



S.H.E.L.L.
SECURITY IS AN ILLUSION



S.H.E.L.L.

BASIC LINUX COMMANDS

kevin@kevin-Satellite-P55-A: ~/Desktop/hw4

```
kevin@kevin-Satellite-P55-A:~/Desktop/hw4$ wget -cr -np -nc --accept-regex allrecipes.com/Recipe/.*Chicken.* allrecipes.com
```

```
bp-columns.1.2.zip
carta_pasante.docx
clonezilla-live-2.1.2-20-i686-pae.iso
Convocatoria-Sinergia2013_2014.pdf
cosmicbuddy-1.1.rc2-update-1.zip
devuelta.jpg
frisco-for-buddypress.1.6.13.zip
gparted-live-0.16.1-1-i486.iso
jDownloader
logo_big_1.5.png
nautiluspatch_v3.4.2-0ubuntu8-1_amd64.deb
orgullo.jpg
Presupuesto Yova Systems MG030713A CPU GAMER.pdf
prueba_borrar.docx
Responsive Wordpress Templates
seafile-server_1.7.0_x86-64.tar.gz
Solicitud-Sinergia2013.pdf
time.png
webmin-1.630-minimal.tar.gz
wp-members-es_ES.po~
geppettvs@MONSTRUO:~/Downloads$ exit
exit
geppettvs@MONSTRUO:~$ ./tty2gif.py typing ttyrecord
geppettvs@MONSTRUO:~$
```



Linux

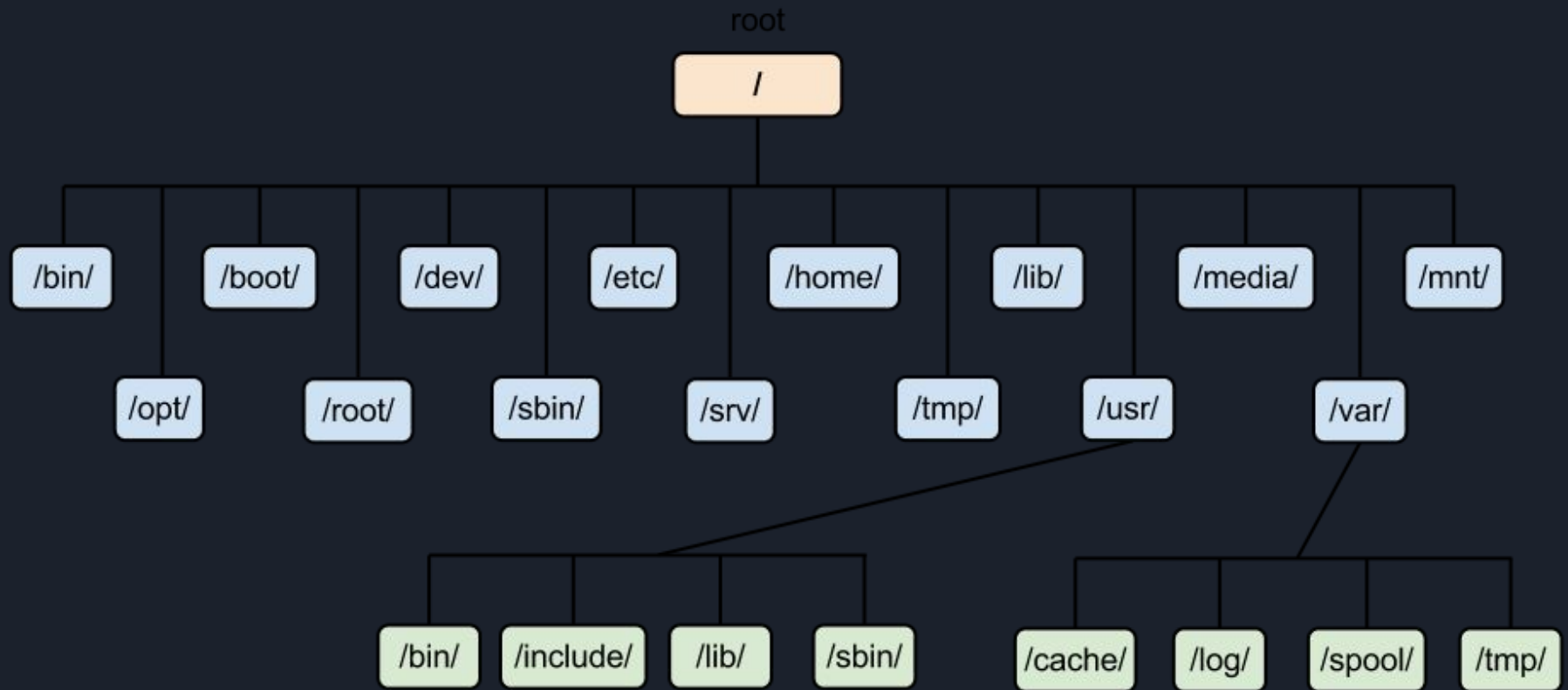
- Technically, GNU/Linux
- *GNU/Linux* is a family of open-source Unix-like operating systems based on the *Linux* kernel
- Open-source means software whose source code is publicly available, anyone can see, use and even modify the source code.
- That's why it's free and compatible with a large range of hardware.
- <https://github.com/torvalds/linux>



Why Linux?

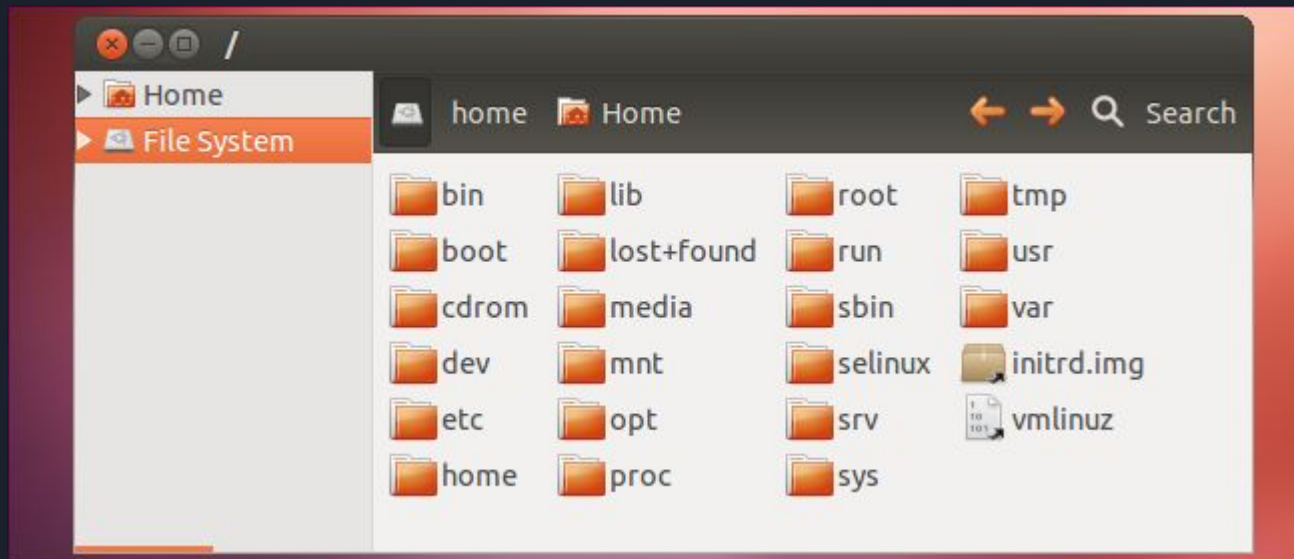
- Linux is extensively used in the tech industry.
- Almost every website, and servers are hosted on it due to its way lesser overhead.
- So, it's important to learn and understand it.
- Coming to why we use it for security, it's the safest operating system, with the least risk of malware(there will always be a risk) because the code is open source so patches can be applied quickly.
- Easier to manage software packages and tools.


File System in Linux



Directories

- Directories are nothing but “folders” as we call them in Windows.
- They contain the various files.
- The entire OS is organized into these directories.





The /bin directory contains the binaries and other executable programs. Most of the common Linux commands that we may as a user of the system are stored here.

The /boot directory contains the static boot loader files needed to boot the operating system

The /dev directory contains device files which are typically under the control of the operating system and the system administrators.

The /etc directory contains the system configuration files.

The /home directory contains a home directory for each user. Each user's personal files and user-specific configuration files are stored in their respective home directories

The /lib directory contains the essential system libraries and kernel modules which would be required by the binaries located under the /bin or /sbin directories

The /opt directory contains sub-directories for optional or third-party software.

The /proc directory contains information about the processes running on your system in directories named /proc/PID where PID is the process id.

The /usr directory is used to contain the applications and file pertaining to a particular user as compared to the files and applications of the system.

The /var directory is used to store the log files ,packages and databases.



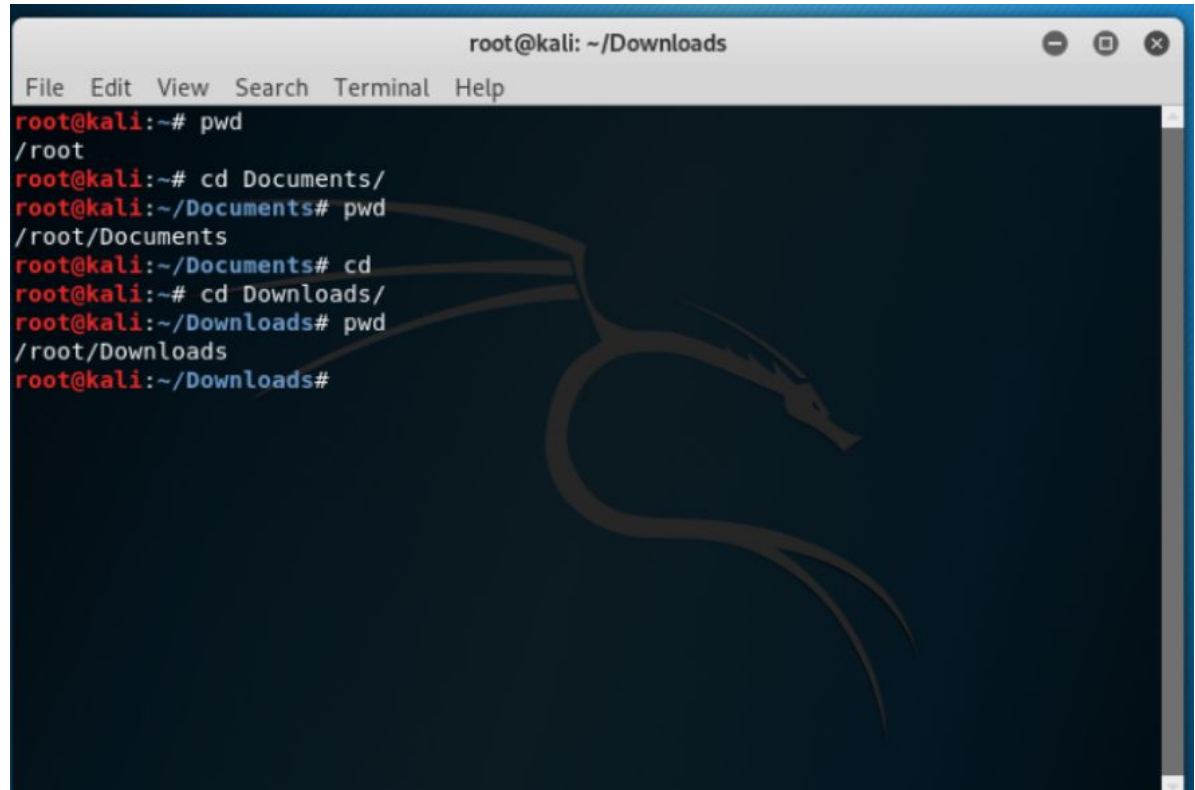
Users and Groups

- Linux allows for multiple users to have interactive access to the system. Different users can have different permissions (privileges).
- The “root” user is the most-privileged user on the system. Same as “Administrator” in windows
- Groups are used to give a number of users (belonging to the same group) the same permissions.
- A user can be in multiple groups.

pwd

pwd means **Print Working Directory**.

