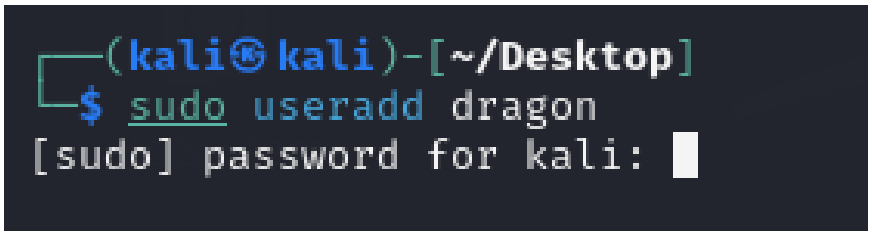
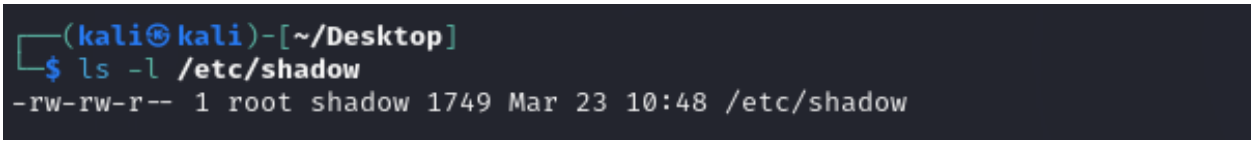
Task 1:User & Permission Misconfiguration:

1. First we have to create a new user “dragon” by using `sudo useradd <username>` command .



2. Using echo command we have to set the password as “har” and update the password using `sudo chpasswd`.

3. Next we check the password file’s permission to detect or exploit misconfigurations.



4. We use the `sudo chmod 777` command to modify the shadow file’s permission, granting full access. Then, we verify the changes.

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

┌──(kali㉿kali)-[~/Desktop]
└─$ ls -l /etc/shadow
-rwxrwxrwx 1 root shadow 1749 Mar 23 10:48 /etc/shadow
```

5. Now we access /ect/shadow file content, where the hashed passwords are stored even with normal user privileges.

```
┌──(kali㉿kali)-[~/Desktop]
└─$ cat /etc/shadow
root:*:19953:0:99999:7:::
daemon:*:19953:0:99999:7:::
bin:*:19953:0:99999:7:::
sys:*:19953:0:99999:7:::
sync:*:19953:0:99999:7:::
games:*:19953:0:99999:7:::
man:*:19953:0:99999:7:::
lp:*:19953:0:99999:7:::
mail:*:19953:0:99999:7:::
news:*:19953:0:99999:7:::
uucp:*:19953:0:99999:7:::
proxy:*:19953:0:99999:7:::
www-data:*:19953:0:99999:7:::
backup:*:19953:0:99999:7:::
list:*:19953:0:99999:7:::
irc:*:19953:0:99999:7:::
_apt:*:19953:0:99999:7:::
nobody:*:19953:0:99999:7:::
```

6. Modification on /etc/shadow to allow access for normal user is successful.

Securing permissions:

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

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

1. We secure the password file by setting its permissions to `640` using the `chmod` command. This ensures that only the root user and members of the shadow group can access it, making the root user's password viewable only with superuser privileges.
2. The `/etc/passwd` file is set to `644` permissions using `sudo chmod 644`, and ownership is assigned to `root:root` with `sudo chown root:root`. This allows regular

users to read the file while restricting modifications.

3. Finally, we use `sudo visudo` to review and confirm the permission settings

SUMMARY OF STEPS:

STEPS	COMMAND	PURPOSE
Create user	sudo useradd	Adds new user
Set password	echo “username:pass”	Assign password
Break security	sudo chmod 777 /etc/shadow	Make shadow file
Exploit	sudo username && cat/etc/shadow	Access passwords
Fix permissions	sudo chmod 640 /etc/shadow	Secure shadow file
Secure /etc/passwd	sudo chmod 644 /etc/passwd	Prevent unauthorized edits
Fix sudo privileges	sudo visudo	Limit sudo access