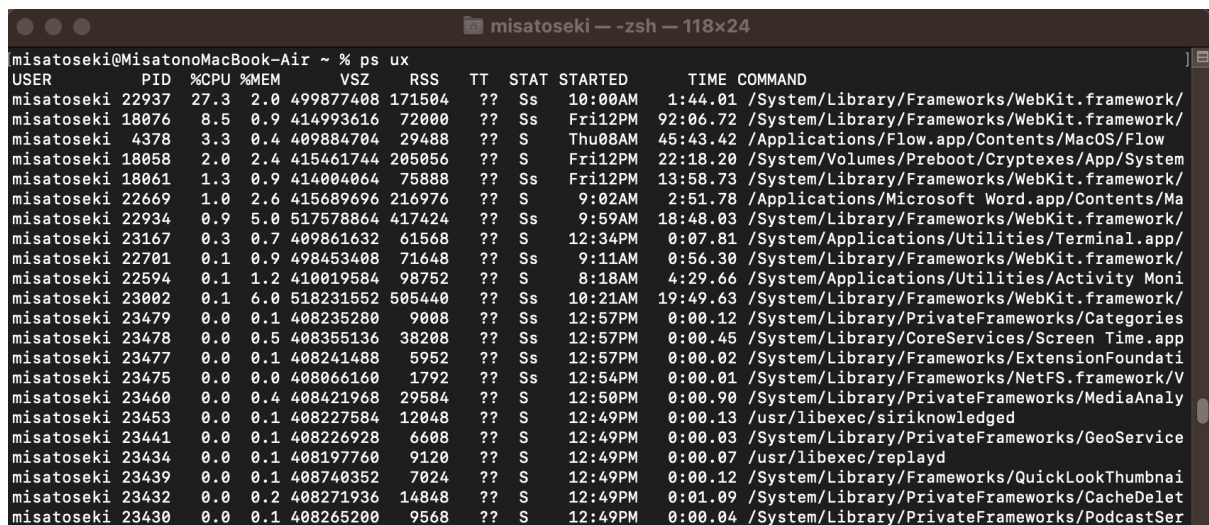# WORKING WITH PROCESS COMMANDS IN LINUX/UNIX

1. INTRODUCTION

In this report, we observe what happens when executing a process command. This time, we will execute the typical command ps, kill, top, df and nice.

2. PURPOSE AND INFORMATION WE CAN GET BY COMMANDS

A. ps command

This command is used to display currently running processes. Depending on the options of the command, running processes can be displayed in different ways. For example, ps -ux displays all processes in detail.
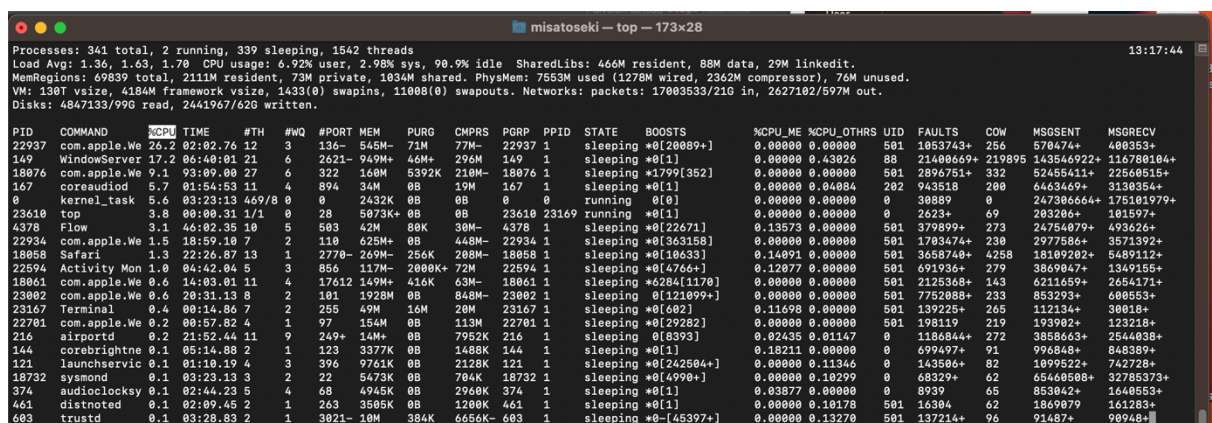
B. kill command:

This command is used to terminate a process. By specifying a process ID (PID), the specified process can be killed.