This displays the current working directory.

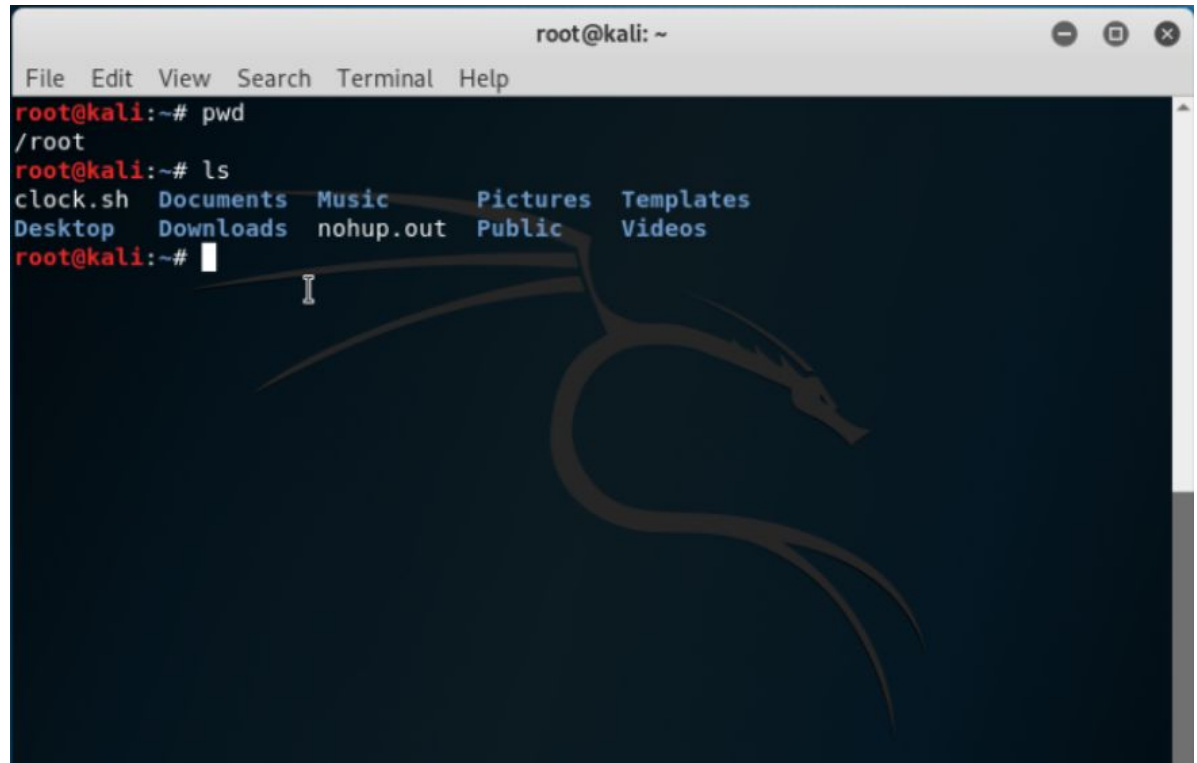
A terminal window titled 'root@kali: ~/Downloads' with a menu bar (File, Edit, View, Search, Terminal, Help) and window controls. The terminal shows a sequence of commands and their outputs: 'pwd' returns '/root', 'cd Documents/' changes the directory, 'pwd' returns '/root/Documents', 'cd' returns to the home directory, 'cd Downloads/' changes the directory, and 'pwd' returns '/root/Downloads'. A large, faint Kali Linux dragon logo is visible in the background of the terminal.

```
root@kali: ~/Downloads
File Edit View Search Terminal Help
root@kali:~# pwd
/root
root@kali:~# cd Documents/
root@kali:~/Documents# pwd
/root/Documents
root@kali:~/Documents# cd
root@kali:~# cd Downloads/
root@kali:~/Downloads# pwd
/root/Downloads
root@kali:~/Downloads#
```

ls

ls stands for 'list'

ls is a command in linux which displays the list of files in the current working directory



```
root@kali: ~  
File Edit View Search Terminal Help  
root@kali:~# pwd  
/root  
root@kali:~# ls  
clock.sh  Documents  Music      Pictures  Templates  
Desktop  Downloads  nohup.out  Public    Videos  
root@kali:~#
```

The image shows a terminal window titled 'root@kali: ~'. The window has a menu bar with 'File', 'Edit', 'View', 'Search', 'Terminal', and 'Help'. The terminal output shows the user running 'pwd' and 'ls'. The 'ls' command output lists files and directories: 'clock.sh', 'Documents', 'Music', 'Pictures', 'Templates', 'Desktop', 'Downloads', 'nohup.out', 'Public', and 'Videos'. A cursor is visible on the line 'root@kali:~#'. A faint dragon logo is visible in the background of the terminal window.

ls -l

-l stands for long listing

ls -l displays the file in long formats with its details.

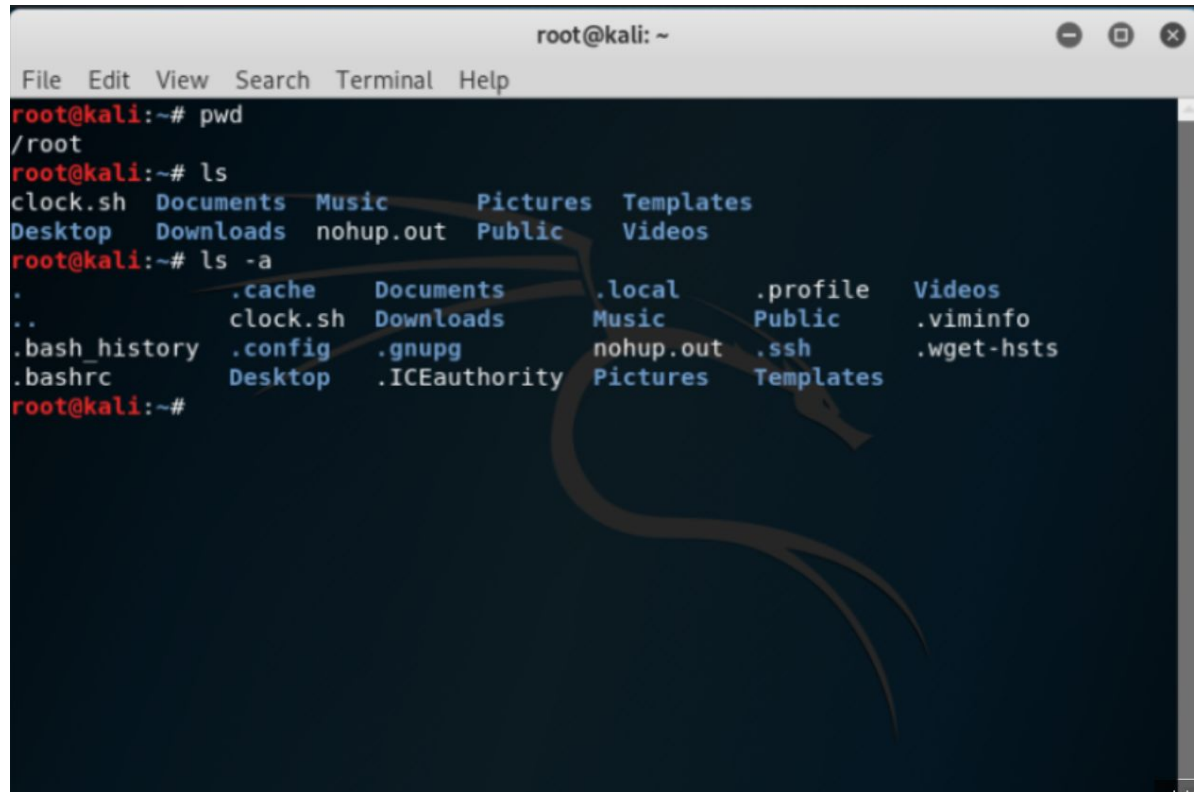
Here the details mean the owner who created those files or directories and the date and time when the directory or file is created and the memory in bytes of the file or directory.

```
(kali㉿kali)-[~]  
$ ls -l  
total 40  
drwxr-xr-x 2 kali kali 4096 Jan 13 01:01 Desktop  
drwxr-xr-x 2 kali kali 4096 Dec 19 20:12 Documents  
drwxr-xr-x 2 kali kali 4096 Feb  5 08:25 Downloads  
-rw-r--r-- 1 kali kali  10 Feb 11 07:42 kali.txt  
drwxr-xr-x 2 kali kali 4096 Dec 19 20:12 Music  
drwxr-xr-x 2 kali kali 4096 Jan 13 06:10 Pictures  
drwxr-xr-x 2 kali kali 4096 Dec 19 20:12 Public  
-rwx----- 1 root root  12 Feb 11 07:48 secret.txt  
drwxr-xr-x 2 kali kali 4096 Dec 19 20:12 Templates  
drwxr-xr-x 2 kali kali 4096 Dec 19 20:12 Videos
```

ls - a

'a' stands for 'all'
ls -a is a command in linux which displays the list of files including the hidden files in the current working directory.

