

CYBER SECURITY AND ETHICAL HACKING

WEEK -2 ASSIGNMENT

LINUX COMMAND LIST

SUBMITTED BY,

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REG_NO: 20BCI0230

DATE : 28-05-2023

20BCI0230

Assessment1

The following assessment aims to test your understanding and practical knowledge of various Linux commands. Perform the tasks given below using the appropriate commands. Write down the command(s) used to complete each task. You can use any Linux distribution or commandline interface of your choice. Ensure that you provide the correct output or results for each task. Note: It is recommended to perform this assessment on a Linux machine or virtual environment.

```
nithiya@DESKTOP-5C9BH5N: ~
$ apt-get install metasploit-framework
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)

(nithiya@DESKTOP-5C9BH5N)~$
$ apt-get install metasploit-framework
E: Could not open lock file /var/lib/dpkg/lock-frontent - open (13: Permission denied)
E: Unable to acquire the dpkg frontend lock (/var/lib/dpkg/lock-frontent), are you root?

(nithiya@DESKTOP-5C9BH5N)~$
$ ls
my_directory

(nithiya@DESKTOP-5C9BH5N)~$
$ ls -al
total 32
drwx----- 1 nithiya nithiya 512 May 29 16:03 .
drwxr-xr-x 1 root root 512 May 29 15:57 ..
-rw-r--r-- 1 nithiya nithiya 220 May 29 15:57 .bash_logout
-rw-r--r-- 1 nithiya nithiya 5551 May 29 15:57 .bashrc
-rw-r--r-- 1 nithiya nithiya 3526 May 29 15:57 .bashrc.original
drwxr-xr-x 1 nithiya nithiya 512 May 29 15:57 .config
drwxr-xr-x 1 nithiya nithiya 512 May 29 15:57 .java
drwxr-xr-x 1 nithiya nithiya 512 May 29 16:03 my_directory
-rw-r--r-- 1 nithiya nithiya 807 May 29 15:57 .profile
-rw-r--r-- 1 nithiya nithiya 10868 May 29 15:57 .zshrc
```

```
(nithiya@DESKTOP-5C9BH5N)~$
$ cd Desktop

(nithiya@DESKTOP-5C9BH5N)~/Desktop$
$
```

```
(nithiya@DESKTOP-5C9BH5N)~/Desktop$
$ pwd
/home/nithiya/Desktop

(nithiya@DESKTOP-5C9BH5N)~/Desktop$
$ _
```

```
(nithiya@DESKTOP-5C9BH5N)~/Desktop$
$ cd Documents

(nithiya@DESKTOP-5C9BH5N)~/Desktop/Documents$
$ mkdir penetration testing

(nithiya@DESKTOP-5C9BH5N)~/Desktop/Documents$
$ ls
penetration testing

(nithiya@DESKTOP-5C9BH5N)~/Desktop/Documents$
$ _
```

20BCI0230
Assessment1

```
(nithiya@ DESKTOP-5C9BH5N)-[~]
$ touch nithiyasri.txt

(nithiya@ DESKTOP-5C9BH5N)-[~]
$ ls
Desktop  my_directory  nithiyasri.txt

(nithiya@ DESKTOP-5C9BH5N)-[~]
$
```

Cp: copy files and directories.

```
(nithiya@ DESKTOP-5C9BH5N)-[~]
$ cd Downloads

(nithiya@ DESKTOP-5C9BH5N)-[~/Downloads]
$ ls
208CE0971_VL2021220503159_AST01.pdf      nithi.jpg.png
208CE0971_VL2021220503159_AST01.pdf:Zone.Identifier  nithiya.pdf
'208D50370_VL2022230503105_DA (1).pdf:Zone.Identifier'

(nithiya@ DESKTOP-5C9BH5N)-[~/Downloads]
$ cp -r nithiya.pdf nithiyasri

(nithiya@ DESKTOP-5C9BH5N)-[~/Downloads]
$ ls
208CE0971_VL2021220503159_AST01.pdf  208CE0971_VL2021220503159_AST01.pdf:Zone.Identifier  '208D50370_VL2022230503105_DA (1).pdf:Zone.Identifier'  nithi.jpg.png  nithiya.pdf  nithiyasri
```

Mv: move or rename files and directories.

```
(nithiya@ DESKTOP-5C9BH5N)-[~]
$ mkdir pictures

(nithiya@ DESKTOP-5C9BH5N)-[~]
$ cd pictures

(nithiya@ DESKTOP-5C9BH5N)-[~/pictures]
$ ls
pic1.png  'Screenshot (65).png'  'Screenshot (66).png'  'Screenshot (67).png'  'Screenshot (69).png'

(nithiya@ DESKTOP-5C9BH5N)-[~/pictures]
$ mv pic1.png picture

(nithiya@ DESKTOP-5C9BH5N)-[~/pictures]
$ ls
picture  'Screenshot (65).png'  'Screenshot (66).png'  'Screenshot (67).png'  'Screenshot (69).png'

(nithiya@ DESKTOP-5C9BH5N)-[~/pictures]
$
```

rm: Remove files and directories

```
(nithiya@ DESKTOP-5C9BH5N)-[~]
$ cd pictures

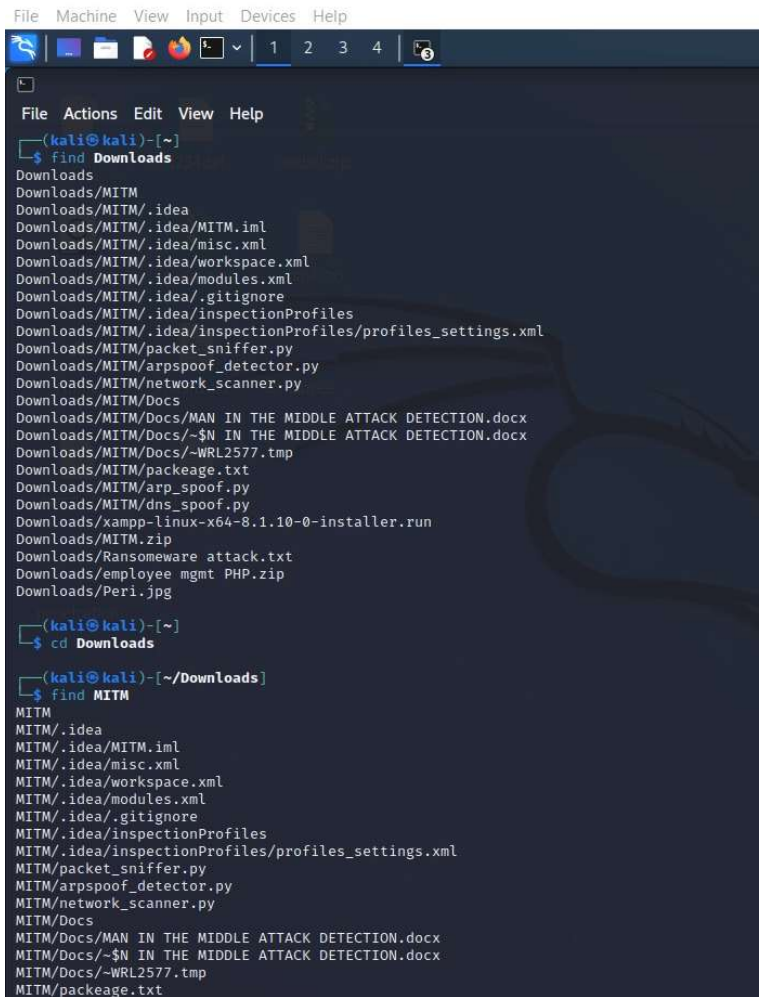
(nithiya@ DESKTOP-5C9BH5N)-[~/pictures]
$ ls
picture  'Screenshot (65).png'  'Screenshot (66).png'  'Screenshot (67).png'  'Screenshot (69).png'

(nithiya@ DESKTOP-5C9BH5N)-[~/pictures]
$ rm picture

(nithiya@ DESKTOP-5C9BH5N)-[~/pictures]
$ ls
'Screenshot (65).png'  'Screenshot (66).png'  'Screenshot (67).png'  'Screenshot (69).png'

(nithiya@ DESKTOP-5C9BH5N)-[~/pictures]
$
```

