

# Kali Linux Basic Commands

Kali Linux command is a powerful **penetration testing distribution** by **offensive security**. It is available in **32-bit**, **64-bit** and **ARM flavors**. With the help of the Kali Linux features, we can easily create custom complex images. Kali Linux offers various certifications such as **OSCP**, **OSWE**, **OSEP**, **OSWP**, **OSEE**, and **KLCP**. The testing tools of the Kali Linux commands can be categorized into **information gathering**, **password attacks**, **vulnerability assessment**, **web applications**, **exploitation tools**, **sniffing** and **spoofing**, **maintaining access**, **system services** and **reporting tools**.

Kali Linux comprises various tools that can be used for **wireless attacks**, **hardware hacking**, **forensics**, **stress testing**, and **reverse engineering**. A **USB disk**, **hard disk**, or **Live DVD** can be used to install it. Network services are **HTTP**, **MYSQL**, and **SSH**. These are quite useful when using the Kali Linux commands.

Kali Linux operates on some android devices. Its predecessor is **Backtrack** which was carried over to Kali via **Live Boot**. The system becomes easy to use once the users get the command over it.

## Kali Linux Basic Commands

The following is the list of Kali Linux basic commands:

1. Date Command
2. Cal Command
3. Cd command
4. Cp command
5. Whoami Command
6. Ls command
7. cat command
8. mkdir command
9. rm command
10. mv command
11. Uname command
12. Uptime command
13. Users Command

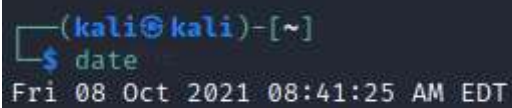
14. Less command
15. More command
16. Vi Command
17. Free Command
18. Sort Command
19. History Command
20. Pwd Command

## 1. Date Command

In Kali Linux, the '**date**' command is used to display the **system date** and **time**. In order to display the date, we have to use the following command:

### Syntax:

```
# date
```

A terminal window with a dark background. The prompt is '(kali@kali)-[~]'. The user has entered the command '\$ date'. The output is 'Fri 08 Oct 2021 08:41:25 AM EDT'.

## 2. Cal Command

The cal command displays the current **month's formatted calendar** on our terminal screen. If we require a more advanced version of **cal**, we can install the **ncal package** on our Linux machine, which displays the calendar vertically and provides additional options.

### Syntax

```
# Cal
```

```
(kali@kali)-[~]
$ cal
    October 2021
Su Mo Tu We Th Fr Sa
                1  2
 3  4  5  6  7  8  9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30
31
```

### 3. Cd Command

The '**cd**' command is also called **chdir** (Change Directory). We used this command to **change** or **switch** the current working directory.

```
(kali@kali)-[~]
$ cd Desktop

(kali@kali)-[~/Desktop]
$ ls
Files  firebox  keyboard.png  key.png
```

### 4. cp Command

In Kali Linux, the '**cp**' command is used to **copy** files or a group of files or directories that create an exact image of a file on a disk with a different file name.

```
(kali@kali)-[~]
$ cd Desktop

(kali@kali)-[~/Desktop]
$ ls
Files  firebox  keyboard.png  key.png

(kali@kali)-[~/Desktop]
$ cp key.png files
```

### 5. whoami Command

The '**whoami**' command is used to print the effective **user ID** whereas the **who** command prints information regarding users who are presently logged in.

The "**w**" command can also be used to view who is logged on and what they are doing.

```
(kali@kali)-[~]
$ whoami
kali

(kali@kali)-[~]
$ who
kali      tty7      2021-10-08 08:39 (:0)
```

## 6. Ls Command

One of the most useful commands in Kali Linux is the '**ls**' command. The **ls** command lists the directory contents of files and directories. With the help of the **ls** command, we can easily list out every hidden file of a directory with the **-a** attribute, and for more detailed output, we can use the **-l** attribute.