Hidden files are files in linux which cannot be normally seen. They start with a dot (.). Such files won't be visible with ls but will be with ls -a



```
root@kali: ~  
File Edit View Search Terminal Help  
root@kali:~# pwd  
/root  
root@kali:~# ls  
clock.sh  Documents  Music      Pictures  Templates  
Desktop  Downloads  nohup.out  Public    Videos  
root@kali:~# ls -a  
.          .cache     Documents  .local    .profile  Videos  
..         clock.sh   Downloads  Music     Public    .viminfo  
.bash_history .config   .gnupg     nohup.out .ssh      .wget-hsts  
.bashrc    Desktop   .ICEauthority Pictures   Templates  
root@kali:~#
```

ls -al

Parameters can also be combined.

ls -al is a combination of the two params, it will list all files/directories with details of the current working directory.

```
root@kali: ~  
File Edit View Search Terminal Help  
./Downloads:  
./Music:  
./Pictures:  
./Public:  
./Templates:  
./Videos:  
root@kali:~# ls -al  
total 88  
drwxr-xr-x 15 root root 4096 Aug 30 2019 .  
drwxr-xr-x 19 root root 4096 Apr 22 2019 ..  
-rw-r--r-- 1 root root 217 Aug 30 2019 .bash_history  
-rw-r--r-- 1 root root 3391 Feb 28 2019 .bashrc  
drwx----- 7 root root 4096 May 7 2019 .cache  
-rw-r--r-- 1 root root 58 Aug 30 2019 clock.sh  
drwxr-xr-x 10 root root 4096 Apr 22 2019 .config  
drwxr-xr-x 2 root root 4096 Apr 22 2019 Desktop  
drwxr-xr-x 3 root root 4096 Jan 11 08:48 Documents  
drwxr-xr-x 2 root root 4096 Apr 22 2019 Downloads  
drwx----- 3 root root 4096 Apr 22 2019 .gnupg  
-rw-r--r-- 1 root root 1236 Aug 30 2019 .ICEauthority  
drwx----- 3 root root 4096 Apr 22 2019 .local  
drwxr-xr-x 2 root root 4096 Apr 22 2019 Music  
-rw-r--r-- 1 root root 0 May 31 2019 nohup.out  
drwxr-xr-x 2 root root 4096 Apr 22 2019 Pictures  
-rw-r--r-- 1 root root 148 Nov 29 2018 .profile  
drwxr-xr-x 2 root root 4096 Apr 22 2019 Public  
drwx----- 2 root root 4096 Aug 30 2019 .ssh  
drwxr-xr-x 2 root root 4096 Apr 22 2019 Templates  
drwxr-xr-x 2 root root 4096 Apr 22 2019 Videos  
-rw-r--r-- 1 root root 891 May 7 2019 .viminfo  
-rw-r--r-- 1 root root 170 May 31 2019 .wget-hsts  
root@kali:~#
```


man

man stands for manual pages.

This command is used to get detailed information of other commands.

```
FIND(1)                                General Commands Manual                                FIND(1)

NAME
    find - search for files in a directory hierarchy

SYNOPSIS
    find [-H] [-L] [-P] [-D debugopts] [-Olevel] [starting-point...] [ex-
    pression]

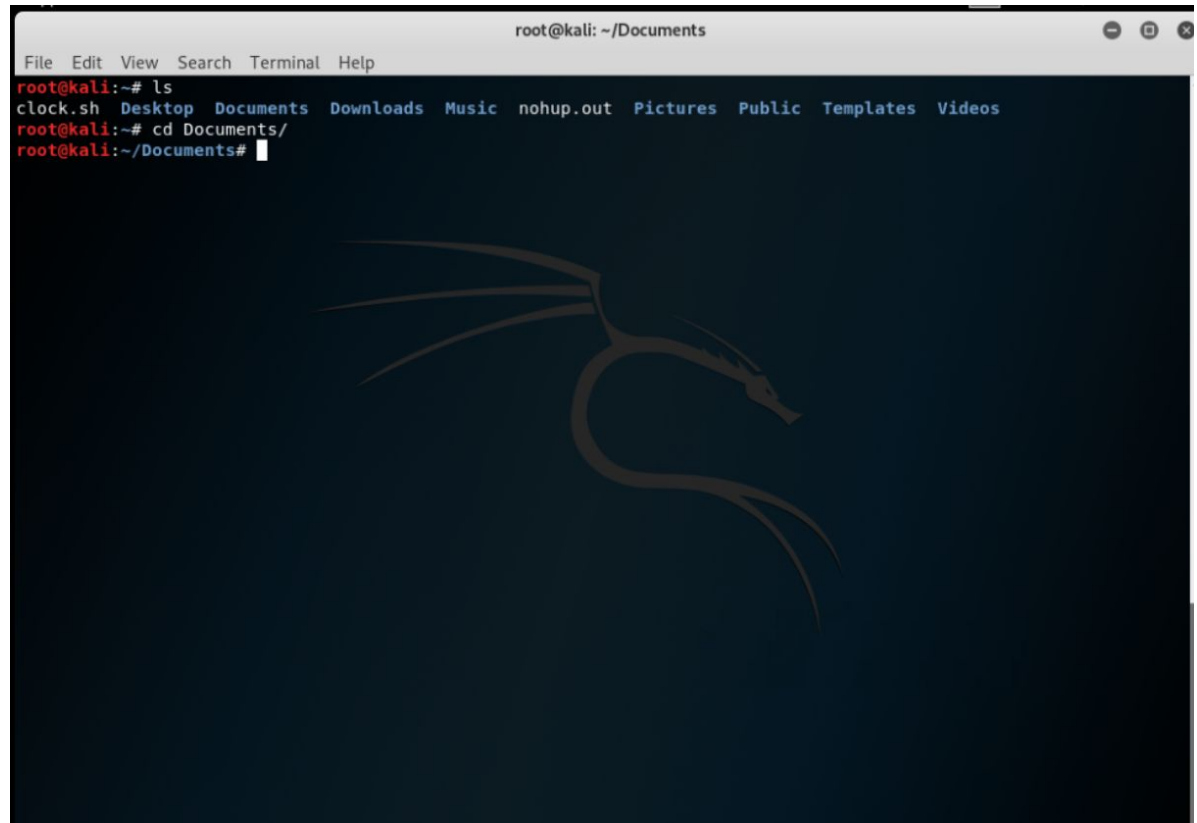
DESCRIPTION
    This manual page documents the GNU version of find. GNU find searches
    the directory tree rooted at each given starting-point by evaluating
    the given expression from left to right, according to the rules of
    precedence (see section OPERATORS), until the outcome is known (the
    left hand side is false for and operations, true for or), at which
    point find moves on to the next file name. If no starting-point is
    specified, `.` is assumed.

    If you are using find in an environment where security is important
    (for example if you are using it to search directories that are
    writable by other users), you should read the 'Security Considerations'
    chapter of the findutils documentation, which is called Finding Files
    and comes with findutils. That document also includes a lot more de-

Manual page find(1) line 1 (press h for help or q to quit)
```


cd “dirname”

cd stands for 'change directory'
cd is the command which is used for switching directories.

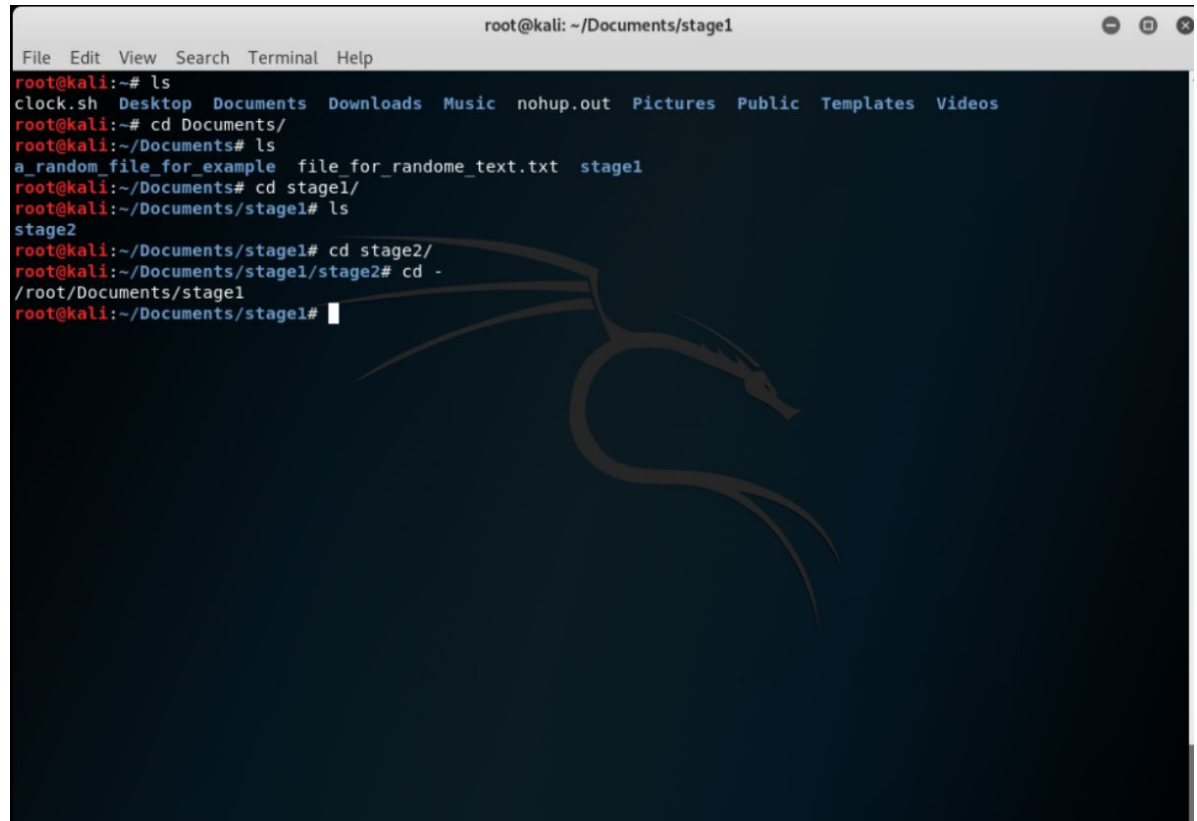
A terminal window titled 'root@kali: ~/Documents' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows the following commands and output:

```
root@kali:~# ls
clock.sh Desktop Documents Downloads Music nohup.out Pictures Public Templates Videos
root@kali:~# cd Documents/
root@kali:~/Documents#
```

A large, faint dragon logo is visible in the background of the terminal window.