find: Search for files and directories



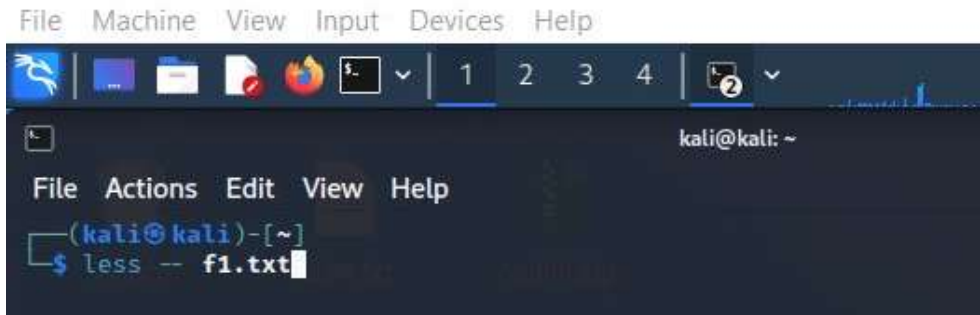
```
File Machine View Input Devices Help
(kali@kali)-[~]
$ find Downloads
Downloads
Downloads/MITM
Downloads/MITM/.idea
Downloads/MITM/.idea/MITM.iml
Downloads/MITM/.idea/misc.xml
Downloads/MITM/.idea/workspace.xml
Downloads/MITM/.idea/modules.xml
Downloads/MITM/.idea/.gitignore
Downloads/MITM/.idea/inspectionProfiles
Downloads/MITM/.idea/inspectionProfiles/profiles_settings.xml
Downloads/MITM/packet_sniffer.py
Downloads/MITM/arpspoof_detector.py
Downloads/MITM/network_scanner.py
Downloads/MITM/Docs
Downloads/MITM/Docs/MAN IN THE MIDDLE ATTACK DETECTION.docx
Downloads/MITM/Docs/~$N IN THE MIDDLE ATTACK DETECTION.docx
Downloads/MITM/Docs/~WRL2577.tmp
Downloads/MITM/packeage.txt
Downloads/MITM/arp_spoof.py
Downloads/MITM/dns_spoof.py
Downloads/xampp-linux-x64-8.1.10-0-installer.run
Downloads/MITM.zip
Downloads/Ransomeware attack.txt
Downloads/employee mgmt PHP.zip
Downloads/Peri.jpg

(kali@kali)-[~]
$ cd Downloads

(kali@kali)-[~/Downloads]
$ find MITM
MITM
MITM/.idea
MITM/.idea/MITM.iml
MITM/.idea/misc.xml
MITM/.idea/workspace.xml
MITM/.idea/modules.xml
MITM/.idea/.gitignore
MITM/.idea/inspectionProfiles
MITM/.idea/inspectionProfiles/profiles_settings.xml
MITM/packet_sniffer.py
MITM/arpspoof_detector.py
MITM/network_scanner.py
MITM/Docs
MITM/Docs/MAN IN THE MIDDLE ATTACK DETECTION.docx
MITM/Docs/~$N IN THE MIDDLE ATTACK DETECTION.docx
MITM/Docs/~WRL2577.tmp
MITM/packeage.txt
```

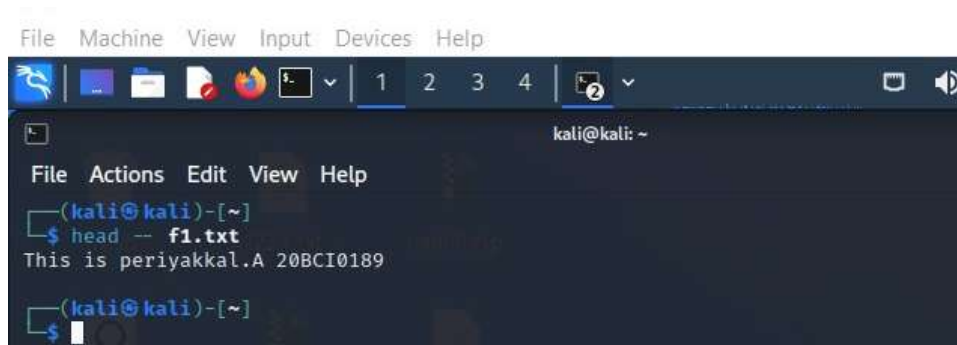
File Viewing and Editing:

less: View file content with pagination



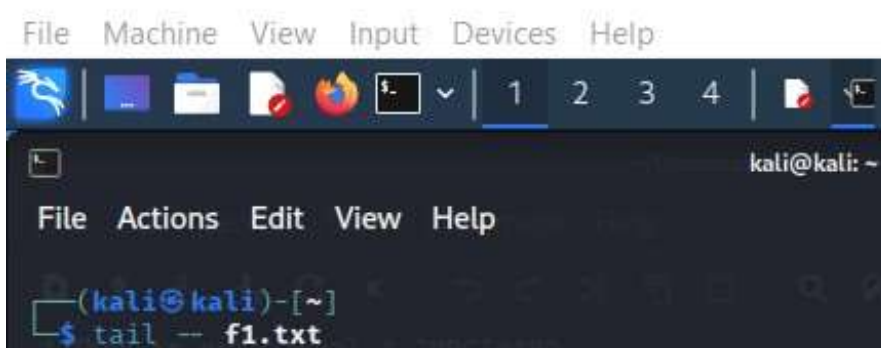
The screenshot shows a terminal window with a dark background. At the top, there is a menu bar with 'File', 'Machine', 'View', 'Input', 'Devices', and 'Help'. Below the menu bar is a toolbar with various icons. The terminal prompt is 'kali@kali: ~'. The user has entered the command 'less -- f1.txt'. The output of the command is visible, showing the first line of the file: 'This is periyakkal.A 20BCI0189'.

head: Display the beginning of a file



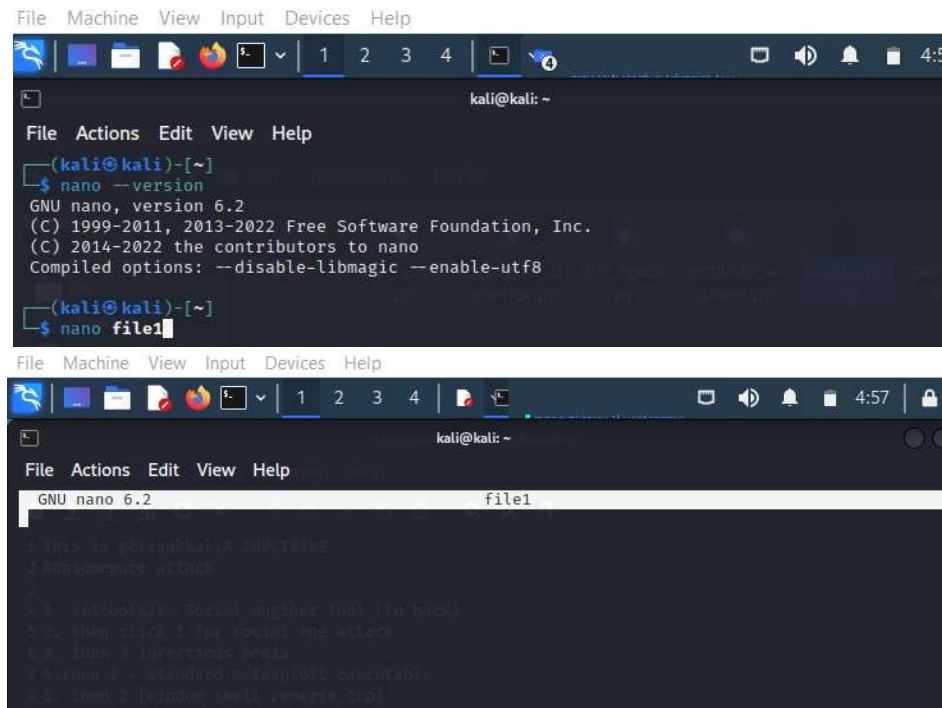
The screenshot shows a terminal window with a dark background. At the top, there is a menu bar with 'File', 'Machine', 'View', 'Input', 'Devices', and 'Help'. Below the menu bar is a toolbar with various icons. The terminal prompt is 'kali@kali: ~'. The user has entered the command 'head -- f1.txt'. The output of the command is visible, showing the first line of the file: 'This is periyakkal.A 20BCI0189'.

tail: Display the end of a file



The screenshot shows a terminal window with a dark background. At the top, there is a menu bar with 'File', 'Machine', 'View', 'Input', 'Devices', and 'Help'. Below the menu bar is a toolbar with various icons. The terminal prompt is 'kali@kali: ~'. The user has entered the command 'tail -- f1.txt'. The output of the command is visible, showing the last line of the file: 'This is periyakkal.A 20BCI0189'.

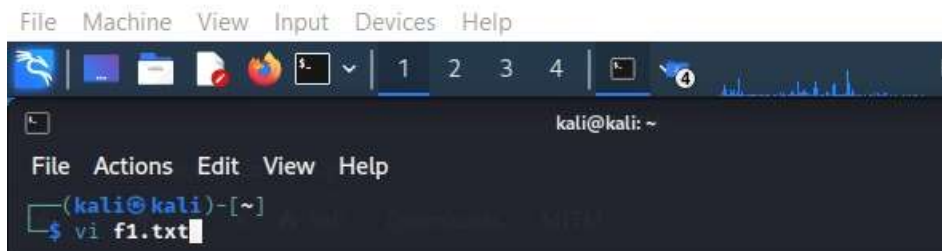
nano: Text editor for creating and editing files



```
File Machine View Input Devices Help
kali@kali: ~
File Actions Edit View Help
(kali@kali)-[~]
$ nano --version
GNU nano, version 6.2
(C) 1999-2011, 2013-2022 Free Software Foundation, Inc.
(C) 2014-2022 the contributors to nano
Compiled options: --disable-libmagic --enable-utf8
(kali@kali)-[~]
$ nano file1

File Machine View Input Devices Help
kali@kali: ~
File Actions Edit View Help
GNU nano 6.2 file1
1 This is periyakkal A 20BCI0230
2 nonsoftware attack
3
4 1. veritoolkit: social engineer tool (to hack)
5 2. then click 1 for social eng attack
6 3. then 3 infections media
7 4 then 2 - standard netasploit executable
8 3. then 2 (windows shell reverse tcp)
```

