

به نام خدا

تکلیف اول آزمایشگاه سیستم عامل

حدیث غفوری 9825413

سوال 1

```
hadis@whoami ~$ cd /
hadis@whoami ~$ ls -la
total 2097288
drwxr-xr-x 21 root root 4096 Jul 9 20:46 .
drwxr-xr-x 21 root root 4096 Jul 9 20:46 ..
lrwxrwxrwx 1 root root 7 Oct 31 2019 bin -> usr/bin
drwxr-xr-x 4 root root 4096 Sep 19 13:53 boot
drwxrwxr-x 2 root root 4096 Oct 31 2019 cdrom
-rw-r--r-- 1 root root 90 Jul 28 2020 client1.ovpn
drwxr-xr-x 3 root root 4096 Jul 9 20:47 data
drwxr-xr-x 20 root root 5800 Sep 26 15:30 dev
drwxr-xr-x 162 root root 12288 Sep 26 09:25 etc
drwxr-xr-x 4 root root 4096 Jul 28 2020 home
lrwxrwxrwx 1 root root 32 Jan 28 2020 initrd.img -> boot/initrd.img-5.0.0-38-generic
lrwxrwxrwx 1 root root 32 Jan 28 2020 initrd.img.old -> boot/initrd.img-5.0.0-37-generic
lrwxrwxrwx 1 root root 7 Oct 31 2019 lib -> usr/lib
lrwxrwxrwx 1 root root 9 Oct 31 2019 lib32 -> usr/lib32
lrwxrwxrwx 1 root root 9 Oct 31 2019 lib64 -> usr/lib64
lrwxrwxrwx 1 root root 10 Oct 31 2019 libx32 -> usr/libx32
drwx----- 2 root root 16384 Oct 31 2019 lost+found
drwxr-xr-x 3 root root 4096 Oct 31 2019 media
drwxr-xr-x 2 root root 4096 Apr 16 2019 mnt
drwxr-xr-x 10 root root 4096 May 14 16:00 opt
dr-xr-xr-x 550 root root 0 Sep 26 15:30 proc
drwx----- 9 root root 4096 May 25 20:49 root
drwxr-xr-x 41 root root 1120 Sep 26 16:02 run
lrwxrwxrwx 1 root root 8 Oct 31 2019 sbin -> usr/sbin
drwxr-xr-x 36 root root 4096 Aug 12 14:38 snap
drwxr-xr-x 3 root root 4096 Apr 8 15:31 srv
drwxr-xr-x 1 root root 2147483648 Oct 31 2019 swapfile
dr-xr-xr-x 13 root root 0 Sep 26 15:30 sys
drwxrwxrwt 25 root root 40960 Sep 26 18:41 tmp
drwxr-xr-x 14 root root 4096 Apr 16 2019 var
drwxr-xr-x 14 root root 4096 Apr 16 2019 var
lrwxrwxrwx 1 root root 29 Jan 28 2020 vmlinuz -> boot/vmlinuz-5.0.0-38-generic
lrwxrwxrwx 1 root root 29 Jan 28 2020 vmlinuz.old -> boot/vmlinuz-5.0.0-37-generic
hadis@whoami ~$
```

کدام دایرکتوری ها برای مالک اجازه ی write ندارند؟

دایرکتوری proc,sys

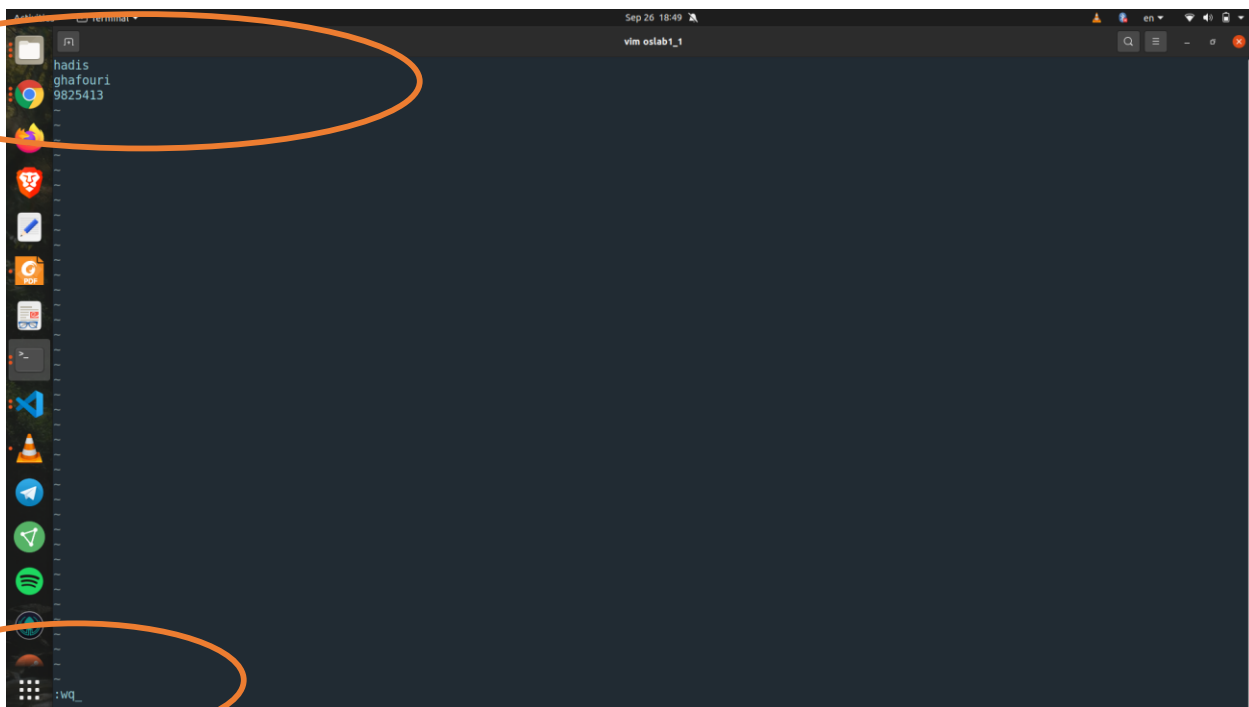
وارد شاخه home کاربر خود شوید. یک فایل جدید با نام groupno_oslab1(groupno) شماره گروه آزمایشگاهی بسازید (Time آخرین دسترسی به فایل را مشاهده کنید. ساعت را در فایل گزارش بنویسید.