cd -

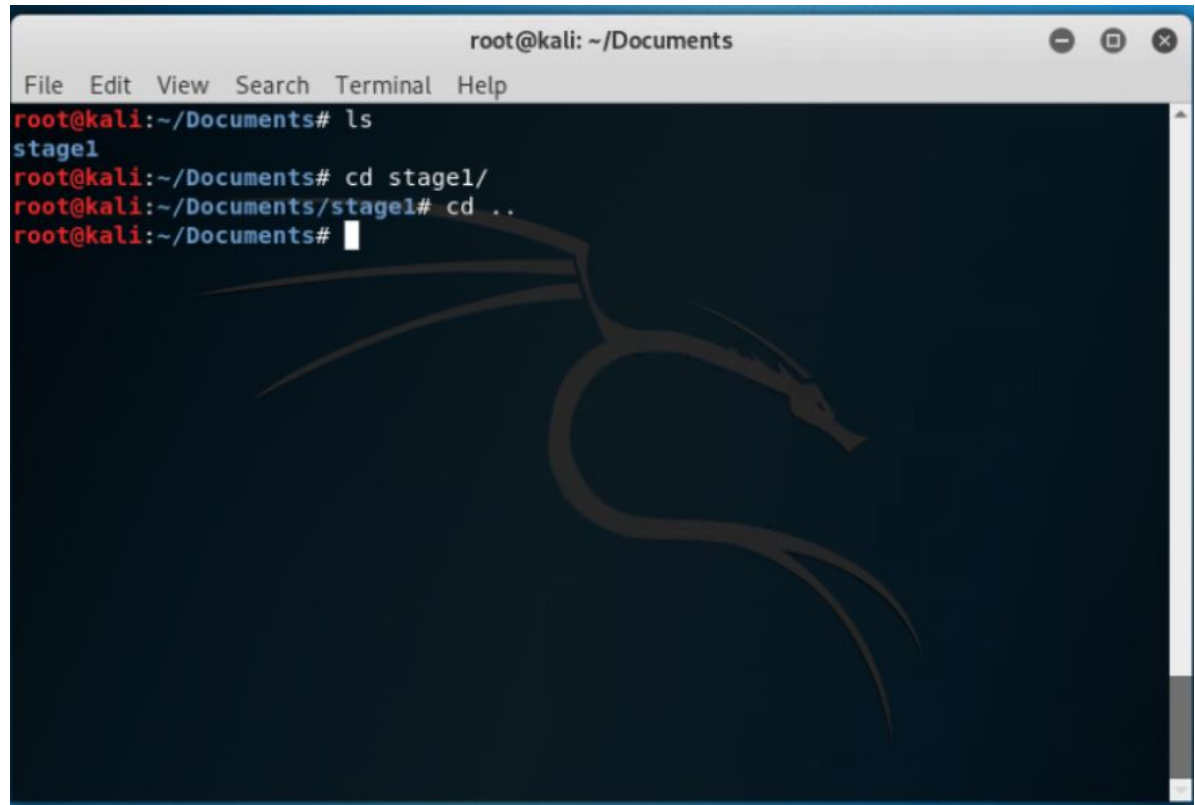
Here the extra - is used for switching back to the previous directory (before the last cd command) and displaying the current working directory .

A terminal window titled 'root@kali: ~/Documents/stage1' with a menu bar (File, Edit, View, Search, Terminal, Help) and window controls. The terminal shows a sequence of commands: 'ls' (listing files), 'cd Documents/' (changing to Documents), 'ls' (listing files including 'stage1'), 'cd stage1/' (changing to stage1), 'ls' (listing files including 'stage2'), 'cd stage2/' (changing to stage2), and 'cd -' (switching back to stage1). The prompt returns to '/root/Documents/stage1' after the final command. A faint dragon logo is visible in the background.

```
root@kali:~/Documents/stage1
File Edit View Search Terminal Help
root@kali:~# ls
clock.sh Desktop Documents Downloads Music nohup.out Pictures Public Templates Videos
root@kali:~# cd Documents/
root@kali:~/Documents# ls
a_random_file_for_example file_for_randome_text.txt stage1
root@kali:~/Documents# cd stage1/
root@kali:~/Documents/stage1# ls
stage2
root@kali:~/Documents/stage1# cd stage2/
root@kali:~/Documents/stage1/stage2# cd -
/root/Documents/stage1
root@kali:~/Documents/stage1#
```

cd ..

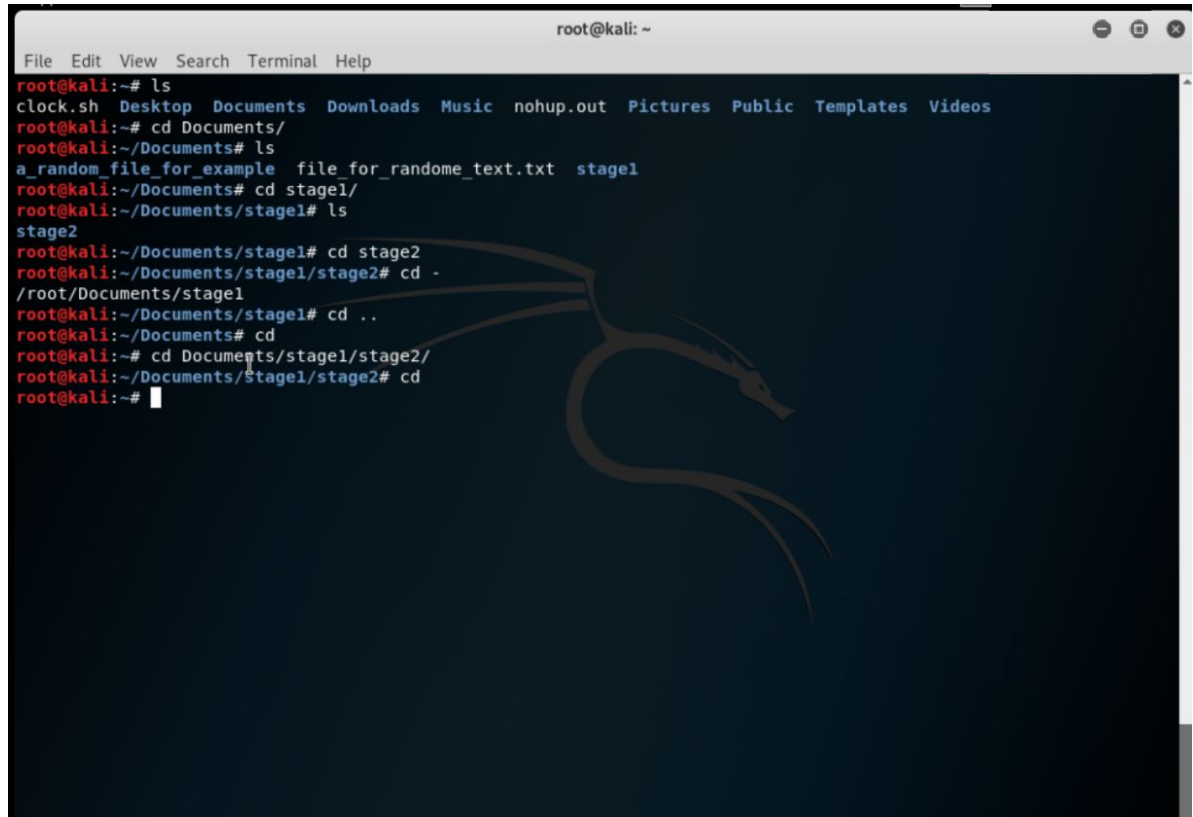
cd .. takes you to the parent directory. (outer folder containing the current folder)

A terminal window titled 'root@kali: ~/Documents' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows a sequence of commands: 'ls' listing 'stagel', 'cd stagel/' changing to the subdirectory, and 'cd ..' returning to the parent directory. A faint Kali Linux dragon logo is visible in the background.

```
root@kali: ~/Documents
File Edit View Search Terminal Help
root@kali:~/Documents# ls
stagel
root@kali:~/Documents# cd stagel/
root@kali:~/Documents/stagel# cd ..
root@kali:~/Documents#
```

cd

In this case i.e. just cd without any file name after cd switches the current working directory with home directory.

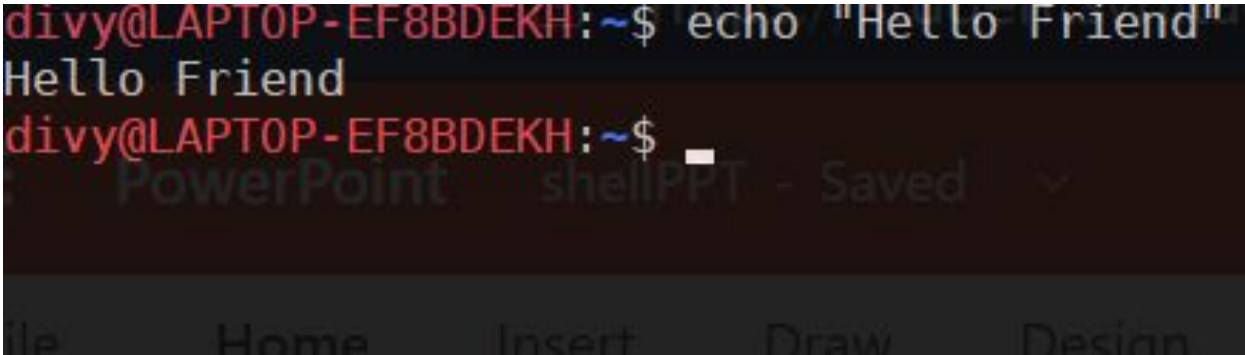
A terminal window titled 'root@kali: ~' with a menu bar (File, Edit, View, Search, Terminal, Help) and window control buttons. The terminal shows a sequence of commands and outputs: 'ls' lists files in the home directory; 'cd Documents/' changes to the Documents directory; 'ls' lists files there, including 'stage1'; 'cd stage1/' changes to the stage1 subdirectory; 'ls' lists 'stage2'; 'cd stage2' changes to the stage2 subdirectory; 'cd -' returns to the stage1 directory; 'cd ..' returns to the Documents directory; 'cd' returns to the home directory. A faint dragon logo is visible in the background.

```
root@kali:~# ls
clock.sh Desktop Documents Downloads Music nohup.out Pictures Public Templates Videos
root@kali:~# cd Documents/
root@kali:~/Documents# ls
a_random_file_for_example file_for_random_text.txt stage1
root@kali:~/Documents# cd stage1/
root@kali:~/Documents/stage1# ls
stage2
root@kali:~/Documents/stage1# cd stage2
root@kali:~/Documents/stage1/stage2# cd -
/root/Documents/stage1
root@kali:~/Documents/stage1# cd ..
root@kali:~/Documents# cd
root@kali:~# cd Documents/stage1/stage2/
root@kali:~/Documents/stage1/stage2# cd
root@kali:~#
```



echo

Prints text to
the console, enclosed in
" "



```
divy@LAPTOP-EF8BDEKH:~$ echo "Hello Friend"  
Hello Friend  
divy@LAPTOP-EF8BDEKH:~$
```

The screenshot shows a terminal window with a dark background. The prompt is 'divy@LAPTOP-EF8BDEKH:~\$'. The command 'echo "Hello Friend"' is entered and executed, resulting in the output 'Hello Friend'. Below the terminal, a blurred PowerPoint interface is visible, showing the title 'PowerPoint', the status 'shellPPT - Saved', and a menu bar with 'File', 'Home', 'Insert', 'Draw', and 'Design'.

cat “file”

cat followed by file's name displays the text in that file

```
root@kali: ~  
File Edit View Search Terminal Help  
root@kali:~# ls  
clock.sh Documents firsttext.txt nohup.out Public Templates Videos  
Desktop Downloads Music Pictures secondtext.txt thirdtext.txt  
root@kali:~# cat firsttext.txt  
flag_of_some_format{welcome_to_shell}  
root@kali:~#
```

