

Documentation of the procedure to create a group, user, changing ownership and setting permission of a file

Part 1

Scenario

You are the system administrator for TechCorp Solutions, a growing technology company. You need to set up user accounts and file permissions for two departments:

Part 1: Marketing Department (Individual User Files)

Scenario:

The Marketing department has 5 new employees joining the team. Each employee

needs their own workspace with private files that only they can access.

Tasks:

1. Create a group called marketing

2. Create 5 users with the following usernames:

- alice_m**
- bob_m**
- carol_m**
- david_m**
- emma_m**

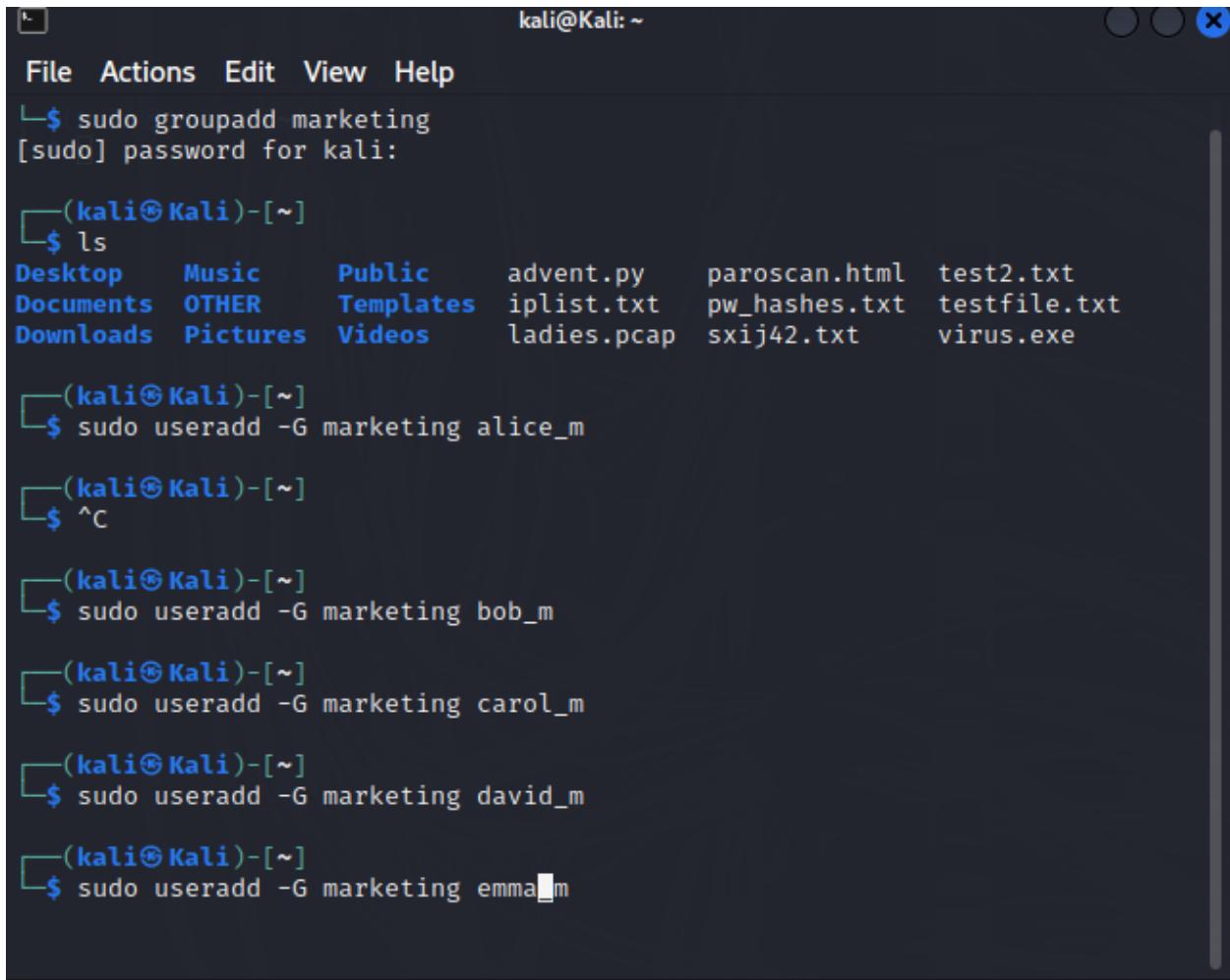
3. Add all 5 users to the marketing group