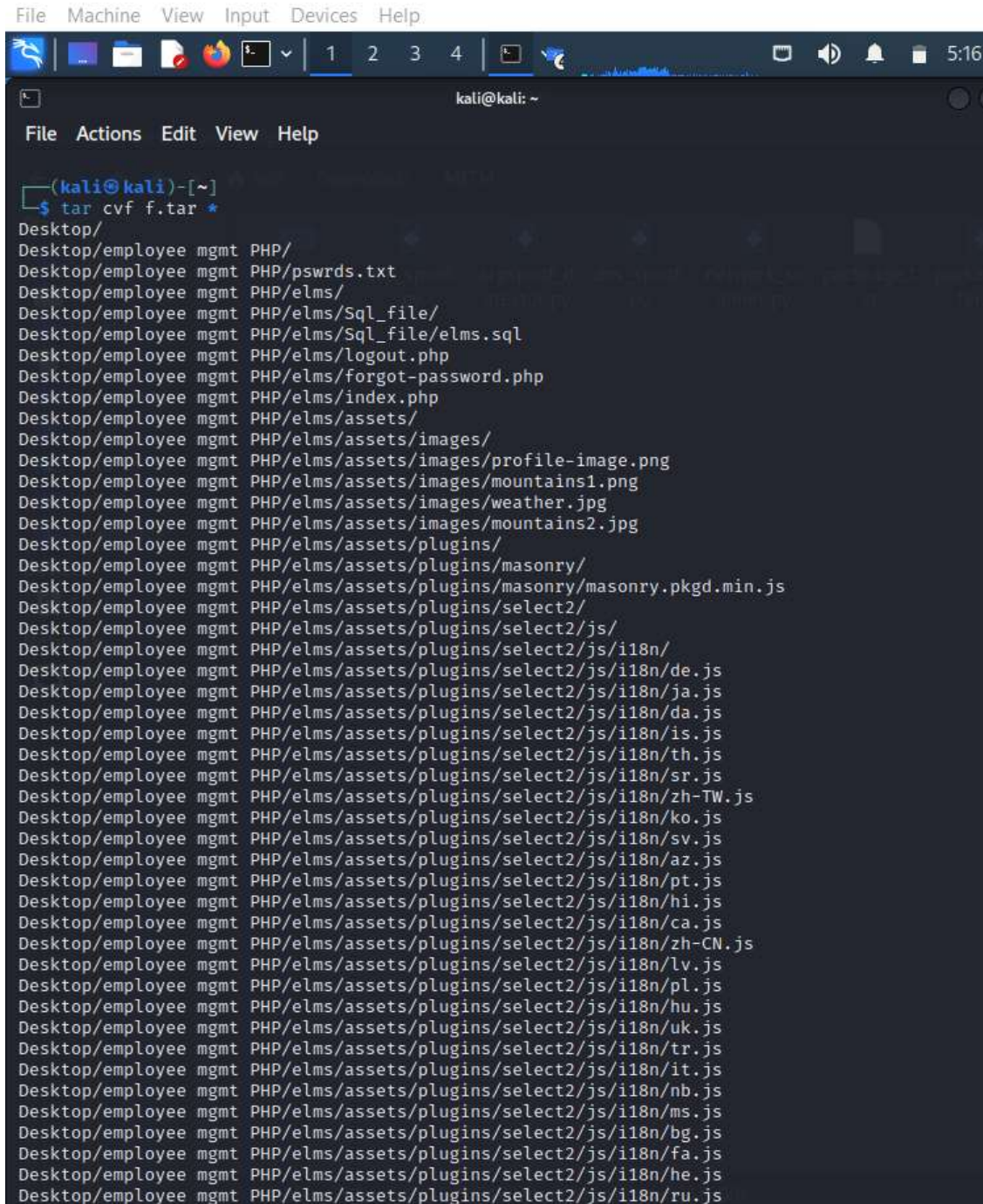
vi/vim: Powerful text editor for experienced users



```
File Machine View Input Devices Help
kali@kali: ~
File Actions Edit View Help
(kali@kali)-[~]
$ vi f1.txt
```


File Compression and Archiving:

tar: Archive files



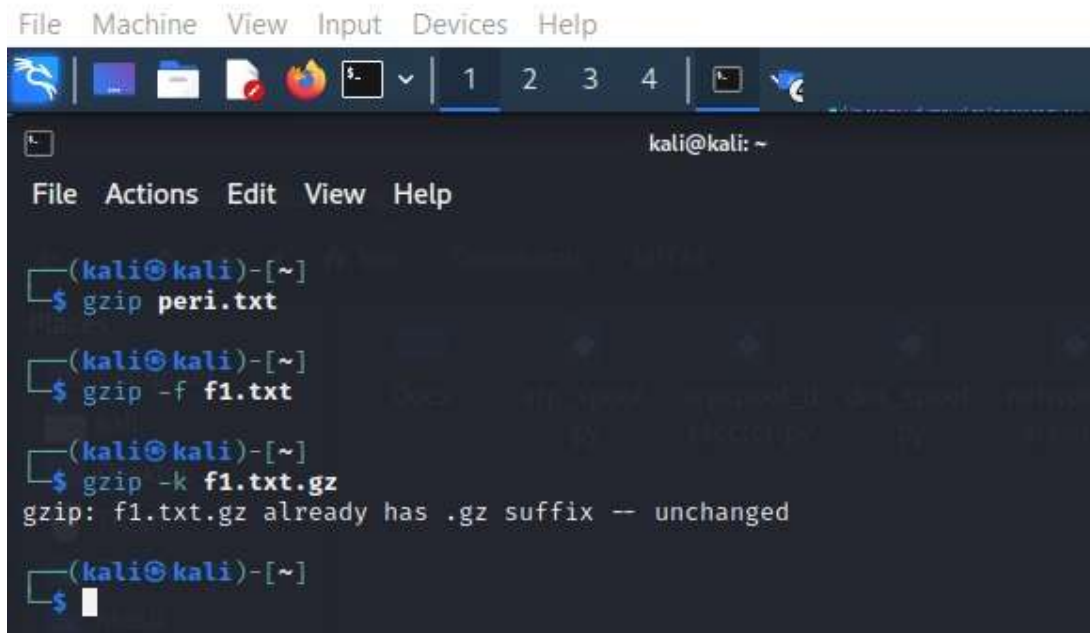
```
File Machine View Input Devices Help
kali@kali: ~
File Actions Edit View Help
(kali@kali)-[~]
$ tar cvf f.tar .
Desktop/
Desktop/employee mgmt PHP/
Desktop/employee mgmt PHP/pswrds.txt
Desktop/employee mgmt PHP/elms/
Desktop/employee mgmt PHP/elms/Sql_file/
Desktop/employee mgmt PHP/elms/Sql_file/elms.sql
Desktop/employee mgmt PHP/elms/logout.php
Desktop/employee mgmt PHP/elms/forgot-password.php
Desktop/employee mgmt PHP/elms/index.php
Desktop/employee mgmt PHP/elms/assets/
Desktop/employee mgmt PHP/elms/assets/images/
Desktop/employee mgmt PHP/elms/assets/images/profile-image.png
Desktop/employee mgmt PHP/elms/assets/images/mountains1.png
Desktop/employee mgmt PHP/elms/assets/images/weather.jpg
Desktop/employee mgmt PHP/elms/assets/images/mountains2.jpg
Desktop/employee mgmt PHP/elms/assets/plugins/
Desktop/employee mgmt PHP/elms/assets/plugins/masonry/
Desktop/employee mgmt PHP/elms/assets/plugins/masonry/masonry.pkgd.min.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/de.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/ja.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/da.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/is.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/th.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/sr.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/zh-TW.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/ko.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/sv.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/az.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/pt.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/hi.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/ca.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/zh-CN.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/lv.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/pl.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/hu.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/uk.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/tr.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/it.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/nb.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/ms.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/bg.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/fa.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/he.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/ru.js
```

```
File Machine View Input Devices Help
kali@kali: ~
File Actions Edit View Help
(kali@kali)-[~]
$ tar xvf f.tar
Desktop/
Desktop/employee mgmt PHP/
Desktop/employee mgmt PHP/pswrds.txt
Desktop/employee mgmt PHP/elms/
Desktop/employee mgmt PHP/elms/Sql_file/
Desktop/employee mgmt PHP/elms/Sql_file/elms.sql
Desktop/employee mgmt PHP/elms/logout.php
Desktop/employee mgmt PHP/elms/forgot-password.php
Desktop/employee mgmt PHP/elms/index.php
Desktop/employee mgmt PHP/elms/assets/
Desktop/employee mgmt PHP/elms/assets/images/
Desktop/employee mgmt PHP/elms/assets/images/profile-image.png
Desktop/employee mgmt PHP/elms/assets/images/mountains1.png
Desktop/employee mgmt PHP/elms/assets/images/weather.jpg
Desktop/employee mgmt PHP/elms/assets/images/mountains2.jpg
Desktop/employee mgmt PHP/elms/assets/plugins/
Desktop/employee mgmt PHP/elms/assets/plugins/masonry/
Desktop/employee mgmt PHP/elms/assets/plugins/masonry/masonry.pkgd.min.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/de.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/ja.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/da.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/is.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/th.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/sr.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/zh-TW.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/ko.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/sv.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/az.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/pt.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/hi.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/ca.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/zh-CN.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/lv.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/pl.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/hu.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/uk.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/tr.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/it.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/nb.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/ms.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/bg.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/fa.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/he.js
Desktop/employee mgmt PHP/elms/assets/plugins/select2/js/i18n/ru.js
```



```
File Machine View Input Devices Help
kali@kali: ~
File Actions Edit View Help
(kali@kali)-[~]
$ tar tvf f.tar
drwxr-xr-x kali/kali      0 2023-05-21 04:47 Desktop/
drwx----- kali/kali      0 2022-11-04 01:00 Desktop/employee mgmt PHP/
-rw-r--r-- kali/kali    244 2022-09-24 23:45 Desktop/employee mgmt PHP/pswrds.txt
drwx----- kali/kali      0 2022-10-28 12:09 Desktop/employee mgmt PHP/elms/
drwx----- kali/kali      0 2022-09-11 10:33 Desktop/employee mgmt PHP/elms/Sql_file/
-rw-r--r-- kali/kali   7988 2022-09-11 10:17 Desktop/employee mgmt PHP/elms/Sql_file/elms.s
ql
-rw-r--r-- kali/kali      377 2022-09-11 10:17 Desktop/employee mgmt PHP/elms/logout.php
-rw-r--r-- kali/kali   10275 2022-10-25 13:38 Desktop/employee mgmt PHP/elms/forgot-password
.php
-rw-r--r-- kali/kali    8752 2022-10-25 13:23 Desktop/employee mgmt PHP/elms/index.php
drwx----- kali/kali      0 2022-09-11 10:32 Desktop/employee mgmt PHP/elms/assets/
drwx----- kali/kali      0 2022-09-11 10:32 Desktop/employee mgmt PHP/elms/assets/images/
-rw-r--r-- kali/kali   37003 2022-09-11 10:17 Desktop/employee mgmt PHP/elms/assets/images/p
rofile-image.png
-rw-r--r-- kali/kali   588346 2022-09-11 10:17 Desktop/employee mgmt PHP/elms/assets/images/m
ountains1.png
-rw-r--r-- kali/kali    48735 2022-09-11 10:17 Desktop/employee mgmt PHP/elms/assets/images/w
eather.jpg
-rw-r--r-- kali/kali   463862 2022-09-11 10:17 Desktop/employee mgmt PHP/elms/assets/images/m
ountains2.jpg
drwx----- kali/kali      0 2022-09-11 10:33 Desktop/employee mgmt PHP/elms/assets/plugins/
drwx----- kali/kali      0 2022-09-11 10:32 Desktop/employee mgmt PHP/elms/assets/plugins/
masonry/
-rw-r--r-- kali/kali   23601 2022-09-11 10:17 Desktop/employee mgmt PHP/elms/assets/plugins/
masonry/masonry.pkgd.min.js
drwx----- kali/kali      0 2022-09-11 10:32 Desktop/employee mgmt PHP/elms/assets/plugins/
select2/
drwx----- kali/kali      0 2022-09-11 10:32 Desktop/employee mgmt PHP/elms/assets/plugins/
select2/js/
drwx----- kali/kali      0 2022-09-11 10:33 Desktop/employee mgmt PHP/elms/assets/plugins/
select2/js/i18n/
-rw-r--r-- kali/kali     775 2022-09-11 10:18 Desktop/employee mgmt PHP/elms/assets/plugins/
select2/js/i18n/de.js
-rw-r--r-- kali/kali     848 2022-09-11 10:18 Desktop/employee mgmt PHP/elms/assets/plugins/
select2/js/i18n/ja.js
-rw-r--r-- kali/kali     816 2022-09-11 10:18 Desktop/employee mgmt PHP/elms/assets/plugins/
select2/js/i18n/da.js
-rw-r--r-- kali/kali     773 2022-09-11 10:18 Desktop/employee mgmt PHP/elms/assets/plugins/
select2/js/i18n/is.js
-rw-r--r-- kali/kali     948 2022-09-11 10:18 Desktop/employee mgmt PHP/elms/assets/plugins/
select2/js/i18n/th.js
-rw-r--r-- kali/kali     880 2022-09-11 10:18 Desktop/employee mgmt PHP/elms/assets/plugins/
select2/js/i18n/sr.js
-rw-r--r-- kali/kali     708 2022-09-11 10:18 Desktop/employee mgmt PHP/elms/assets/plugins/
select2/js/i18n/zh-TW.js
-rw-r--r-- kali/kali     854 2022-09-11 10:18 Desktop/employee mgmt PHP/elms/assets/plugins/
```