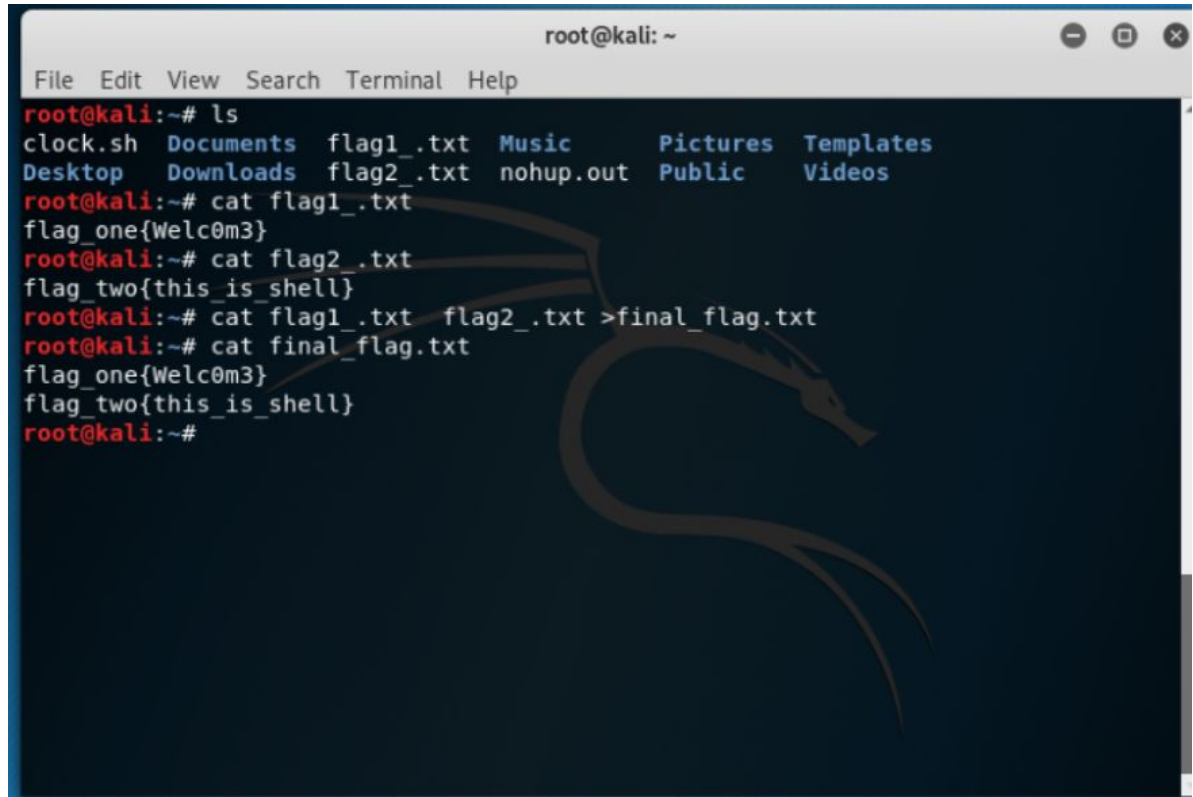
cat >newfile

This command creates a new file, and we can enter whatever text we want.

```
root@kali: ~  
File Edit View Search Terminal Help  
root@kali:~# ls  
clock.sh  Documents  firsttext.txt  nohup.out  Public  Templates  Videos  
Desktop  Downloads  Music         Pictures   secondtext.txt  thirdtext.txt  
root@kali:~# cat firsttext.txt  
flag_of_some_format{welcome_to_shell}  
root@kali:~# cat secondtext.txt  
this_flag_is_in{second_text_file}  
root@kali:~# cat> final_text.txt  
flag_in_final_text{welcome}^Z  
[5]+  Stopped                  cat > final_text.txt  
root@kali:~#
```

cat f1 f2 > f3

This command saves the text inside file f1 and f2 to file f3.

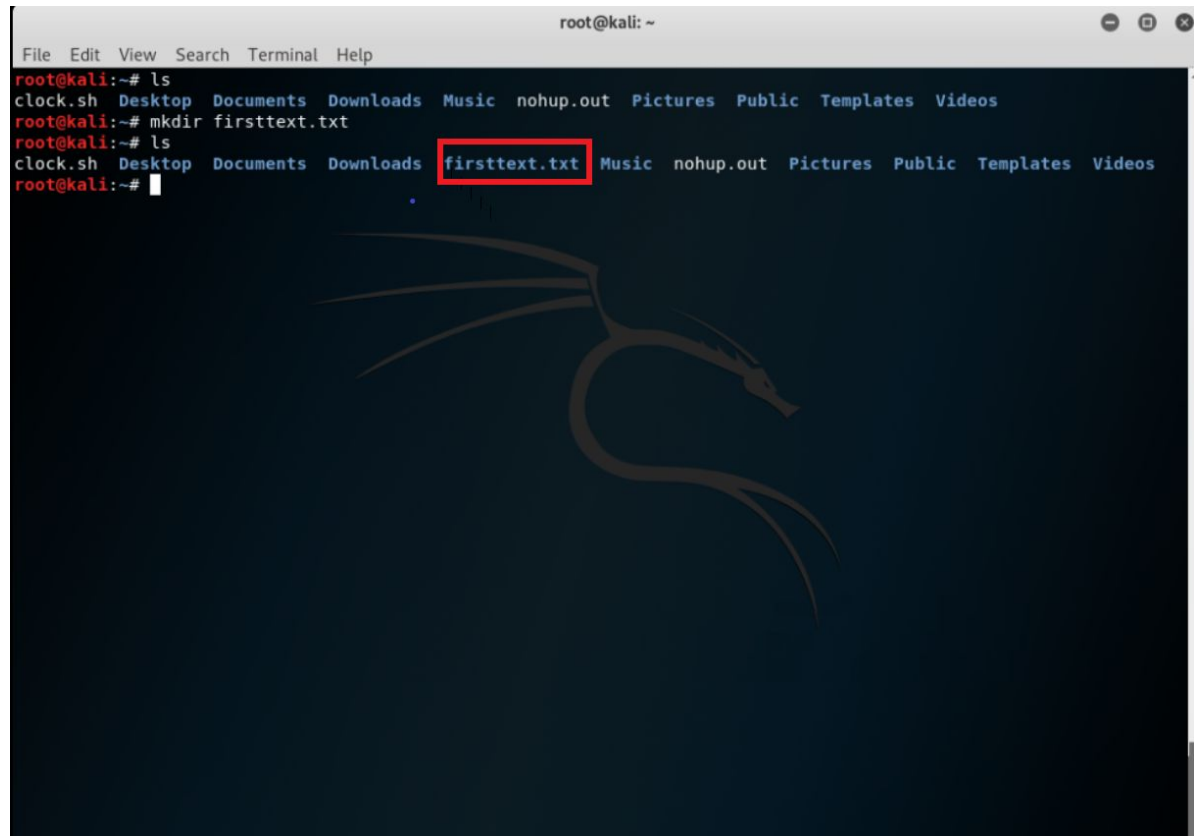
A terminal window titled 'root@kali: ~' with a menu bar (File, Edit, View, Search, Terminal, Help) and window control buttons. The terminal shows the following commands and output:

```
root@kali:~# ls
clock.sh  Documents  flag1_.txt  Music      Pictures  Templates
Desktop  Downloads  flag2_.txt  nohup.out  Public    Videos
root@kali:~# cat flag1_.txt
flag_one{Welc0m3}
root@kali:~# cat flag2_.txt
flag_two{this_is_shell}
root@kali:~# cat flag1_.txt flag2_.txt >final_flag.txt
root@kali:~# cat final_flag.txt
flag_one{Welc0m3}
flag_two{this_is_shell}
root@kali:~#
```

A faint Kali Linux dragon logo is visible in the background of the terminal window.

mkdir

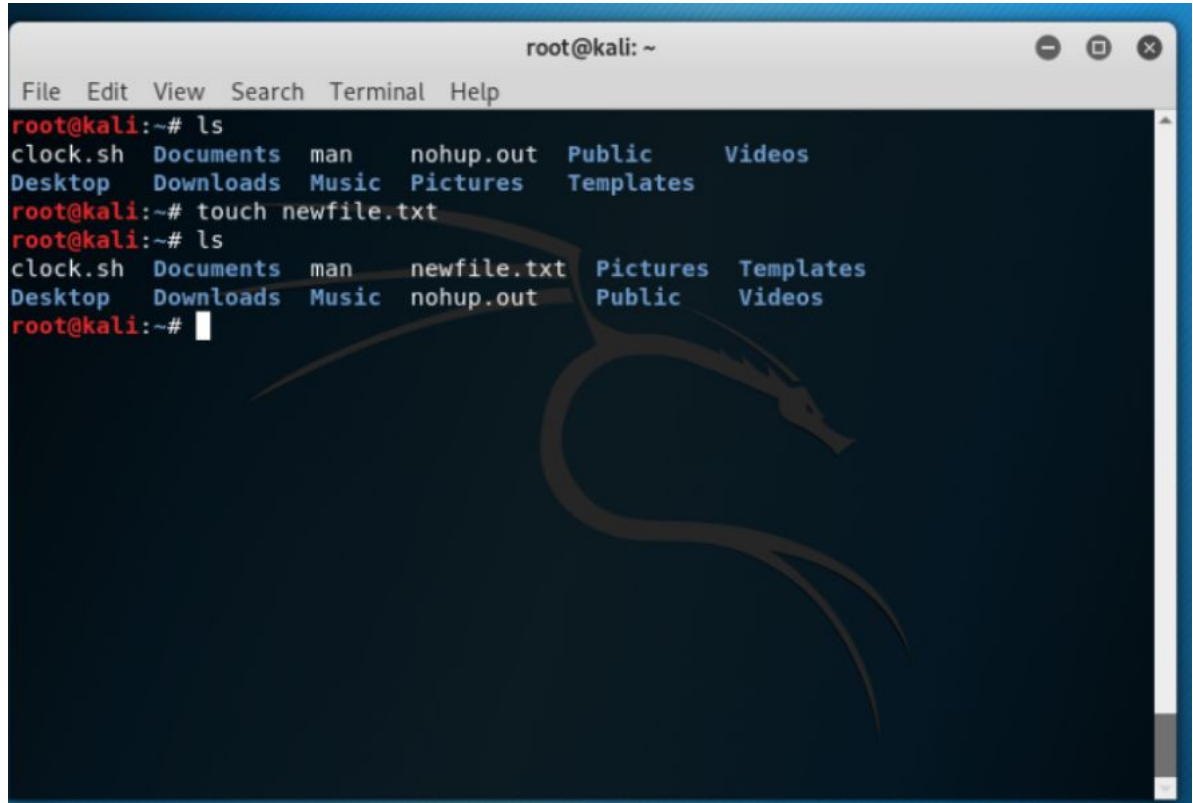
This command is used to make directories.