همان طور که در عکس زیر مشخص است ساعت آخرین تغییر:

18:48

```
hadis@whoami ~$ cd /home/hadis
hadis@whoami ~$ touch oslab1_1
hadis@whoami ~$ ls -la oslab1_1
-rw-rw-r-- 1 hadis hadis 0 Sep 26 18:48 oslab1_1
hadis@whoami ~$
```

فایل را با vim باز کنید.



بعد از ادیت کردن فایل زمان آخرین تغییر:

18:49

```
hadis@whoami: /home$ cd /home/hadis
hadis@whoami: /home/hadis$ touch oslab1_1
hadis@whoami: /home/hadis$ ls -la oslab1_1
-rw-rw-r-- 1 hadis hadis 0 Sep 26 18:48 oslab1_1
hadis@whoami: /home/hadis$ vim oslab1_1
hadis@whoami: /home/hadis$ cat oslab1_1
hadis
ghafouri
9825413
hadis@whoami: /home/hadis$ ls -la oslab1_1
-rw-rw-r-- 1 hadis hadis 23 Sep 26 18:49 oslab1_1
hadis@whoami: /home/hadis$
```

کپی کردن فایل در /root

```
hadis@whoami: /home$ cd /home/hadis
hadis@whoami: /home/hadis$ touch oslab1_1
hadis@whoami: /home/hadis$ ls -la oslab1_1
-rw-rw-r-- 1 hadis hadis 0 Sep 26 18:48 oslab1_1
hadis@whoami: /home/hadis$ vim oslab1_1
hadis@whoami: /home/hadis$ cat oslab1_1
hadis
ghafouri
9825413
hadis@whoami: /home/hadis$ ls -la oslab1_1
-rw-rw-r-- 1 hadis hadis 23 Sep 26 18:49 oslab1_1
hadis@whoami: /home/hadis$ cp oslab1_1 /root/oslab1_1_copy
cp: failed to access '/root/oslab1_1_copy': Permission denied
hadis@whoami: /home/hadis$ sudo cp oslab1_1 /root/oslab1_1_copy
[sudo] password for hadis:
hadis@whoami: /home/hadis$ ls -la /root/
ls: cannot open directory '/root/': Permission denied
hadis@whoami: /home/hadis$ sudo !!
hadis@whoami: /home/hadis$ sudo ls -la /root/
total 76
drwx----- 9 root root 4096 Sep 26 18:52 .
drwxr-xr-x 21 root root 4096 Jul 9 20:46 ..
-rw----- 1 root root 2324 Sep 26 18:04 .bash_history
-rw-r--r-- 1 root root 3106 Aug 7 2018 .bashrc
drwx----- 10 root root 4096 Sep 12 12:32 .cache
drwx----- 9 root root 4096 Jun 9 21:33 .config
drwx----- 3 root root 4096 Jan 28 2020 .dbus
-rw----- 1 root root 42 Dec 7 2019 .lessht
drwxr-xr-x 3 root root 4096 Dec 7 2019 .local
-rw----- 1 root root 22 Apr 2 2020 .mysql_history
drwxr-xr-x 5 root root 4096 Jul 9 12:57 .npm
-rw-r--r-- 1 root root 23 Sep 26 18:52 oslab1_1_copy
-rw-r--r-- 1 root root 161 Dec 5 2019 .profile
-rw----- 1 root root 15 May 25 20:49 .python_history
drwxr-xr-x 2 root root 4096 Feb 23 2020 .rpmdb
drwxr-xr-x 16 root root 4096 Sep 17 14:36 .snap
-rw-rw-r-- 1 root root 3142 Nov 2 2019 .sources.list
-rw----- 1 root root 1681 Mar 16 2020 .viminfo
-rw-r--r-- 1 root root 227 May 12 22:57 .wget-hsts
hadis@whoami: /home/hadis$
```

گرفتن حق نوشتن در این فایل از همه با دستور زیر:
chmod 444 oslab1_1_copy

```
root@whoami:/home/hadis# cd /root/
root@whoami:~# ls
oslab1_1_copy snap sources.list
root@whoami:~# ls -la
total 76
drwx----- 9 root root 4096 18:52 26 سینا میر .
drwxr-xr-x 21 root root 4096 20:46 9 جولای ..
-rw----- 1 root root 2324 18:04 26 سینا میر .bash_history
-rw-r--r-- 1 root root 3106 2018 7 افرست .bashrc
drwx----- 10 root root 4096 12:32 12 سینا میر .cache
drwx----- 9 root root 4096 21:33 9 روتن .config
drwx----- 3 root root 4096 2020 28 را نوبه .dbus
-rw----- 1 root root 42 2019 7 دسا میر .lessshst
drwxr-xr-x 3 root root 4096 2019 7 دسا میر .local
-rw----- 1 root root 22 2020 2 اوریل .mysql_history
drwxr-xr-x 5 root root 4096 12:57 9 جولای .npm
-rw-r--r-- 1 root root 23 18:52 26 سینا میر oslab1_1_copy
-rw-r--r-- 1 root root 161 2019 5 دسا میر .profile
-rw----- 1 root root 15 20:49 25 مثنی .python_history
drwxr-xr-x 2 root root 4096 2020 23 فوریه .rpmdb
drwxr-xr-x 16 root root 4096 14:36 17 سینا میر snap
-rw-rw-r-- 1 root root 3142 2019 2 نوا میر sources.list
-rw-r--r-- 1 root root 1661 2020 16 وینیفو .viminfo
-rw-r--r-- 1 root root 227 22:57 12 مثنی .wget-hsts
root@whoami:~# chmod 444 oslab1_1_copy
root@whoami:~# ls -la oslab1_1_copy
-r--r--r-- 1 root root 23 18:52 26 سینا میر oslab1_1_copy
root@whoami:~# _
```

