1. Create a user account with the following attribute
☐ **username: ahmed**
☐ **Fullname/comment: ahmed ali**
☐ **Password: ahmed**


```
  ┌──(kali㉿kali)-[~]
  └─$ tail -n 5 /etc/passwd
inetsim:x:130:137::/var/lib/inetsim:/usr/sbin/nologin
_gvm:x:131:139::/var/lib/openvas:/usr/sbin/nologin
king-phisher:x:132:140::/var/lib/king-phisher:/usr/sbin/nologin
kali:x:1000:1000:,,,:/home/kali:/usr/bin/zsh
ahmed:x:1001:1001::/home/ahmed:/bin/sh

  ┌──(kali㉿kali)-[~]
  └─$ su passwd ahmed
su: user passwd does not exist or the user entry does not contain all the required fields

  ┌──(kali㉿kali)-[~]
  └─$ sudo passwd ahmed
New password:
Retype new password:
passwd: password updated successfully

  ┌──(kali㉿kali)-[~]
  └─$ sudo usermod -c "ahmed ali" ahmed

  ┌──(kali㉿kali)-[~]
  └─$ tail -n 5 /etc/passwd
inetsim:x:130:137::/var/lib/inetsim:/usr/sbin/nologin
_gvm:x:131:139::/var/lib/openvas:/usr/sbin/nologin
king-phisher:x:132:140::/var/lib/king-phisher:/usr/sbin/nologin
kali:x:1000:1000:,,,:/home/kali:/usr/bin/zsh
ahmed:x:1001:1001:ahmed ali:/home/ahmed:/bin/sh

  ┌──(kali㉿kali)-[~]
  └─$ sudo grep ahmed /etc/shadow
ahmed:$y$j9T$2513fvKYoq53DVzQH8Vwl0$0ewNDII2i3Y2wdsYJfLd0FYzhb5NNm.s89NMLKW7jzA:19459:0:99999:7:::

  ┌──(kali㉿kali)-[~]
  └─$
```

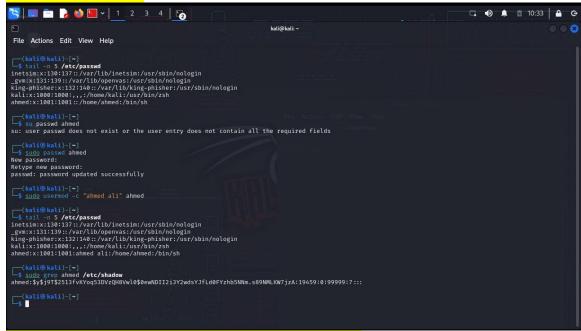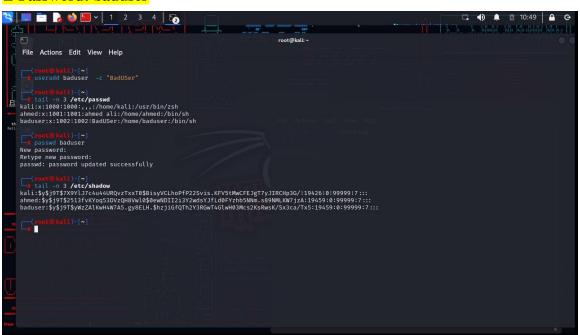**2. Create a user account with the following attribute**
☐ **Username: baduser**
☐ **Full name/comment: Bad User**
☐ **Password: baduser**


```
  ┌──(root㉿kali)-[~]
  └─# useradd baduser  -c "BadUSer"

  ┌──(root㉿kali)-[~]
  └─# tail -n 3 /etc/passwd
kali:x:1000:1000:,,,:/home/kali:/usr/bin/zsh
ahmed:x:1001:1001:ahmed ali:/home/ahmed:/bin/sh
baduser:x:1002:1002:BadUSer:/home/baduser:/bin/sh

  ┌──(root㉿kali)-[~]
  └─# passwd baduser
New password:
Retype new password:
passwd: password updated successfully

  ┌──(root㉿kali)-[~]
  └─# tail -n 3 /etc/shadow
kali:$y$j9T$7X9YlJ7c4u44URQvzTxxT0$BisyVCLhoPfP22Svis.KFV5tMwCFEJgT7yJIRCHp3G/:19426:0:99999:7:::
ahmed:$y$j9T$2513fvKYoq53DVzQH8Vwl0$0ewNDII2i3Y2wdsYJfLd0FYzhb5NNm.s89NMLKW7jzA:19459:0:99999:7:::
baduser:$y$j9T$yWzZAlKwH4W7A5.gy8ELH.$hzjiGfQTh2Y3RGwT4GlwH03Mcs2KsRwsK/Sx3ca/Tx5:19459:0:99999:7:::

  ┌──(root㉿kali)-[~]
  └─#
```