A terminal window titled 'root@kali: ~' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows a sequence of commands: 'ls', 'mkdir firsttext.txt', and 'ls' again. The output of the second 'ls' command shows 'firsttext.txt' highlighted with a red box. A Kali Linux dragon logo is visible in the background.

```
root@kali:~# ls
clock.sh Desktop Documents Downloads Music nohup.out Pictures Public Templates Videos
root@kali:~# mkdir firsttext.txt
root@kali:~# ls
clock.sh Desktop Documents Downloads firsttext.txt Music nohup.out Pictures Public Templates Videos
root@kali:~#
```

touch

This command allows you to create a blank new file through the linux command line.

A terminal window titled 'root@kali: ~' with a menu bar (File, Edit, View, Search, Terminal, Help) and standard window controls. The terminal shows the execution of the 'touch' command to create a new file. A faint Kali Linux dragon logo is visible in the background.

```
root@kali:~# ls
clock.sh  Documents  man      nohup.out  Public    Videos
Desktop   Downloads  Music    Pictures   Templates
root@kali:~# touch newfile.txt
root@kali:~# ls
clock.sh  Documents  man      newfile.txt  Pictures  Templates
Desktop   Downloads  Music    nohup.out    Public    Videos
root@kali:~#
```

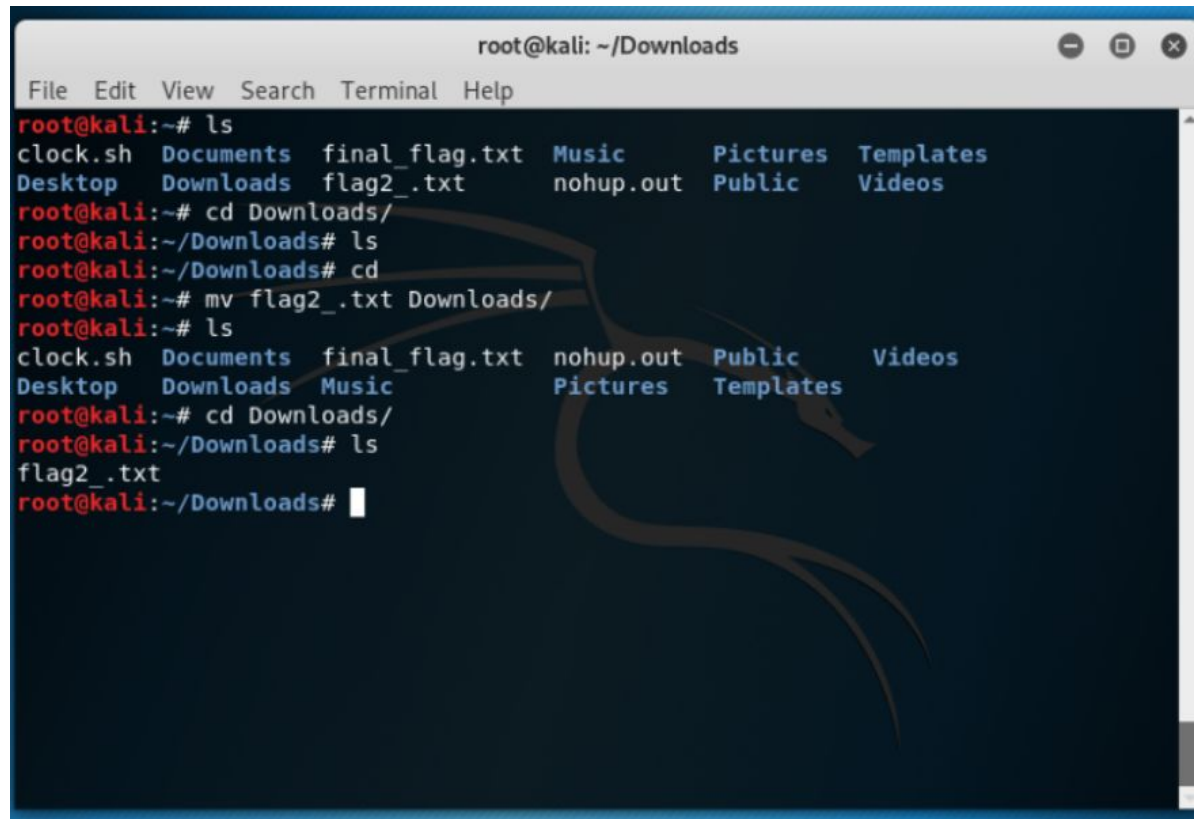
cp

This command is used to copy files from the any directory to any other directory.

```
root@kali: ~  
File Edit View Search Terminal Help  
root@kali:~# ls  
clock.sh  Documents  final_flag.txt  flag2_.txt  nohup.out  Public  Videos  
Desktop  Downloads  flag1_.txt      Music       Pictures   Templates  
root@kali:~# cat flag1_.txt  
flag_one{Welc0m3}  
root@kali:~# cat flag2_.txt  
flag_two{this_is_shell}  
root@kali:~# cp flag1_.txt flag2_.txt  
root@kali:~# cat flag2_.txt  
flag_one{Welc0m3}  
root@kali:~#
```

mv

This command is used for moving files or renaming files.

A terminal window titled 'root@kali: ~/Downloads' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows a sequence of commands and their outputs. A faint Kali Linux dragon logo is visible in the background. The commands executed are: 'ls' (listing files in the home directory), 'cd Downloads/' (changing to the Downloads directory), 'ls' (listing files in Downloads), 'cd' (changing to the Downloads directory), 'mv flag2_.txt Downloads/' (moving the file), 'ls' (listing files in the home directory), 'cd Downloads/' (changing to the Downloads directory), 'ls' (listing files in Downloads), and 'flag2_.txt' (displaying the file name).

```
root@kali: ~/Downloads
File Edit View Search Terminal Help
root@kali:~# ls
clock.sh  Documents  final_flag.txt  Music      Pictures  Templates
Desktop  Downloads  flag2_.txt      nohup.out  Public    Videos
root@kali:~# cd Downloads/
root@kali:~/Downloads# ls
root@kali:~/Downloads# cd
root@kali:~# mv flag2_.txt Downloads/
root@kali:~# ls
clock.sh  Documents  final_flag.txt  nohup.out  Public    Videos
Desktop  Downloads  Music           Pictures    Templates
root@kali:~# cd Downloads/
root@kali:~/Downloads# ls
flag2_.txt
root@kali:~/Downloads#
```

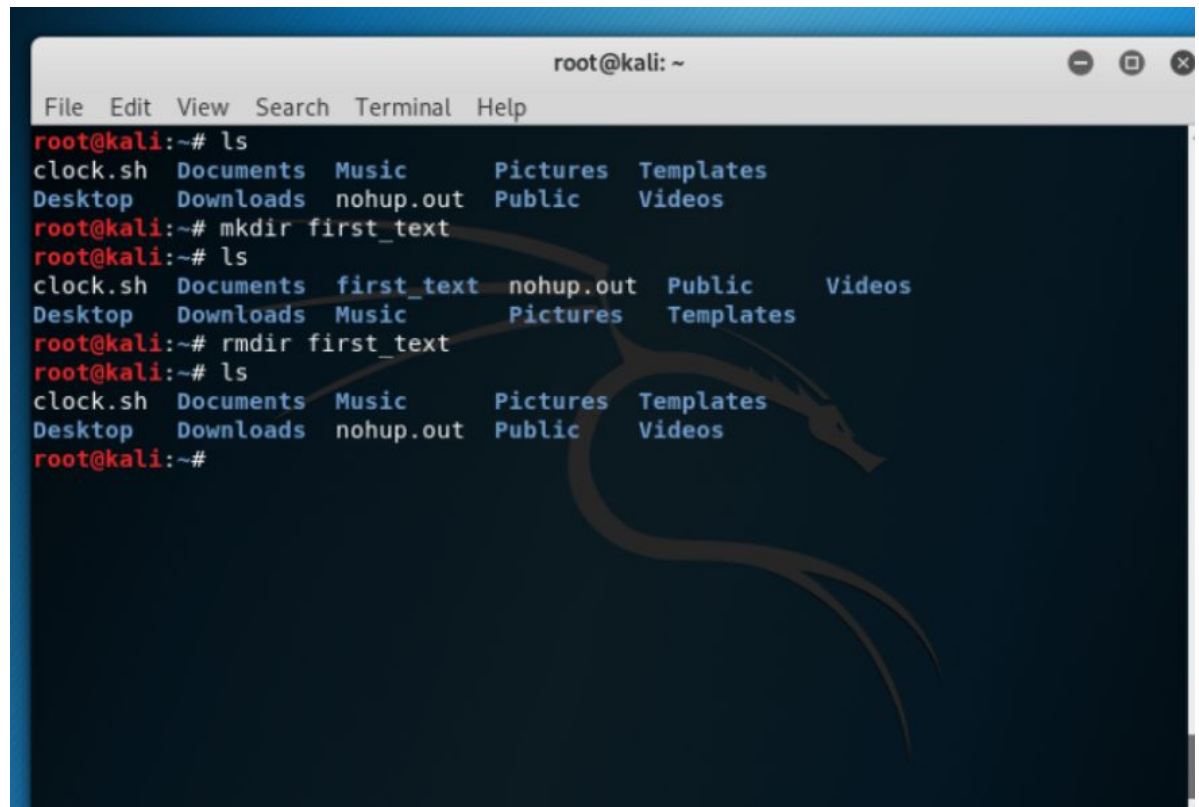
rm

This command is used to delete files.

```
root@kali: ~  
File Edit View Search Terminal Help  
root@kali:~# ls  
clock.sh Documents Music Pictures README.txt Videos  
Desktop Downloads nohup.out Public Templates  
root@kali:~# rm README.txt  
root@kali:~# ls  
clock.sh Documents Music Pictures Templates  
Desktop Downloads nohup.out Public Videos  
root@kali:~#
```

rmdir

This command is used to delete directories and the contents within them.