سوال 2

پیدا کردن ادرس لوکال

127.0.0.1

```
root@whoami:~# ifconfig
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 74558 bytes 4924063 (4.9 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 74558 bytes 4924063 (4.9 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

wlp0s20f3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.1.105 netmask 255.255.255.0 broadcast 192.168.1.255
    inet6 fe80::db97:e448:4c5b:7e58 prefixlen 64 scopeid 0x20<link>
    ether 38:de:ad:e4:61:5f txqueuelen 1000 (Ethernet)
    RX packets 39686 bytes 35792547 (35.7 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 34604 bytes 8424266 (8.4 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

root@whoami:~# _
```

سوال 3

3 برنامه در حال اجرایی که بیشترین حافظه اصلی را در کامپیوتر استفاده میکنند؟

با دستور top یا htop

1.Chrome

2.gnome-shell

3.nautilus

4.tracker-miner-f

5.vlc

```
top - 20:03:42 up 4:33, 1 user, load average: 1.70, 1.56, 1.49
Tasks: 505 total, 2 running, 503 sleeping, 0 stopped, 0 zombie
%Cpu(s): 9.2 us, 0.9 sy, 0.0 ni, 89.1 id, 0.0 wa, 0.0 hi, 0.7 si, 0.0 st
MiB Mem : 47.2/15821.2
MiB Swap: 0.2/2048.0

  PID USER      PR  NI  VIRT  RES  SHR  S  %CPU  %MEM    TIME+  COMMAND
 7074 hadis    20   0   20.9g 706364 97072 S   5.0   4.4   9:54.88 chrome
2951  hadis    20   0 5249912 519548 126204 S   1.3   3.2 11:24.70 gnome-shell
3478  hadis    20   0 2561572 500692 62052 S   0.0   3.1   2:20.27 nautilus
2680  hadis    39  19 1376084 404020 16896 S   0.0   2.5 27:17.97 tracker-miner-f
4290  hadis    20   0 2347904 345864 143720 S   3.0   2.1 13:39.73 vlc
6528  hadis    20   0   16.5g 319564 114540 S   2.6   2.0   6:50.31 chrome
9802  hadis    20   0   18.0g 321000 100020 S   0.1   1.9 2:22.40 chrome
9843  hadis    20   0   36.3g 292380 55488 S   0.0   1.8   0:23.08 code
9806  hadis    20   0   46.5g 290400 115616 S   0.0   1.8   2:29.36 code
29039 hadis    20   0 2327308 274812 82284 S   2.6   1.7   0:49.68 rhythmbox
3910  hadis    20   0   36.3g 265676 55712 S   0.0   1.6   0:15.96 code
10018 hadis    20   0   37.1g 253088 50112 S   0.3   1.6   1:06.18 code
3818  hadis    20   0 662656 241156 94496 S   0.0   1.5   1:05.03 code
4596  hadis    20   0 2119592 217768 84384 S   0.3   1.3   1:39.89 FoxitReader
3847  hadis    20   0   46.5g 208088 103444 S   0.0   1.3   0:37.45 code
2747  root     20   0 441228 180412 98488 S   2.0   1.1   7:29.15 Xorg
2372  gdm      20   0 3983256 179028 96464 S   0.0   1.1   0:27.67 gnome-shell
4083  hadis    20   0   36.3g 175568 48712 S   0.0   1.1   0:29.62 code
8450  hadis    20   0   20.5g 162976 88612 S   0.0   1.0   0:20.17 chrome
3781  hadis    20   0   36.5g 159232 101076 S   0.0   1.0   0:16.67 code
10157 hadis    20   0   36.2g 154912 48732 S   0.0   1.0   0:16.31 code
10562 hadis    20   0   20.4g 154400 94336 S   0.0   1.0   0:08.72 chrome
7900  hadis    20   0   20.4g 147724 92240 S   0.0   0.9   0:14.71 chrome
13126 hadis    20   0   20.4g 144640 91180 S   0.0   0.9   0:01.26 chrome
11463 hadis    20   0   20.4g 141540 92576 S   0.0   0.9   0:04.28 chrome
7010  hadis    20   0   20.4g 137044 91676 S   0.0   0.8   0:03.41 chrome
13107 hadis    20   0   20.4g 132576 93716 S   0.0   0.8   0:02.28 chrome
26061 hadis    20   0   20.4g 131824 89804 S   0.0   0.8   0:02.69 chrome
15162 hadis    20   0   20.4g 131680 89760 S   0.0   0.8   0:33.44 chrome
26094 hadis    20   0   20.4g 129652 92932 S   0.0   0.8   0:02.58 chrome
9375  hadis    20   0   20.4g 129172 87992 S   0.0   0.8   0:01.86 chrome
15117 hadis    20   0   20.4g 129148 89300 S   0.0   0.8   0:02.33 chrome
3023  hadis    20   0   36.4g 128000 87976 S   0.0   0.8   0:32.48 code
27267 hadis    20   0   20.4g 126672 87724 S   0.0   0.8   0:02.34 chrome
7100  hadis    20   0   20.4g 125620 88648 S   0.0   0.8   0:05.04 chrome
27326 hadis    20   0   20.4g 125584 92824 S   0.0   0.8   0:03.28 chrome
```

```
root@whoami: ~
1 [|||||] 100.0% 4 [|||||] 4.0 7 [|||||] 0.0 10 [|||||] 0.0
2 [|||||] 100.0% 5 [|||||] 5.0 8 [|||||] 1.0 11 [|||||] 0.0
3 [|||||] 100.0% 6 [|||||] 6.0 9 [|||||] 2.0 12 [|||||] 0.0
Mem[|||||] 6.04 / 15.82 Tasks: 258, 1178 thr; 2 running Load average: 1.32 1.41 1.39
Swp[|||||] 0.2 / 2.0 Uptime: 03:36:11

  PID USER      PR  NI  VIRT  RES  SHR  S  %CPU  %MEM    TIME+  Command
21396 hadis    20   0 5084M 475M 125M S   0.0   3.0 0:00.00 /usr/bin/gnome-shell
21397 hadis    20   0 5084M 475M 125M S   0.0   3.0 0:00.00 /usr/bin/gnome-shell
21398 hadis    20   0 5084M 475M 125M S   0.0   3.0 0:00.00 /usr/bin/gnome-shell
21399 hadis    20   0 5084M 475M 125M S   0.0   3.0 0:00.00 /usr/bin/gnome-shell
21400 hadis    20   0 5084M 475M 125M S   0.0   3.0 0:00.00 /usr/bin/gnome-shell
21401 hadis    20   0 5084M 475M 125M S   0.0   3.0 0:00.00 /usr/bin/gnome-shell
21402 hadis    20   0 5084M 475M 125M S   0.0   3.0 0:00.00 /usr/bin/gnome-shell
21403 hadis    20   0 5084M 475M 125M S   0.0   3.0 0:00.00 /usr/bin/gnome-shell
2683  hadis    39  19 1336M 387M 16944 S   0.0   2.4 0:07.18 /usr/libexec/tracker-miner-fs
2688  hadis    39  19 1336M 387M 16944 S   0.0   2.4 0:00.15 /usr/libexec/tracker-miner-fs
2691  hadis    39  19 1336M 387M 16944 S   0.0   2.4 0:00.00 /usr/libexec/tracker-miner-fs
