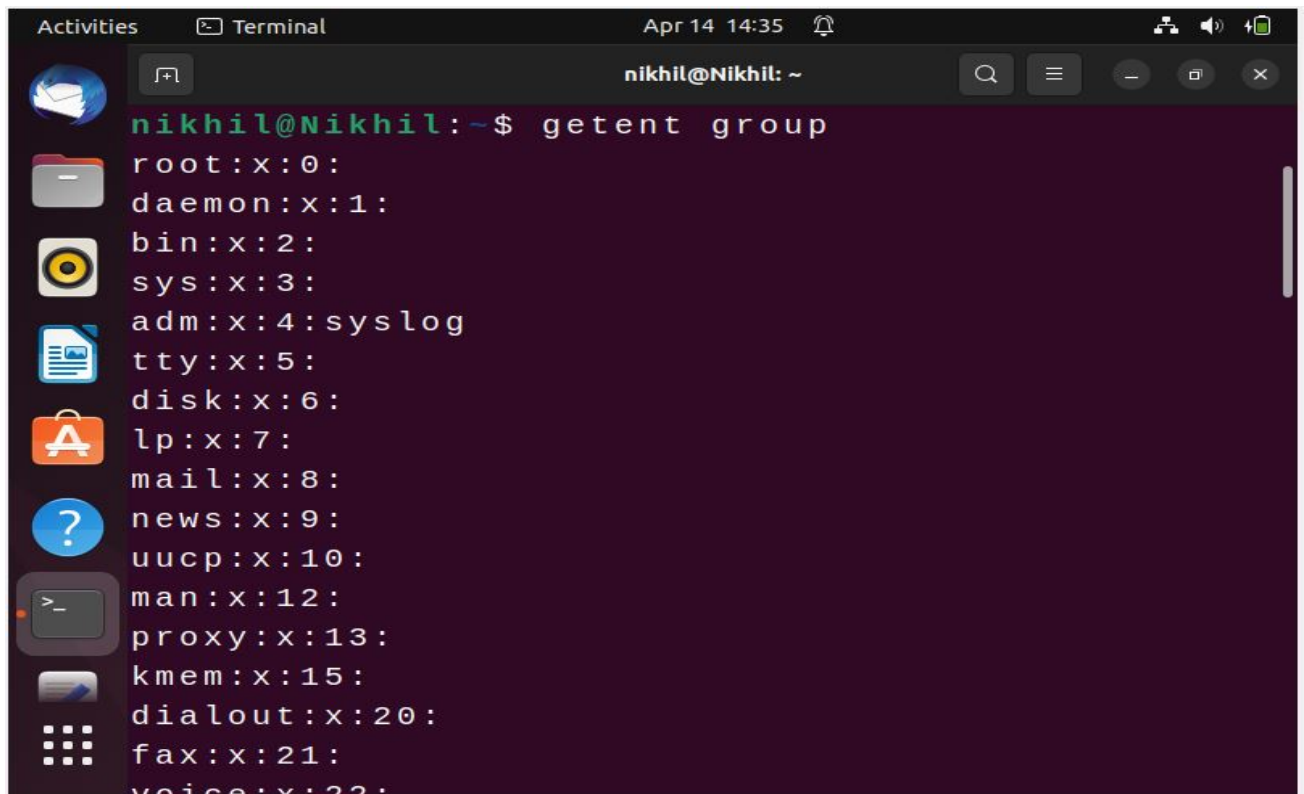