A terminal window titled 'root@kali: ~' with a menu bar (File, Edit, View, Search, Terminal, Help) and standard window controls. The terminal shows a sequence of commands and their outputs. First, 'ls' is run, showing a directory listing. Then, 'mkdir first_text' is run. Next, 'ls' is run again, showing the new directory. Finally, 'rmdir first_text' is run, and a subsequent 'ls' shows the directory has been removed. A faint Kali Linux dragon logo is visible in the background.

```
root@kali: ~  
File Edit View Search Terminal Help  
root@kali:~# ls  
clock.sh Documents Music Pictures Templates  
Desktop Downloads nohup.out Public Videos  
root@kali:~# mkdir first_text  
root@kali:~# ls  
clock.sh Documents first_text nohup.out Public Videos  
Desktop Downloads Music Pictures Templates  
root@kali:~# rmdir first_text  
root@kali:~# ls  
clock.sh Documents Music Pictures Templates  
Desktop Downloads nohup.out Public Videos  
root@kali:~#
```

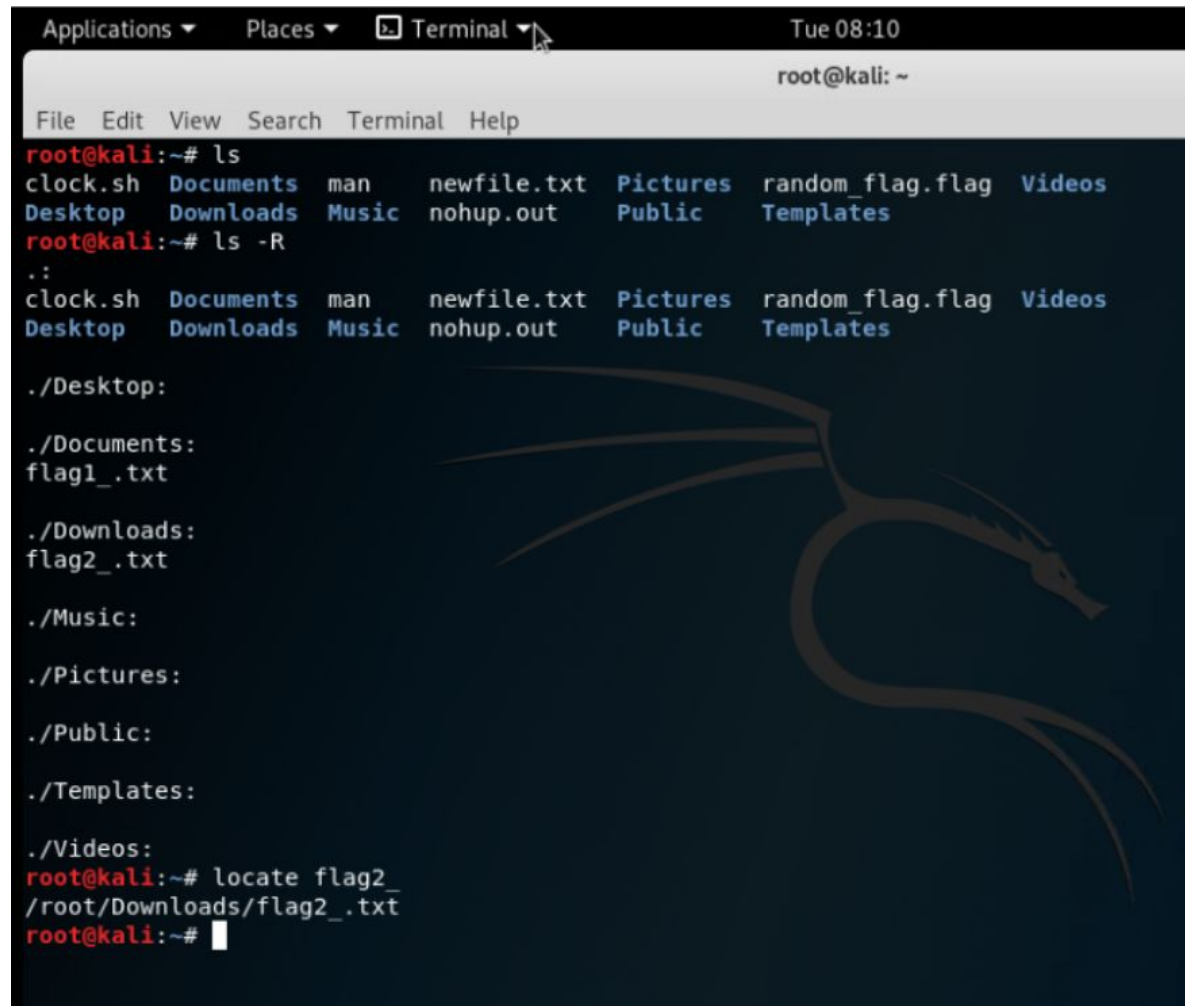
sudo

sudo (Super user do) enables you to perform tasks that require administrative or root permissions.

```
dejan@dejan-phoenixnap:~$ apt-get update
Reading package lists... Done
E: Could not open lock file /var/lib/apt/lists/lock - open (13: Permission denied)
E: Unable to lock directory /var/lib/apt/lists/
W: Problem unlinking the file /var/cache/apt/pkgcache.bin - RemoveCaches (13: Permission denied)
W: Problem unlinking the file /var/cache/apt/srcpkgcache.bin - RemoveCaches (13: Permission denied)
dejan@dejan-phoenixnap:~$ sudo apt-get update
Get:1 http://repo.mysql.com/apt/ubuntu focal InRelease [12,2 kB]
Get:2 https://artifacts.elastic.co/packages/7.x/apt stable InRelease [10,4 kB]
Err:1 http://repo.mysql.com/apt/ubuntu focal InRelease
  The following signatures were invalid: EXPKEYSIG 8C718D3B5072E1F5 MySQL Release Engineering <mysql-build@oss.oracle.com>
Hit:3 http://rs.archive.ubuntu.com/ubuntu focal InRelease
Get:4 http://security.ubuntu.com/ubuntu focal-security InRelease [107 kB]
Get:5 http://rs.archive.ubuntu.com/ubuntu focal-updates InRelease [111 kB]
Get:6 https://artifacts.elastic.co/packages/7.x/apt stable/main amd64 Packages [40,2 kB]
Get:7 http://rs.archive.ubuntu.com/ubuntu focal-backports InRelease [98,3 kB]
Get:8 http://security.ubuntu.com/ubuntu focal-security/main amd64 Packages [157 kB]
Get:9 https://artifacts.elastic.co/packages/7.x/apt stable/main i386 Packages [32,6 kB]
Get:10 http://rs.archive.ubuntu.com/ubuntu focal-updates/main i386 Packages [191 kB]
Get:11 http://rs.archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [320 kB]
Get:12 http://rs.archive.ubuntu.com/ubuntu focal-updates/main Translation-en [121 kB]
Get:13 http://rs.archive.ubuntu.com/ubuntu focal-updates/main amd64 DEP-11 Metadata [196 kB]
Get:14 http://security.ubuntu.com/ubuntu focal-security/main i386 Packages [59,5 kB]
Get:15 http://security.ubuntu.com/ubuntu focal-security/main Translation-en [56,4 kB]
```


locate

This command is used to locate a file. (case sensitive)

A terminal window titled 'Terminal' with a menu bar (File, Edit, View, Search, Terminal, Help) and a status bar (Tue 08:10, root@kali: ~). The terminal shows the following commands and output:

```
root@kali:~# ls
clock.sh  Documents  man        newfile.txt  Pictures  random_flag.flag  Videos
Desktop   Downloads  Music      nohup.out    Public    Templates
root@kali:~# ls -R
.:
clock.sh  Documents  man        newfile.txt  Pictures  random_flag.flag  Videos
Desktop   Downloads  Music      nohup.out    Public    Templates

./Desktop:

./Documents:
flag1_.txt

./Downloads:
flag2_.txt

./Music:

./Pictures:

./Public:

./Templates:

./Videos:
root@kali:~# locate flag2_
/root/Downloads/flag2_.txt
root@kali:~#
```


locate -i

This command also serves the same purpose as of the command locate but it is case insensitive.

```
root@kali: ~  
File Edit View Search Terminal Help  
root@kali:~# ls -R  
.:  
clock.sh Desktop Documents Downloads Music nohup.out Pictures Public Templates Videos  
./Desktop:  
./Documents:  
FlaG_3.txt flag_in_Doc.txt  
./Downloads:  
flag_in_Dow.txt  
./Music:  
./Pictures:  
./Public:  
./Templates:  
./Videos:  
root@kali:~# locate -i flag_3  
/root/Documents/FlaG_3.txt  
root@kali:~#
```

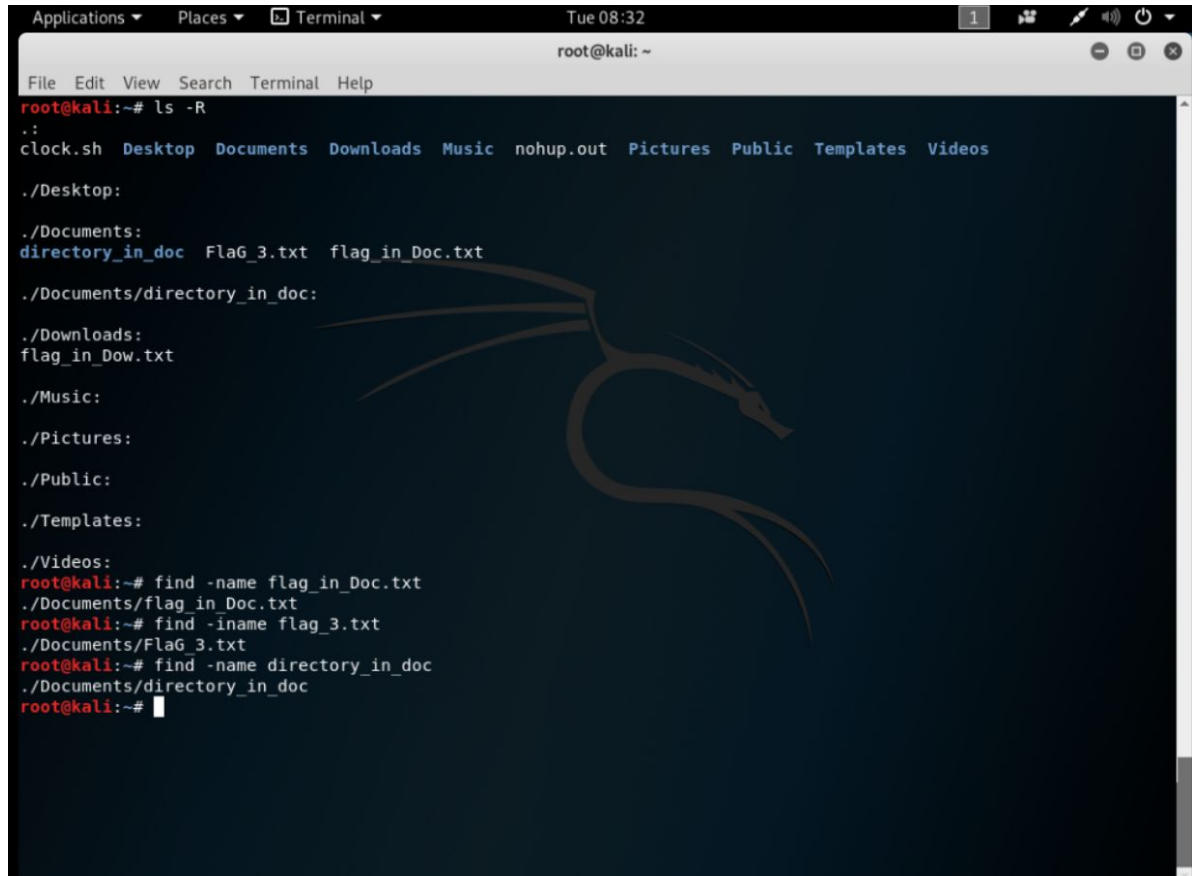
find

This command is similar to the command 'locate' this searches files and directories.