2761  hadis    39  19 1336M 387M 16944 S   0.0   2.4 0:00.00 /usr/libexec/tracker-miner-fs
2680  hadis    39  19 1336M 387M 16944 S   0.0   2.4 24:38.05 /usr/libexec/tracker-miner-fs
4290  hadis    20   0 2292M 341M 143M S   3.1   2.2 12:08.64 /usr/bin/vlc --started-from-file /home/hadis/Desktop/web/Web Courses/javascriptUdemy/Udemy - JavaScri
16643 hadis    20   0 2292M 341M 143M S   2.7   2.2 5:07.71 /usr/bin/vlc --started-from-file /home/hadis/Desktop/web/Web Courses/javascriptUdemy/Udemy - JavaScri
4292  hadis    20   0 2292M 341M 143M S   0.0   2.2 0:24.73 /usr/bin/vlc --started-from-file /home/hadis/Desktop/web/Web Courses/javascriptUdemy/Udemy - JavaScri
4293  hadis    20   0 2292M 341M 143M S   0.0   2.2 0:00.01 /usr/bin/vlc --started-from-file /home/hadis/Desktop/web/Web Courses/javascriptUdemy/Udemy - JavaScri
4294  hadis    20   0 2292M 341M 143M S   0.0   2.2 0:00.07 /usr/bin/vlc --started-from-file /home/hadis/Desktop/web/Web Courses/javascriptUdemy/Udemy - JavaScri
4298  hadis    20   0 2292M 341M 143M S   0.0   2.2 0:23.73 /usr/bin/vlc --started-from-file /home/hadis/Desktop/web/Web Courses/javascriptUdemy/Udemy - JavaScri
4301  hadis    20   0 2292M 341M 143M S   0.0   2.2 0:02.37 /usr/bin/vlc --started-from-file /home/hadis/Desktop/web/Web Courses/javascriptUdemy/Udemy - JavaScri
4304  hadis    20   0 2292M 341M 143M S   0.0   2.2 0:00.00 /usr/bin/vlc --started-from-file /home/hadis/Desktop/web/Web Courses/javascriptUdemy/Udemy - JavaScri
4305  hadis    20   0 2292M 341M 143M S   0.0   2.2 0:00.00 /usr/bin/vlc --started-from-file /home/hadis/Desktop/web/Web Courses/javascriptUdemy/Udemy - JavaScri
4306  hadis    20   0 2292M 341M 143M S   0.0   2.2 0:01.35 /usr/bin/vlc --started-from-file /home/hadis/Desktop/web/Web Courses/javascriptUdemy/Udemy - JavaScri
4308  hadis    20   0 2292M 341M 143M S   0.0   2.2 0:00.00 /usr/bin/vlc --started-from-file /home/hadis/Desktop/web/Web Courses/javascriptUdemy/Udemy - JavaScri
4325  hadis    20   0 2292M 341M 143M S   0.0   2.2 0:00.04 /usr/bin/vlc --started-from-file /home/hadis/Desktop/web/Web Courses/javascriptUdemy/Udemy - JavaScri
16741 hadis    20   0 2292M 341M 143M S   0.0   2.2 0:03.92 /usr/bin/vlc --started-from-file /home/hadis/Desktop/web/Web Courses/javascriptUdemy/Udemy - JavaScri
16746 hadis    20   0 2292M 341M 143M S   0.0   2.2 0:04.45 /usr/bin/vlc --started-from-file /home/hadis/Desktop/web/Web Courses/javascriptUdemy/Udemy - JavaScri
16747 hadis    20   0 2292M 341M 143M S   0.0   2.2 0:03.33 /usr/bin/vlc --started-from-file /home/hadis/Desktop/web/Web Courses/javascriptUdemy/Udemy - JavaScri
16748 hadis    20   0 2292M 341M 143M S   0.0   2.2 0:03.37 /usr/bin/vlc --started-from-file /home/hadis/Desktop/web/Web Courses/javascriptUdemy/Udemy - JavaScri
16749 hadis    20   0 2292M 341M 143M S   0.0   2.2 0:03.30 /usr/bin/vlc --started-from-file /home/hadis/Desktop/web/Web Courses/javascriptUdemy/Udemy - JavaScri
16750 hadis    20   0 2292M 341M 143M S   0.0   2.2 0:03.35 /usr/bin/vlc --started-from-file /home/hadis/Desktop/web/Web Courses/javascriptUdemy/Udemy - JavaScri
16751 hadis    20   0 2292M 341M 143M S   0.0   2.2 0:03.29 /usr/bin/vlc --started-from-file /home/hadis/Desktop/web/Web Courses/javascriptUdemy/Udemy - JavaScri
16752 hadis    20   0 2292M 341M 143M S   0.0   2.2 0:14.87 /usr/bin/vlc --started-from-file /home/hadis/Desktop/web/Web Courses/javascriptUdemy/Udemy - JavaScri
```



```
root@whoami: ~  
1 [||||| 0.0%] 4 [||||| 0.0%] 7 [||||| 0.0%] 10 [||||| 0.0%]  
2 [||||| 0.0%] 5 [||||| 0.0%] 8 [||||| 0.0%] 11 [||||| 0.0%]  
3 [||||| 0.0%] 6 [||||| 0.0%] 9 [||||| 0.0%] 12 [||||| 0.0%]  
Mem[||||| 0.0%] 13 [||||| 0.0%] 14 [||||| 0.0%] 15 [||||| 0.0%]  
Swp[||||| 0.0%] 16 [||||| 0.0%] 17 [||||| 0.0%] 18 [||||| 0.0%]  
Tasks: 258, 1178 thr; 2 running  
Load average: 1.45 1.44 1.40  
Uptime: 03:35:43  


| PID   | USER  | PRI | NI | VIRT  | RES  | SHR   | S | CPU% | MEM% | TIME+   | Command                                                                                               |
|-------|-------|-----|----|-------|------|-------|---|------|------|---------|-------------------------------------------------------------------------------------------------------|
| 7074  | hadis | 20  | 0  | 20.7G | 517M | 97860 | S | 4.9  | 3.3  | 7:07.62 | /opt/google/chrome/chrome --type=renderer --enable-crashpad --crashpad-handler-pid=6495 --enable-cras |
| 7080  | hadis | 20  | 0  | 20.7G | 517M | 97860 | S | 2.3  | 3.3  | 3:21.87 | /opt/google/chrome/chrome --type=renderer --enable-crashpad --crashpad-handler-pid=6495 --enable-cras |
| 7077  | hadis | 20  | 0  | 20.7G | 517M | 97860 | S | 0.8  | 3.3  | 0:49.42 | /opt/google/chrome/chrome --type=renderer --enable-crashpad --crashpad-handler-pid=6495 --enable-cras |
| 7075  | hadis | 20  | 0  | 20.7G | 517M | 97860 | S | 0.0  | 3.3  | 0:00.00 | /opt/google/chrome/chrome --type=renderer --enable-crashpad --crashpad-handler-pid=6495 --enable-cras |
| 7079  | hadis | 20  | 0  | 20.7G | 517M | 97860 | S | 0.0  | 3.3  | 0:00.00 | /opt/google/chrome/chrome --type=renderer --enable-crashpad --crashpad-handler-pid=6495 --enable-cras |