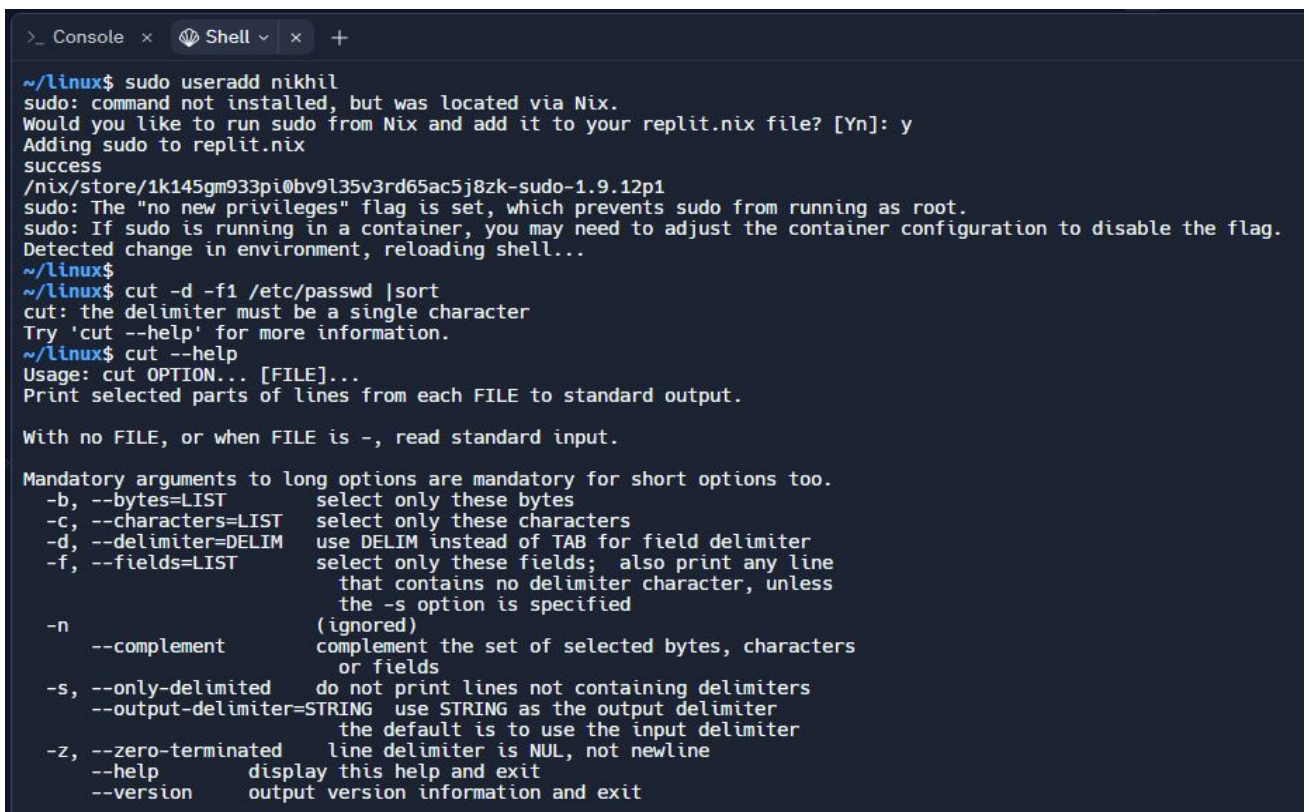