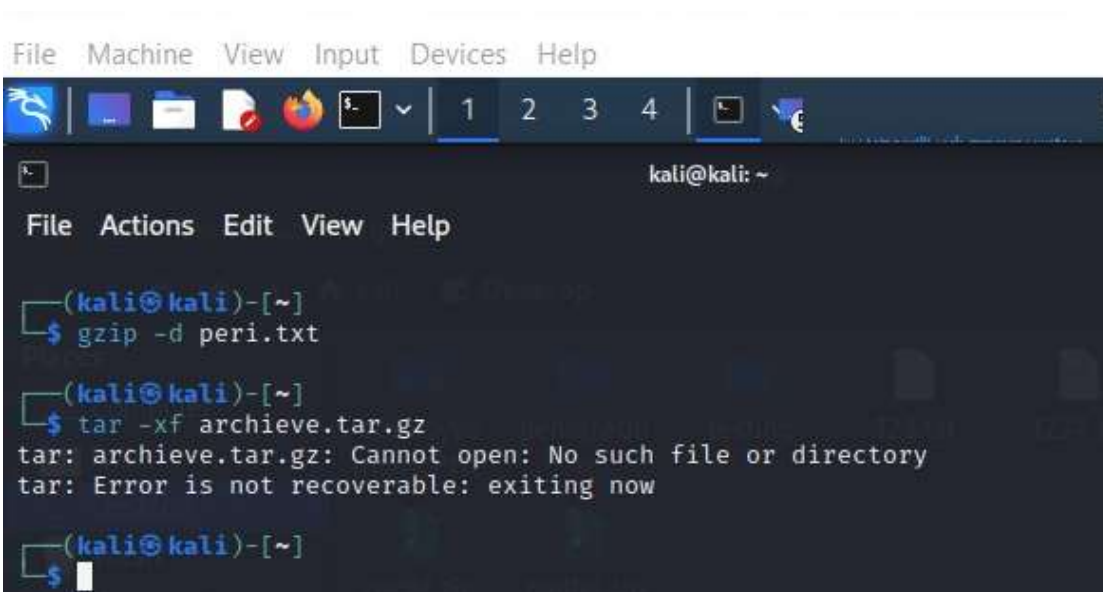
gzip: Compress files



The screenshot shows a Kali Linux terminal window with a menu bar (File, Machine, View, Input, Devices, Help) and a toolbar. The terminal prompt is `kali@kali: ~`. The user enters the following commands:

```
(kali@kali)-[~]  
$ gzip peri.txt  
  
(kali@kali)-[~]  
$ gzip -f f1.txt  
  
(kali@kali)-[~]  
$ gzip -k f1.txt.gz  
gzip: f1.txt.gz already has .gz suffix -- unchanged  
  
(kali@kali)-[~]  
$
```

unzip: Extract files from a ZIP archive

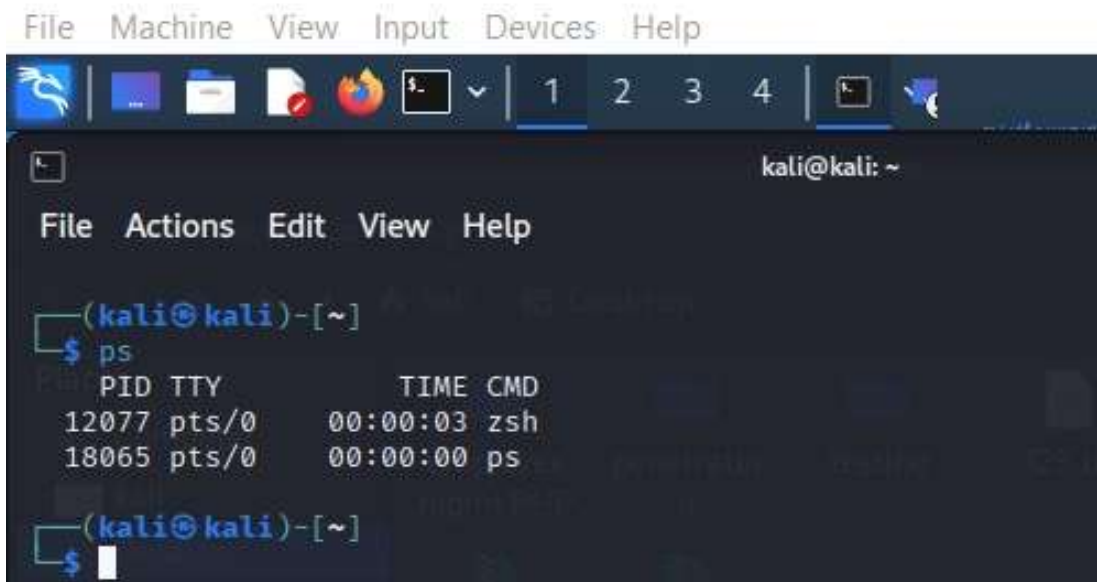


The screenshot shows a Kali Linux terminal window with a menu bar (File, Machine, View, Input, Devices, Help) and a toolbar. The terminal prompt is `kali@kali: ~`. The user enters the following commands:

```
(kali@kali)-[~]  
$ gzip -d peri.txt  
  
(kali@kali)-[~]  
$ tar -xf archive.tar.gz  
tar: archive.tar.gz: Cannot open: No such file or directory  
tar: Error is not recoverable: exiting now  
  
(kali@kali)-[~]  
$
```

