

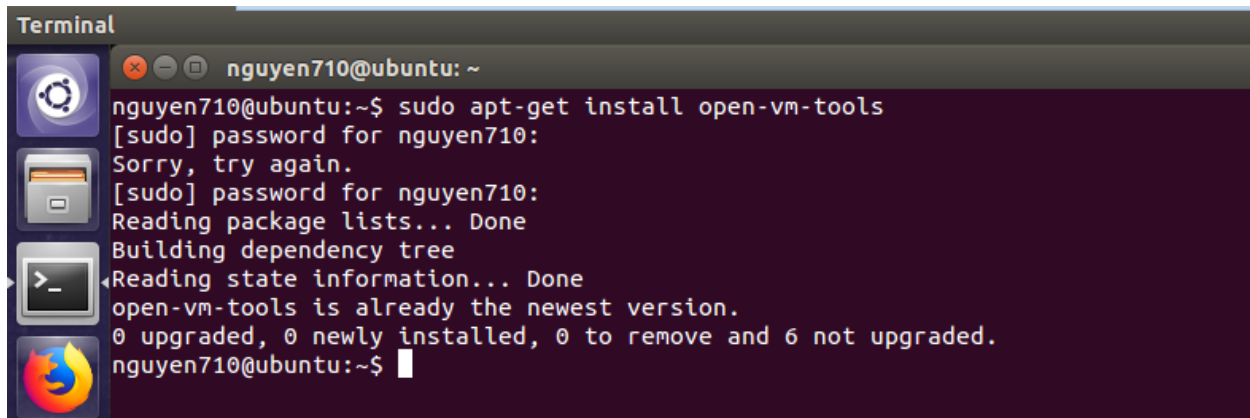
BÁO CÁO BÀI TẬP THỰC HÀNH TUẦN 05

```
/*-----  
*   NAME:           VŨ CAO NGUYỄN  
*   SID:            18600187  
*   CLASS:          18CK1  
*   SUBJECTS:       HỒN_TH_T5  
*   DATE:           08/06/2020  
*   BTTH_TUAN_05    Software Process  
*-----*/
```