//to view list of groups

A terminal window titled 'nikhil@Nikhil: ~' showing the output of the 'getent group' command. The output lists system groups with their names, password fields, and GIDs. The groups listed are root, daemon, bin, sys, adm, tty, disk, lp, mail, news, uucp, man, proxy, kmem, dialout, fax, and voice. The terminal has a dark purple background and a sidebar on the left with various application icons.

```
nikhil@Nikhil:~$ getent group
root:x:0:
daemon:x:1:
bin:x:2:
sys:x:3:
adm:x:4:syslog
tty:x:5:
disk:x:6:
lp:x:7:
mail:x:8:
news:x:9:
uucp:x:10:
man:x:12:
proxy:x:13:
kmem:x:15:
dialout:x:20:
fax:x:21:
voice:x:22:
```

// to add new user

A terminal window titled '>_ Console x Shell x +' showing the process of adding a new user. The user runs 'sudo useradd nikhil', which prompts for a password and a confirmation to run sudo. Then, they run 'cut -d -f1 /etc/passwd |sort', which prompts for a delimiter. Finally, they run 'cut --help', which displays the help text for the 'cut' command. The terminal has a dark blue background and a sidebar on the left with various application icons.

```
>_ Console x Shell x +
~/linux$ sudo useradd nikhil
sudo: command not installed, but was located via Nix.
Would you like to run sudo from Nix and add it to your replit.nix file? [Yn]: y
Adding sudo to replit.nix
success
/nix/store/1k145gm933pi@bv9l35v3rd65ac5j8zk-sudo-1.9.12p1
sudo: The "no new privileges" flag is set, which prevents sudo from running as root.
sudo: If sudo is running in a container, you may need to adjust the container configuration to disable the flag.
Detected change in environment, reloading shell...
~/linux$
~/linux$ cut -d -f1 /etc/passwd |sort
cut: the delimiter must be a single character
Try 'cut --help' for more information.
~/linux$ cut --help
Usage: cut OPTION... [FILE]...
Print selected parts of lines from each FILE to standard output.

With no FILE, or when FILE is -, read standard input.

Mandatory arguments to long options are mandatory for short options too.
-b, --bytes=LIST      select only these bytes
-c, --characters=LIST  select only these characters
-d, --delimiter=DELIM use DELIM instead of TAB for field delimiter
-f, --fields=LIST      select only these fields; also print any line
                        that contains no delimiter character, unless
                        the -s option is specified
-n                    (ignored)
--complement           complement the set of selected bytes, characters
                        or fields
-s, --only-delimited  do not print lines not containing delimiters
--output-delimiter=STRING use STRING as the output delimiter
                        the default is to use the input delimiter
-z, --zero-terminated line delimiter is NUL, not newline
--help                display this help and exit
--version              output version information and exit
```

```
localhost:~$
localhost:~$ sudo adduser lalit
Changing password for lalit
New password:
Retype password:
passwd: password for lalit changed by root
localhost:~$ getent passwd
root:x:0:0:root:/root:/bin/ash
bin:x:1:1:bin:/bin:/sbin/nologin
daemon:x:2:2:daemon:/sbin:/sbin/nologin
adm:x:3:4:adm:/var/adm:/sbin/nologin
lp:x:4:7:lp:/var/spool/lpd:/sbin/nologin
sync:x:5:0:sync:/sbin:/bin/sync
shutdown:x:6:0:shutdown:/sbin:/sbin/shutdown
halt:x:7:0:halt:/sbin:/sbin/halt
mail:x:8:12:mail:/var/mail:/sbin/nologin
news:x:9:13:news:/usr/lib/news:/sbin/nologin
```

```
guest:x:405:100:guest:/dev/null:/sbin/nologin
nobody:x:65534:65534:nobody:/:/sbin/nologin
dhcp:x:100:101:dhcp:/var/lib/dhcp:/sbin/nologin
svn:x:101:102:svn:/var/svn:/sbin/nologin
nikhilzambare24:*:1000:1000:nikhilzambare24:/home/nikhilzambare24:/bin/sh
nikhil:x:1001:1001:Linux User,,,:/home/nikhil:/bin/ash
lalit:x:1002:1002:Linux User,,,:/home/lalit:/bin/ash
localhost:~$
```

//echo for expressions

//to add and check new group

```
localhost:~$ echo $(10+50)
/bin/sh: 10+50: not found

localhost:~$ echo $((10+50))
60
localhost:~$
localhost:~$ echo $((10*50))
500
localhost:~$
localhost:~$ sudo groupadd mygroup
sudo: groupadd: command not found
localhost:~$ sudo addgroup mygroup
localhost:~$
localhost:~$ getent group
root:x:0:root
bin:x:1:root,bin,daemon
daemon:x:2:root,bin,daemon
sys:x:3:root,bin,adm
adm:x:4:root,adm,daemon
tty:x:5
disk:x:6:root,adm
lp:x:7:lp
mem:x:8
kmem:x:9
wheel:x:10:root
floppy:x:11:root
mail:x:12:mail
news:x:13:news
uucp:x:14:uucp
man:x:15:man
```

```
nikhilzambare24:~:1000
nikhil:x:1001
lalit:x:1002
mygroup:x:1003
localhost:~$
```

