

VMSTATE COMMAND

vmstat command (also known as virtual memory statistic tool) shows information about processes, memory, disk, and CPU activity in Linux, whereas the **iostat** command is used to monitor CPU utilization, system input/output statistics for all the disks and partitions.

```
[root@vivek ~]# yum install sysstat
Updating Subscription Management repositories.
Unable to read consumer identity
This system is not registered to Red Hat Subscription Management. You can use subscription-manager to r
Last metadata expiration check: 3:37:00 ago on Sun 20 Feb 2022 11:30:58 PM EST.
Dependencies resolved.
=====
Package                                Architecture                          Version
=====
Installing:
sysstat                                x86_64                                11.7.3-2.el8
Installing dependencies:
lm_sensors-libs                        x86_64                                3.4.0-21.20180522gi
Transaction Summary
=====
Install 2 Packages
```

LIST ACTIVE AND INACTIVE MEMORY

```
[root@vivek ~]# vmstat -a
procs -----memory----- --swap-- -----io----- -system-- -----cpu-----
r  b  swpd   free  inact active    si   so    bi    bo    in   cs us sy id wa st
2  0    0 1017140 198916 353104     0    0    38    7   53  117  0  1 99  0  0
[root@vivek ~]#
```

Execute vmstat 'x' seconds and ('number of times)

```
[root@vivek ~]# vmstat 2 6
procs -----memory----- --swap-- -----io----- -system-- -----cpu-----
r  b  swpd   free  buff  cache    si   so    bi    bo    in   cs us sy id wa st
2  0    0 1017140 4204 489676     0    0    38    7   53  116  0  1 99  0  0
0  0    0 1017020 4204 489676     0    0     0     0   39  76  0  0 100  0  0
0  0    0 1017020 4204 489676     0    0     0     0   38  74  0  0 100  0  0
0  0    0 1017020 4204 489676     0    0     0     0   38  79  0  0 100  0  0
2  0    0 1017020 4204 489676     0    0     0     0   37  73  0  1 100  0  0
1  0    0 1016988 4204 489676     0    0     0     0   36  71  0  0 100  0  0
```

Vmstat with timestamps

```
[root@vivek ~]# vmstat -t 1 5
procs -----memory----- --swap-- -----io----- -system-- -----cpu----- -----timestamp-----
r  b  swpd   free  buff  cache    si   so    bi    bo    in   cs us sy id wa st          EST
2  0    0 1017076 4204 489740     0    0    36    7   53  115  0  1 99  0  0 2022-02-21 03:16:37
0  0    0 1017016 4204 489740     0    0     0     0   41  77  0  0 100  0  0 2022-02-21 03:16:38
0  0    0 1017016 4204 489740     0    0     0     0   41  78  0  1 99  0  0 2022-02-21 03:16:39
0  0    0 1017016 4204 489740     0    0     0     0   44  81  0  0 100  0  0 2022-02-21 03:16:41
0  0    0 1017016 4204 489740     0    0     0     0   42  80  0  0 100  0  0 2022-02-21 03:16:42
```

Statistics of various counter

```
[root@vivek ~]# vmstat -s
1843832 K total memory
334304 K used memory
353664 K active memory
198432 K inactive memory
1014792 K free memory
4204 K buffer memory
490532 K swap cache
2097148 K total swap
0 K used swap
2097148 K free swap
```

VMSTATE COMMAND

Monitor linux disks statistics

```
[root@vivek ~]# vmstat -d
disk- -----reads----- writes-----IO-----
      total merged sectors      ms total merged sectors      ms      cur      sec
nvme0n1 19771      15 848138    9565    3348    687 152864    9972      0      20
sr0       27       0   2080      7       0      0      0      0      0      0
dm-0     17441     0 760925   12726   4032      0 148768   13391      0      19
dm-1       98       0   4440     14       0      0      0      0      0      0
```

Display statistics in megabyte

```
[root@vivek ~]# vmstat -S M 1 5
procs -----memory----- --swap-- -----io----- -system-- -----cpu-----
 r  b  swpd  free  buff  cache  si  so  bi  bo  in  cs  us  sy  id  wa  st
 2  0      0   991    4   479    0  0   34   6  52 113  0  1  99  0  0
 0  0      0   990    4   479    0  0    0   0  47  90  0  0 100  0  0
 0  0      0   990    4   479    0  0    0   0  41  84  0  0 100  0  0
 0  0      0   990    4   479    0  0    0   0  36  70  0  0 100  0  0
 2  0      0   990    4   479    0  0    0   0  58 106  0  1  99  0  0
[root@vivek ~]#
```

Display CPU AND I/O STATISTICS OF DISKS

```
[root@vivek ~]# iostat
Linux 4.18.0-193.el8.x86_64 (vivek.gandhi.com) 02/21/2022      _x86_64_      (1 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.16    0.05    0.61    0.03    0.00   99.14

Device            tps    kB_read/s    kB_wrtn/s    kB_read  kB_wrtn
nvme0n1            1.70         31.04         5.67     424069    77438
scd0                0.00          0.08          0.00       1040         0
dm-0               1.58         27.85         5.52    380462    75390
dm-1               0.01          0.16          0.00       2220         0
```

SHOW LINUX CPU STATISTICS

```
[root@vivek ~]# iostat -c
Linux 4.18.0-193.el8.x86_64 (vivek.gandhi.com) 02/21/2022      _x86_64_      (1 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.16    0.05    0.60    0.03    0.00   99.15
```

SHOW LINUX DISKS I/O STATISTICS

```
[root@vivek ~]# iostat -d
Linux 4.18.0-193.el8.x86_64 (vivek.gandhi.com) 02/21/2022      _x86_64_      (1 CPU)

Device            tps    kB_read/s    kB_wrtn/s    kB_read  kB_wrtn
nvme0n1            1.67         30.35         5.55     424069    77602
scd0                0.00          0.07          0.00       1040         0
dm-0               1.55         27.23         5.41    380462    75554
dm-1               0.01          0.16          0.00       2220         0
```

Display the header only once rather than periodically

```
[root@vivek ~]# vmstat -n
procs -----memory----- --swap-- -----io----- -system-- -----cpu-----
 r  b  swpd  free  buff  cache  si  so  bi  bo  in  cs  us  sy  id  wa  st
 2  0      0 1012780 4204 492460    0  0   30   6  51 110  0  1  99  0  0
```

VMSTATE COMMAND

Displays slab info.

```
[root@vivek ~]# vmstat -m
```

Cache	Num	Total	Size	Pages
nf_conntrack	102	102	320	51
AF_VSOCK	40	40	1600	20
rpc_inode_cache	46	46	704	46
xfs_dqtrx	0	0	528	62
xfs_dquot	0	0	504	65
xfs_rui_item	0	0	696	47
xfs_rud_item	0	0	176	46
xfs_inode	17342	17940	1088	30