| 7081  | hadis | 20  | 0  | 20.7G | 517M | 97860 | S | 0.0  | 3.3  | 0:00.00 | /opt/google/chrome/chrome --type=renderer --enable-crashpad --crashpad-handler-pid=6495 --enable-cras |
| 7082  | hadis | 20  | 0  | 20.7G | 517M | 97860 | S | 0.0  | 3.3  | 0:00.00 | /opt/google/chrome/chrome --type=renderer --enable-crashpad --crashpad-handler-pid=6495 --enable-cras |
| 7083  | hadis | 20  | 0  | 20.7G | 517M | 97860 | S | 0.0  | 3.3  | 0:00.00 | /opt/google/chrome/chrome --type=renderer --enable-crashpad --crashpad-handler-pid=6495 --enable-cras |
| 7084  | hadis | 20  | 0  | 20.7G | 517M | 97860 | S | 0.0  | 3.3  | 0:00.00 | /opt/google/chrome/chrome --type=renderer --enable-crashpad --crashpad-handler-pid=6495 --enable-cras |
| 7085  | hadis | 20  | 0  | 20.7G | 517M | 97860 | S | 0.0  | 3.3  | 0:00.00 | /opt/google/chrome/chrome --type=renderer --enable-crashpad --crashpad-handler-pid=6495 --enable-cras |
| 7086  | hadis | 30  | 10 | 20.7G | 517M | 97860 | S | 0.0  | 3.3  | 0:00.00 | /opt/google/chrome/chrome --type=renderer --enable-crashpad --crashpad-handler-pid=6495 --enable-cras |
| 8276  | hadis | 20  | 0  | 20.7G | 517M | 97860 | S | 0.0  | 3.3  | 0:00.00 | /opt/google/chrome/chrome --type=renderer --enable-crashpad --crashpad-handler-pid=6495 --enable-cras |
| 13258 | hadis | 20  | 0  | 20.7G | 517M | 97860 | S | 0.0  | 3.3  | 0:00.06 | /opt/google/chrome/chrome --type=renderer --enable-crashpad --crashpad-handler-pid=6495 --enable-cras |
| 2951  | hadis | 20  | 0  | 5084M | 469M | 125M  | S | 1.9  | 3.0  | 8:43.05 | /usr/bin/gnome-shell                                                                                  |
| 2970  | hadis | 20  | 0  | 5084M | 469M | 125M  | S | 0.0  | 3.0  | 0:00.68 | /usr/bin/gnome-shell                                                                                  |
| 2962  | hadis | 20  | 0  | 5084M | 469M | 125M  | S | 0.0  | 3.0  | 0:00.16 | /usr/bin/gnome-shell                                                                                  |
| 2964  | hadis | 20  | 0  | 5084M | 469M | 125M  | S | 0.0  | 3.0  | 0:04.08 | /usr/bin/gnome-shell                                                                                  |
| 2965  | hadis | 20  | 0  | 5084M | 469M | 125M  | S | 0.0  | 3.0  | 0:00.01 | /usr/bin/gnome-shell                                                                                  |
| 2966  | hadis | 20  | 0  | 5084M | 469M | 125M  | S | 0.0  | 3.0  | 0:00.71 | /usr/bin/gnome-shell                                                                                  |
| 2967  | hadis | 20  | 0  | 5084M | 469M | 125M  | S | 0.0  | 3.0  | 0:00.82 | /usr/bin/gnome-shell                                                                                  |
| 2060  | hadis | 20  | 0  | 5084M | 469M | 125M  | S | 0.0  | 3.0  | 0:00.65 | /usr/bin/gnome-shell                                                                                  |
| 2060  | hadis | 20  | 0  | 5084M | 469M | 125M  | S | 0.0  | 3.0  | 0:00.70 | /usr/bin/gnome-shell                                                                                  |
| 2071  | hadis | 20  | 0  | 5084M | 469M | 125M  | S | 0.0  | 3.0  | 0:00.69 | /usr/bin/gnome-shell                                                                                  |
| 2072  | hadis | 20  | 0  | 5084M | 469M | 125M  | S | 0.0  | 3.0  | 0:00.68 | /usr/bin/gnome-shell                                                                                  |
| 2073  | hadis | 20  | 0  | 5084M | 469M | 125M  | S | 0.0  | 3.0  | 0:00.72 | /usr/bin/gnome-shell                                                                                  |
| 19153 | hadis | 20  | 0  | 5084M | 469M | 125M  | S | 0.0  | 3.0  | 0:00.02 | /usr/bin/gnome-shell                                                                                  |
| 21392 | hadis | 20  | 0  | 5084M | 469M | 125M  | S | 0.0  | 3.0  | 0:00.00 | /usr/bin/gnome-shell                                                                                  |
| 21393 | hadis | 20  | 0  | 5084M | 469M | 125M  | S | 0.0  | 3.0  | 0:00.00 | /usr/bin/gnome-shell                                                                                  |
| 21394 | hadis | 20  | 0  | 5084M | 469M | 125M  | S | 0.0  | 3.0  | 0:00.00 | /usr/bin/gnome-shell                                                                                  |
| 21395 | hadis | 20  | 0  | 5084M | 469M | 125M  | S | 0.0  | 3.0  | 0:00.00 | /usr/bin/gnome-shell                                                                                  |
| 21396 | hadis | 20  | 0  | 5084M | 469M | 125M  | S | 0.0  | 3.0  | 0:00.00 | /usr/bin/gnome-shell                                                                                  |
| 21397 | hadis | 20  | 0  | 5084M | 469M | 125M  | S | 0.0  | 3.0  | 0:00.00 | /usr/bin/gnome-shell                                                                                  |
| 21398 | hadis | 20  | 0  | 5084M | 469M | 125M  | S | 0.0  | 3.0  | 0:00.00 | /usr/bin/gnome-shell                                                                                  |

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

سوال 4

سورس آخرین ورژن موجود کرنل را با استفاده از ابزار apt دریافت کنید.