MỨC ĐỘ HÀNH THÀNH YÊU CẦU BÀI TẬP: 3/3

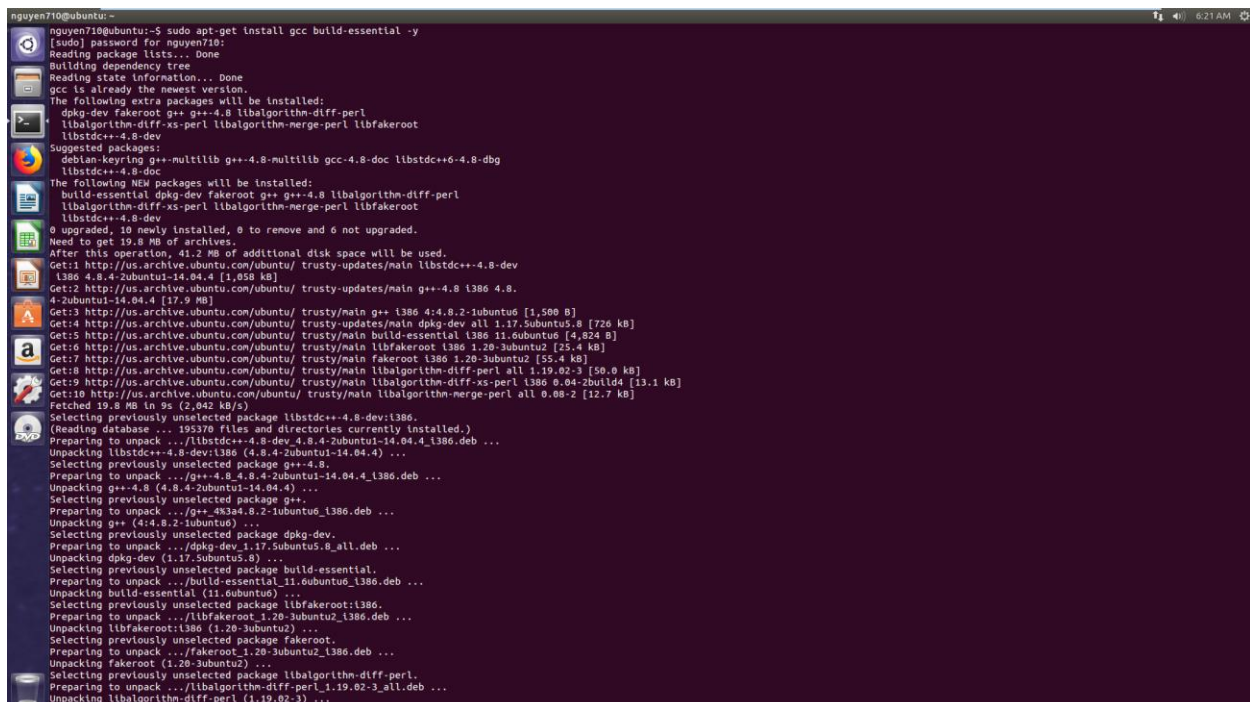
1. RPM

1.1. ~\$ sudo apt-get install open-vm-tools



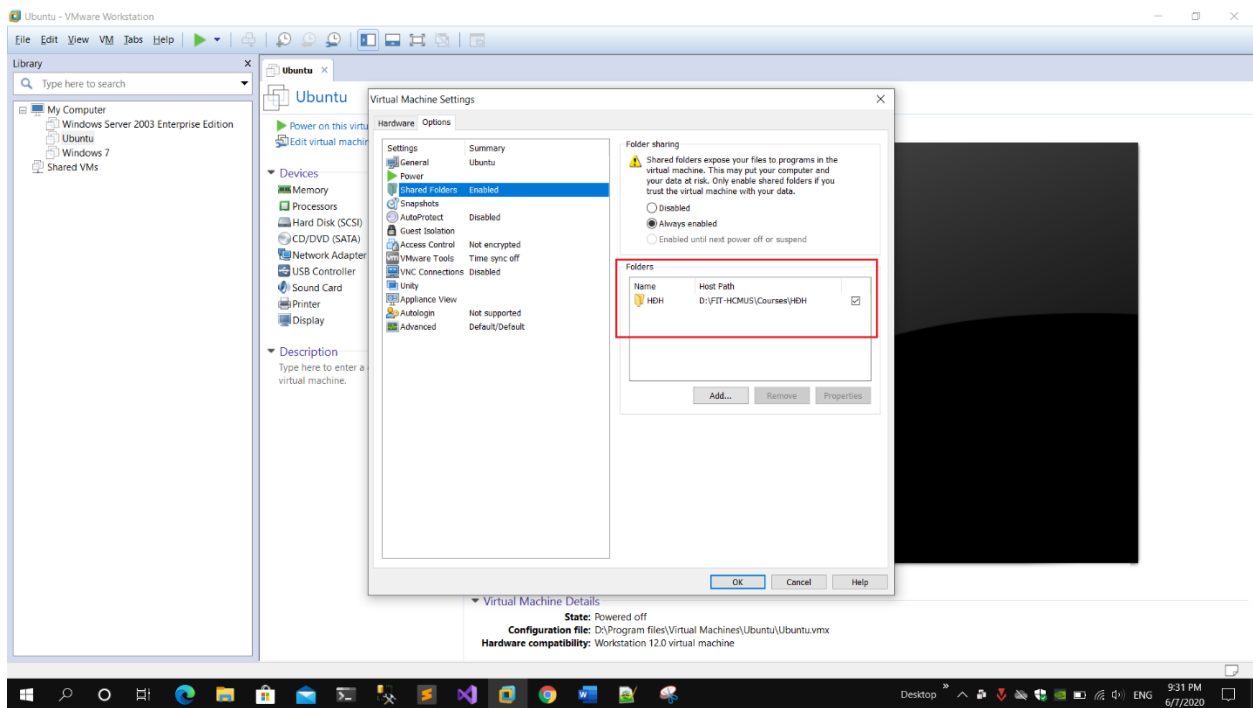
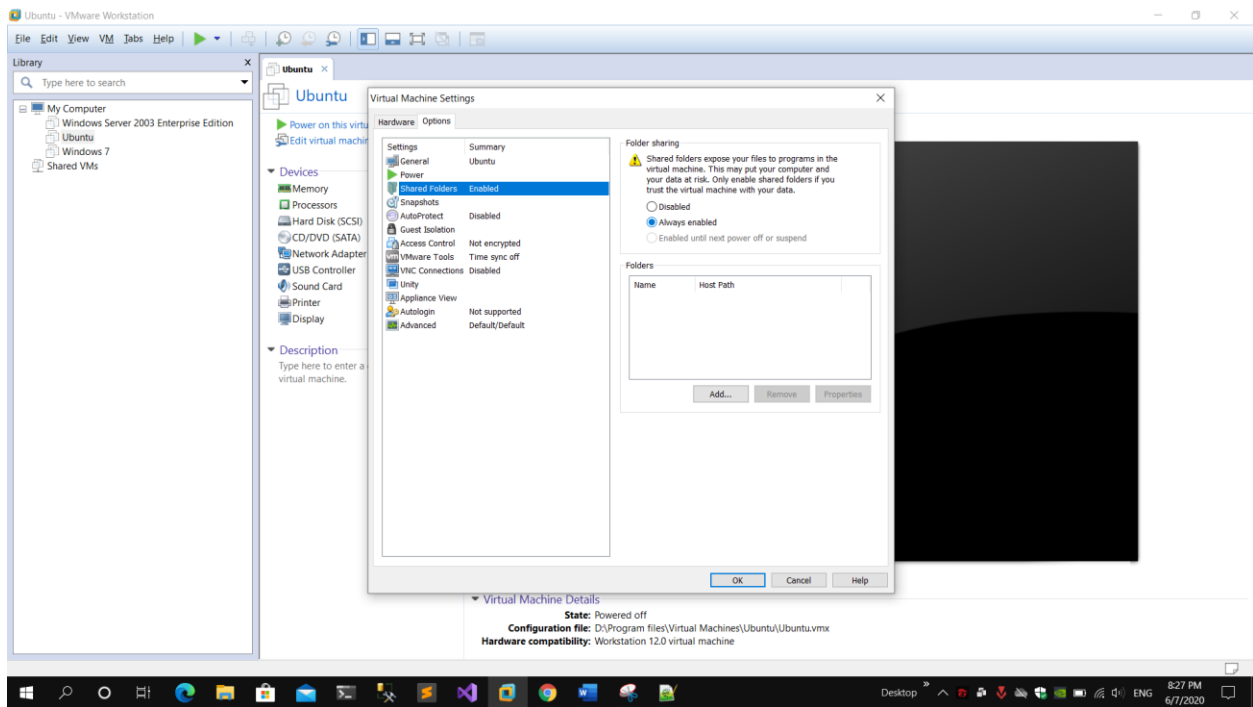
```
Terminal  
nguyen710@ubuntu: ~  
nguyen710@ubuntu:~$ sudo apt-get install open-vm-tools  
[sudo] password for nguyen710:  
Sorry, try again.  
[sudo] password for nguyen710:  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
open-vm-tools is already the newest version.  
0 upgraded, 0 newly installed, 0 to remove and 6 not upgraded.  
nguyen710@ubuntu:~$
```