3. Create a supplementary (Secondary) group called pgroup with group ID of 30000

```
┌──(root💀kali)-[~]
└─# groupadd -g 30000 pgroup

┌──(root💀kali)-[~]
└─#
```

4. Create a supplementary group called badgroup

```
┌──(root💀kali)-[~]
└─# groupadd badgroup

┌──(root💀kali)-[~]
└─# getent -n 5 group
getent: invalid option -- 'n'
Try `getent --help' or `getent --usage' for more information.

┌──(root💀kali)-[~]
└─# getent group badgroup
badgroup:x:30001:

┌──(root💀kali)-[~]
└─#
```

5. Add ahmed user to the pgroup group as a supplementary group

```
┌──(root💀kali)-[~]
└─# getent group pgroup
pgroup:x:30000:

┌──(root💀kali)-[~]
└─# usermod -aG pgroup ahmed

┌──(root💀kali)-[~]
└─# id ahmed
uid=1001(ahmed) gid=1001(ahmed) groups=1001(ahmed),30000(pgroup)

┌──(root💀kali)-[~]
└─#
```

6. Modify the password of ahmed's account to password

```
┌──(root💀kali)-[~]
└─# passwd ahmed
New password:
Retype new password:
passwd: password updated successfully

┌──(root💀kali)-[~]
└─# tail -n 3 /etc/shadow
kali:$y$j9T$7X9YlJ7c4u44URQvzTxxT0$BisyVCLhoPfP22Svis.KFV5tMwCFEJgT7yJIRCHp3G/:19426:0:99999:7:::
ahmed:$y$j9T$aCfSEf6c406.mSdGL7EM/.$9VXxujGcpesYHPyg2GMdQTUB6XP7YwGWf61uSOVpCE.:19459:0:99999:7:::
baduser:$y$j9T$yWzZAlKwH4W7A5.gy8ELH.$hzjiGfQTh2Y3RGwT4GlwH03Mcs2KsRwsK/Sx3ca/Tx5:19459:0:99999:7:::

┌──(root💀kali)-[~]
└─#
```

7. Modify ahmed's account so the password expires after 30 days

```
┌──(root㉿kali)-[~]
└─# sudo chage -M 30 ahmed


┌──(root㉿kali)-[~]
└─# chage -M 30 ahmed


┌──(root㉿kali)-[~]
└─# chage -l ahmed
Last password change                                    : Apr 12, 2023
Password expires                                        : May 12, 2023
Password inactive                                       : never
Account expires                                         : never
Minimum number of days between password change          : 0
Maximum number of days between password change          : 30
Number of days of warning before password expires       : 7

┌──(root㉿kali)-[~]
└─#
```

8. Lock bad user account so he can't log in

```
┌──(root㉿kali)-[~]
└─# usermod -L baduser


┌──(root㉿kali)-[~]
└─# passwd -S baduser
baduser L 2023-04-12 0 99999 7 -1

┌──(root㉿kali)-[~]
└─#
```