```
root@whoami: ~  
root@whoami:~# apt-get install linux-source  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
The following additional packages will be installed:  
  linux-source-5.4.0  
Suggested packages:  
  kernel-package libqt3-dev  
The following NEW packages will be installed:  
  linux-source linux-source-5.4.0  
0 upgraded, 2 newly installed, 0 to remove and 19 not upgraded.  
Need to get 136 MB of archives.  
After this operation, 151 MB of additional disk space will be used.  
Do you want to continue? [Y/n] _
```

```
root@whoami:~# apt-get install linux-source
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  linux-source-5.4.0
Suggested packages:
  kernel-package libqt3-dev
The following NEW packages will be installed:
  linux-source linux-source-5.4.0
0 upgraded, 2 newly installed, 0 to remove and 19 not upgraded.
Need to get 136 MB of archives.
After this operation, 151 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://repo.iut.ac.ir/repo/Ubuntu focal-updates/main amd64 linux-source-5.4.0 all 5.4.0-86.97 [136 MB]
Get:2 http://repo.iut.ac.ir/repo/Ubuntu focal-updates/main amd64 linux-source all 5.4.0.86.90 [2,456 B]
Fetched 136 MB in 5min 30s (413 kB/s)
Selecting previously unselected package linux-source-5.4.0.
dpkg: warning: files list file for package 'mysql-common' missing; assuming package has no files currently installed
dpkg: warning: files list file for package 'mysql-client-core-8.0' missing; assuming package has no files currently installed
dpkg: warning: files list file for package 'mysql-server-core-8.0' missing; assuming package has no files currently installed
dpkg: warning: files list file for package 'mysql-client-8.0' missing; assuming package has no files currently installed
(Reading database ... 347053 files and directories currently installed.)
Preparing to unpack .../linux-source-5.4.0_5.4.0-86.97_all.deb ...
Unpacking linux-source-5.4.0 (5.4.0-86.97) ...
Selecting previously unselected package linux-source.
Preparing to unpack .../linux-source_5.4.0.86.90_all.deb ...
Unpacking linux-source (5.4.0.86.90) ...
Setting up linux-source-5.4.0 (5.4.0-86.97) ...
Setting up linux-source (5.4.0.86.90) ...
root@whoami:~#
```