//to view cpu architecture

```
localhost:~$ lscpu
Architecture:          i586
CPU op-mode(s):        32-bit
Byte Order:            Little Endian
Address sizes:          32 bits physical, 32 bits virtual
CPU(s):                 1
On-line CPU(s) list:   0
Thread(s) per core:    1
Core(s) per socket:    1
Socket(s):              1
Vendor ID:              AuthenticX86
CPU family:             5
Model:                  4
Model name:             05/04
Stepping:               3
CPU MHz:                100.000
BogoMIPS:               200.00
Virtualization:         AMD-V
Flags:                  fpu tsc msr pae cx8 cmov clflush mmx fxsr sse sse2 rdtscp c
puid svm npt
localhost:~$
```

// to monitor IO device activities

//to configure network interfaces

```
localhost:~$ iostat
Linux 4.12.0-rc6-g48ec1f0-dirty (localhost)      04/14/23      _i586_ (1 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.38    0.00    0.50    0.00    0.00   99.11

Device:            tps    Blk_read/s    Blk_wrtn/s    Blk_read    Blk_wrtn
localhost:~$
localhost:~$ ifconfig
eth0      Link encap:Ethernet  HWaddr 02:08:AB:18:70:64
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:35 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 B)  TX bytes:13860 (13.5 KiB)

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          UP LOOPBACK RUNNING  MTU:65536  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)

localhost:~$
```


//to display & modify IP addresses

```
localhost:~$  
localhost:~$ ip addr  
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN qlen 1000  
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00  
    inet 127.0.0.1/8 scope host lo  
        valid_lft forever preferred_lft forever  
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UNKNOW  
N qlen 1000  
    link/ether 02:08:ab:18:70:64 brd ff:ff:ff:ff:ff:ff  
localhost:~$  
localhost:~$ netstat -rn  
Kernel IP routing table  
Destination      Gateway          Genmask          Flags      MSS Window  irtt Iface  
localhost:~$  
localhost:~$ apt install nginx  
/bin/sh: apt: not found  
localhost:~$
```