Here format is :

`find -name "name of file/directory"`

`find -iname "name of file/directory for case insensitive"`



```
Applications ▾ Places ▾ Terminal ▾ Tue 08:32 1
root@kali: ~
File Edit View Search Terminal Help
root@kali:~# ls -R
.:
clock.sh Desktop Documents Downloads Music nohup.out Pictures Public Templates Videos

./Desktop:

./Documents:
directory_in_doc FlaG_3.txt flag_in_Doc.txt

./Documents/directory_in_doc:

./Downloads:
flag_in_Dow.txt

./Music:

./Pictures:

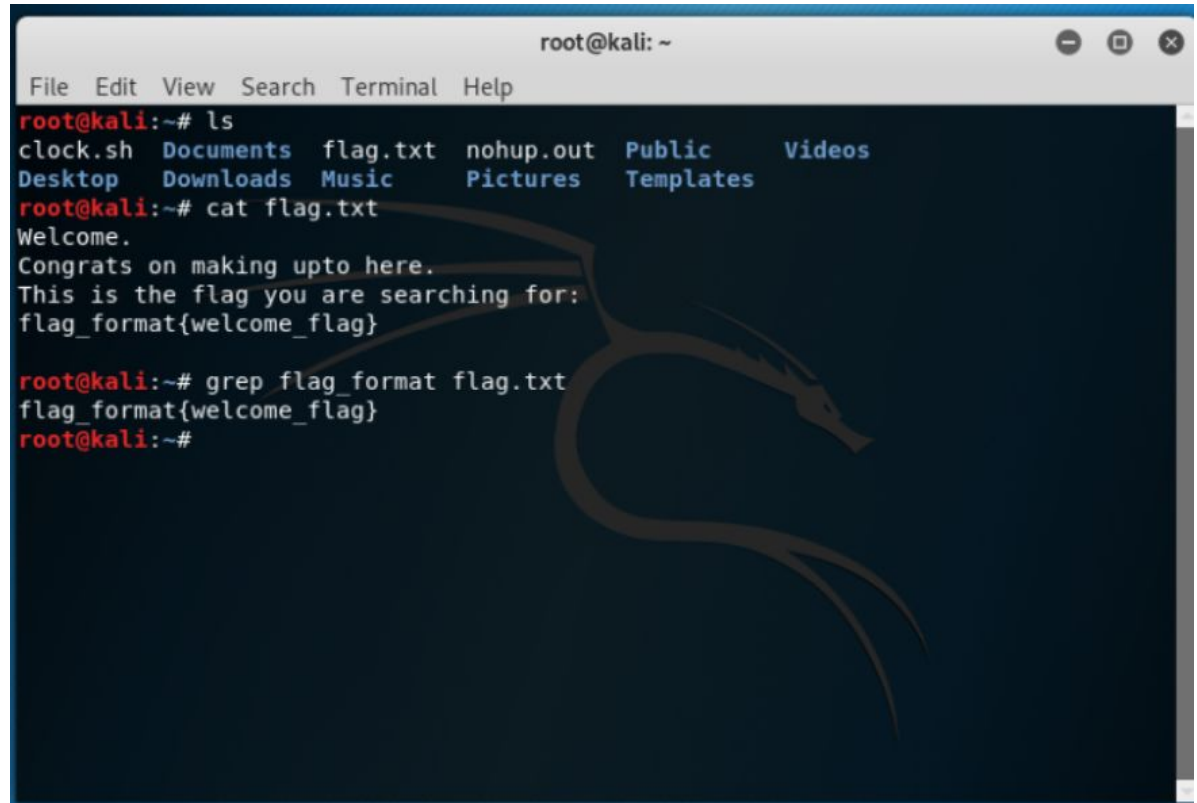
./Public:

./Templates:

./Videos:
root@kali:~# find -name flag_in Doc.txt
./Documents/flag_in_Doc.txt
root@kali:~# find -iname flag_3.txt
./Documents/FlaG_3.txt
root@kali:~# find -name directory_in_doc
./Documents/directory_in_doc
root@kali:~#
```

grep

This command helps you to find a specific word in the whole text.

A terminal window titled 'root@kali: ~' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows the following commands and output:

```
root@kali:~# ls
clock.sh  Documents  flag.txt  nohup.out  Public    Videos
Desktop  Downloads  Music     Pictures    Templates

root@kali:~# cat flag.txt
Welcome.
Congrats on making upto here.
This is the flag you are searching for:
flag_format{welcome_flag}

root@kali:~# grep flag_format flag.txt
flag_format{welcome_flag}

root@kali:~#
```

A faint Kali Linux dragon logo is visible in the background of the terminal window.



Permissions

Every file has three different permissions:

	numeric code
1. read (r) - can only view	4
2. write (w) - can view and edit	2
3. execute (x) - can execute if a program	1

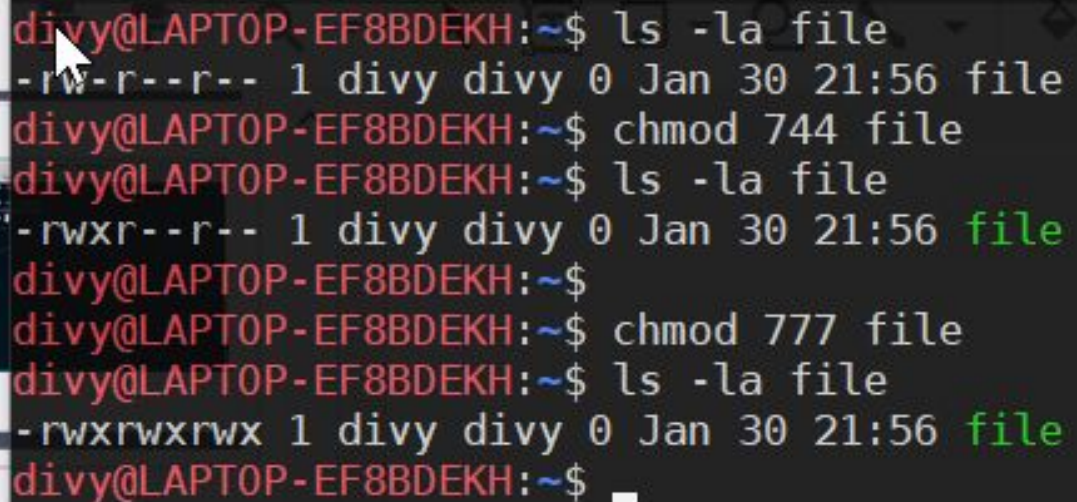
chmod

One can also use numeric codes to assign permissions.

chmod 744 file : 7
(4+2+1) for user and 4
and 4 for group and
others.

(Put 0 for no permission)

chmod 777 file : makes
the file fully accessible
and executable

A terminal window with a dark background and light-colored text. The prompt is 'divy@LAPTOP-EF8BDEKH:~\$'. The first command is 'ls -la file', showing permissions '-rw-r--r--'. The second command is 'chmod 744 file'. The third command is 'ls -la file', showing permissions '-rwxr--r--'. The fourth command is 'chmod 777 file'. The fifth command is 'ls -la file', showing permissions '-rwxrwxrwx'. The word 'file' is highlighted in green in the output lines.

```
divy@LAPTOP-EF8BDEKH:~$ ls -la file
-rw-r--r-- 1 divy divy 0 Jan 30 21:56 file
divy@LAPTOP-EF8BDEKH:~$ chmod 744 file
divy@LAPTOP-EF8BDEKH:~$ ls -la file
-rwxr--r-- 1 divy divy 0 Jan 30 21:56 file
divy@LAPTOP-EF8BDEKH:~$
divy@LAPTOP-EF8BDEKH:~$ chmod 777 file
divy@LAPTOP-EF8BDEKH:~$ ls -la file
-rwxrwxrwx 1 divy divy 0 Jan 30 21:56 file
divy@LAPTOP-EF8BDEKH:~$
```

chmod

This is used to change the permissions of a file or a directory.

chmod +x file : every ownership exec permissions

if specific ownership: then specify u, g or o with +x or +w

```
divy@LAPTOP-EF8BDEKH:~$ ls -la file
-rw-r--r-- 1 divy divy 0 Jan 30 21:56 file
divy@LAPTOP-EF8BDEKH:~$ chmod +x file
divy@LAPTOP-EF8BDEKH:~$ ls -la file
-rwxr-xr-x 1 divy divy 0 Jan 30 21:56 file
divy@LAPTOP-EF8BDEKH:~$
divy@LAPTOP-EF8BDEKH:~$ chmod g+w file
divy@LAPTOP-EF8BDEKH:~$ ls -la file
-rwxrwxr-x 1 divy divy 0 Jan 30 21:56 file
divy@LAPTOP-EF8BDEKH:~$
divy@LAPTOP-EF8BDEKH:~$ chmod o+w file
divy@LAPTOP-EF8BDEKH:~$ ls -la file
-rwxrwxrwx 1 divy divy 0 Jan 30 21:56 file
divy@LAPTOP-EF8BDEKH:~$
```

Your task for this week

Complete levels 1-10 of OverTheWire

<https://overthewire.org/wargames/bandit/>



Wargames

Information ^{updated}

SSH Information

Host: bandit.labs.overthewire.org
Port: 2220

Bandit

Level 0

Level 0 → Level 1

Level 1 → Level 2

Level 2 → Level 3

Level 3 → Level 4

Level 4 → Level 5

Level 5 → Level 6

Level 6 → Level 7

Level 7 → Level 8

Level 8 → Level 9

Level 9 → Level 10

Level 10 → Level 11

Level 11 → Level 12

Level 12 → Level 13

Level 13 → Level 14

Bandit

The Bandit wargame is aimed at absolute beginners. It will teach the basics needed to be able to play other wargames. If you notice something essential is missing or have ideas for new levels, please let us know!

Note for beginners

This game, like most other games, is organised in levels. You start at Level 0 and try to "beat" or "finish" it. Finishing a level results in information on how to start the next level. The pages on this website for "Level <X>" contain information on how to start level X from the previous level. E.g. The page for [Level 1](#) has information on how to gain access from [Level 0](#) to [Level 1](#). All levels in this game have a page on this website, and they are all linked to from the sidemenu on the left of this page.

You will encounter many situations in which you have no idea what you are supposed to do. **Don't panic! Don't give up!** The purpose of this game is for you to learn the basics. Part of learning the basics, is reading a lot of new information.

There are several things you can try when you are unsure how to continue: