Yandex

Unix Command Line

Processes

What happens on a server?

Commands for processes managing

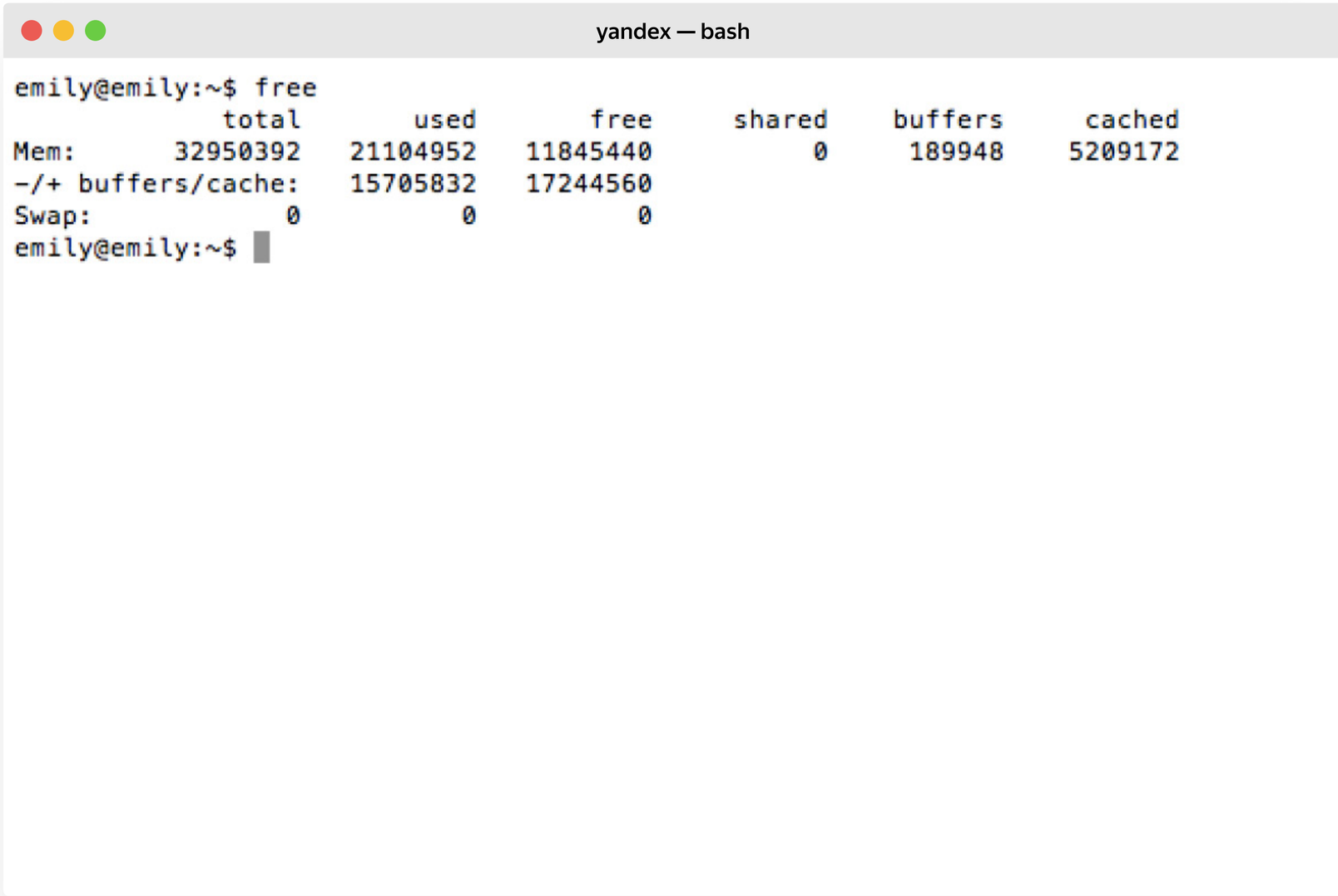
- free
- top
- ps
- kill

free

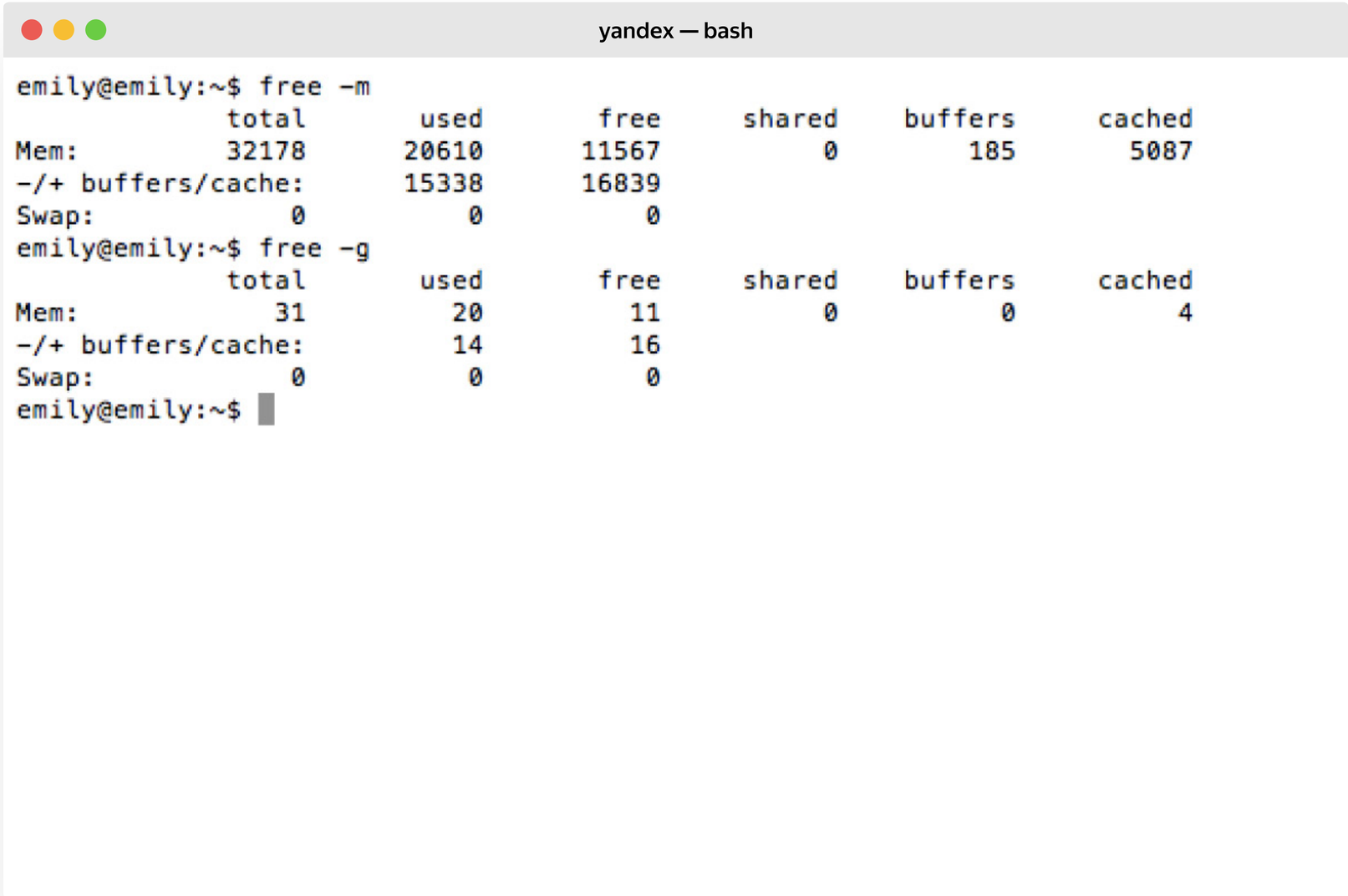
› displays the total amount of free and used memory

free [options]

free


yandex — bash
emily@emily:~$ free
total used free shared buffers cached
Mem: 32950392 21104952 11845440 0 189948 5209172
-/+ buffers/cache: 15705832 17244560
Swap: 0 0 0
emily@emily:~$

free -g


yandex — bash
emily@emily:~$ free -m
total used free shared buffers cached
Mem: 32178 20610 11567 0 185 5087
-/+ buffers/cache: 15338 16839
Swap: 0 0 0
emily@emily:~$ free -g
total used free shared buffers cached
Mem: 31 20 11 0 0 4
-/+ buffers/cache: 14 16
Swap: 0 0 0
emily@emily:~$

top

› provides a dynamic real-time view of a running system

top [options]