~\$ sudo apt-get install gcc build-essential -y



```
nguyen710@ubuntu:~$ sudo apt-get install gcc build-essential -y  
[sudo] password for nguyen710:  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
gcc is already the newest version.  
The following extra packages will be installed:  
  dpkg-dev fakeroot g++ g++-4.8 libalgorithm-diff-perl  
  libalgorithm-diff-xs-perl libalgorithm-merge-perl libfakeroot  
  libstdc++4.8-dev  
Suggested packages:  
  debian-keyring g++-multilib g++-4.8-multilib gcc-4.8-doc libstdc++6-4.8-dbg  
  libstdc++4.8-doc  
The following NEW packages will be installed:  
  build-essential dpkg-dev fakeroot g++ g++-4.8 libalgorithm-diff-perl  
  libalgorithm-diff-xs-perl libalgorithm-merge-perl libfakeroot  
  libstdc++4.8-dev  
0 upgraded, 10 newly installed, 0 to remove and 6 not upgraded.  
Need to get 19.8 MB of archives.  
After this operation, 41.2 MB of additional disk space will be used.  
Get:1 http://us.archive.ubuntu.com/ubuntu/trusty-updates/main libstdc++4.8-dev  
  1386 4.8.4-2ubuntu1-14.04.4 [1,058 kB]  
Get:2 http://us.archive.ubuntu.com/ubuntu/trusty-updates/main g++-4.8 1386 4.8.  
  4-2ubuntu1-14.04.4 [17.9 MB]  
Get:3 http://us.archive.ubuntu.com/ubuntu/trusty/main g++ 1386 4:4.8.2-1ubuntu8 [1,500 B]  
Get:4 http://us.archive.ubuntu.com/ubuntu/trusty-updates/main dpkg-dev all 1:17.5ubuntu5.8 [726 kB]  
Get:5 http://us.archive.ubuntu.com/ubuntu/trusty/main build-essential 1386 11.6ubuntu6 [4,624 B]  
Get:6 http://us.archive.ubuntu.com/ubuntu/trusty/main libfakeroot 1386 1.20-3ubuntu2 [25.4 kB]  
Get:7 http://us.archive.ubuntu.com/ubuntu/trusty/main fakeroot 1386 1.20-3ubuntu2 [55.4 kB]  
Get:8 http://us.archive.ubuntu.com/ubuntu/trusty/main libalgorithm-diff-perl all 1:19.02-3 [50.0 kB]  
Get:9 http://us.archive.ubuntu.com/ubuntu/trusty/main libalgorithm-diff-xs-perl 1386 0.04-2build4 [13.1 kB]  
Get:10 http://us.archive.ubuntu.com/ubuntu/trusty/main libalgorithm-merge-perl all 0.08-2 [12.7 kB]  
Fetched 19.8 MB in 9s (2,042 kB/s)  
Selecting previously unselected package libstdc++4.8-dev:amd64.  
(Reading database ... 195370 files and directories currently installed.)  
Preparing to unpack .../libstdc++4.8-dev_4.8.4-2ubuntu1-14.04.4_1386.deb ...  
Unpacking libstdc++4.8-dev:amd64 (4.8.4-2ubuntu1-14.04.4) ...  
Selecting previously unselected package g++-4.8.  
Preparing to unpack .../g++-4.8_4.8.4-2ubuntu1-14.04.4_1386.deb ...  
Unpacking g++-4.8 (4.8.4-2ubuntu1-14.04.4) ...  
Selecting previously unselected package g++.  
Preparing to unpack .../g++_4:4.8.2-1ubuntu8_1386.deb ...  
Unpacking g++ (4:4.8.2-1ubuntu8) ...  
Selecting previously unselected package dpkg-dev.  
Preparing to unpack .../dpkg-dev_1:17.5ubuntu5.8_all.deb ...  
Unpacking dpkg-dev (1:17.5ubuntu5.8) ...  
Selecting previously unselected package build-essential.  
Preparing to unpack .../build-essential_11.6ubuntu6_1386.deb ...  
Unpacking build-essential (11.6ubuntu6) ...  
Selecting previously unselected package libfakeroot:amd64.  
Preparing to unpack .../libfakeroot_1.20-3ubuntu2_1386.deb ...  
Unpacking libfakeroot:amd64 (1.20-3ubuntu2) ...  
Selecting previously unselected package fakeroot.  
Preparing to unpack .../fakeroot_1.20-3ubuntu2_1386.deb ...  
Unpacking fakeroot (1.20-3ubuntu2) ...  
Selecting previously unselected package libalgorithm-diff-perl.  
Preparing to unpack .../libalgorithm-diff-perl_1:19.02-3_all.deb ...  
Unpacking libalgorithm-diff-perl (1:19.02-3) ...  
Selecting previously unselected package libalgorithm-diff-xs-perl.  
Preparing to unpack .../libalgorithm-diff-xs-perl_0.04-2build4_1386.deb ...  
Unpacking libalgorithm-diff-xs-perl (0.04-2build4) ...  
Selecting previously unselected package libalgorithm-merge-perl.  
Preparing to unpack .../libalgorithm-merge-perl_0.08-2_all.deb ...  
Unpacking libalgorithm-merge-perl (0.08-2) ...  
Setting up libstdc++4.8-dev:amd64 (4.8.4-2ubuntu1-14.04.4) ...  
Setting up g++-4.8 (4.8.4-2ubuntu1-14.04.4) ...  
Setting up g++ (4:4.8.2-1ubuntu8) ...  
Setting up dpkg-dev (1:17.5ubuntu5.8) ...  
Setting up build-essential (11.6ubuntu6) ...  
Setting up libfakeroot:amd64 (1.20-3ubuntu2) ...  
Setting up fakeroot (1.20-3ubuntu2) ...  
Setting up libalgorithm-diff-perl (1:19.02-3) ...  
Setting up libalgorithm-diff-xs-perl (0.04-2build4) ...  
Setting up libalgorithm-merge-perl (0.08-2) ...
```

1.2. ~\$ vmware-hgfsclient



```
Terminal
nguyen710@ubuntu: ~
nguyen710@ubuntu:~$ lsmod | grep vmhgfs
vmhgfs          48312  1
nguyen710@ubuntu:~$
```

```
Terminal
nguyen710@ubuntu: ~
nguyen710@ubuntu:~$ vmware-hgfsclient
HDDH
nguyen710@ubuntu:~$
```

1.3. ~\$ sudo apt-get install rpm
root@ubuntu:~# rpm -qa>/root/rpm.txt

```
nguyen@ubuntu: ~
nguyen@ubuntu:~$ sudo apt-get install rpm
[sudo] password for nguyen:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following extra packages will be installed:
  debugedit librpm3 librpmbuild3 librpmio3 librpmsign1 rpm-common rpm2cpio
Suggested packages:
  rpm-l10n alien elfutils
The following NEW packages will be installed:
  debugedit librpm3 librpmbuild3 librpmio3 librpmsign1 rpm-common rpm2cpio
0 upgraded, 8 newly installed, 0 to remove and 6 not upgraded.
Need to get 440 kB of archives.
After this operation, 1,945 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://us.archive.ubuntu.com/ubuntu/ trusty-updates/main librpmio3 i386 4.11.1-3ubuntu0.1 [67.9 kB]
Get:2 http://us.archive.ubuntu.com/ubuntu/ trusty-updates/main debugedit i386 4.11.1-3ubuntu0.1 [15.7 kB]
Get:3 http://us.archive.ubuntu.com/ubuntu/ trusty-updates/main librpm3 i386 4.11.1-3ubuntu0.1 [154 kB]
Get:4 http://us.archive.ubuntu.com/ubuntu/ trusty-updates/main librpmbuild3 i386 4.11.1-3ubuntu0.1 [55.1 kB]
Get:5 http://us.archive.ubuntu.com/ubuntu/ trusty-updates/main librpmsign1 i386 4.11.1-3ubuntu0.1 [7,900 B]
Get:6 http://us.archive.ubuntu.com/ubuntu/ trusty-updates/main rpm-common i386 4.11.1-3ubuntu0.1 [21.5 kB]
Get:7 http://us.archive.ubuntu.com/ubuntu/ trusty-updates/main rpm2cpio i386 4.11.1-3ubuntu0.1 [5,080 B]
Get:8 http://us.archive.ubuntu.com/ubuntu/ trusty-updates/main rpm i386 4.11.1-3ubuntu0.1 [113 kB]
Fetched 440 kB in 4s (101 kB/s)
Selecting previously unselected package librpmio3.
(Reading database ... 195314 files and directories currently installed.)
Preparing to unpack .../librpmio3_4.11.1-3ubuntu0.1_i386.deb ...
Unpacking librpmio3 (4.11.1-3ubuntu0.1) ...
Selecting previously unselected package debugedit.
Preparing to unpack .../debugedit_4.11.1-3ubuntu0.1_i386.deb ...
Unpacking debugedit (4.11.1-3ubuntu0.1) ...
Selecting previously unselected package librpm3.
Preparing to unpack .../librpm3_4.11.1-3ubuntu0.1_i386.deb ...
Unpacking librpm3 (4.11.1-3ubuntu0.1) ...
Selecting previously unselected package librpmbuild3.
Preparing to unpack .../librpmbuild3_4.11.1-3ubuntu0.1_i386.deb ...
Unpacking librpmbuild3 (4.11.1-3ubuntu0.1) ...
Selecting previously unselected package librpmsign1.
Preparing to unpack .../librpmsign1_4.11.1-3ubuntu0.1_i386.deb ...
Unpacking librpmsign1 (4.11.1-3ubuntu0.1) ...
Selecting previously unselected package rpm-common.
Preparing to unpack .../rpm-common_4.11.1-3ubuntu0.1_i386.deb ...
Unpacking rpm-common (4.11.1-3ubuntu0.1) ...
Selecting previously unselected package rpm2cpio.
Preparing to unpack .../rpm2cpio_4.11.1-3ubuntu0.1_i386.deb ...
Unpacking rpm2cpio (4.11.1-3ubuntu0.1) ...
Selecting previously unselected package rpm.
Preparing to unpack .../rpm_4.11.1-3ubuntu0.1_i386.deb ...
Unpacking rpm (4.11.1-3ubuntu0.1) ...
Processing triggers for man-db (2.6.7.1-1ubuntu1) ...
Setting up librpmio3 (4.11.1-3ubuntu0.1) ...
Setting up debugedit (4.11.1-3ubuntu0.1) ...
Setting up librpm3 (4.11.1-3ubuntu0.1) ...
Setting up librpmbuild3 (4.11.1-3ubuntu0.1) ...
Setting up librpmsign1 (4.11.1-3ubuntu0.1) ...
Setting up rpm-common (4.11.1-3ubuntu0.1) ...
Setting up rpm2cpio (4.11.1-3ubuntu0.1) ...
Setting up rpm (4.11.1-3ubuntu0.1) ...
```