C. top command

This command is used to monitor running processes in real time, displaying CPU and memory usage, etc., and allowing the user to change the priority of the process or terminate it.

D. df command:

This command is used to display disk usage. It can display file system usage, free space, etc.

```
• • •                        📁 misatoseki — -zsh — 108×28
misatoseki@MisatonoMacBook-Air ~ % df
Filesystem      512-blocks      Used Available Capacity iused      ifree %iused  Mounted on
/dev/disk3s1s1  478724992  17460960 302260296     6%  349475 1511301480     0%  /
devfs                 397       397         0   100%     688          0   100%  /dev
/dev/disk3s6    478724992   2097192 302260296     1%       1 1511301480     0%  /System/Volumes/VM
/dev/disk3s2    478724992   9373120 302260296     4%     827 1511301480     0%  /System/Volumes/Preboot
/dev/disk3s4    478724992     15816 302260296     1%      42 1511301480     0%  /System/Volumes/Update
/dev/disk1s2      1024000     12328    988504     2%       1    4942520     0%  /System/Volumes/xarts
/dev/disk1s1      1024000     12512    988504     2%      28    4942520     0%  /System/Volumes/iSCPreboot
/dev/disk1s3      1024000       936    988504     1%      50    4942520     0%  /System/Volumes/Hardware
/dev/disk3s5    478724992 145718768 302260296    33%  629194 1511301480     0%  /System/Volumes/Data
map auto_home           0         0         0   100%       0          0   100%  /System/Volumes/Data/home
misatoseki@MisatonoMacBook-Air ~ %
```

E. nice command

This is used to change the priority of a process. It allows us to give priority to processes and adjust CPU usage priority.

```
top - 11:40:09 up 1 min,  1 user,  load average: 0.24, 0.08, 0.03
Tasks: 153 total,   1 running, 152 sleeping,   0 stopped,   0 zombie
%Cpu(s):  0.3 us,  0.2 sy,  0.0 ni, 99.4 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st
MiB Mem :   3920.9 total,   2991.2 free,    528.3 used,    401.4 buff/cache
MiB Swap:    976.0 total,    976.0 free,      0.0 used.   3240.1 avail Mem

    PID USER      PR  NI    VIRT    RES    SHR S  %CPU  %MEM     TIME+ COMMAND
    552 root      20   0  890816 111572  57320 S   1.0   2.8   0:01.70 Xorg
    512 root      20   0       0      0      0 S   0.3   0.0   0:00.02 usb-storage
    843 misato    20   0 1214608 104284  75072 S   0.3   2.6   0:00.36 xfwm4
   1101 misato    20   0  422280 100992  83820 S   0.3   2.5   0:00.60 qterminal
   1129 misato    20   0   10428   3492   2796 R   0.3   0.1   0:00.09 top
      1 root      20   0  168164  11460   8324 S   0.0   0.3   0:00.35 systemd
```

```
┌──(misato㊉kali)-[~]
└─$ nice -n 19 top
```

```
top - 11:41:59 up 2 min,  1 user,  load average: 0.29, 0.14, 0.05
Tasks: 153 total,   1 running, 152 sleeping,   0 stopped,   0 zombie
%Cpu(s):  0.4 us,  0.3 sy,  0.0 ni, 99.3 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st
MiB Mem :   3920.9 total,   2984.2 free,    535.0 used,    401.7 buff/cache
MiB Swap:    976.0 total,    976.0 free,      0.0 used.   3233.4 avail Mem

    PID USER      PR  NI    VIRT    RES    SHR S  %CPU  %MEM     TIME+ COMMAND
    552 root      20   0  890816 111600  57320 S   1.0   2.8   0:03.83 Xorg
   1101 misato    20   0  422276 101060  83816 S   0.7   2.5   0:01.49 qterminal
    897 misato    20   0  344860  29404  19620 S   0.3   0.7   0:00.75 panel-15-genmon
    898 misato    20   0  596228  44696  33220 S   0.3   1.1   0:00.30 panel-16-pulsea
   1796 misato    39  19   10432   3344   2776 R   0.3   0.1   0:00.03 top
```

3. WHAT I LEARNED

A process uses memory, CPU, and other system resources. Process commands are used to manage running processes. I found that these commands allow us to view, control, and terminate processes and develop machine performance.