### Syntax

```
# ls -al
```

```
(kali@kali)-[~]
$ ls -al
total 148
drwxr-xr-x 15 kali kali 4096 Oct  8 08:43 .
drwxr-xr-x  3 root root 4096 May 30 18:01 ..
-rw-r--r--  1 kali kali   1 Jun  1 01:59 .bash_history
-rw-r--r--  1 kali kali  220 May 30 18:01 .bash_logout
-rw-r--r--  1 kali kali 5349 May 30 18:01 .bashrc
-rw-r--r--  1 kali kali 3526 May 30 18:01 .bashrc.original
drwxr-xr-x 11 kali kali 4096 Oct  8 08:40 .cache
drwx----- 11 kali kali 4096 Sep 17 12:51 .config
drwxr-xr-x  2 kali kali 4096 May 31 03:35 Desktop
-rw-r--r--  1 kali kali   55 May 31 17:33 .dmrc
drwxr-xr-x  2 kali kali 4096 May 31 03:35 Documents
drwxr-xr-x  2 kali kali 4096 May 31 03:35 Downloads
-rw-r--r--  1 kali kali 11759 May 30 18:01 .face
lrwxrwxrwx  1 kali kali    5 May 30 18:01 .face.icon → .face
drwx-----  3 kali kali 4096 May 31 03:35 .gnupg
-rw-----  1 kali kali    0 May 31 03:35 .ICEauthority
drwxr-xr-x  3 kali kali 4096 May 31 03:35 .local
drwx-----  5 kali kali 4096 Aug  8 06:02 .mozilla
drwxr-xr-x  2 kali kali 4096 May 31 03:35 Music
drwxr-xr-x  2 kali kali 4096 Oct  8 08:41 Pictures
-rw-r--r--  1 kali kali  807 May 30 18:01 .profile
drwxr-xr-x  2 kali kali 4096 May 31 03:35 Public
drwxr-xr-x  2 kali kali 4096 May 31 03:35 Templates
-rw-r-----  1 kali kali    4 Oct  8 08:39 .vboxclient-draganddrop.pid
-rw-r-----  1 kali kali    4 Oct  8 08:39 .vboxclient-seamless.pid
drwxr-xr-x  2 kali kali 4096 May 31 03:35 Videos
-rw-----  1 kali kali   49 Oct  8 08:39 .Xauthority
-rw-----  1 kali kali 6947 Oct  8 08:43 .xsession-errors
```

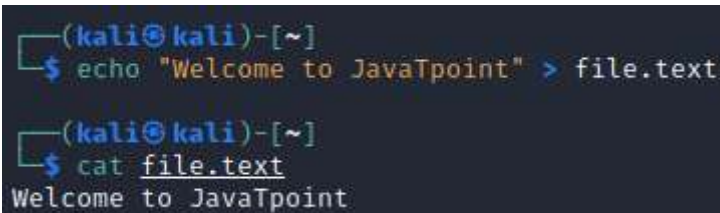
## 7. Cat Command

The '**cat**' (concatenate) command is one of Kali Linux's most commonly used commands, permitting us to create single or many files, concatenate files and redirect, view content of file output in terminal or files.

Usually, we use the cat command to display the content of a file.

### Syntax

```
# cat filename
```



```
(kali㉿kali)-[~]  
$ echo "Welcome to JavaTpoint" > file.text  
  
(kali㉿kali)-[~]  
$ cat file.text  
Welcome to JavaTpoint
```

## 8. mkdir Command

The '**mkdir**' command is used to **create directories**. For example, if we wish to create a directory named '**Penetration testing**' under the '**Documents**' directory, then we have to open a terminal and enter the below command:

```
cd Documents  
mkdir Penetration testing
```



```
(kali㉿kali)-[~]  
$ cd Documents  
  
(kali㉿kali)-[~/Documents]  
$ mkdir Penetration testing  
  
(kali㉿kali)-[~/Documents]  
$ ls  
Kali Linux Penetration testing
```

## 9. rm Command

In Kali Linux, the '**rm**' command is used to **delete files**. It can be used to delete directories when we use them recursively.