1.4. ~\$ rpm -i mc-4.5.42-10.src.rpm



```
Unpacking librpmio3 (4.11.1-3ubuntu0.1) ...
Selecting previously unselected package rpm-common.
Preparing to unpack .../rpm-common_4.11.1-3ubuntu0.1_i386.deb ...
Unpacking rpm-common (4.11.1-3ubuntu0.1) ...
Selecting previously unselected package rpm2cpio.
Preparing to unpack .../rpm2cpio_4.11.1-3ubuntu0.1_i386.deb ...
Unpacking rpm2cpio (4.11.1-3ubuntu0.1) ...
Selecting previously unselected package rpm.
Preparing to unpack .../rpm_4.11.1-3ubuntu0.1_i386.deb ...
Unpacking rpm (4.11.1-3ubuntu0.1) ...
Processing triggers for man-db (2.6.7.1-1ubuntu1) ...
Setting up librpmio3 (4.11.1-3ubuntu0.1) ...
Setting up debugedit (4.11.1-3ubuntu0.1) ...
Setting up librpm3 (4.11.1-3ubuntu0.1) ...
Setting up librpmio3 (4.11.1-3ubuntu0.1) ...
Setting up librpmio3 (4.11.1-3ubuntu0.1) ...
Setting up rpm-common (4.11.1-3ubuntu0.1) ...
Setting up rpm2cpio (4.11.1-3ubuntu0.1) ...
Setting up rpm (4.11.1-3ubuntu0.1) ...
Processing triggers for libc-bin (2.19-0ubuntu6.15) ...
nguyen@ubuntu:~$ rpm -i mc-4.5.42-10.src.rpm
```

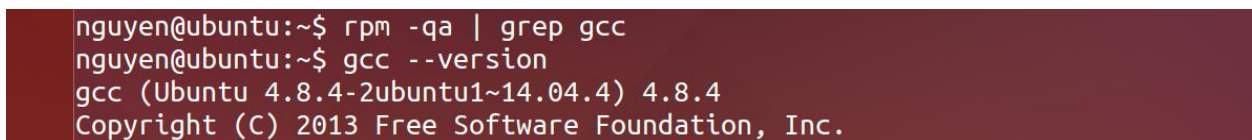
1.5. Gói Midnight Commander (mc) là một trình bao trực quan giống như một trình quản lý tệp, chỉ với nhiều tính năng hơn. Nó là một ứng dụng chế độ văn bản, nhưng nó cũng bao gồm hỗ trợ chuột nếu bạn đang chạy GPM. Chỉ huy nửa đêm. Các tính năng thú vị nhất là khả năng của nó đối với FTP, xem các tệp tar và zip và để chọn vào RPM cho các tệp cụ thể.

1.6. ~\$ rpm -qlp mc-4.5.42-10.src.rpm>/root/mc.txt



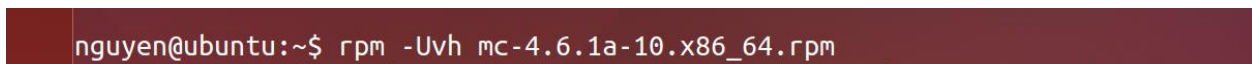
```
nguyen@ubuntu:~$ rpm -qlp mc-4.5.42-10.src.rpm>/root/mc.txt
```

1.7. ~\$ rpm -qa | grep gcc



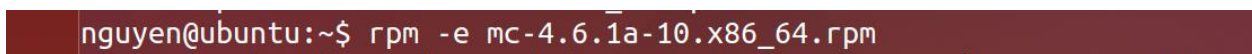
```
nguyen@ubuntu:~$ rpm -qa | grep gcc
nguyen@ubuntu:~$ gcc --version
gcc (Ubuntu 4.8.4-2ubuntu1~14.04.4) 4.8.4
Copyright (C) 2013 Free Software Foundation, Inc.
```

1.8. ~\$ rpm -Uvh mc-4.6.1a-10.x86_64.rpm



```
nguyen@ubuntu:~$ rpm -Uvh mc-4.6.1a-10.x86_64.rpm
```

1.9. ~\$ rpm -e mc-4.6.1a-10.x86_64.rpm



```
nguyen@ubuntu:~$ rpm -e mc-4.6.1a-10.x86_64.rpm
```

2. Source

2.1. # tar -cvf /tmp/root.tar /root

2.2. # tar -zcf /tmp/root.tar.gz /root

2.3. # tar -jcf /tmp/root.tar.bz2 /root

2.4. # gzip -d /tmp/root.tar.bz2 /tmp/test

```
root@ubuntu: ~  
root@ubuntu:~# tar -cvf /tmp/root.tar /root  
tar: Removing leading '/' from member names  
/root/  
/root/.bashrc  
/root/.bash_history  
/root/.profile  
root@ubuntu:~# tar -zcf /tmp/root.tar.gz /root  
tar: Removing leading '/' from member names  
root@ubuntu:~# tar -jcf /tmp/root.tar.bz2 /root  
tar: Removing leading '/' from member names  
root@ubuntu:~# gzip -d /tmp/root.tar.bz2 /tmp/test  
gzip: /tmp/root.tar.bz2: unknown suffix -- ignored  
gzip: /tmp/test.gz: No such file or directory  
root@ubuntu:~#
```

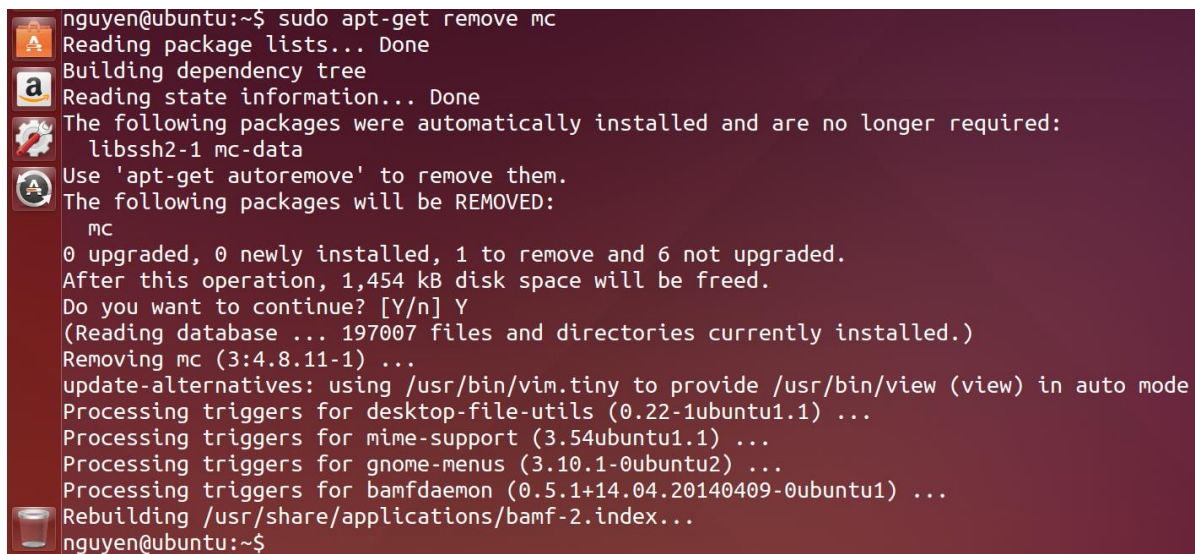
2.5. ~\$ sudo add-apt-repository universe