4. For each user, create a personal file in /home/shared/marketing/:(Each user will be the owner of the corresponding file)

- **alice_m → alice_report.txt**
- **bob_m → bob_report.txt**
- **carol_m → carol_report.txt**
- **david_m → david_report.txt**
- **emma_m → emma_report.txt**
- 5. Set permissions to {700}:
 - **Each user has read, write, and execute (rwx) permissions on their own file**
 - **The group has no permissions (---) on the file**
 - **Others have no permissions (---) on the file**

- Objective: creation of group, users and setting of file ownership and permissions
- Tools Used: Kali linux
- Step-by-Step Process: below is the process as shown in the titled screenshots below

Below is the screenshot of the prompt in creating a group and adding users to the group



The screenshot shows a terminal window titled "kali@Kali: ~". The window has a dark theme with light-colored text. The user is running a series of commands to manage a group named "marketing".

```
kali@Kali: ~
File Actions Edit View Help
└$ sudo groupadd marketing
[sudo] password for kali:
└─(kali㉿Kali)-[~]
└$ ls
Desktop   Music    Public    advent.py  paroscan.html  test2.txt
Documents  OTHER    Templates  iplist.txt  pw_hashes.txt  testfile.txt
Downloads  Pictures Videos    ladies.pcap  sxij42.txt    virus.exe

└─(kali㉿Kali)-[~]
└$ sudo useradd -G marketing alice_m
└─(kali㉿Kali)-[~]
└$ ^C
└─(kali㉿Kali)-[~]
└$ sudo useradd -G marketing bob_m
└─(kali㉿Kali)-[~]
└$ sudo useradd -G marketing carol_m
└─(kali㉿Kali)-[~]
└$ sudo useradd -G marketing david_m
└─(kali㉿Kali)-[~]
└$ sudo useradd -G marketing emma_m
```

Below is the screenshot of the prompt in creating a directory and creating files in the directory created

kali@Kali: /home/shared/marketing

File Actions Edit View Help

```
└──(kali㉿Kali)-[~]
  $ sudo mkdir -p /home/shared/marketing
[sudo] password for kali:

└──(kali㉿Kali)-[~]
  $ sudo touch /home/shared/marketing/alice_report.txt

└──(kali㉿Kali)-[~]
  $ sudo touch /home/shared/marketing/bob_report.txt

└──(kali㉿Kali)-[~]
  $ sudo touch /home/shared/marketing/carol_report.txt
      Sorry, We're having trouble getting you
      Still having trouble restoring your last browsing session. Select Restore Session to
      Still not able to restore your session? Sometimes a tab is causing the issue. View prev
      [kali㉿Kali]-[~]: you don't need to recover, and then restore.

  $ cd marketing
bash: cd: marketing: No such file or directory
      View Previous Tabs
      Start New Sess
└──(kali㉿Kali)-[/home/shared/marketing]
```