The removal process separates a file name from its associated data in a file system and identifies that space in the storage device as available for future writes. In other words, when we erase a file, the data inside it remains unchanged, but it is no longer linked to a filename.

```
(kali@kali)-[~]
$ cd Desktop
(kali@kali)-[~/Desktop]
$ cd Files
(kali@kali)-[~/Desktop/Files]
$ ls
image1.png  java.png  pics.png  picture.png  pp.png  screen.png
(kali@kali)-[~/Desktop/Files]
$ rm pics.png
(kali@kali)-[~/Desktop/Files]
$ ls
image1.png  java.png  picture.png  pp.png  screen.png
```

## 10. mv Command

With the help of the '**mv**' command, we can **move** or **renames** files and directories on our file system.

```
(kali@kali)-[~]
$ cd Desktop
(kali@kali)-[~/Desktop]
$ ls
files  Files  firebox  keyboard.png
(kali@kali)-[~/Desktop]
$ mv keyboard.png Files
(kali@kali)-[~/Desktop]
$ cd Files
(kali@kali)-[~/Desktop/Files]
$ ls
image1.png  java.png  keyboard.png  key.png  picture.png  pp.png  screen.png
```

## 11. uname Command

The '**uname**' command displays the **current system's information**. We can view system information about our Linux environment with the uname command in Linux. With the **uname -a command**, we can learn more about our system, including **Kernel Name, Node Name, Kernel Release, Kernel Version, Hardware Platform, Processor, and Operating System**.

### Syntax

```
# uname
```



```
(kali㉿kali)-[~]  
$ uname  
Linux  
  
(kali㉿kali)-[~]  
$ uname -a  
Linux kali 5.10.0-kali7-686-pae #1 SMP Debian 5.10.28-1kali1 (2021-04-12) i686 GNU/Linux  
  
(kali㉿kali)-[~]  
$ users  
kali
```

## 12. uptime Command

The '**uptime**' command displays the amount of time the system has been running. Uptime's basic usage is simple: simply **type** the name of the command and click **Enter**.

Use the **-p** command-line option if we merely want to know how long the system has been up for and in a more human-readable format.

### Syntax

```
# uptime
```

```
(kali㉿kali)-[~]  
$ uptime  
09:34:53 up 57 min,  1 user,  load average: 0.29, 0.18, 0.16
```

## 13. users Command

The '**users**' command is used to display the **login names** of users logged in on the system.