~\$ sudo apt update

~\$ sudo apt install mc

```
nguyen@ubuntu: ~  
nguyen@ubuntu:~$ sudo apt install mc  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
The following extra packages will be installed:  
  libssh2-1 mc-data  
Suggested packages:  
  arj catdvi texlive-binaries dbview djvulibre-bin gv imagemagick links w3m  
  lynx odt2txt python-boto python-tz  
The following NEW packages will be installed:  
  libssh2-1 mc mc-data  
0 upgraded, 3 newly installed, 0 to remove and 6 not upgraded.  
Need to get 1,653 kB of archives.  
After this operation, 7,199 kB of additional disk space will be used.  
Do you want to continue? [Y/n] Y  
Get:1 http://us.archive.ubuntu.com/ubuntu/ trusty-updates/universe libssh2-1 i386 1.4.3-2ubuntu0.2 [65.4 kB]  
Get:2 http://us.archive.ubuntu.com/ubuntu/ trusty/universe mc-data all 3:4.8.11-1 [1,134 kB]  
Get:3 http://us.archive.ubuntu.com/ubuntu/ trusty/universe mc i386 3:4.8.11-1 [454 kB]  
Fetched 1,653 kB in 7s (217 kB/s)  
Selecting previously unselected package libssh2-1:i386.  
(Reading database ... 196653 files and directories currently installed.)  
Preparing to unpack .../libssh2-1_1.4.3-2ubuntu0.2_i386.deb ...  
Unpacking libssh2-1:i386 (1.4.3-2ubuntu0.2) ...  
Selecting previously unselected package mc-data.  
Preparing to unpack .../mc-data_3%3a4.8.11-1_all.deb ...  
Unpacking mc-data (3:4.8.11-1) ...  
Selecting previously unselected package mc.  
Preparing to unpack .../mc_3%3a4.8.11-1_i386.deb ...  
Unpacking mc (3:4.8.11-1) ...  
Processing triggers for man-db (2.6.7.1-1ubuntu1) ...  
Processing triggers for hicolor-icon-theme (0.13-1) ...  
Processing triggers for doc-base (0.10.5) ...  
Processing 1 added doc-base file...  
Processing triggers for desktop-file-utils (0.22-1ubuntu1.1) ...
```

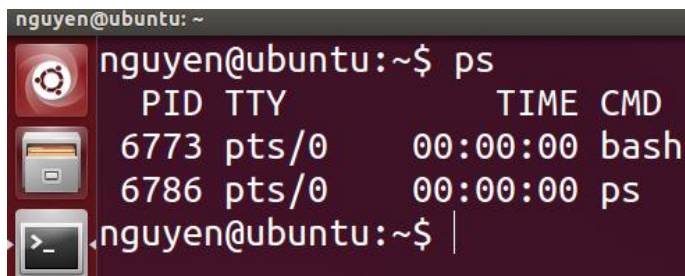
2.6. ~\$ sudo apt-get remove mc



```
nguyen@ubuntu:~$ sudo apt-get remove mc
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libssh2-1 mc-data
Use 'apt-get autoremove' to remove them.
The following packages will be REMOVED:
  mc
0 upgraded, 0 newly installed, 1 to remove and 6 not upgraded.
After this operation, 1,454 kB disk space will be freed.
Do you want to continue? [Y/n] Y
(Reading database ... 197007 files and directories currently installed.)
Removing mc (3:4.8.11-1) ...
update-alternatives: using /usr/bin/vim.tiny to provide /usr/bin/view (view) in auto mode
Processing triggers for desktop-file-utils (0.22-1ubuntu1.1) ...
Processing triggers for mime-support (3.54ubuntu1.1) ...
Processing triggers for gnome-menus (3.10.1-0ubuntu2) ...
Processing triggers for bamfdaemon (0.5.1+14.04.20140409-0ubuntu1) ...
Rebuilding /usr/share/applications/bamf-2.index...
nguyen@ubuntu:~$
```

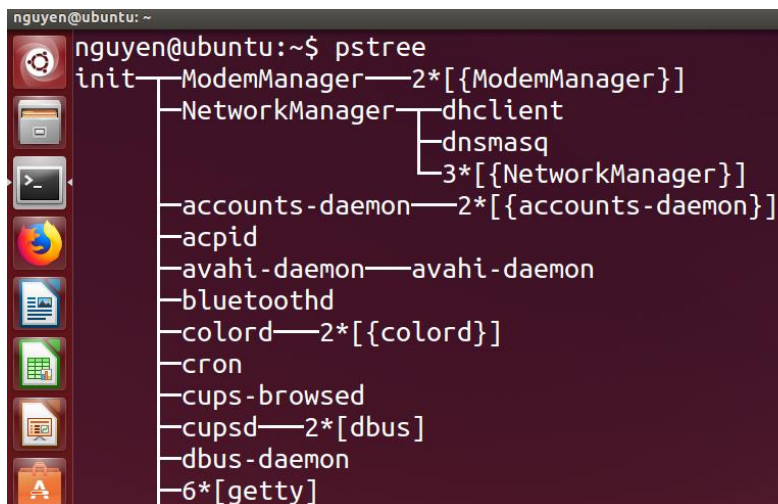
3. Quản trị Process

3.1. ~\$ ps



```
nguyen@ubuntu:~$ ps
  PID TTY          TIME CMD
 6773 pts/0        00:00:00 bash
 6786 pts/0        00:00:00 ps
nguyen@ubuntu:~$ |
```

3.2. ~\$ pstree



```
nguyen@ubuntu:~$ pstree
init--ModemManager--2*[{ModemManager}]
      |
      |--NetworkManager--dhclient
      |                   |
      |                   |--dnsmasq
      |                   --3*[{NetworkManager}]
      |--accounts-daemon--2*[{accounts-daemon}]
      |--acpid
      |--avahi-daemon--avahi-daemon
      |--bluetoothd
      |--colord--2*[{colord}]
      |--cron
      |--cups-browsed
      |--cupsd--2*[dbus]
      |--dbus-daemon
      --6*[getty]
```