```
root@whoami:~# apt-get install linux-source
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  linux-source-5.4.0
Suggested packages:
  kernel-package libqt3-dev
The following NEW packages will be installed:
  linux-source linux-source-5.4.0
0 upgraded, 2 newly installed, 0 to remove and 19 not upgraded.
Need to get 136 MB of archives.
After this operation, 151 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://repo.iut.ac.ir/repo/Ubuntu focal-updates/main amd64 linux-source-5.4.0 all 5.4.0-86.97 [136 MB]
Get:2 http://repo.iut.ac.ir/repo/Ubuntu focal-updates/main amd64 linux-source all 5.4.0.86.90 [2,456 B]
Fetched 136 MB in 5min 30s (413 kB/s)
Selecting previously unselected package linux-source-5.4.0.
dpkg: warning: files list file for package 'mysql-common' missing; assuming package has no files currently installed
dpkg: warning: files list file for package 'mysql-client-core-8.0' missing; assuming package has no files currently installed
dpkg: warning: files list file for package 'mysql-server-core-8.0' missing; assuming package has no files currently installed
dpkg: warning: files list file for package 'mysql-client-8.0' missing; assuming package has no files currently installed
(Reading database ... 347053 files and directories currently installed.)
Preparing to unpack .../linux-source-5.4.0_5.4.0-86.97_all.deb ...
Unpacking linux-source-5.4.0 (5.4.0-86.97) ...
Selecting previously unselected package linux-source.
Preparing to unpack .../linux-source_5.4.0.86.90_all.deb ...
Unpacking linux-source (5.4.0.86.90) ...
Setting up linux-source-5.4.0 (5.4.0-86.97) ...
Setting up linux-source (5.4.0.86.90) ...
root@whoami:~# cd /usr/src/
root@whoami:/usr/src# ls
linux-headers-5.4.0-81      linux-headers-5.4.0-84-generic  linux-source-5.4.0      nvidia-460.91.03
linux-headers-5.4.0-81-generic  linux-headers-5.4.0-84-generic  linux-source-5.4.0.tar.bz2  virtualbox-6.1.26
root@whoami:/usr/src#
```

فایل فشرده دریافتی را از حالت فشرده خارج کنید.
tar -xvf linux-source-5.4.0.tar.bz2

```
root@whoami:/usr/src# tar -xvf linux-source-5.4.0.tar.bz2
root@whoami:/usr/src# ls
linux-headers-5.4.0-81      linux-headers-5.4.0-84      linux-source-5.4.0      nvidia-460.91.03
linux-headers-5.4.0-81-generic  linux-headers-5.4.0-84-generic  linux-source-5.4.0.tar.bz2  virtualbox-6.1.26
root@whoami:/usr/src# _
```

```
root@whoami:/usr/src# tar -xvf linux-source-5.4.0.tar.bz2
root@whoami:/usr/src# ls
linux-headers-5.4.0-81      linux-headers-5.4.0-84      linux-source-5.4.0      nvidia-460.91.03
linux-headers-5.4.0-81-generic  linux-headers-5.4.0-84-generic  linux-source-5.4.0.tar.bz2  virtualbox-6.1.26
root@whoami:/usr/src# cd linux-source-5.4.0
root@whoami:/usr/src# cd linux-source-5.4.0.tar.bz2
root@whoami:/usr/src# cd linux-source-5.4.0/
root@whoami:/usr/src/linux-source-5.4.0# ls
arch      COPYING  debian  drivers  include  Kbuild  lib      MAINTAINERS  net      scripts  sound  update-version-dkms
block     CREDITS  debian.master  dropped.txt  init     Kconfig  LICENSES  Makefile     README  security  tools  usr
certs     crypto  Documentation  fs          ipc      kernel   linux-source-5.4.0.tar.bz2  mm      samples  snapcraft.yaml  ubuntu  virt
root@whoami:/usr/src/linux-source-5.4.0# _
```

فایل syscall.tbl را در آن جستجو کنید.

```
find -name syscall.tbl
```



```
root@whoami: /usr/src/linux-source-5.4.0
root@whoami: /usr/src/linux-source-5.4.0# ls
arch          drivers      lib          scripts
block        dropped.txt  LICENSES     security
certs        fs          linux-source-5.4.0.tar.bz2  snapcraft.yaml
COPYING      include     MAINTAINERS  sound
CREDITS      init       Makefile     tools
crypto       ipc        mm          ubuntu
debian       Kbuild     net         update-version-dkms
debian.master Kconfig    README      usr
documentation kernel     samples     vmlinux
root@whoami: /usr/src/linux-source-5.4.0# find -name syscall.tbl
./arch/m68k/kernel/syscalls/syscall.tbl
./arch/powerpc/kernel/syscalls/syscall.tbl
./arch/arm/tools/syscall.tbl
./arch/alpha/kernel/syscalls/syscall.tbl
./arch/xtensa/kernel/syscalls/syscall.tbl
./arch/s390/kernel/syscalls/syscall.tbl
./arch/microblaze/kernel/syscalls/syscall.tbl
./arch/sh/kernel/syscalls/syscall.tbl
./arch/parisc/kernel/syscalls/syscall.tbl
./arch/sparc/kernel/syscalls/syscall.tbl
./arch/ia64/kernel/syscalls/syscall.tbl
./tools/perf/arch/powerpc/entry/syscalls/syscall.tbl
./tools/perf/arch/s390/entry/syscalls/syscall.tbl
root@whoami: /usr/src/linux-source-5.4.0# _
```

تعداد systemcall های مربوط به write را در این فایل پیدا کنید.

```
root@whoami: /usr/src/linux-source-5.4.0# grep "write" ./arch/ia64/kernel/syscalls/syscall.tbl
3      common  write      sys_write
123    common  writev     sys_writev
125    common  pwrite64   sys_pwrite64
150    common  pciconfig_write sys_pciconfig_write
296    common  pwritev    sys_pwritev
325    common  pwritev2   sys_pwritev2
root@whoami: /usr/src/linux-source-5.4.0# grep "write" ./arch/ia64/kernel/syscalls/syscall.tbl -c
7
root@whoami: /usr/src/linux-source-5.4.0# _
```

با اجرای دستوری، خطوط مربوط به systemcall های نامبرده را در فایل جدیدی
q2_oslab1_stdno قپی کنید.