### Syntax

```
# users
```

```
(kali㉿kali)-[~]  
$ users  
kali
```

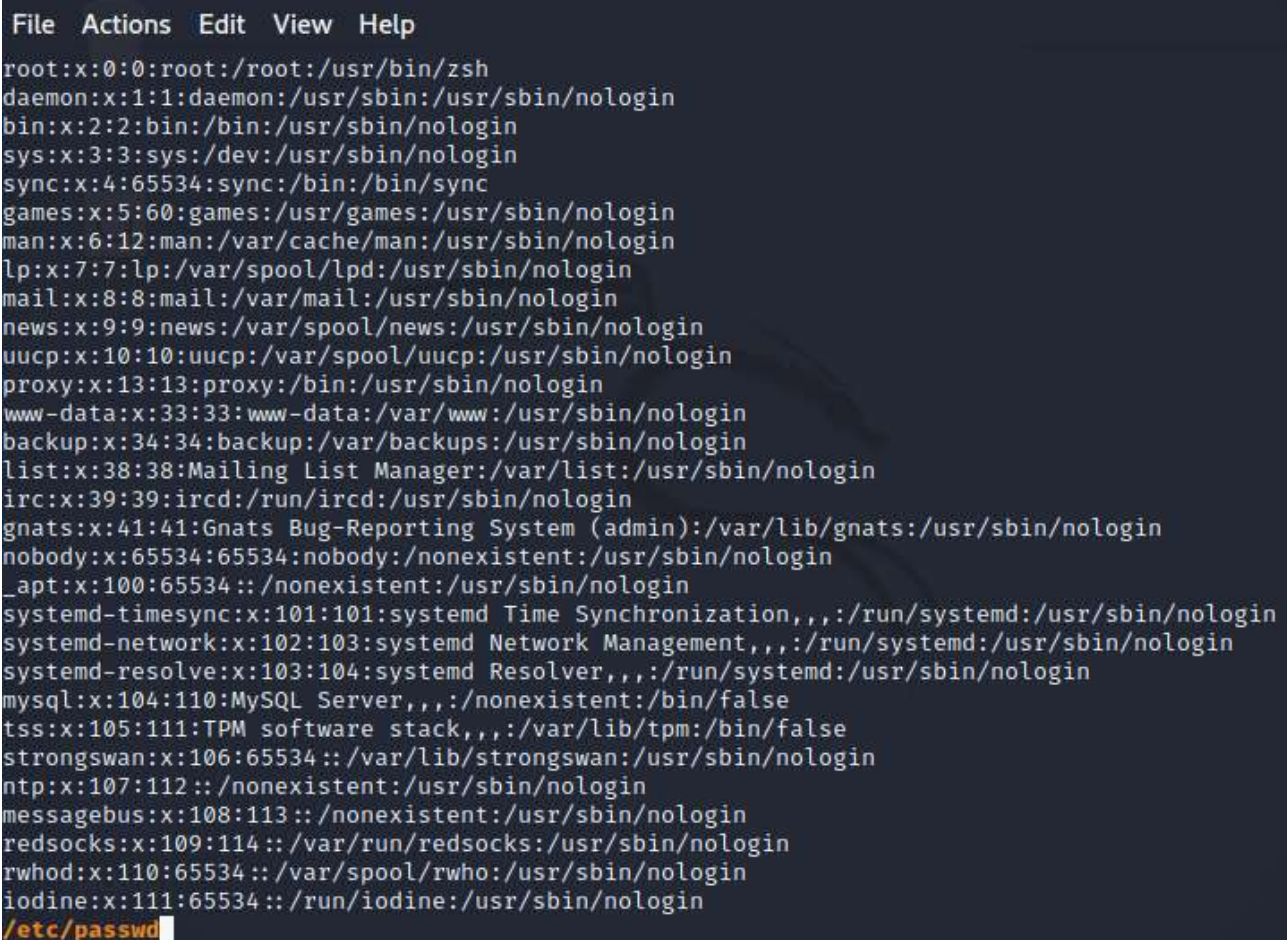
## 14. less Command

In Kali Linux, the '**less**' command is used to view files instead of opening the file. The less command is a more powerful variant of the "**more**" command which is used to show information one page at a time to the terminal.

We can view any text file with the help of the "**less**" command simply by typing the following command into a terminal window:

### Syntax:

```
# less /etc/passwd
```



```
File  Actions  Edit  View  Help
root:x:0:0:root:/root:/usr/bin/zsh
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin)/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
_apt:x:100:65534::/nonexistent:/usr/sbin/nologin
systemd-timesync:x:101:101:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
systemd-network:x:102:103:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:103:104:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
mysql:x:104:110:MySQL Server,,,:/nonexistent:/bin/false
tss:x:105:111:TPM software stack,,,:/var/lib/tpm:/bin/false
strongswan:x:106:65534::/var/lib/strongswan:/usr/sbin/nologin
ntp:x:107:112::/nonexistent:/usr/sbin/nologin
messagebus:x:108:113::/nonexistent:/usr/sbin/nologin
redsocks:x:109:114::/var/run/redsocks:/usr/sbin/nologin
rwhod:x:110:65534::/var/spool/rwho:/usr/sbin/nologin
iodine:x:111:65534::/run/iodine:/usr/sbin/nologin
/etc/passwd
```

## 15. more Command

The "**more**" command permits us to show output in the terminal one page at a time. This is particularly beneficial when using a command that requires a lot of scrolling, such as the '**ls**' command or the '**du**' commands.

The '**more**' command works with any applications that output to the screen. A good way to test this is to type the following command into a terminal window:

### Syntax:



```
# more/etc/passwd
```

```
(kali@kali)-[~]
$ more /etc/passwd
root:x:0:0:root:/root:/usr/bin/zsh
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
_apt:x:100:65534::/nonexistent:/usr/sbin/nologin
systemd-timesync:x:101:101:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
systemd-network:x:102:103:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:103:104:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
mysql:x:104:110:MySQL Server,,,:/nonexistent:/bin/false
tss:x:105:111:TPM software stack,,,:/var/lib/tpm:/bin/false
strongswan:x:106:65534::/var/lib/strongswan:/usr/sbin/nologin
ntp:x:107:112::/nonexistent:/usr/sbin/nologin
messagebus:x:108:113::/nonexistent:/usr/sbin/nologin
redsocks:x:109:114::/var/run/redsocks:/usr/sbin/nologin
rwhod:x:110:65534::/var/spool/rwho:/usr/sbin/nologin
```

## 16. vi Command

The **'vi'** editor is a screen editor that comes with practically every **UNIX** system. The **command mode** and the **insert mode** are the two most common modes in vi.