9. Delete bad user account

```
┌──(root㉿kali)-[~]
└─# userdel baduser

┌──(root㉿kali)-[~]
└─# tail -n 3 /etc/passwd
king-phisher:x:132:140::/var/lib/king-phisher:/usr/sbin/nologin
kali:x:1000:1000:,,,:/home/kali:/usr/bin/zsh
ahmed:x:1001:1001:ahmed ali:/home/ahmed:/bin/sh

┌──(root㉿kali)-[~]
└─#
```

10. Delete the supplementary group called badgroup.

```
┌──(root㉿kali)-[~]
└─# groupdel badgroup

┌──(root㉿kali)-[~]
└─# getent group badgroup
```

```
┌──(root☉kali)-[~]
└─# getent group badgroup

┌──(root☉kali)-[~]
└─# getent group
root:x:0:
```

```
kpaumins.x.140.
kali:x:1000:
kaboxer:x:141:kali
ahmed:x:1001:
pgroup:x:30000:ahmed

┌──(root☉kali)-[~]
└─#
```

11. Create a folder called myteam in your home directory and change its permissions to read only for the owner.

```
┌──(root☉kali)-[~]
└─# cd /home

┌──(root☉kali)-[/home]
└─# mkdir myteam

┌──(root☉kali)-[/home]
└─# ls -l  myteam
total 0

┌──(root☉kali)-[/home]
└─# ls -ld  myteam
drwxr-xr-x 2 root root 4096 Apr 12 15:08 myteam

┌──(root☉kali)-[/home]
└─# chmod 400 myteam

┌──(root☉kali)-[/home]
└─# ls -ld  myteam
dr──────── 2 root root 4096 Apr 12 15:08 myteam

┌──(root☉kali)-[/home]
└─#
```

```
┌──(kali㊀kali)-[~]
└─$ sudo -u ahmed bash
[sudo] password for kali:
Sorry, try again.
[sudo] password for kali:
ahmed@kali:/home/kali$ su kali
Password:
┌──(kali㊀kali)-[~]
└─$ ▮
```

13. Try to access (by cd command) the folder (myteam)

 Other users can't access the directory(myteam) because permission is (Read only).


```
                                                    kali@kali: /home
File  Actions  Edit  View  Help
┌──(kali㊀kali)-[~/Desktop]
└─$ ls
xfce4-terminal-emulator.desktop

┌──(kali㊀kali)-[~/Desktop]
└─$ cd /home

┌──(kali㊀kali)-[/home]
└─$ ls
dir1  home  john-input  kali  myteam  oldpasswd  passwd  passwd.text  shadow.text  test6  text6

┌──(kali㊀kali)-[/home]
└─$ cd /myteam
cd: no such file or directory: /myteam

┌──(kali㊀kali)-[/home]
└─$ ls -ld myteam
dr──────── 2 root root 4096 Apr 12 15:08 myteam

┌──(kali㊀kali)-[/home]
└─$ ▮
```

16- * Change the permissions of oldpasswd file to give owner read and write permissions and for group write and execute and execute only for the others (using chmod in 2 different ways)

```
┌──(root💀kali)-[/home/kali/Sprints]
└─# touch oldpasswd

┌──(root💀kali)-[/home/kali/Sprints]
└─# ls -l oldpasswd
-rw-r--r-- 1 root root 0 Apr 13 09:41 oldpasswd

┌──(root💀kali)-[/home/kali/Sprints]
└─# chmod 631 oldpasswd

┌──(root💀kali)-[/home/kali/Sprints]
└─# ls -l oldpasswd
-rw--wx--x 1 root root 0 Apr 13 09:41 oldpasswd

┌──(root💀kali)-[/home/kali/Sprints]
└─# ls -l oldpasswd
-rw-r--r-- 1 root root 0 Apr 13 09:41 oldpasswd

┌──(root💀kali)-[/home/kali/Sprints]
└─# chmod u=rw,g=wx,o=x oldpasswd

┌──(root💀kali)-[/home/kali/Sprints]
└─# chmod 631 oldpasswd

┌──(root💀kali)-[/home/kali/Sprints]
└─# ls -l oldpasswd
-rw--wx--x 1 root root 0 Apr 13 09:41 oldpasswd

┌──(root💀kali)-[/home/kali/Sprints]
└─# 
```

