```
[root@172_20_147_71 /]# cd dev/
[root@172_20_147_71 dev]# ls
autofs           crash        input               nvram      sda2        tty1    tty20   tty31   tty42   tty53   tty7    vcs     vcsa5
block            disk         kmsg                oldmem     sg0         tty10   tty21   tty32   tty43   tty54   tty8    vcs1    vcsa6
bsg              dm-0         log                 port       sg1         tty11   tty22   tty33   tty44   tty55   tty9    vcs2    vfio
btrfs-control    dm-1         loop-control        ppp        shm         tty12   tty23   tty34   tty45   tty56   ttyS0   vcs3    vga_arbiter
bus              fd           mapper              ptmx       snapshot    tty13   tty24   tty35   tty46   tty57   ttyS1   vcs4    vhci
cdrom            full         mcelog              pts        snd         tty14   tty25   tty36   tty47   tty58   ttyS2   vcs5    vhost-net
centos           fuse         mem                 random     sr0         tty15   tty26   tty37   tty48   tty59   ttyS3   vcs6    zero
char             hidraw0      mqueue              raw        stderr      tty16   tty27   tty38   tty49   tty6    uhid    vcsa
console          hpet         net                 rtc        stdin       tty17   tty28   tty39   tty5    tty60   uinput  vcsa1
core             hugepages    network_latency     rtc0       stdout      tty18   tty29   tty4    tty50   tty61   urandom vcsa2
cpu              hwrng        network_throughput  sda        tty         tty19   tty3    tty40   tty51   tty62   usbmon0 vcsa3
cpu_dma_latency  initctl      null                sda1       tty0        tty2    tty30   tty41   tty52   tty63   usbmon1 vcsa4
[root@172_20_147_71 dev]# cd block
[root@172_20_147_71 block]# ls
11:0  253:0  253:1  8:0  8:1  8:2
[root@172_20_147_71 block]# cd ..
[root@172_20_147_71 dev]# ls
autofs           crash        input               nvram      sda2        tty1    tty20   tty31   tty42   tty53   tty7    vcs     vcsa5
block            disk         kmsg                oldmem     sg0         tty10   tty21   tty32   tty43   tty54   tty8    vcs1    vcsa6
bsg              dm-0         log                 port       sg1         tty11   tty22   tty33   tty44   tty55   tty9    vcs2    vfio
btrfs-control    dm-1         loop-control        ppp        shm         tty12   tty23   tty34   tty45   tty56   ttyS0   vcs3    vga_arbiter
bus              fd           mapper              ptmx       snapshot    tty13   tty24   tty35   tty46   tty57   ttyS1   vcs4    vhci
cdrom            full         mcelog              pts        snd         tty14   tty25   tty36   tty47   tty58   ttyS2   vcs5    vhost-net
centos           fuse         mem                 random     sr0         tty15   tty26   tty37   tty48   tty59   ttyS3   vcs6    zero
char             hidraw0      mqueue              raw        stderr      tty16   tty27   tty38   tty49   tty6    uhid    vcsa
console          hpet         net                 rtc        stdin       tty17   tty28   tty39   tty5    tty60   uinput  vcsa1
core             hugepages    network_latency     rtc0       stdout      tty18   tty29   tty4    tty50   tty61   urandom vcsa2
cpu              hwrng        network_throughput  sda        tty         tty19   tty3    tty40   tty51   tty62   usbmon0 vcsa3
cpu_dma_latency  initctl      null                sda1       tty0        tty2    tty30   tty41   tty52   tty63   usbmon1 vcsa4
[root@172_20_147_71 dev]# cd block
[root@172_20_147_71 block]# ls
11:0  253:0  253:1  8:0  8:1  8:2
[root@172_20_147_71 block]# cd ..
[root@172_20_147_71 dev]# cd char
[root@172_20_147_71 char]# ls
10:144  10:236  1:11    116:5   13:65   1:5    202:0   250:0   4:12   4:19   4:25   4:31   4:38   4:44   4:50   4:57   4:63   4:9    7:129   7:3
10:183  10:59   1:12    1:3     13:66   162:0  203:0   250:1   4:13   4:2    4:26   4:32   4:39   4:45   4:51   4:58   4:64   5:0    7:130   7:4
10:184  10:60   116:1   13:0    13:67   1:7    21:0    253:0   4:14   4:20   4:27   4:33   4:4    4:46   4:52   4:59   4:65   5:1    7:131   7:5
10:227  10:61   116:2   13:32   13:68   1:8    21:1    4:0     4:15   4:21   4:28   4:34   4:40   4:47   4:53   4:6    4:66   5:2    7:132   7:6
10:228  10:62   116:3   13:33   13:69   189:0  248:0   4:1     4:16   4:22   4:29   4:35   4:41   4:48   4:54   4:60   4:67   7:0    7:133
10:231  10:63   116:33  13:63   13:70   189:3  249:0   4:10    4:17   4:23   4:3    4:36   4:42   4:49   4:55   4:61   4:7    7:1    7:134
10:235  1:1     116:4   13:64   1:4     1:9    249:1   4:11    4:18   4:24   4:30   4:37   4:43   4:5    4:56   4:62   4:8    7:128   7:2
```