```

root@whoami:/usr/src/linux-source-5.4.0# grep "write" ./arch/ia64/kernel/syscalls/syscall.tbl
3      common  write          sys_write
123    common  writev         sys_writev
125    common  pwrite64       sys_pwrite64
150    common  pconfig_write  sys_pconfig_write
296    common  pwritev        sys_pwritev
309    common  process_vm_writv  sys_process_vm_writv
325    common  pwritev2       sys_pwritev2
root@whoami:/usr/src/linux-source-5.4.0# grep "write" ./arch/ia64/kernel/syscalls/syscall.tbl -c
7
root@whoami:/usr/src/linux-source-5.4.0# grep "write" ./arch/ia64/kernel/syscalls/syscall.tbl > 9825413_oslab1.q2
root@whoami:/usr/src/linux-source-5.4.0# ls -la 9825413_oslab1.q2
-rw-r--r-- 1 root root 265 9825413 19:43 26 سبلا مبر 9825413_oslab1.q2
root@whoami:/usr/src/linux-source-5.4.0# cat 9825413_oslab1.q2
3      common  write          sys_write
123    common  writev         sys_writev
125    common  pwrite64       sys_pwrite64
150    common  pconfig_write  sys_pconfig_write
296    common  pwritev        sys_pwritev
309    common  process_vm_writv  sys_process_vm_writv
325    common  pwritev2       sys_pwritev2
root@whoami:/usr/src/linux-source-5.4.0# _

```

سوال 5

دستوری اجرا کنید که تمام پروسسهای در حال اجرا با نام migration را نمایش دهد.

```

hadis@whoami-
hadis@whoami ➤ ps aux | grep "migration"
root      12  0.0  0.0      0   0 ?        S   15:30   0:00 [migration/0]
root      17  0.0  0.0      0   0 ?        S   15:30   0:00 [migration/1]
root      23  0.0  0.0      0   0 ?        S   15:30   0:00 [migration/2]
root      29  0.0  0.0      0   0 ?        S   15:30   0:00 [migration/3]
root      35  0.0  0.0      0   0 ?        S   15:30   0:00 [migration/4]
root      41  0.0  0.0      0   0 ?        S   15:30   0:00 [migration/5]
root      47  0.0  0.0      0   0 ?        S   15:30   0:00 [migration/6]
root      53  0.0  0.0      0   0 ?        S   15:30   0:00 [migration/7]
root      59  0.0  0.0      0   0 ?        S   15:30   0:00 [migration/8]
root      65  0.0  0.0      0   0 ?        S   15:30   0:00 [migration/9]
root      71  0.0  0.0      0   0 ?        S   15:30   0:00 [migration/10]
root      77  0.0  0.0      0   0 ?        S   15:30   0:00 [migration/11]
hadis    31863  0.0  0.0  11984  2712 pts/3    S+  20:09   0:00 grep --color=auto --exclude-dir=.bzr --exclude-dir=CVS --exclude-dir=.git --exclude-dir=.hg --exclu
de-dir=.svn --exclude-dir=.idea --exclude-dir=.tox migration
hadis@whoami ➤ _

```

سوال 6

پسورد کاربر جاری را با دستور مناسب تغییر دهید.

```
root@whoami: /usr/src/linux-source-5.4.0
root@whoami:/usr/src/linux-source-5.4.0# passwd
New password:
Retype new password:
passwd: password updated successfully
root@whoami:/usr/src/linux-source-5.4.0# _
```

سوال 7

نام کاربری کاربر جاری سیستم را بدست آورید از دستورات مناسب به نحوی استفاده نمایید که نام کاربری مورد نظر در ترمینال چاپ نشود بلکه به صورت مستقیم درون فایلی تحت عنوان `txt.username` قرار گیرد.

جواب در تصاویر زیر

```
hadis@whoami ➤ whoami > username.txt
hadis@whoami ➤ ls -la username.txt
-rw-rw-r-- 1 hadis hadis 6 Sep 26 19:13 username.txt
hadis@whoami ➤ cat username.txt
hadis
hadis@whoami ➤ mkdir newdir
hadis@whoami ➤ ls -la newdir
total 16
drwxrwxr-x 2 hadis hadis 4096 Sep 26 19:13 .
drwxr-xr-x 79 hadis hadis 12288 Sep 26 19:14 ..
hadis@whoami ➤ mv username.txt newdir
hadis@whoami ➤ cd newdir
hadis@whoami ➤ ~/newdir ➤ ls
username.txt
hadis@whoami ➤ ~/newdir ➤ _
```

سوال 8

یک دایرکتوری جدید با نام `newdir` در شاخه جاری ایجاد کنید.
فایل `username.txt` ایجاد شده در قسمت قبل را به دایرکتوری جدید انتقال دهید.
به وسیله اجرای دستور مناسب به صورت همزمان دایرکتوری `newdir` و محتویات درون آن را حذف کنید.

```
hadis@whoami ~$ whoami > username.txt
hadis@whoami ~$ ls -la username.txt
-rw-rw-r-- 1 hadis hadis 6 Sep 26 19:13 username.txt
hadis@whoami ~$ cat username.txt
hadis
hadis@whoami ~$ mkdir newdir
hadis@whoami ~$ ls -la newdir
total 16
drwxrwxr-x 2 hadis hadis 4096 Sep 26 19:13 .
drwxr-xr-x 79 hadis hadis 12288 Sep 26 19:14 ..
hadis@whoami ~$ mv username.txt newdir
hadis@whoami ~$ cd newdir
hadis@whoami ~/newdir$ ls
username.txt
hadis@whoami ~/newdir$ cd ..
hadis@whoami ~$ rm -r newdir
hadis@whoami ~$ ls
anaconda3  deb      Downloads  finalDigital  InstallQt  mongoddb  opt      Pictures  snap  Untitled.ipynb  whoami.err
bin         Desktop  examples.desktop  hal3          kite-installer  Music     oslab1_1  Postman  teletype  Videos  zsh
code        Documents  files         hadis98       Linux      my_project_dir  para.sh   Public    Templates  'VirtualBox VMs'
```