In order to start entering text in an empty file, we have to first switch from the command mode to the insert mode. To accomplish this, start typing the letter i. When we start typing, anything then the type will be entered into the file.

Type some short lines, then press Return at the end of each. **Vi** does not use word wrap like other word processors. It will break a line at the screen' edge. If we make a mistake, we can undo it by pressing the **Backspace** key. If the Backspace key on our computer is not working, then try the **ctrl + h** key combination.

```
File Actions Edit View Help
(kali@kali)-[~]
$ vi file.txt
```

```
File Actions Edit View Help
Welcome to JavaTpoint
JavaTpoint
Learn Kali Linux
Sort command sorts the contents of a text file

"file.txt" 4L, 97B 1,1 All
```

## 17. free Command

In Kali Linux, the '**free**' command provides us the useful information about the **amount of RAM** available on a Linux machine. It also displays the entire amount of **physical memory** used and available space, as well as **swap memory** with **kernel buffers**.

### Syntax:

```
# free
```

If we use the **free** command with the **-t** option, it would list the total line at the end.

```
(kali@kali)-[~]
$ free
              total        used        free      shared  buff/cache   available
Mem:      1957812       335056      1085592         7148       537164      1396964
Swap:      998396           0       998396

```

```
(kali@kali)-[~]
$ free -t
              total        used        free      shared  buff/cache   available
Mem:      1957812       333268      1087372         7148       537172      1398760
Swap:      998396           0       998396
Total:    2956208       333268      2085768

```

## 18. sort Command

Using the '**sort**' command, we can sort the content of the text file, line by line. Sort is a standard command-line program which prints the lines of its input or concatenation of all files listed in its argument list in sorted order.

### Syntax:

```
# sort file name
```

We can reverse the order of any file's contents by using the **-r** sort.

### Syntax

```
# sort -r
```

```
(kali@kali)-[~]
$ sort file.text
Java
JavaTpoint
Kali Linux
Kali Linux Operating System
Linux
Welcome to JavaTpoint

```

```
(kali@kali)-[~]
$ sort -r file.text
Welcome to JavaTpoint
Linux
Kali Linux Operating System
Kali Linux
JavaTpoint
Java