3.3. ~\$ top

```
nguyen@ubuntu:~$ top

top - 19:46:13 up 50 min, 2 users, load average: 0.00, 0.05, 0.07
Tasks: 197 total, 2 running, 195 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0.3 us, 0.3 sy, 0.0 ni, 99.3 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
KiB Mem: 2063672 total, 1296800 used, 766872 free, 98888 buffers
KiB Swap: 2094076 total, 0 used, 2094076 free, 610860 cached Mem

  PID USER      PR  NI  VIRT  RES  SHR S %CPU  %MEM    TIME+  COMMAND
 1111 root        20   0 226320 51468 20200 S   1.0   2.5   0:31.15 Xorg
 1990 nguyen      20   0  47040  3584  2828 S   0.7   0.2   0:02.47 ibus-daemon
 2212 nguyen      20   0 238952 64444 34184 S   0.7   3.1   0:13.50 compiz
 6762 nguyen      20   0 115788 18620 11724 S   0.7   0.9   0:01.70 gnome-terminal
 6803 nguyen      20   0   5536  1420  1008 R   0.7   0.1   0:00.06 top
 1127 root        20   0   2196   660   528 S   0.3   0.0   0:00.07 acpid
 1141 root        20   0  42812  3760  3176 S   0.3   0.2   0:03.88 vmtoolsd
 2237 nguyen      20   0  78380 16748 12072 S   0.3   0.8   0:04.83 vmtoolsd
    1 root        20   0   4452  2504  1416 S   0.0   0.1   0:03.07 init
    2 root        20   0      0     0     0 S   0.0   0.0   0:00.01 kthreadd
    3 root        20   0      0     0     0 S   0.0   0.0   0:01.07 ksoftirqd/0
    5 root        0 -20     0     0     0 S   0.0   0.0   0:00.00 kworker/0:0H
    7 root        20   0      0     0     0 S   0.0   0.0   0:01.50 rcu_sched
    8 root        20   0      0     0     0 S   0.0   0.0   0:00.00 rcu_bh
    9 root        rt    0      0     0     0 S   0.0   0.0   0:00.08 migration/0
   10 root        rt    0      0     0     0 S   0.0   0.0   0:00.02 watchdog/0
   11 root        rt    0      0     0     0 S   0.0   0.0   0:00.02 watchdog/1
   12 root        rt    0      0     0     0 S   0.0   0.0   0:00.26 migration/1
   13 root        20   0      0     0     0 S   0.0   0.0   0:00.13 ksoftirqd/1
   14 root        20   0      0     0     0 S   0.0   0.0   0:00.00 kworker/1:0
   15 root        0 -20     0     0     0 S   0.0   0.0   0:00.00 kworker/1:0H
   16 root        rt    0      0     0     0 S   0.0   0.0   0:00.02 watchdog/2
   17 root        rt    0      0     0     0 S   0.0   0.0   0:00.54 migration/2
   18 root        20   0      0     0     0 S   0.0   0.0   0:00.10 ksoftirqd/2
   19 root        20   0      0     0     0 S   0.0   0.0   0:00.00 kworker/2:0
```

3.4. ~\$ top>/root/top.txt

```
nguyen@ubuntu:~$ sudo -i
[sudo] password for nguyen:
root@ubuntu:~# top>/root/top.txt
root@ubuntu:~#
```

3.5. ~\$ sudo apt install htop ~\$ htop

```
nguyen@ubuntu:~$ sudo apt install htop
~$ htop

1  [|||||] 5.2% Tasks: 101, 147 thr; 1 running
2  [|||] 0.6% Load average: 0.11 0.07 0.07
3  [||] 0.0% Uptime: 00:52:24
4  [||] 1.3%
Mem [|||||] 558/2015MB
Swp [|||||] 0/2044MB

  PID USER      PRI  NI  VIRT  RES  SHR S %CPU  %MEM    TIME+  Command
 1111 root        20   0 221M 51648 20200 S   3.9   2.5   0:34.49 /usr/bin/X -core :0 -seat seat0 -auth /var/run/lightdm/root/
 7328 nguyen      20   0  5720  1936  1296 R   2.0   0.1   0:00.11 htop
 6762 nguyen      20   0 113M 18676 11756 S   2.0   0.9   0:03.60 gnome-terminal
 1512 rtkit        20   0 21356  1216  1040 S   0.7   0.1   0:00.07 /usr/lib/rtkit/rtkit-daemon
 2004 nguyen      20   0 47040  3584  2828 S   0.0   0.2   0:01.75 /usr/bin/ibus-daemon --daemonize --xim
    1 root        20   0  4452  2504  1416 S   0.0   0.1   0:03.07 /sbin/init
 352 root        20   0  3276   872   656 S   0.0   0.0   0:00.59 upstart-udev-bridge --daemon
 361 root        20   0 12676  1752   988 S   0.0   0.1   0:00.28 /lib/systemd/systemd-udev --daemon
 585 messagebu  20   0  4876  1980  1072 S   0.0   0.1   0:00.59 dbus-daemon --system --fork
 680 syslog     20   0 31372  1200   856 S   0.0   0.1   0:00.02 rsyslogd
 681 syslog     20   0 31372  1200   856 S   0.0   0.1   0:00.02 rsyslogd
 682 syslog     20   0 31372  1200   856 S   0.0   0.1   0:00.07 rsyslogd
 674 syslog     20   0 31372  1200   856 S   0.0   0.1   0:00.14 rsyslogd
 689 root        20   0 48800 16772 14772 S   0.0   0.1   0:00.00 /usr/sbin/bluetoothd
 714 root        20   0 4212  1772  1460 S   0.0   0.1   0:00.02 /lib/systemd/systemd-logind
 837 root        20   0 38388  7920  3016 S   0.0   0.4   0:00.00 /usr/sbin/ModemManager
 905 root        20   0 38388  7920  3016 S   0.0   0.4   0:00.00 /usr/sbin/ModemManager
 749 root        20   0 38388  7920  3016 S   0.0   0.4   0:00.05 /usr/sbin/ModemManager
 776 avahi        20   0  3468  1380  1164 S   0.0   0.1   0:00.28 avahi-daemon: running [ubuntu.local]
 777 avahi        20   0  3468  424   216 S   0.0   0.0   0:00.00 avahi-daemon: chroot helper
 785 root        20   0  2272   924   420 S   0.0   0.0   0:00.05 upstart-file-bridge --daemon
 788 root        20   0  1132   896   444 S   0.0   0.0   0:00.05 upstart-socket-bridge --daemon
 902 root        20   0 50220  6688  4660 S   0.0   0.3   0:00.00 NetworkManager
 904 root        20   0 50220  6688  4660 S   0.0   0.3   0:00.07 NetworkManager

F1Help F2Setup F3Search F4Filter F5Tree F6SortBy F7Nice F8Nice F9Kill F10Quit
```