Below is the screenshot of the prompt in changing the ownership of a file

The screenshot shows a terminal window with a dark background and light-colored text. At the top, it displays the session information: '(kali㉿Kali)-[~]'. The window title is 'kali@Kali: ~'. The terminal menu bar includes 'File', 'Actions', 'Edit', 'View', and 'Help'. The main area of the terminal shows a series of command-line entries:

```
└─(kali㉿Kali)-[~]
$ sudo chown bob_m:marketing /home/shared/marketing/bob_report.txt

└─(kali㉿Kali)-[~]
$ sudo chown carol_m:marketing /home/shared/marketing/carol_report.txt

└─(kali㉿Kali)-[~]
$ sudo chown david_m:marketing /home/shared/marketing/david_report.txt

└─(kali㉿Kali)-[~]
$ sudo chown emma_m:marketing /home/shared/marketing/emma_report.txt
chown: invalid user: 'emma_m:marketing'

└─(kali㉿Kali)-[~]
$ sudo chown emma_m:marketing /home/shared/marketing/emma_report.txt
chown: invalid user: 'emma_m:marketing'

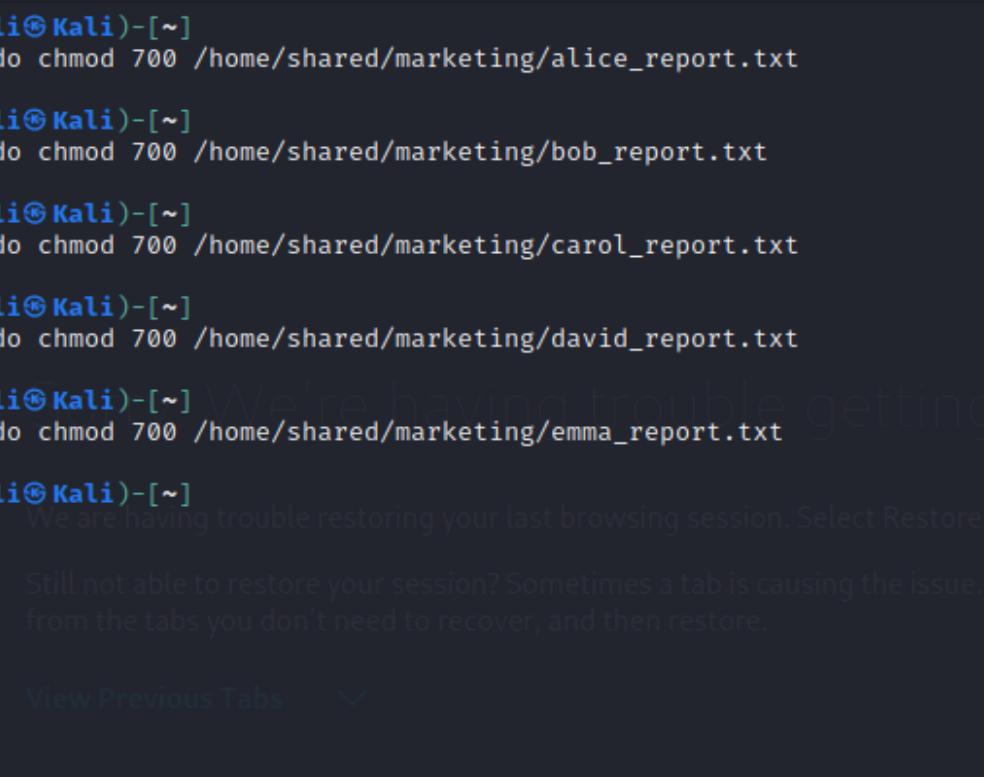
└─(kali㉿Kali)-[~]
$ sudo usermod -G marketing emma_m
usermod: user 'emma_m' does not exist

└─(kali㉿Kali)-[~]
$ sudo useradd -G marketing emma_m

└─(kali㉿Kali)-[~]
$ sudo chown emma_m:marketing /home/shared/marketing/emma_report.txt
```

The terminal window has a standard window frame with minimize, maximize, and close buttons at the top right. A vertical scroll bar is visible on the right side of the terminal window.