Proc lists all the running processes that ps aux lists

```
root         4468  0.0  0.3 126232   1596 ?        Ss   13:59   0:00 /usr/sbin/crond -n
root         4540  0.0  0.5  46376   2920 ?        Ss   13:59   0:00 /usr/lib/systemd/systemd-udevd
root         5249  0.0  3.2 562400  16388 ?        Ssl  14:00   0:01 /usr/bin/python -Es /usr/sbin/tuned -l -P
root         5289  0.0  0.7 105996   3800 ?        Ss   14:00   0:00 /usr/sbin/sshd -D
root        27130  0.0  0.3 126288   1668 tty1     S+   14:24   0:01 vi /etc/ssh/sshd_config
root        27134  0.0  1.0 147764   5460 ?        Ss   14:34   0:00 sshd: root@pts/1
root        27138  0.0  0.4 115392   2068 pts/1    Ss   14:34   0:00 -bash
root        27153  0.0  0.0      0      0 ?        S    14:35   0:00 [kworker/0:2]
root        27168  0.0  0.0      0      0 ?        S    14:45   0:00 [kworker/0:3]
root        27211  0.0  0.0      0      0 ?        R    15:05   0:01 [kworker/0:1]
postfix     27216  0.0  0.7  89648   4000 ?        S    15:36   0:00 pickup -l -t unix -u
root        27222  0.0  0.3 151064   1804 pts/1    R+   15:45   0:00 ps aux
[[root@172_20_147_71 proc]# ls
1      15    27130  281  366  387   4468  565  621  9      cpuinfo      fs            kmsg         mounts        slabinfo       tty
10     16    27134  283  367  388   4540  567  622  91     crypto       interrupts    kpagecount   mtrr          softirqs       uptime
1009   17    27138  284  37   389   461   569  623  acpi   devices      iomem         kpageflags   net           stat           version
1011   18    27153  285  38   39    481   570  624  asound diskstats    ioports       loadavg      pagetypeinfo  swaps          vmallocinfo
12     19    27168  294  382  390   5     572  639  buddyinfo dma        irq           locks        partitions    sys            vmstat
13     2     27211  3    383  391   5249  574  651  bus    driver       kallsyms      mdstat       sched_debug   sysrq-trigger  zoneinfo
14     25    27216  35   384  392   5289  59   656  cgroups execdomains  kcore         meminfo      schedstat     sysvipc
1481   26    27223  356  385  4324  561   595  7    cmdline fb          keys          misc         scsi          timer_list
1489   27    274    357  386  4461  563   6    8    consoles filesystems key-users    modules      self          timer_stats
```

Applications in various run levels

```
[[root@172_20_147_71 etc]# cd rc
rc0.d/      rc1.d/      rc2.d/      rc3.d/      rc4.d/      rc5.d/      rc6.d/      rc.d/      rc.local
[[root@172_20_147_71 etc]# cd rc
rc0.d/      rc1.d/      rc2.d/      rc3.d/      rc4.d/      rc5.d/      rc6.d/      rc.d/      rc.local
[[root@172_20_147_71 etc]# cd rc1.d
[[root@172_20_147_71 rc1.d]# ls
K50netconsole  K90network
[[root@172_20_147_71 rc1.d]# cd ..
[[root@172_20_147_71 etc]# cd rc2.d
[[root@172_20_147_71 rc2.d]# ls
K50netconsole  S10network
[[root@172_20_147_71 rc2.d]# cd rc6.d
-bash: cd: rc6.d: No such file or directory
[[root@172_20_147_71 rc2.d]# cd rc5.d
-bash: cd: rc5.d: No such file or directory
[[root@172_20_147_71 rc2.d]# cd ..
[[root@172_20_147_71 etc]# cd rc5.d
[[root@172_20_147_71 rc5.d]# ls
K50netconsole  S10network
[[root@172_20_147_71 rc5.d]# cd K50netconsole
-bash: cd: K50netconsole: Not a directory
[[root@172_20_147_71 rc5.d]# cd rc5.d
-bash: cd: rc5.d: No such file or directory
[[root@172_20_147_71 rc5.d]# cd rc4.d
-bash: cd: rc4.d: No such file or directory
[[root@172_20_147_71 rc5.d]# cd ..
[[root@172_20_147_71 etc]# cd rc4.d/
[[root@172_20_147_71 rc4.d]# ls
```

IP Address

```
[root@172_20_147_71 rc4.d]# hostname -I
172.20.147.71
```

```
[root@172_20_147_71 rc4.d]# free -tm | grep ^Mem | tr -s ' '| cut -d ' ' -f 4
53
```

```
[[root@172_20_147_71 rc4.d]# free -tm | grep ^Mem | tr -s ' '| cut -d ' ' -f 4
53
```

Total Available Free Memory

```
[[root@172_20_147_71 rc4.d]# free -tm | grep ^Mem | tr -s ' '| cut -d ' ' -f 4
53
```

Total Available Storage

```
[root@172_20_147_71 ~]# free -tm | grep ^Mem | tr -s ' '|cut -d ' ' -f 2
488
```

```
[root@172_20_147_71 ~]# awk -F/ '{print $NF== "" }' /etc/passwd
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
```

No Users with no shell assigned.

But there are these users with /sbin/nologin as shell assigned. These users get a "user cannot login" message when they login into the shell

```
[root@172_20_147_71 ~]# grep -v 'sbin/nologin' /etc/passwd |awk -F: '{print $1}'
root
sync
shutdown
halt
```

Users and their home directory

```
[root@172_20_147_71 ~]# awk -F: '{print $1 " " $6 }' /etc/passwd
root /root
bin /bin
daemon /sbin
adm /var/adm
lp /var/spool/lpd
sync /sbin
shutdown /sbin
halt /sbin
mail /var/spool/mail
operator /root
games /usr/games
ftp /var/ftp
nobody /
systemd-network /
dbus /
polkitd /
postfix /var/spool/postfix
chrony /var/lib/chrony
sshd /var/empty/sshd
```

PID's of non root users

```
[root@172_20_147_71 ~]# ps aux | tr -s ' ' | awk -F" " '{ if($1 != "root") print }' | awk -F" " '{print $2}'
PID
619
622
639
1086
1087
```