16- * Change your default permissions to be as above.

```
┌──(root💀kali)-[/home/kali/Sprints]
└─# chmod 631 oldpasswd

┌──(root💀kali)-[/home/kali/Sprints]
└─# umask 0641

┌──(root💀kali)-[/home/kali/Sprints]
└─# ls -l oldpasswd
-rw--wx--x 1 root root 0 Apr 13 09:41 oldpasswd

┌──(root💀kali)-[/home/kali/Sprints]
└─# 
```

16-What is the maximum permission a file can have, by default when it is just created?
Answer: umask maximum permissions for file is 0777

```
┌──(root💀kali)-[/home/kali/Sprints]
└─# chmod 0777 oldpasswd

┌──(root💀kali)-[/home/kali/Sprints]
└─# ls -l oldpasswd
-rwxrwxrwx 1 root root 0 Apr 13 09:41 oldpasswd
```

And what is that for directory
Answer: umask for maximum permissions for directory is 0777

```
┌──(root💀kali)-[/home/kali/Sprints]
└─# ls
dir1  kali.jpg  kalo.jpg  oldpasswd  sprints  Sp

┌──(root💀kali)-[/home/kali/Sprints]
└─# ls -ld dir1
drwxr-xr-x 2 kali kali 4096 Apr  8 11:37 dir1

┌──(root💀kali)-[/home/kali/Sprints]
└─# chmod 0777 dir1

┌──(root💀kali)-[/home/kali/Sprints]
└─# ls -ld dir1
drwxrwxrwx 2 kali kali 4096 Apr  8 11:37 dir1
```

16- * Change your default permissions to be no permission to everyone then create a directory and a file
To change my default permissions to be no permission to everyone I will use this command below
umask 0000 [file/directory name]

```
┌──(root💀kali)-[/home/kali/Sprints]
└─# mkdir umask11

┌──(root💀kali)-[/home/kali/Sprints]
└─# touch umask007

┌──(root💀kali)-[/home/kali/Sprints]
└─# ls
dir1  kali.jpg  kalo.jpg  oldpasswd  sprints  Sprints  test4  text1  text4  umask007  umask11

┌──(root💀kali)-[/home/kali/Sprints]
└─#
```

17. What are the minimum permission needed for:
* Copy a directory (permission for source directory and permissions for target parent directory)
Read and execute source directory.
Write and execute target parent directory.
* Copy a file (permission for source file and and permission for target parent directory)
Read to source file.
Write and execute for target parent directory.
* Delete a file
 Write for target parent.
* Change to a directory
Execute for the directory.
* List a directory content (ls command)
Execute permission needed for the directory.
* View a file content (more/cat command)
Read and execute permission needed.
* Modify a file content
Write and execute permission needed.

18. Create a file with permission 444. Try to edit in it and to remove it? Note what happened.


```
┌──(kali㊉kali)-[~/Sprints]
└─$ touch file1.text && chmod 444 file1.text

┌──(kali㊉kali)-[~/Sprints]
└─$ rm file1.text
rm: remove write-protected regular empty file 'file1.text'?

┌──(kali㊉kali)-[~/Sprints]
└─$ ls
dir1  file1  file1.text  kali.jpg  kalo.jpg  oldpasswd  sprints  Sprints  test4  text1  text4  umask007  umask11

┌──(kali㊉kali)-[~/Sprints]
└─$ █
```

Can't remove the file because no permission.

19. What is the difference between the "x" permission for a file and for a directory?
Execute (x) Execute permission on files means the right to execute them, if they are programs. (Files that are not programs should not be given the execute permission.) For directories, execute permission allows you to enter the directory (i.e., cd into it), and to access any of its files.