Below is the screenshot of the prompt in setting permission on a particular file



The screenshot shows a terminal window with a dark theme. The title bar says "kali@Kali: ~". The window contains six terminal tabs, each showing a command being run:

- (kali㉿Kali)-[~] \$ sudo chmod 700 /home/shared/marketing/alice_report.txt
- (kali㉿Kali)-[~] \$ sudo chmod 700 /home/shared/marketing/bob_report.txt
- (kali㉿Kali)-[~] \$ sudo chmod 700 /home/shared/marketing/carol_report.txt
- (kali㉿Kali)-[~] \$ sudo chmod 700 /home/shared/marketing/david_report.txt
- (kali㉿Kali)-[~] \$ sudo chmod 700 /home/shared/marketing/emma_report.txt
- (kali㉿Kali)-[~] \$ [REDACTED] We're having trouble getting you

Below the tabs, a message reads: "Still not able to restore your session? Sometimes a tab is causing the issue. View previous from the tabs you don't need to recover, and then restore." At the bottom, there are buttons for "View Previous Tabs" and "Start New Session".

Screenshot showing the group, users and files and their permission settings

The screenshot shows a terminal window titled "kali@Kali: /home/shared/marketing". The window has a dark background with light-colored text. It displays the following command-line session:

```
kali@Kali: /home/shared/marketing
File Actions Edit View Help
└─(kali㉿Kali)-[~]
  └─$ getent group marketing
  marketing:x:1001:alice_m,bob_m,carol_m,david_m,emma_m

└─(kali㉿Kali)-[~]
  └─$ cd /home/shared/marketing

└─(kali㉿Kali)-[/home/shared/marketing]
  └─$ ls -l
  total 0
  -rwx—— 1 alice_m marketing 0 Feb 19 13:14 alice_report.txt
  -rwx—— 1 bob_m   marketing 0 Feb 19 13:15 bob_report.txt
  -rwx—— 1 carol_m marketing 0 Feb 19 13:15 carol_report.txt
  -rwx—— 1 david_m marketing 0 Feb 19 13:15 david_report.txt
  -rwx—— 1 emma_m  marketing 0 Feb 19 13:15 emma_report.txt

└─(kali㉿Kali)-[/home/shared/marketing]
  └─$ █
```

Part 2

Scenario:

The IT department needs a collaborative workspace where all team members can work on a shared project file together.

Tasks:

1. Create a group called itdept

2. Create 5 users with the following usernames:

- o frank_it**
- o grace_it**
- o henry_it**
- o iris_it**
- o jack_it**

3. Add all 5 users to the itdept group

4. Create ONE shared file in /home/shared/itdept/:

- o project_specs.txt**

5. Set ownership and permissions (700) so that:

- o Change the ownership so the itdept group owns the file**
- o The group has read, write, and execute (rwx) permissions**
- o The owner has read, write, and execute (rwx) permissions**

Others have no permissions (--) on the file

Below is the screenshot of the prompt adding users to a group

The screenshot shows a terminal window titled "kali@Kali: ~". The user has run several "sudo useradd -G itdept" commands to add users "frank_it", "grace_it", "henry_it", and "iris_it" to the "itdept" group. The user then attempts to create a directory "/home/shared/itdept" using "mkdir" and "sudo mkdir -p", but receives a "Permission denied" error. Finally, the user tries to touch a file "project_specs.txt" in the same directory, also receiving a "Permission denied" error.

```
File Actions Edit View Help
└$ sudo useradd -G itdept frank_it
└(kali㉿Kali)-[~]
└$ sudo useradd -G itdept grace_it
└(kali㉿Kali)-[~]
└$ sudo useradd -G itdept henry_it
└(kali㉿Kali)-[~]
└$ sudo useradd -G itdept iris_it
└(kali㉿Kali)-[~]
└$ mkdir /home/shared/itdept
mkdir: cannot create directory '/home/shared/itdept': Permission denied
└(kali㉿Kali)-[~]
└$ sudo mkdir -p /home/shared/itdept
└(kali㉿Kali)-[~]
└$ touch project_specs.txt /home/shared/itdept
touch: setting times of '/home/shared/itdept': Permission denied
└(kali㉿Kali)-[~]
└$ sudo touch project_specs.txt /home/shared/itdept
```