3.6. ~\$ top -b -n 1

```
nguyen@ubuntu:~$ top -b -n 1
top - 19:49:09 up 53 min, 2 users, load average: 0.10, 0.08, 0.08
Tasks: 197 total, 1 running, 196 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0.4 us, 0.5 sy, 0.1 ni, 98.5 id, 0.5 wa, 0.0 hi, 0.0 si, 0.0 st
KiB Mem: 2063672 total, 1294248 used, 769424 free, 98892 buffers
KiB Swap: 2094076 total, 0 used, 2094076 free. 611344 cached Mem

  PID USER      PR  NI  VIRT  RES  SHR S %CPU  %MEM    TIME+  COMMAND
 1990 nguyen    20   0 47040 3584 2828 S  6.3   0.2   0:02.91 ibus-daemon
 7353 nguyen    20   0  5420 1296  960 R  6.3   0.1   0:00.01 top
    1 root      20   0  4452 2504 1416 S  0.0   0.1   0:03.07 init
    2 root      20   0      0     0     0 S  0.0   0.0   0:00.01 kthreadd
    3 root      20   0      0     0     0 S  0.0   0.0   0:01.09 ksoftirqd/0
    5 root      0 -20      0     0     0 S  0.0   0.0   0:00.00 kworker/0:0H
    7 root      20   0      0     0     0 S  0.0   0.0   0:01.61 rcu_sched
    8 root      20   0      0     0     0 S  0.0   0.0   0:00.00 rcu_bh
    9 root      rt   0      0     0     0 S  0.0   0.0   0:00.08 migration/0
   10 root      rt   0      0     0     0 S  0.0   0.0   0:00.02 watchdog/0
   11 root      rt   0      0     0     0 S  0.0   0.0   0:00.02 watchdog/1
   12 root      rt   0      0     0     0 S  0.0   0.0   0:00.26 migration/1
   13 root      20   0      0     0     0 S  0.0   0.0   0:00.14 ksoftirqd/1
   14 root      20   0      0     0     0 S  0.0   0.0   0:00.00 kworker/1:0
   15 root      0 -20      0     0     0 S  0.0   0.0   0:00.00 kworker/1:0H
   16 root      rt   0      0     0     0 S  0.0   0.0   0:00.02 watchdog/2
   17 root      rt   0      0     0     0 S  0.0   0.0   0:00.54 migration/2
   18 root      20   0      0     0     0 S  0.0   0.0   0:00.11 ksoftirqd/2
   19 root      20   0      0     0     0 S  0.0   0.0   0:00.00 kworker/2:0
   20 root      0 -20      0     0     0 S  0.0   0.0   0:00.00 kworker/2:0H
   21 root      rt   0      0     0     0 S  0.0   0.0   0:00.02 watchdog/3
   22 root      rt   0      0     0     0 S  0.0   0.0   0:00.04 migration/3
   23 root      20   0      0     0     0 S  0.0   0.0   0:00.12 ksoftirqd/3
   24 root      20   0      0     0     0 S  0.0   0.0   0:00.00 kworker/3:0
   25 root      0 -20      0     0     0 S  0.0   0.0   0:00.00 kworker/3:0H
   26 root      0 -20      0     0     0 S  0.0   0.0   0:00.00 khelper
```

3.7. ~\$ ps -e | wc -l

```
nguyen@ubuntu:~$ ps -e | wc -l
199
nguyen@ubuntu:~$
```

3.8. ~\$ ps -U root | wc -l

```
nguyen@ubuntu:~$ ps -U root | wc -l
124
nguyen@ubuntu:~$
```

3.9. ~\$ ps -C httpd -U root | wc -l

```
nguyen@ubuntu:~$ ps -C httpd -U root | wc -l
124
nguyen@ubuntu:~$
```

3.10. ~\$ ps axu | wc -l

```
nguyen@ubuntu:~$ ps axu | wc -l
199
nguyen@ubuntu:~$
```


3.11. ~\$ ls -a>/root/lietke.txt

```
nguyen@ubuntu:~$ sudo -i
root@ubuntu:~# ls -a>/root/lietke.txt
root@ubuntu:~#
```

3.12. ~\$ bg %-

```
nguyen@ubuntu:~$ sudo -i
root@ubuntu:~# ls -a>/root/lietke.txt
root@ubuntu:~# logout
nguyen@ubuntu:~$ bg %-
```

3.13. ~\$ Ctrl + Z

3.14. ~\$ bg

```
nguyen@ubuntu:~$ bg
```

3.15. ~\$ nice -n -19 ls -lR

~\$ nice -n 19 ls -lR

Lệnh “ls -lR” với tiến trình -19 thực thi xong trước.

```
nguyen@ubuntu: ~
-rw-r--r-- 1 nguyen nguyen 69712 Aug 12 2015 vsock.o

./Documents/vmware-tools-distrib/lib/modules/binary/bld-3.5.0-17-i386-generic-Ub
untu12.10:
total 8
drwxr-xr-x 2 nguyen nguyen 4096 Aug 12 2015 objects
-rw-r--r-- 1 nguyen nguyen 125 Aug 12 2015 properties

./Documents/vmware-tools-distrib/lib/modules/binary/bld-3.5.0-17-i386-generic-Ub
untu12.10/objects:
total 184
-rw-r--r-- 1 nguyen nguyen 80244 Aug 12 2015 vmci.o
-rw-r--r-- 1 nguyen nguyen 1400 Aug 12 2015 vmci.symvers
-rw-r--r-- 1 nguyen nguyen 54116 Aug 12 2015 vmhgfs.o
-rw-r--r-- 1 nguyen nguyen 44104 Aug 12 2015 vsock.o

./Documents/vmware-tools-distrib/lib/modules/binary/bld-3.5.0-23-amd64-generic-U
buntu12.04.2:
total 8
drwxr-xr-x 2 nguyen nguyen 4096 Aug 12 2015 objects
-rw-r--r-- 1 nguyen nguyen 137 Aug 12 2015 properties

./Documents/vmware-tools-distrib/lib/modules/binary/bld-3.5.0-23-amd64-generic-U
buntu12.04.2/objects:
total 292
-rw-r--r-- 1 nguyen nguyen 130168 Aug 12 2015 vmci.o
-rw-r--r-- 1 nguyen nguyen 1400 Aug 12 2015 vmci.symvers
-rw-r--r-- 1 nguyen nguyen 86048 Aug 12 2015 vmhgfs.o
-rw-r--r-- 1 nguyen nguyen 69712 Aug 12 2015 vsock.o

./Documents/vmware-tools-distrib/lib/modules/binary/bld-3.5.0-23-i386-generic-Ub
untu12.04.2:
total 8
drwxr-xr-x 2 nguyen nguyen 4096 Aug 12 2015 objects
-rw-r--r-- 1 nguyen nguyen 127 Aug 12 2015 properties

./Documents/vmware-tools-distrib/lib/modules/binary/bld-3.5.0-23-i386-generic-Ub
untu12.04.2/objects:
total 184
-rw-r--r-- 1 nguyen nguyen 80244 Aug 12 2015 vmci.o
```

