◇ Task 1: User & Permission Misconfigurations

1. First we created a user "cyber" with the use of the command sudo useradd <username>.

```
┌──(kali☻kali)-[~]
└─$ sudo useradd cyber
[sudo] password for kali:
```

2.Next we assigned the password cyber by using sudo passwd <username>.

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

3.we examine the permissions to identify and exploit.

```
┌──(kali☻kali)-[~/Desktop]
└─$ ls -l /etc/shadow
-rw-rw-r-- 1 root shadow 2249 Mar 19 07:33 /etc/shadow
```

4. now we modified the permissions of the shadow file using the command sudo chmod777 and we verify the updated permissions to confirm the ability to view the file.

```
┌──(kali☻kali)-[~/Desktop]
└─$ sudo chmod 777 /etc/shadow

┌──(kali☻kali)-[~/Desktop]
└─$ ls -l /etc/shadow
-rwxrwxrwx 1 root shadow 2249 Mar 19 07:33 /etc/shadow
```

5.Now we can see the contents of the /etc/shadow file. It contains hashed passwords even with normal user privileges.

```
┌──(kali☻kali)-[~]
└─$ cat /etc/shadow
root:*:20057:0:99999:7:::
daemon:*:20057:0:99999:7:::
bin:*:20057:0:99999:7:::
sys:*:20057:0:99999:7:::
sync:*:20057:0:99999:7:::
games:*:20057:0:99999:7:::
man:*:20057:0:99999:7:::
```

NOTE: we have successfully configured (/etc/shadow)

SECURING PERMISSIONS:

1. secure the password file by setting the permissions to 640 using chmod command. This ensures that only the root user and members of the shadow group can access it. The root user's password remains viewable only under superuser privileges.

```
┌──(kali㉿kali)-[~]
└─$ sudo chmod 640 /etc/shadow

┌──(kali㉿kali)-[~]
└─$ sudo chown root:shadow /etc/shadow
```

```
┌──(kali㉿kali)-[~]
└─$ sudo chmod 644 /etc/shadow

┌──(kali㉿kali)-[~]
└─$ sudo chown root:root /etc/passwd
```


SUMMARY OF STEPS:

STEPS	COMMANDS	PURPOSE
Create users	sudo useradd user1	It adds new users
Set passwords	Echo "username:pass	Sudo chpasswd (helps to assign the psd)
Break security	Sudo chmod 777 /etc/shadow	Make shadow file
Exploit	Su username && cat/etc/shadow	Helps to access the password
Fix permissions	Sudo chmod 640 /etc/shadow	Secure the shadow file
Secure /etc/passwd	Sudo chmod 644/etc/passwd	Prevent unauthorized edits
Fix sudo privileges	Sudo visudo	Restrict sudo access