```

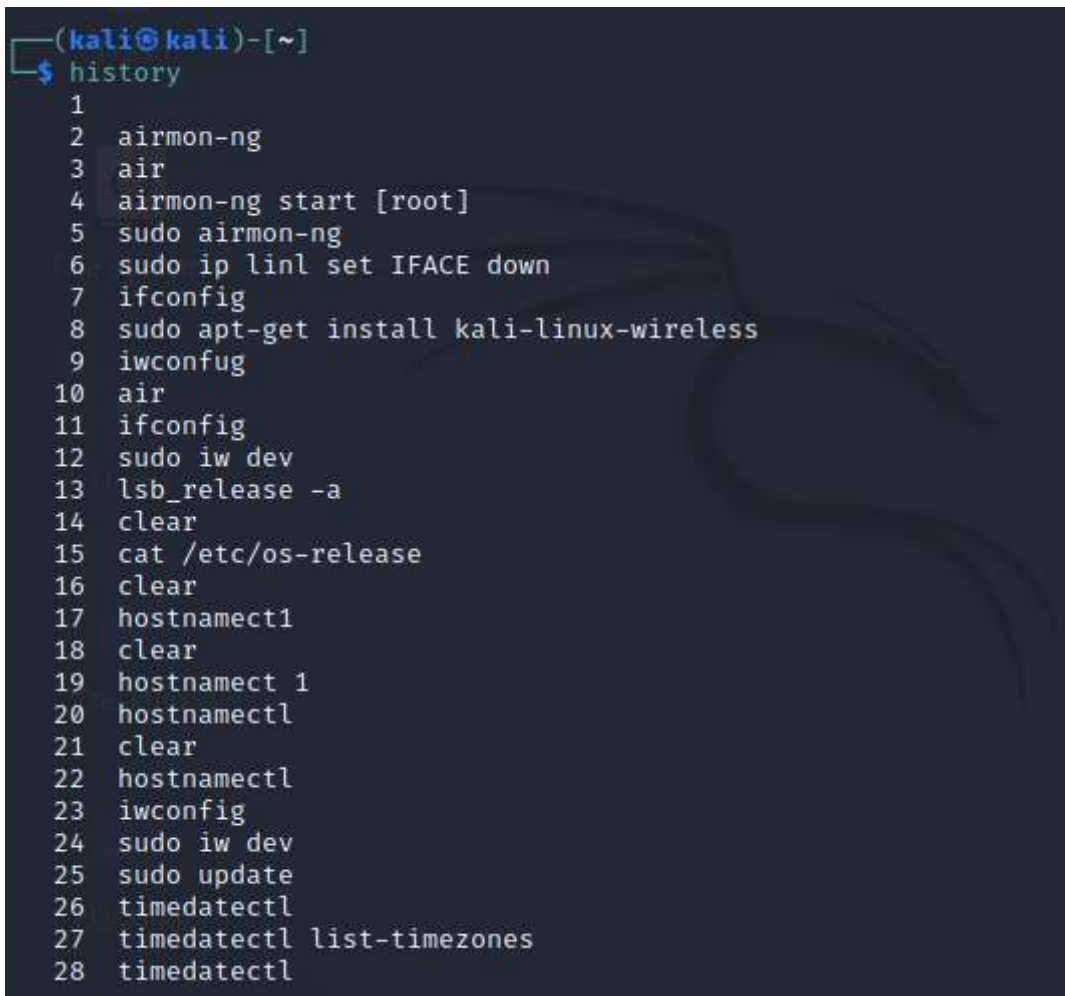
## 19. history Command

The **'history'** command is one of Kali Linux's most commonly used commands. The history command in the bash shell saves a history of commands entered that can be used to repeat commands.

We can run the history command by itself, and it will just print the **current user's bash history** on the screen, as shown below:

### Syntax:

```
# history
```

A terminal window with a dark background and light blue text. The prompt is '(kali@kali)-[~]'. The user has entered the 'history' command. The output shows a list of 28 commands, numbered 1 through 28. The commands include: airmon-ng, air, airmon-ng start [root], sudo airmon-ng, sudo ip link set IFACE down, ifconfig, sudo apt-get install kali-linux-wireless, iwconfig, air, ifconfig, sudo iw dev, lsb\_release -a, clear, cat /etc/os-release, clear, hostnamectl, clear, hostnamectl 1, hostnamectl, clear, hostnamectl, iwconfig, sudo iw dev, sudo update, timedatectl, timedatectl list-timezones, and timedatectl.

```
(kali@kali)-[~]  
$ history  
1  
2  airmon-ng  
3  air  
4  airmon-ng start [root]  
5  sudo airmon-ng  
6  sudo ip link set IFACE down  
7  ifconfig  
8  sudo apt-get install kali-linux-wireless  
9  iwconfig  
10 air  
11 ifconfig  
12 sudo iw dev  
13 lsb_release -a  
14 clear  
15 cat /etc/os-release  
16 clear  
17 hostnamectl  
18 clear  
19 hostnamectl 1  
20 hostnamectl  
21 clear  
22 hostnamectl  
23 iwconfig  
24 sudo iw dev  
25 sudo update  
26 timedatectl  
27 timedatectl list-timezones  
28 timedatectl
```

## 20. Pwd Command

In Kali Linux, the **'Pwd'** command is used to **print working directory**. It gives us information about the directory we are now in. This is especially useful if we need to access the directory while in the middle of a complicated process.

```
(kali㉿kali)-[~]  
$ pwd  
/home/kali  
  
(kali㉿kali)-[~]  
$ cd Desktop  
  
(kali㉿kali)-[~/Desktop]  
$ pwd  
/home/kali/Desktop  
  
(kali㉿kali)-[~/Desktop]  
$
```

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