3.16. ~\$ nice -n -5 find / -type f -size +100k -exec ls -lh {} \;

```
nguyen@ubuntu: ~$ nice -n -5 find / -type f -size +100k -exec ls -lh {} \;
-rw-r--r-- 1 root root 484K Mar 17 2014 /usr/share/backgrounds/Beach_by_Renato_Giordanelli.jpg
-rw-r--r-- 1 root root 3.7M Mar 17 2014 /usr/share/backgrounds/Forever_by_Shady_S.jpg
-rw-r--r-- 1 root root 3.3M Apr 17 2014 /usr/share/backgrounds/warty-final-ubuntu.png
-rw-r--r-- 1 root root 1.7M Mar 17 2014 /usr/share/backgrounds/Water_web_by_Ton_Kijas.jpg
-rw-r--r-- 1 root root 214K Mar 17 2014 /usr/share/backgrounds/Backyard_Mushrooms_by_Kurt_Zitzelmann.jpg
-rw-r--r-- 1 root root 191K Mar 17 2014 /usr/share/backgrounds/Hono_Lake_by_Angela_Henderson.jpg
-rw-r--r-- 1 root root 161K Mar 17 2014 /usr/share/backgrounds/Ibany_Infinity_by_Jaco_Kok.jpg
-rw-r--r-- 1 root root 823K Mar 17 2014 /usr/share/backgrounds/Reflections_by_Trenton_Fox.jpg
-rw-r--r-- 1 root root 184K Mar 17 2014 /usr/share/backgrounds/Roggy_Forest_by_Jake_Stewart.jpg
-rw-r--r-- 1 root root 194K Mar 17 2014 /usr/share/backgrounds/PortTuro_by_Vincijun.jpg
-rw-r--r-- 1 root root 263K Mar 17 2014 /usr/share/backgrounds/Jelly_Fish_by_Radu_GalaN.jpg
-rw-r--r-- 1 root root 146K Dec 6 2013 /usr/share/nc/help/nc.hlp.it
-rw-r--r-- 1 root root 211K Dec 6 2013 /usr/share/nc/help/nc.hlp.es
-rw-r--r-- 1 root root 213K Dec 6 2013 /usr/share/nc/help/nc.hlp.sr
-rw-r--r-- 1 root root 161K Dec 6 2013 /usr/share/nc/help/nc.hlp
-rw-r--r-- 1 root root 146K Dec 6 2013 /usr/share/nc/help/nc.hlp.pl
-rw-r--r-- 1 root root 153K Dec 6 2013 /usr/share/nc/help/nc.hlp.hu
-rw-r--r-- 1 root root 301K Dec 6 2013 /usr/share/nc/help/nc.hlp.ru
-rw-r--r-- 1 root root 109K Dec 6 2013 /usr/share/nc/syntax/php.syntax
-rw-r--r-- 1 root root 116K Jan 16 2014 /usr/share/perl5/IO/Socket/SSL.pm
-rw-r--r-- 1 root root 135K Aug 36 2012 /usr/share/perl5/IPC/Run.pm
-rw-r--r-- 1 root root 808K Apr 7 2014 /usr/share/GeoIP/GeoIP.dat
-rw-r--r-- 1 root root 3.0M Apr 7 2014 /usr/share/GeoIP/GeoIPv6.dat
-rw-r--r-- 1 root root 108K Jan 8 2014 /usr/share/seahorse/ui/seahorse-gpg-private-key-properties.xml
-rw-r--r-- 1 root root 1.2M Jul 2 2013 /usr/share/liblangtag/language-subtag-registry.xml
-rw-r--r-- 1 root root 198K Jan 16 2018 /usr/share/transmission/web/javascript/jquery/jquery-1.8.16.min.js
-rw-r--r-- 1 root root 112K Mar 6 2014 /usr/share/themes/HighContrast/metacity-1/metacity-theme-3.xml
-rw-r--r-- 1 root root 120K Jul 22 2016 /usr/share/locale-langpack/en/LC_MESSAGES/lynx.mo
-rw-r--r-- 1 root root 184K Jul 22 2016 /usr/share/locale-langpack/en/LC_MESSAGES/libweather-locations.mo
-rw-r--r-- 1 root root 120K Jul 22 2016 /usr/share/locale-langpack/en/LC_MESSAGES/brasero.mo
-rw-r--r-- 1 root root 431K Jul 22 2016 /usr/share/locale-langpack/en_US/gi/LC_MESSAGES/inkscape.mo
-rw-r--r-- 1 root root 156K Jul 22 2016 /usr/share/locale-langpack/en/LC_MESSAGES/bash.mo
-rw-r--r-- 1 root root 135K Jul 22 2016 /usr/share/locale-langpack/en/LC_MESSAGES/elfutils.mo
-rw-r--r-- 1 root root 168K Jul 22 2016 /usr/share/locale-langpack/en/LC_MESSAGES/gnupg2.mo
-rw-r--r-- 1 root root 132K Jul 22 2016 /usr/share/locale-langpack/en/LC_MESSAGES/gnupg.mo
-rw-r--r-- 1 root root 182K Jul 22 2016 /usr/share/locale-langpack/en/LC_MESSAGES/gettext-tools.mo
-rw-r--r-- 1 root root 158K Jul 22 2016 /usr/share/locale-langpack/en/LC_MESSAGES/bash.mo
-rw-r--r-- 1 root root 137K Jul 22 2016 /usr/share/locale-langpack/en/LC_MESSAGES/elfutils.mo
-rw-r--r-- 1 root root 178K Jul 22 2016 /usr/share/locale-langpack/en/LC_MESSAGES/gnupg2.mo
-rw-r--r-- 1 root root 133K Jul 22 2016 /usr/share/locale-langpack/en/LC_MESSAGES/gnupg.mo
-rw-r--r-- 1 root root 104K Jul 22 2016 /usr/share/locale-langpack/en/LC_MESSAGES/gettext-tools.mo
-rwxr-xr-x 1 root root 239K Dec 3 2015 /usr/sbin/lightdm
-rwxr-xr-x 1 root root 517K Jul 19 2017 /usr/sbin/syslogd
-rwxr-xr-x 1 root root 414K Nov 19 2018 /usr/sbin/cupsd
-rwxr-xr-x 1 root root 780K Mar 23 2019 /usr/sbin/grub-macless
-rwxr-xr-x 1 root root 933K Sep 13 2017 /usr/sbin/tcpdump
-rwxr-xr-x 1 root root 376K Jan 29 2018 /usr/sbin/unity-greeter
-rwxr-xr-x 1 root root 792K Mar 23 2019 /usr/sbin/grub-probe
-rwxr-xr-x 1 root root 281K Sep 27 2017 /usr/sbin/dnsmasq
-rwxr-xr-x 1 root root 909K Sep 12 2017 /usr/sbin/bluetoothd
-rwxr-xr-x 1 root root 1.1M Feb 2 2016 /usr/sbin/NetworkManager
-rwxr-xr-x 1 root root 106K May 17 2017 /usr/sbin/usermod
-rwxr-xr-x 1 root root 145K Sep 12 2017 /usr/sbin/hciconfig
-rwxr-xr-x 1 root root 119K Jan 30 2019 /usr/sbin/avahi-daemon
-rwxr-xr-x 1 root root 919K Feb 26 2014 /usr/sbin/ModemManager
^Z
[1]+  Stopped                  nice -n -5 find / -type f -size +100k -exec ls -lh {} \;
nguyen@ubuntu:~$
```

3.17. ~\$ renice -n 15 -p[pid]

3.18. Ctrl + C

```
nguyen@ubuntu: ~$ renice -n 15 -p[776]
renice: bad value -p[776]
nguyen@ubuntu:~$ ^C
nguyen@ubuntu:~$
```