Process Management:

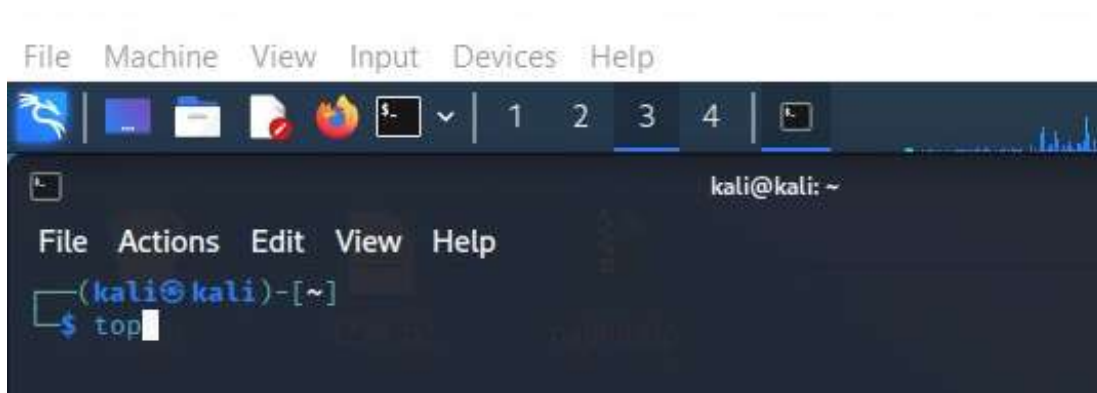
ps: List running processes



The screenshot shows a Kali Linux desktop environment with a terminal window open. The terminal displays the output of the 'ps' command, which lists running processes. The output is as follows:

```
(kali@kali)-[~]  
$ ps  
  PID TTY          TIME CMD  
 12077 pts/0    00:00:03 zsh  
 18065 pts/0    00:00:00 ps  
(kali@kali)-[~]  
$
```

top: Display real-time system information and processes



The screenshot shows a Kali Linux desktop environment with a terminal window open. The terminal displays the 'top' command being entered at the prompt. The output of the command is not visible in this frame.

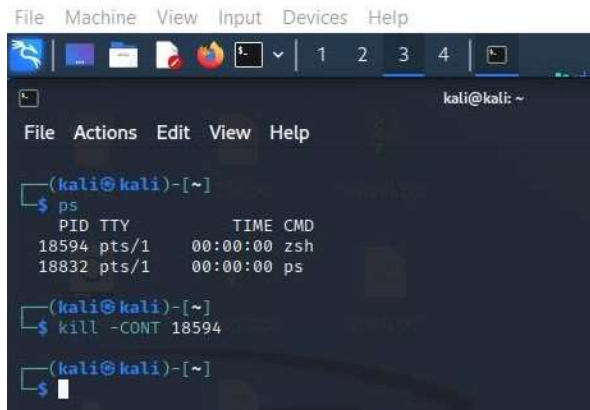
```
(kali@kali)-[~]  
$ top
```



```
File Machine View Input Devices Help
kali@kali: ~
File Actions Edit View Help
top - 05:27:45 up 1:05, 1 user, load average: 0.10, 0.11, 0.09
Tasks: 154 total, 1 running, 153 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0.9 us, 0.9 sy, 0.0 ni, 98.2 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
MiB Mem : 1957.4 total, 491.5 free, 617.2 used, 848.7 buff/cache
MiB Swap: 975.0 total, 975.0 free, 0.0 used. 1165.6 avail Mem

  PID USER      PR  NI  VIRT  RES  SHR S %CPU  %MEM    TIME+  COMMAND
 490 root        20   0 458532 150284 69872 S  1.3   7.5   1:07.09 Xorg
18217 kali       20   0 469708 45828 35400 S  1.3   2.3   0:00.96 xfce4-taskmanag
 766 kali       20   0 153008 2836 2364 S  0.7   0.1   0:22.15 VBoxClient
 862 kali       20   0 354960 36012 22032 S  0.7   1.8   0:31.17 panel-13-cpugra
 143 root      -51   0 0 0 0 S  0.3   0.0   0:03.34 irq/18-vmwgfx
 816 kali       20   0 926860 94196 68968 S  0.3   4.7   0:20.48 xfwm4
 858 kali       20   0 795820 115120 50136 S  0.3   5.7   0:02.52 xfdesktop
 864 kali       20   0 360992 30156 20380 S  0.3   1.5   0:11.17 panel-15-genmon
15410 root       20   0 0 0 0 I  0.3   0.0   0:01.31 kworker/1:2-events
15699 root       20   0 0 0 0 I  0.3   0.0   0:00.13 kworker/u4:3-events_u+
18251 kali       20   0 427136 92988 76740 S  0.3   4.6   0:00.48 qterminal
 1 root       20   0 165992 11324 8504 S  0.0   0.6   0:00.67 systemd
 2 root       20   0 0 0 0 S  0.0   0.0   0:00.01 kthreadd
 3 root        0 -20 0 0 0 I  0.0   0.0   0:00.00 rcu_gp
 4 root        0 -20 0 0 0 I  0.0   0.0   0:00.00 rcu_par_gp
 6 root        0 -20 0 0 0 I  0.0   0.0   0:00.00 kworker/0:0H-events_h+
 8 root        0 -20 0 0 0 I  0.0   0.0   0:00.00 mm_percpu_wq
 9 root       20   0 0 0 0 S  0.0   0.0   0:00.00 rcu_tasks_kthre
10 root       20   0 0 0 0 S  0.0   0.0   0:00.00 rcu_tasks_rude_
11 root       20   0 0 0 0 S  0.0   0.0   0:00.00 rcu_tasks_trace
12 root       20   0 0 0 0 S  0.0   0.0   0:00.12 ksoftirqd/0
13 root       20   0 0 0 0 I  0.0   0.0   0:03.45 rcu_preempt
14 root       rt   0 0 0 0 S  0.0   0.0   0:00.17 migration/0
16 root       20   0 0 0 0 S  0.0   0.0   0:00.00 cpuhp/0
17 root       20   0 0 0 0 S  0.0   0.0   0:00.00 cpuhp/1
18 root       rt   0 0 0 0 S  0.0   0.0   0:00.15 migration/1
19 root       20   0 0 0 0 S  0.0   0.0   0:00.18 ksoftirqd/1
21 root        0 -20 0 0 0 I  0.0   0.0   0:00.00 kworker/1:0H-events_h+
24 root       20   0 0 0 0 S  0.0   0.0   0:00.01 kdevtmpfs
25 root        0 -20 0 0 0 I  0.0   0.0   0:00.00 netns
26 root        0 -20 0 0 0 I  0.0   0.0   0:00.00 inet_frag_wq
27 root       20   0 0 0 0 S  0.0   0.0   0:00.00 kauditd
28 root       20   0 0 0 0 S  0.0   0.0   0:00.01 khungtaskd
29 root       20   0 0 0 0 S  0.0   0.0   0:00.00 oom_reaper
30 root        0 -20 0 0 0 I  0.0   0.0   0:00.00 writeback
31 root       20   0 0 0 0 S  0.0   0.0   0:00.29 kcompactd0
32 root       25   5 0 0 0 S  0.0   0.0   0:00.00 ksmd
33 root       39  19 0 0 0 S  0.0   0.0   0:00.55 khugepaged
34 root        0 -20 0 0 0 I  0.0   0.0   0:00.00 kintegrityd
35 root        0 -20 0 0 0 I  0.0   0.0   0:00.00 kblockd
36 root        0 -20 0 0 0 I  0.0   0.0   0:00.00 blkcg_punt_bio
37 root        0 -20 0 0 0 I  0.0   0.0   0:00.00 tpm_dev_wq
38 root        0 -20 0 0 0 I  0.0   0.0   0:00.00 edac-poller
```

kill: Terminate processes

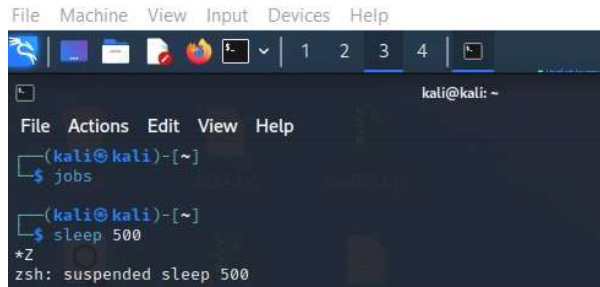


A screenshot of a Kali Linux terminal window. The window has a menu bar with 'File', 'Machine', 'View', 'Input', 'Devices', and 'Help'. Below the menu bar is a toolbar with icons for file operations and a tab bar with tabs numbered 1, 2, 3, and 4. The terminal prompt is 'kali@kali: ~'. The user enters the command 'ps', which displays a list of processes:

PID	TTY	TIME	CMD
18594	pts/1	00:00:00	zsh
18832	pts/1	00:00:00	ps

The user then enters the command 'kill -CONT 18594', which sends a CONT signal to the process with PID 18594. The prompt returns to 'kali@kali: ~'.

