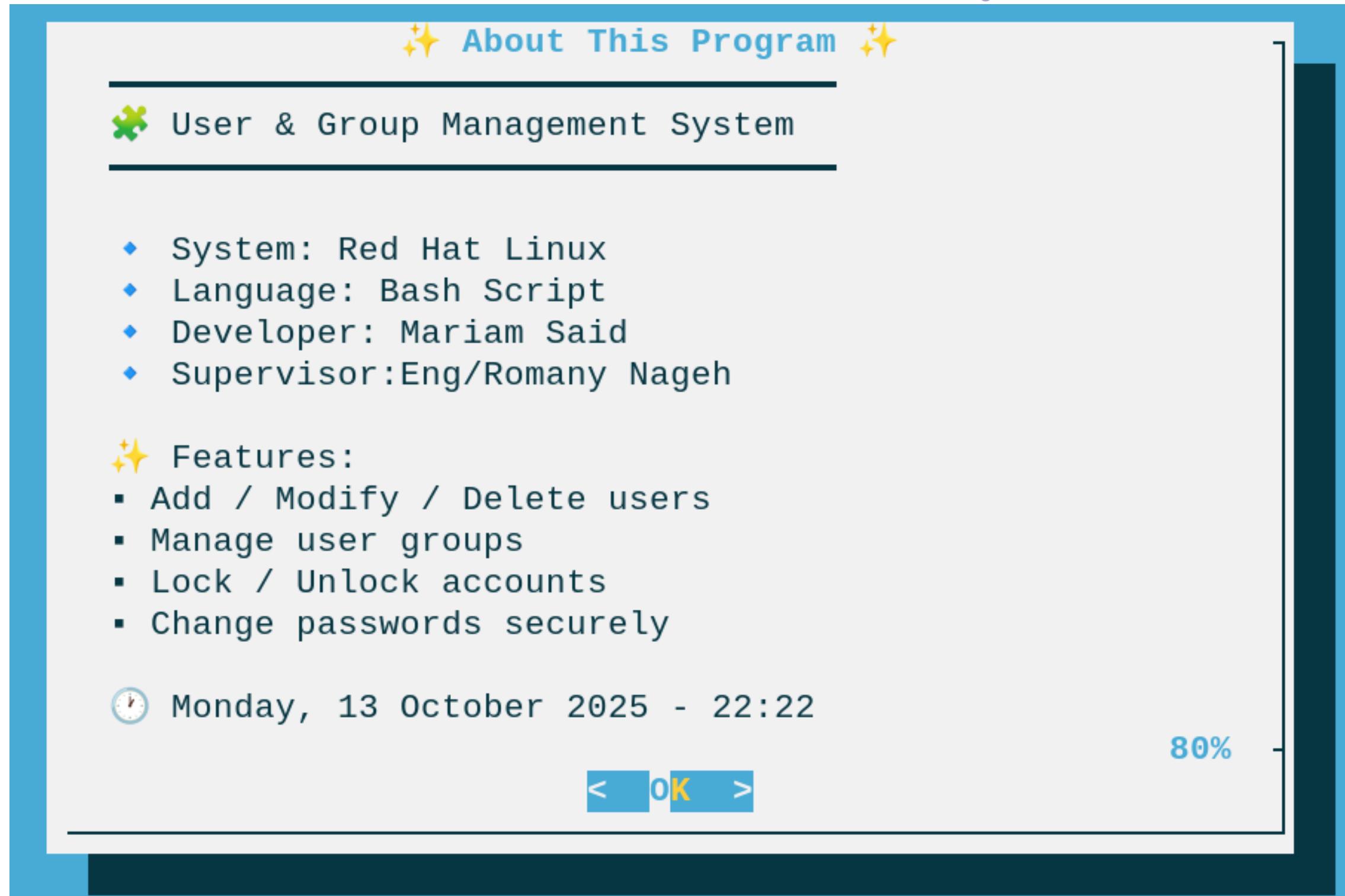
💡 Tip: Always run as root for full access.

```
" 20 60  
;;
```



12. Information about system

When administrator choose information about system it be in case 12



The End