

## Experiment 8 : Automation of system task

## Nmon – CPU Monitoring tool

Interactive command-line monitoring tool for CPU, memory, disks, network, NFS, and virtual memory utilization. To view the top process (by utilization), you can execute `nmon` and press enter

```

nmon-16n-----Hostname=ubuntu-----Refresh= 2secs ---10:56.07-----

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nmon
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For help type H or ...
nmon -? - hint
nmon -h - full details

To stop nmon type q to Quit


Use these keys to toggle statistics on/off:
c = CPU          l = CPU Long-term      - = Faster screen updates
C = " WideView  U = Utilisation        + = Slower screen updates
m = Memory       V = Virtual memory    j = File Systems
d = Disks        n = Network            . = only busy disks/procs
r = Resource     N = NFS                h = more options
k = Kernel       t = Top-processes     q = Quit

```

Type c

```
mmon-16n [H for help]—Hostname=ubuntu—Refresh= 2secs —10:57.44
CPU Utilisation
-----+-----+
CPU User% Sys% Wait% Idle|0          |25          |50          |75          |100|
  1  1.0   0.0   0.0  99.0|>          |            |            |            |   |
  2  1.0   0.0   0.0  99.0|>          |            |            |            |   |
  3  1.5   1.0   0.0  97.5|>          |            |            |            |   |
  4  2.5   0.5   0.0  97.1|>          |            |            |            |   |
-----+-----+
Avg  1.6   0.2   0.0  98.2|>          |            |            |            |   |
-----+-----+
```

## Type n

| Network I/O |           |            |        |         |        |         |            |       |
|-------------|-----------|------------|--------|---------|--------|---------|------------|-------|
| I/F Name    | Recv=KB/s | Trans=KB/s | packin | packout | insize | outsize | Peak->Recv | Trans |
| lo          | 0.0       | 0.0        | 0.0    | 0.0     | 0.0    | 0.0     | 0.2        | 0.2   |
| enp0s3      | 0.0       | 0.0        | 0.0    | 0.0     | 0.0    | 0.0     | 0.1        | 0.4   |

## Type d

```

nmon-16n [H for help] Hostname=ubuntu Refresh= 2secs 11:00.58
Disk I/O /proc/diskstats mostly in KB/s Warning:contains duplicates
|Name Busy Read WriteKB|0|25|50|75|100|
loop0 0% 0.0 0.0|>
loop1 0% 0.0 0.0|>
loop2 0% 0.0 0.0|>
loop3 0% 0.0 0.0|>
loop4 0% 0.0 0.0|>
loop5 0% 0.0 0.0|>
loop6 0% 0.0 0.0|>
loop7 0% 0.0 0.0|>
sr0 0% 0.0 0.0|>
sda 0% 0.0 2.0|>
sda1 0% 0.0 0.0|>
sda2 0% 0.0 0.0|>
sda3 0% 0.0 2.0|>
loop8 0% 0.0 0.0|>
loop9 0% 0.0 0.0|>
loop10 0% 0.0 0.0|>
loop11 0% 0.0 0.0|>
loop12 0% 0.0 0.0|>
loop13 0% 0.0 0.0|>
loop14 0% 0.0 0.0|>
loop15 0% 0.0 0.0|>disk busy not available
Totals Read-MB/s=0.0 Writes-MB/s=0.0 Transfers/sec=1.0

```

## Type V

| Virtual Memory |   |       |              |   |     |                   |        |
|----------------|---|-------|--------------|---|-----|-------------------|--------|
| nr_dirty       | = | 0     | pgpgin       | = | 0   | High              | Normal |
| nr_writeback   | = | 0     | pgpgout      | = | 0   | alloc             | 26     |
| nr_unstable    | = | 0     | pgpswpin     | = | 0   | refill            | 0      |
| nr_table_pgs   | = | 3516  | pgpswpout    | = | 0   | steal             | 0      |
| nr_mapped      | = | 74437 | pgfree       | = | 26  | scan_kswapd       | 0      |
| slab_reclaim   | = | 10908 | pgactivate   | = | 0   | scan_direct       | 0      |
| slab_unreclm   | = | 24428 | pgdeactivate | = | 0   |                   |        |
| allocstall     | = | 0     | pgfault      | = | 126 | kswapd_steal      | = 0    |
| pageoutrun     | = | 0     | pgmajfault   | = | 0   | kswapd_inodesteal | = 0    |
| slabs_scanned  | = | 0     | pgrotated    | = | 0   | pginodesteal      | = 0    |

## Netdata – Real time performance monitoring

Netdata is a real-time performance monitoring for system resources, applications, web servers, databases, DNS, mail, hardware sensors, and a lot more. It is open-source and getting started is easy. All the data is collected, stored, and streamed for you to visualize interactively. Data is collected every second, so you never miss anything.