bg: Run processes in the background

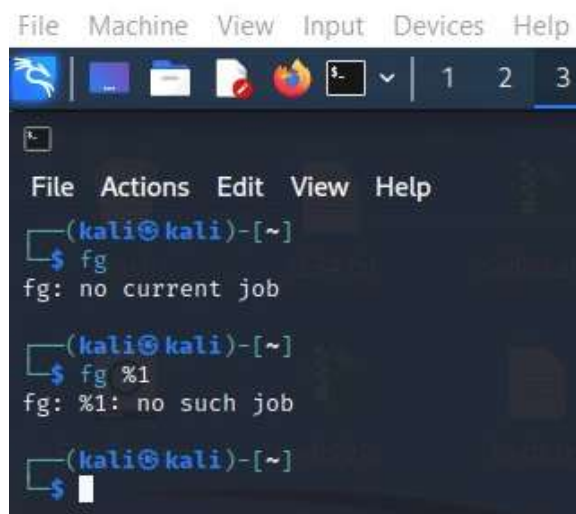


A screenshot of a Kali Linux terminal window. The window has a menu bar with 'File', 'Machine', 'View', 'Input', 'Devices', and 'Help'. Below the menu bar is a toolbar with icons for file operations and a tab bar with tabs numbered 1, 2, 3, and 4. The terminal prompt is 'kali@kali: ~'. The user enters the command 'jobs', which displays a list of jobs:

Job	Process
1	sleep 500

The user then enters the command 'sleep 500', which starts a new background process. The prompt returns to 'kali@kali: ~'.

fg: Bring background processes to the foreground



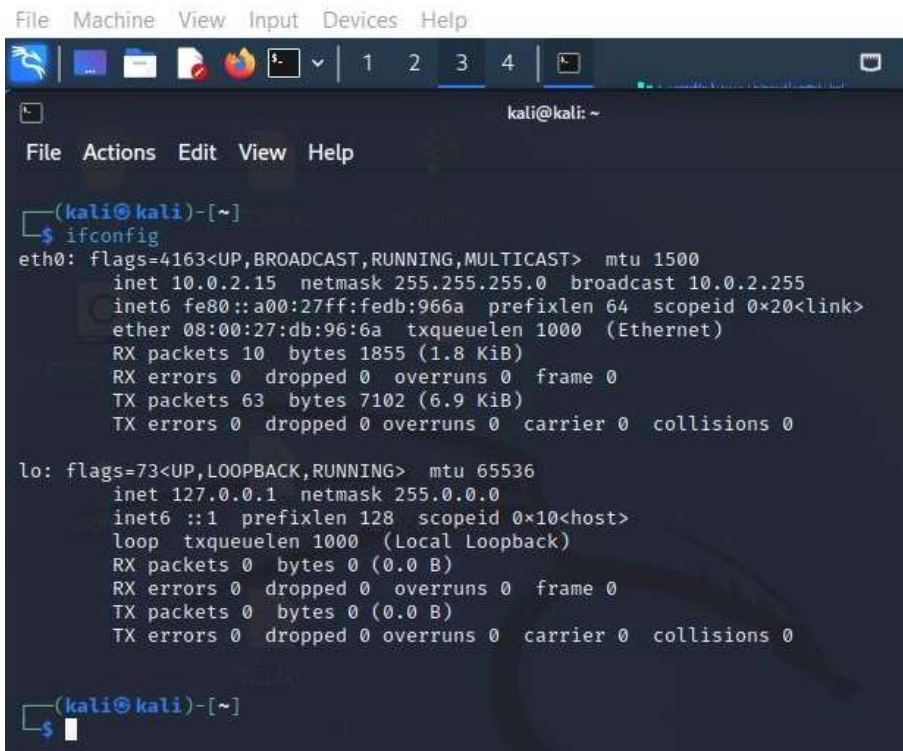
A screenshot of a Kali Linux terminal window. The window has a menu bar with 'File', 'Machine', 'View', 'Input', 'Devices', and 'Help'. Below the menu bar is a toolbar with icons for file operations and a tab bar with tabs numbered 1, 2, and 3. The terminal prompt is 'kali@kali: ~'. The user enters the command 'fg', which displays the message 'fg: no current job'. The user then enters the command 'fg %1', which displays the message 'fg: %1: no such job'. The prompt returns to 'kali@kali: ~'.

System Information:

```
File Machine View Input Devices Help
kali@kali: ~
File Actions Edit View Help
(kali@kali)-[~]
$ uname
Linux
(kali@kali)-[~]
$ df
Filesystem      1K-blocks      Used Available Use% Mounted on
udev             958188         0    958188   0% /dev
tmpfs            200436         952    199484   1% /run
/dev/sda1        81000912 12198936  64641364 16% /
tmpfs            1002172         0    1002172   0% /dev/shm
tmpfs             5120           0         5120   0% /run/lock
tmpfs            200432         76    200356   1% /run/user/1000
(kali@kali)-[~]
$ free
              total        used        free      shared  buff/cache   available
Mem:           2004344        652384        327284         25748       1024676       1172468
Swap:            998396           0         998396
(kali@kali)-[~]
$ uptime
05:35:39 up 1:13, 1 user, load average: 0.07, 0.10, 0.09
(kali@kali)-[~]
$ who
kali      tty7          2023-05-21 04:22 (:0)
(kali@kali)-[~]
$ w
05:36:08 up 1:14, 1 user, load average: 0.12, 0.10, 0.09
USER      TTY      FROM          LOGIN@   IDLE   JCPU   PCPU WHAT
kali      tty7      :0             04:22    1:13m  1:12   0.30s xfce4-session
(kali@kali)-[~]
$
```

Networking:

ifconfig: Configure network interfaces

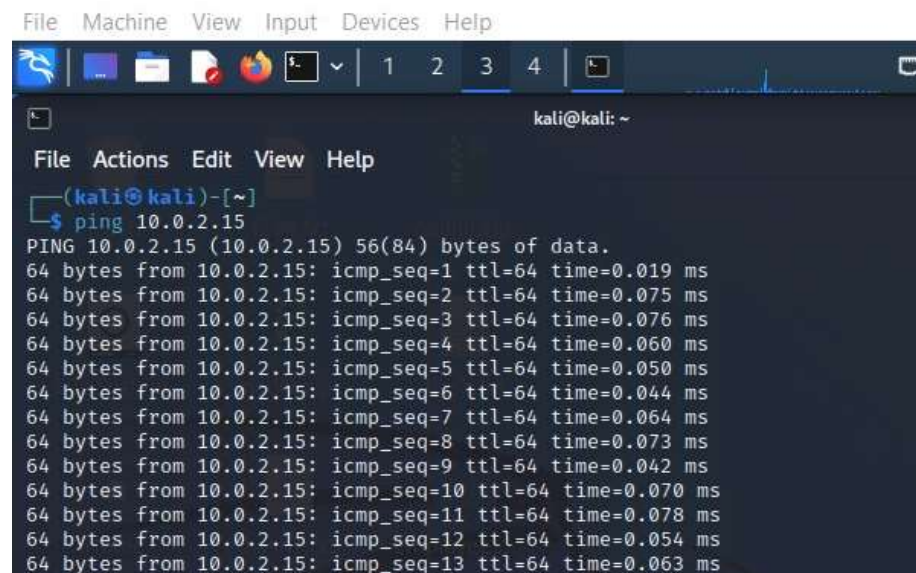


```
File Machine View Input Devices Help
kali@kali: ~
File Actions Edit View Help
(kali@kali)-[~]
$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
    inet6 fe80::a00:27ff:fedb:966a prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:db:96:6a txqueuelen 1000 (Ethernet)
    RX packets 10 bytes 1855 (1.8 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 63 bytes 7102 (6.9 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

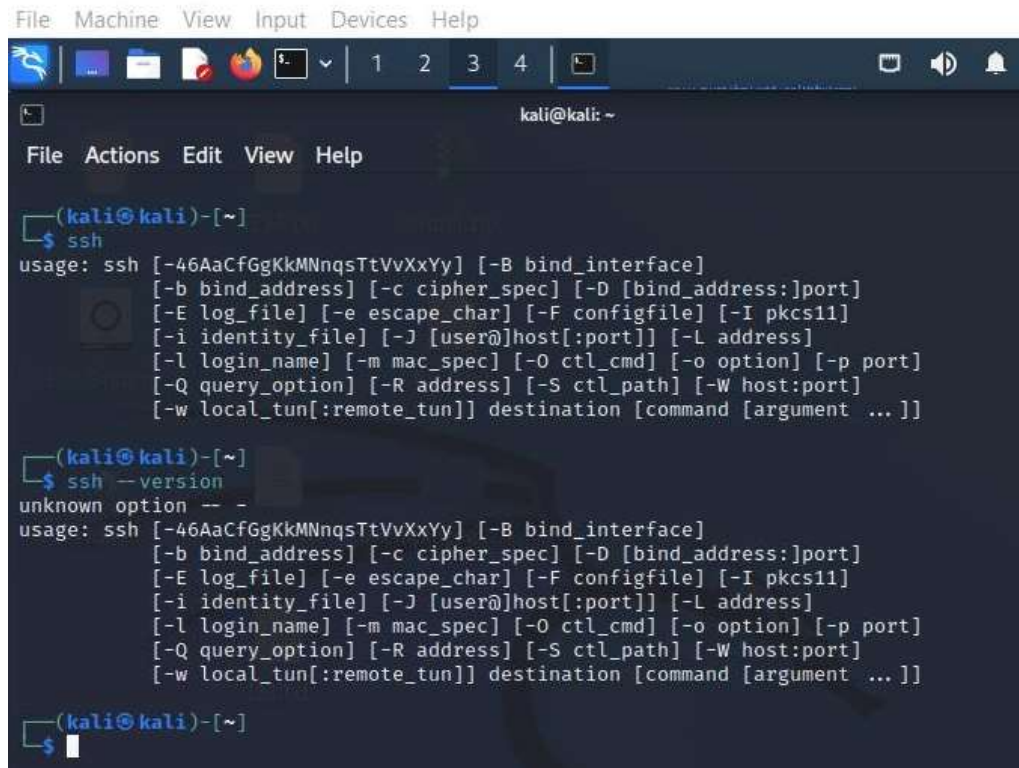
(kali@kali)-[~]
$
```