Below is the screenshot of the prompt in creating a directory, creating a file in the directory created and changing the ownership of the file to the group (itdept)

The screenshot shows a terminal window with the following details:

- Terminal Title:** kali@Kali: ~
- Menu Bar:** File Actions Edit View Help
- Session Log:**
 - (kali㉿Kali)-[~]
 - \$ sudo mkdir -p /home/shared/itdept
 - (kali㉿Kali)-[~]
 - \$ touch project_specs.txt /home/shared/itdept
 - touch: setting times of '/home/shared/itdept': Permission denied
 - (kali㉿Kali)-[~]
 - \$ sudo touch project_specs.txt /home/shared/itdept
 - (kali㉿Kali)-[~]
 - \$ sudo chown :itdept /home/shared/itdept/project_specs.txt
 - chown: cannot access '/home/shared/itdept/project_specs.txt': No such file or directory
 - (kali㉿Kali)-[~]
 - \$ sudo chown :itdept project_specs.txt
 - to restore your session? Sometimes a tab is causing the issue. View previous tabs from the tabs you don't need to recover, and then restore.
 - \$ █
- Bottom Navigation:** View Previous Tabs ▾ Start New Session

Below is the screenshot of the prompt setting permission on a file

The screenshot shows a terminal window titled "kali@Kali: ~". The user runs the command "chmod 770 project_specs.txt" to change the permissions of the file "project_specs.txt" to 770. Then, the user runs "ls -l" to list the files in the current directory, showing detailed permissions, file size, and modification date for each file.

```
[(kali㉿Kali)-[~]]$ chmod 770 project_specs.txt
[(kali㉿Kali)-[~]]$ ls -l
total 18432
drwxr-xr-x 2 kali kali 4096 Dec 22 03:13 Desktop
drwxr-xr-x 2 kali kali 4096 Nov 29 19:16 Documents
drwxr-xr-x 2 kali kali 4096 Feb 8 18:06 Downloads
drwxr-xr-x 2 kali kali 4096 Nov 29 19:16 Music
drwxr-xr-x 2 kali kali 4096 Sep 3 2011 OTHER
drwxr-xr-x 2 kali kali 4096 Nov 29 19:16 Pictures
drwxr-xr-x 2 kali kali 4096 Nov 29 19:16 Public
drwxr-xr-x 2 kali kali 4096 Nov 29 19:16 Templates
drwxr-xr-x 2 kali kali 4096 Nov 29 19:16 Videos
-rw-r--r-- 1 kali kali 309 Dec 10 23:59 advent.py
drwxr-xr-x 2 kali kali 4096 Feb 19 14:36 home
-rw-r--r-- 1 kali kali 41 Dec 21 19:15 iplist.txt
-rw-r--r-- 1 tcpdump tcpdump 18782497 Dec 10 23:14 ladies.pcap
-rw-r--r-- 1 kali kali 23323 Dec 21 19:18 paroscan.html
-rwxrwx--- 1 kali itdept 0 Feb 19 14:47 project_specs.txt
-rw-r--r-- 1 kali kali 198 Dec 28 00:52 pw_hashes.txt
-rw-r--r-- 1 kali kali 103 Jan 14 13:08 sxij42.txt
-rw-r--r-- 1 kali kali 63 Nov 29 20:20 test2.txt
-rw-r--r-- 1 kali kali 18 Nov 29 20:15 testfile.txt
-rw-r--r-- 1 kali kali 0 Dec 14 20:23 virus.exe
```

Lesson Learned

I learned that the work of IT admin include proper account management by creating appropriate users in the right group and also setting permission to files as necessary.