// to monitor IO device activities

```
localhost:~$ iostat  
Linux 4.12.0-rc6-g48ec1f0-dirty (localhost)      04/14/23      _i586_ (1 CPU)  
  
avg-cpu:  %user   %nice %system %iowait  %steal   %idle  
           0.38    0.00    0.50    0.00    0.00   99.11  
  
localhost:~$  
localhost:~$ iostat -c  
Linux 4.12.0-rc6-g48ec1f0-dirty (localhost)      04/14/23      _i586_ (1 CPU)  
  
avg-cpu:  %user   %nice %system %iowait  %steal   %idle  
           0.30    0.00    0.43    0.00    0.00   99.27  
  
localhost:~$  
localhost:~$ iostat -d  
Linux 4.12.0-rc6-g48ec1f0-dirty (localhost)      04/14/23      _i586_ (1 CPU)  
  
Device:            tps    Blk_read/s    Blk_wrtn/s    Blk_read    Blk_wrtn  
localhost:~$ iostat -t  
Linux 4.12.0-rc6-g48ec1f0-dirty (localhost)      04/14/23      _i586_ (1 CPU)  
  
04/14/23 16:08:43  
avg-cpu:  %user   %nice %system %iowait  %steal   %idle  
           0.30    0.00    0.43    0.00    0.00   99.27
```

```
localhost:~$
localhost:~$ iostat -k
Linux 4.12.0-rc6-g48ec1f0-dirty (localhost)      04/14/23      _i586_ (1 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.30    0.00    0.43    0.00    0.00   99.27

Device:            tps    kB_read/s    kB_wrtn/s    kB_read  kB_wrtn

localhost:~$
localhost:~$ iostat -p
iostat: unrecognized option: p
BusyBox v1.31.1 () multi-call binary.

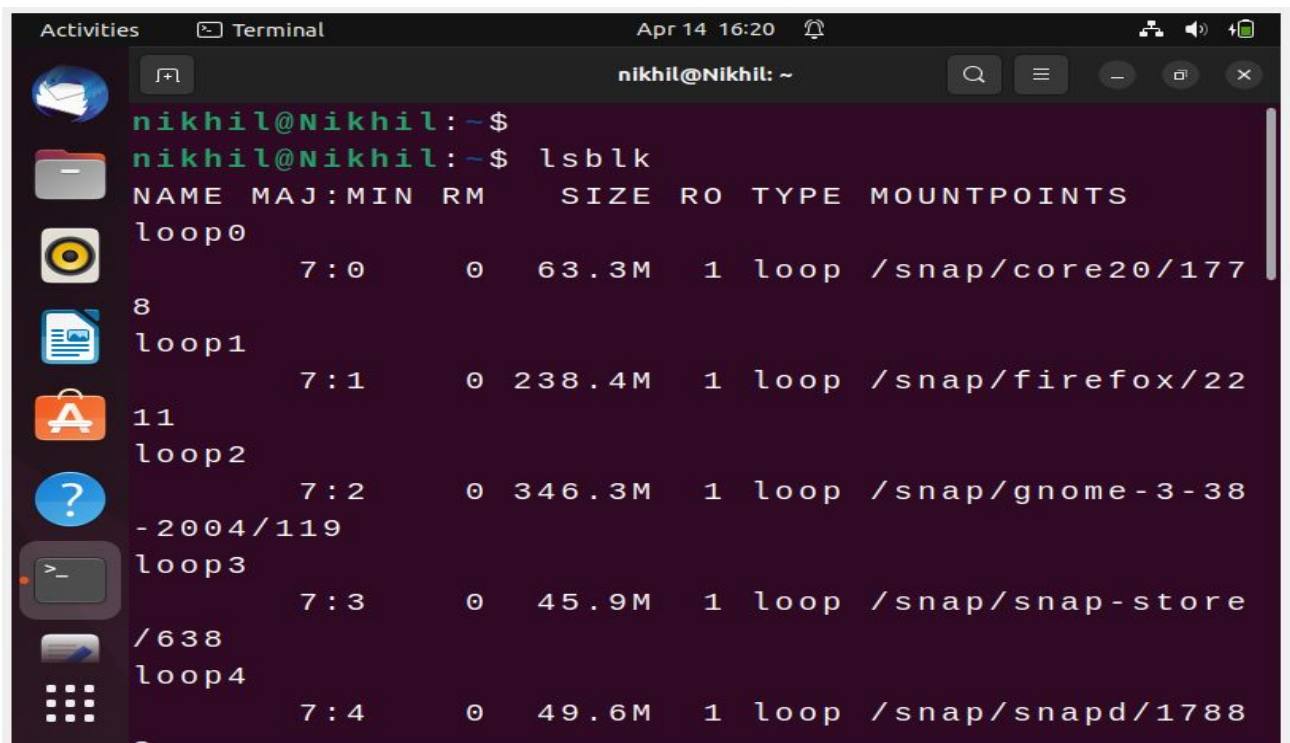
Usage: iostat [-c] [-d] [-t] [-z] [-k|-m] [ALL|BLOCKDEV...] [INTERVAL [COUNT]]

Report CPU and I/O statistics

    -c      Show CPU utilization
    -d      Show device utilization
    -t      Print current time
    -z      Omit devices with no activity
    -k      Use kb/s
    -m      Use Mb/s

localhost:~$
```

//to view available Hard disk or bulk devices on hardware



```
nikhil@Nikhil: ~$ lsblk
NAME MAJ:MIN RM   SIZE RO TYPE MOUNTPOINTS
loop0    7:0    0  63.3M  1 loop /snap/core20/177
8
loop1    7:1    0 238.4M  1 loop /snap/firefox/22
11
loop2    7:2    0 346.3M  1 loop /snap/gnome-3-38
-2004/119
loop3    7:3    0  45.9M  1 loop /snap/snap-store
/638
loop4    7:4    0  49.6M  1 loop /snap/snapd/1788
3
```