ping: Send ICMP echo requests to a network host



```
File Machine View Input Devices Help
kali@kali: ~
File Actions Edit View Help
(kali@kali)-[~]
$ ping 10.0.2.15
PING 10.0.2.15 (10.0.2.15) 56(84) bytes of data.
64 bytes from 10.0.2.15: icmp_seq=1 ttl=64 time=0.019 ms
64 bytes from 10.0.2.15: icmp_seq=2 ttl=64 time=0.075 ms
64 bytes from 10.0.2.15: icmp_seq=3 ttl=64 time=0.076 ms
64 bytes from 10.0.2.15: icmp_seq=4 ttl=64 time=0.060 ms
64 bytes from 10.0.2.15: icmp_seq=5 ttl=64 time=0.050 ms
64 bytes from 10.0.2.15: icmp_seq=6 ttl=64 time=0.044 ms
64 bytes from 10.0.2.15: icmp_seq=7 ttl=64 time=0.064 ms
64 bytes from 10.0.2.15: icmp_seq=8 ttl=64 time=0.073 ms
64 bytes from 10.0.2.15: icmp_seq=9 ttl=64 time=0.042 ms
64 bytes from 10.0.2.15: icmp_seq=10 ttl=64 time=0.070 ms
64 bytes from 10.0.2.15: icmp_seq=11 ttl=64 time=0.078 ms
64 bytes from 10.0.2.15: icmp_seq=12 ttl=64 time=0.054 ms
64 bytes from 10.0.2.15: icmp_seq=13 ttl=64 time=0.063 ms
```

ssh: Securely connect to a remote system



The screenshot shows a Kali Linux terminal window with the title bar 'File Machine View Input Devices Help'. The terminal prompt is 'kali@kali: ~'. The user enters the command 'ssh', which displays the usage information for the ssh command. The usage text is as follows:

```
(kali@kali)-[~]  
$ ssh  
usage: ssh [-46AaCfGgKkMnQsTtVvXxYy] [-B bind_interface]  
        [-b bind_address] [-c cipher_spec] [-D [bind_address:]port]  
        [-E log_file] [-e escape_char] [-F configfile] [-I pkcs11]  
        [-i identity_file] [-J [user@]host[:port]] [-L address]  
        [-l login_name] [-m mac_spec] [-O ctl_cmd] [-o option] [-p port]  
        [-Q query_option] [-R address] [-S ctl_path] [-W host:port]  
        [-w local_tun[:remote_tun]] destination [command [argument ... ]]
```

The user then enters the command 'ssh --version', which displays the error message 'unknown option --'.

```
(kali@kali)-[~]  
$ ssh --version  
unknown option --  
usage: ssh [-46AaCfGgKkMnQsTtVvXxYy] [-B bind_interface]  
        [-b bind_address] [-c cipher_spec] [-D [bind_address:]port]  
        [-E log_file] [-e escape_char] [-F configfile] [-I pkcs11]  
        [-i identity_file] [-J [user@]host[:port]] [-L address]  
        [-l login_name] [-m mac_spec] [-O ctl_cmd] [-o option] [-p port]  
        [-Q query_option] [-R address] [-S ctl_path] [-W host:port]  
        [-w local_tun[:remote_tun]] destination [command [argument ... ]]
```

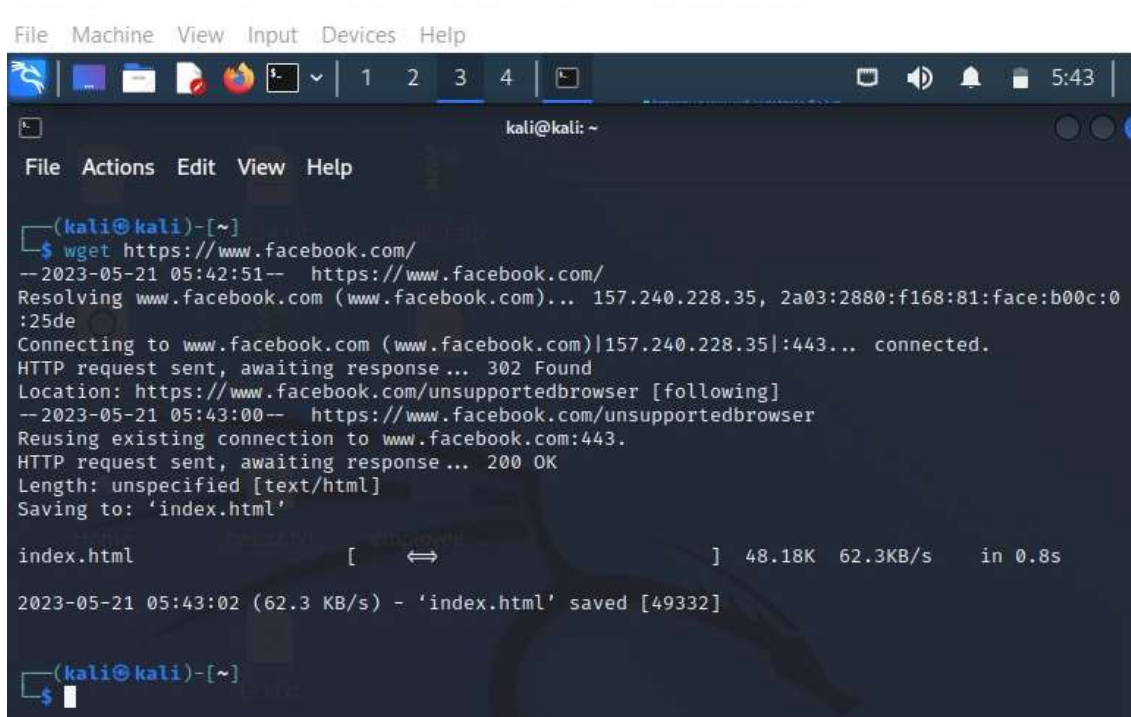
scp: Securely copy files between systems



The screenshot shows a Kali Linux terminal window with the title bar 'File Machine View Input Devices Help'. The terminal prompt is 'kali@kali: ~'. The user enters the command 'scp', which displays the usage information for the scp command. The usage text is as follows:

```
(kali@kali)-[~]  
$ scp  
usage: scp [-346ABCOppQRrsTv] [-c cipher] [-D sftp_server_path] [-F ssh_config]  
        [-i identity_file] [-J destination] [-l limit]  
        [-o ssh_option] [-P port] [-S program] source ... target
```

wget: Download files from the web



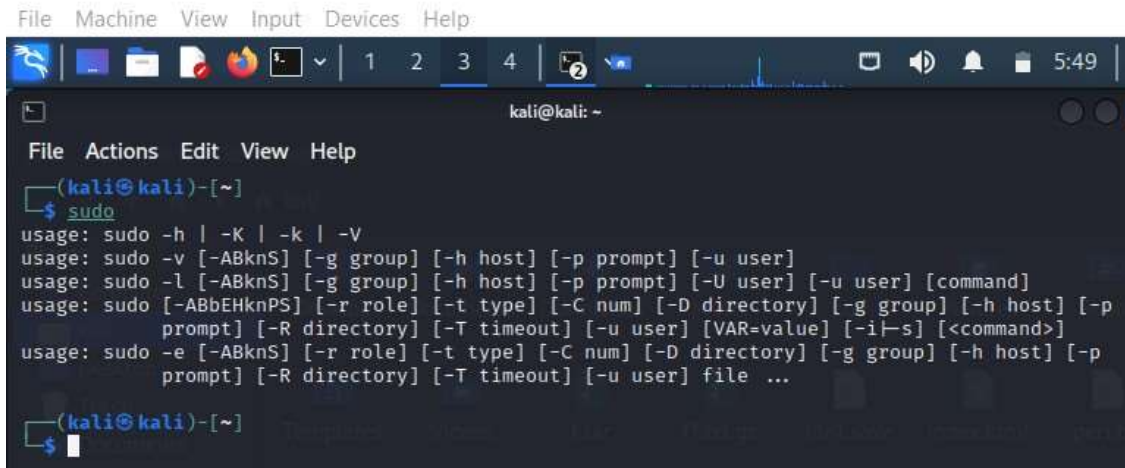
```
File Machine View Input Devices Help
kali@kali: ~
File Actions Edit View Help
(kali@kali)-[~]
$ wget https://www.facebook.com/
--2023-05-21 05:42:51-- https://www.facebook.com/
Resolving www.facebook.com (www.facebook.com)... 157.240.228.35, 2a03:2880:f168:81:face:b00c:0:25de
Connecting to www.facebook.com (www.facebook.com)|157.240.228.35|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://www.facebook.com/unsupportedbrowser [following]
--2023-05-21 05:43:00-- https://www.facebook.com/unsupportedbrowser
Reusing existing connection to www.facebook.com:443.
HTTP request sent, awaiting response... 200 OK
Length: unspecified [text/html]
Saving to: 'index.html'

index.html           [ 48.18K  62.3KB/s  in 0.8s ]
2023-05-21 05:43:02 (62.3 KB/s) - 'index.html' saved [49332]

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

System Administration:

sudo: Execute commands with superuser privileges



```
File Machine View Input Devices Help
kali@kali: ~
File Actions Edit View Help
(kali@kali)-[~]
$ sudo
usage: sudo -h | -K | -k | -V
usage: sudo -v [-ABknS] [-g group] [-h host] [-p prompt] [-u user]
usage: sudo -l [-ABknS] [-g group] [-h host] [-p prompt] [-U user] [-u user] [command]
usage: sudo [-ABbEHknPS] [-r role] [-t type] [-C num] [-D directory] [-g group] [-h host] [-p
prompt] [-R directory] [-T timeout] [-u user] [VAR=value] [-i|-s] [<command>]
usage: sudo -e [-ABknS] [-r role] [-t type] [-C num] [-D directory] [-g group] [-h host] [-p
prompt] [-R directory] [-T timeout] [-u user] file ...
(kali@kali)-[~]
$
```

yum: Package management for Red Hat-based distributions



```
File Machine View Input Devices Help
kali@kali: ~
File Actions Edit View Help
(kali@kali)-[~]
$ yummm
Command 'yummm' not found, did you mean:
  command 'yum4' from deb nextgen-yum4
Try: sudo apt install <deb name>
(kali@kali)-[~]
$
```


apt-get: Package management for Debian-based distributions

```
File Machine View Input Devices Help
kali@kali: ~
File Actions Edit View Help

(kali@kali)-[~]
$ apt-get
apt 2.4.5 (amd64)
Usage: apt-get [options] command
       apt-get [options] install|remove pkg1 [pkg2 ...]
       apt-get [options] source pkg1 [pkg2 ...]

apt-get is a command line interface for retrieval of packages
and information about them from authenticated sources and
for installation, upgrade and removal of packages together
with their dependencies.

Most used commands:
update - Retrieve new lists of packages
upgrade - Perform an upgrade
install - Install new packages (pkg is libc6 not libc6.deb)
reinstall - Reinstall packages (pkg is libc6 not libc6.deb)
remove - Remove packages
purge - Remove packages and config files
autoremove - Remove automatically all unused packages
dist-upgrade - Distribution upgrade, see apt-get(8)
dselect-upgrade - Follow dselect selections
build-dep - Configure build-dependencies for source packages
satisfy - Satisfy dependency strings
clean - Erase downloaded archive files
autoclean - Erase old downloaded archive files
check - Verify that there are no broken dependencies
source - Download source archives
download - Download the binary package into the current directory
changelog - Download and display the changelog for the given package

See apt-get(8) for more information about the available commands.
Configuration options and syntax is detailed in apt.conf(5).
Information about how to configure sources can be found in sources.list(5).
Package and version choices can be expressed via apt_preferences(5).
Security details are available in apt-secure(8).
This APT has Super Cow Powers.
```

systemctl: Manage system services

```
File Machine View Input Devices Help
kali@kali: ~
File Actions Edit View Help
(kali@kali)-[~]
$ systemctl
UNIT                                                                    lo>
proc-sys-fs-binfmt_misc.automount                                       lo>
sys-devices-pci0000:00-0000:00:01.1-ata2-host2-target2:0:0-2:0:0:0-block-sr0.device lo>
sys-devices-pci0000:00-0000:00:03.0-net-eth0.device                      lo>
sys-devices-pci0000:00-0000:00:05.0-sound-card0-controlC0.device         lo>
sys-devices-pci0000:00-0000:00:0d.0-ata3-host1-target1:0:0-1:0:0:0-block-sda-sda1.device lo>
sys-devices-pci0000:00-0000:00:0d.0-ata3-host1-target1:0:0-1:0:0:0-block-sda-sda2.device lo>
sys-devices-pci0000:00-0000:00:0d.0-ata3-host1-target1:0:0-1:0:0:0-block-sda-sda5.device lo>
sys-devices-pci0000:00-0000:00:0d.0-ata3-host1-target1:0:0-1:0:0:0-block-sda.device lo>
sys-devices-platform-serial8250-tty-ttyS0.device                      lo>
sys-devices-platform-serial8250-tty-ttyS1.device                      lo>
sys-devices-platform-serial8250-tty-ttyS2.device                      lo>
sys-devices-platform-serial8250-tty-ttyS3.device                      lo>
sys-devices-virtual-misc-rfkill.device                                  lo>
sys-module-configfs.device                                              lo>
sys-module-fuse.device                                                  lo>
sys-subsystem-net-devices-eth0.device                                   lo>
-.mount                                                                  lo>
dev-hugepages.mount                                                     lo>
dev-mqueue.mount                                                        lo>
run-credentials-systemd\x2dsysusers.service.mount                     lo>
run-rpc_pipefs.mount                                                    lo>
run-user-1000-gvfs.mount                                                 lo>
run-user-1000.mount                                                      lo>
sys-fs-fuse-connections.mount                                           lo>
sys-kernel-config.mount                                                  lo>
sys-kernel-debug.mount                                                  lo>
sys-kernel-tracing.mount                                                lo>
systemd-ask-password-plymouth.path                                     lo>
systemd-ask-password-wall.path                                          lo>
init.scope                                                              lo>
session-2.scope                                                         lo>
colord.service                                                           lo>
console-setup.service                                                   lo>
cron.service                                                             lo>
dbus.service                                                            lo>
getty@tty1.service                                                       lo>
haveged.service                                                         lo>
ifupdown-pre.service                                                    lo>
keyboard-setup.service                                                  lo>
kmod-static-nodes.service                                                lo>
lightdm.service                                                         lo>
ModemManager.service                                                    lo>
networking.service                                                      lo>
NetworkManager-wait-online.service                                     lo>
NetworkManager.service                                                  lo>
plymouth-quit-wait.service                                              lo>
```

crontab: Schedule recurring tasks

```
File Machine View Input Devices Help
kali@kali: ~
File Actions Edit View Help
(kali@kali)-[~]
$ crontab -e
no crontab for kali - using an empty one

Select an editor. To change later, run 'select-editor'.
 1. /bin/nano          ← easiest
 2. /usr/bin/vim.basic
 3. /usr/bin/vim.tiny

Choose 1-3 [1]:
```

```
File Machine View Input Devices Help
kali@kali: ~
File Actions Edit View Help
GNU nano 6.2 /tmp/crontab.zUzEWf/crontab
Edit this file to introduce tasks to be run by cron.

#
# Each task to run has to be defined through a single line
# indicating with different fields when the task will be run
# and what command to run for the task
#
# To define the time you can provide concrete values for
# minute (m), hour (h), day of month (dom), month (mon),
# and day of week (dow) or use '*' in these fields (for 'any').
#
# Notice that tasks will be started based on the cron's system
# daemon's notion of time and timezones.
#
# Output of the crontab jobs (including errors) is sent through
# email to the user the crontab file belongs to (unless redirected).
#
# For example, you can run a backup of all your user accounts
# at 5 a.m every week with:
# 0 5 * * 1 tar -zcf /var/backups/home.tgz /home/
#
# For more information see the manual pages of crontab(5) and cron(8)
#
# m h dom mon dow   command

```

[Read 23 lines]

^G Help	^O Write Out	^W Where Is	^K Cut	^T Execute	^C Location
^X Exit	^R Read File	^_ Replace	^U Paste	^J Justify	^_ Go To Line

useradd: Add a new user




```
File Machine View Input Devices Help
kali@kali: ~
File Actions Edit View Help
(kali@kali)-[~]
$ useradd
Usage: useradd [options] LOGIN
       useradd -D
       useradd -D [options]

Options:
  --badnames           do not check for bad names
  -b, --base-dir BASE_DIR  base directory for the home directory of the
                           new account
  --btrfs-subvolume-home  use BTRFS subvolume for home directory
  -c, --comment COMMENT  GECOS field of the new account
  -d, --home-dir HOME_DIR  home directory of the new account
  -D, --defaults         print or change default useradd configuration
  -e, --expiredate EXPIRE_DATE  expiration date of the new account
  -f, --inactive INACTIVE  password inactivity period of the new account
  -g, --gid GROUP         name or ID of the primary group of the new
                           account
  -G, --groups GROUPS     list of supplementary groups of the new
                           account
  -h, --help             display this help message and exit
  -k, --skel SKEL_DIR     use this alternative skeleton directory
  -K, --key KEY=VALUE     override /etc/login.defs defaults
  -l, --no-log-init       do not add the user to the lastlog and
                           faillog databases
  -m, --create-home       create the user's home directory
  -M, --no-create-home    do not create the user's home directory
  -N, --no-user-group      do not create a group with the same name as
                           the user
  -o, --non-unique        allow to create users with duplicate
                           (non-unique) UID
  -p, --password PASSWORD  encrypted password of the new account
  -r, --system            create a system account
  -R, --root CHROOT_DIR   directory to chroot into
  -P, --prefix PREFIX_DIR  prefix directory where are located the /etc/* files
  -s, --shell SHELL       login shell of the new account
  -u, --uid UID           user ID of the new account
  -U, --user-group        create a group with the same name as the user
  -Z, --selinux-user SEUSER  use a specific SEUSER for the SELinux user mapping

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

passwd: Change user password



```
File Machine View Input Devices Help
kali@kali: ~
File Actions Edit View Help
(kali@kali)-[~]
$ passwd
Changing password for kali.
Current password:
New password:
Retype new password:
```