top

yandex — bash

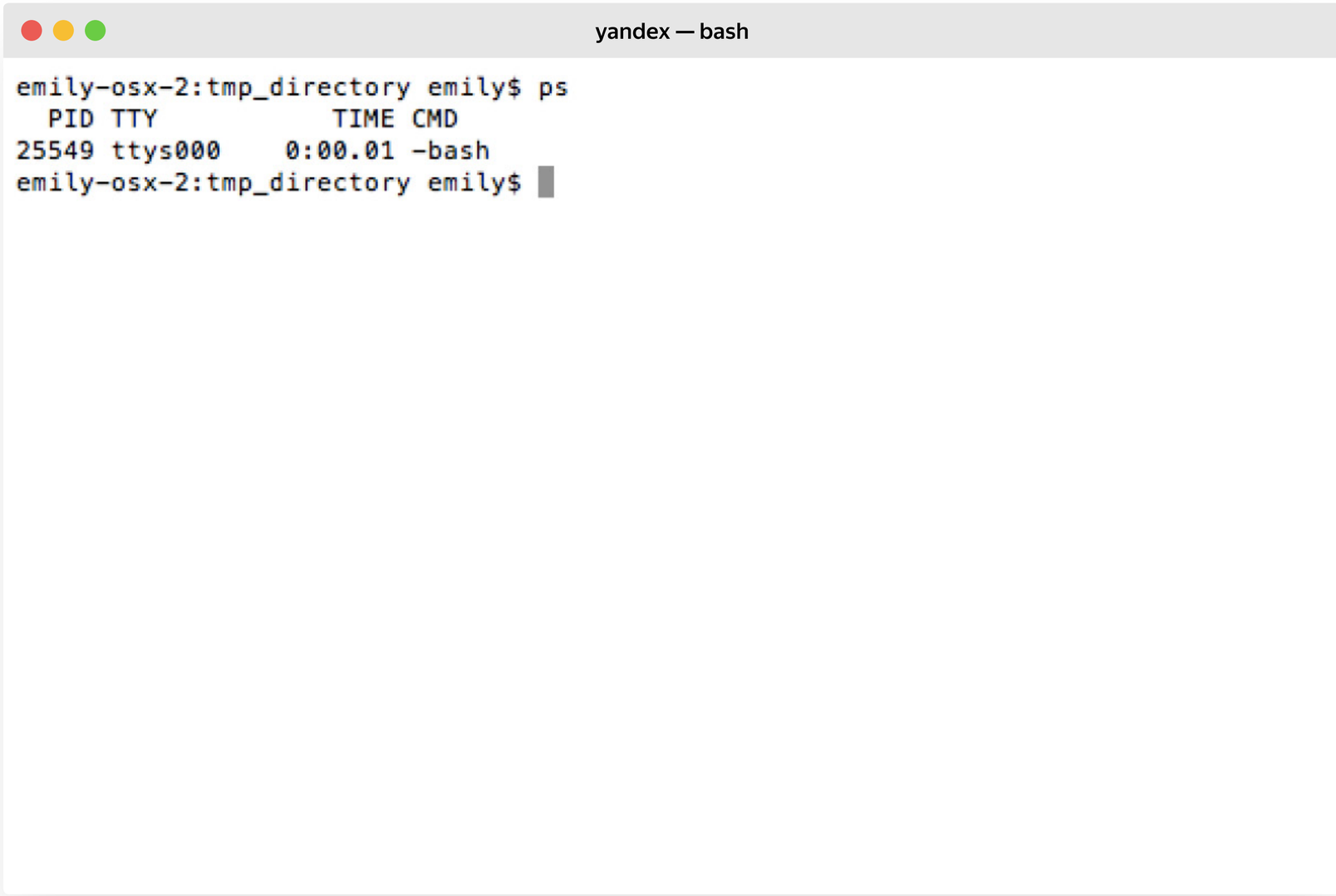
```
Processes: 248 total, 2 running, 12 stuck, 234 sleeping, 1220 threads  00:17:17
Load Avg: 0.81, 1.04, 1.03  CPU usage: 4.56% user, 2.88% sys, 92.54% idle
SharedLibs: 13M resident, 12M data, 0B linkedit.
MemRegions: 136647 total, 4123M resident, 91M private, 407M shared.
PhysMem: 8065M used (938M wired), 125M unused.
VM: 628G vsize, 1063M framework vsize, 1863139(0) swapins, 1990655(0) swapouts.
Networks: packets: 5333981/1833M in, 821389/196M out.
Disks: 603704/17G read, 713297/27G written.

PID    COMMAND      %CPU TIME     #TH  #WQ  #PORT MEM    PURG   CMPRS  PGRP
25640  screencaptur 2.0  00:00.18 2    0    46    2172K  20K    0B     423
25639  top          3.4  00:00.82 1/1  0    20    2632K  0B     0B     25639
```

ps

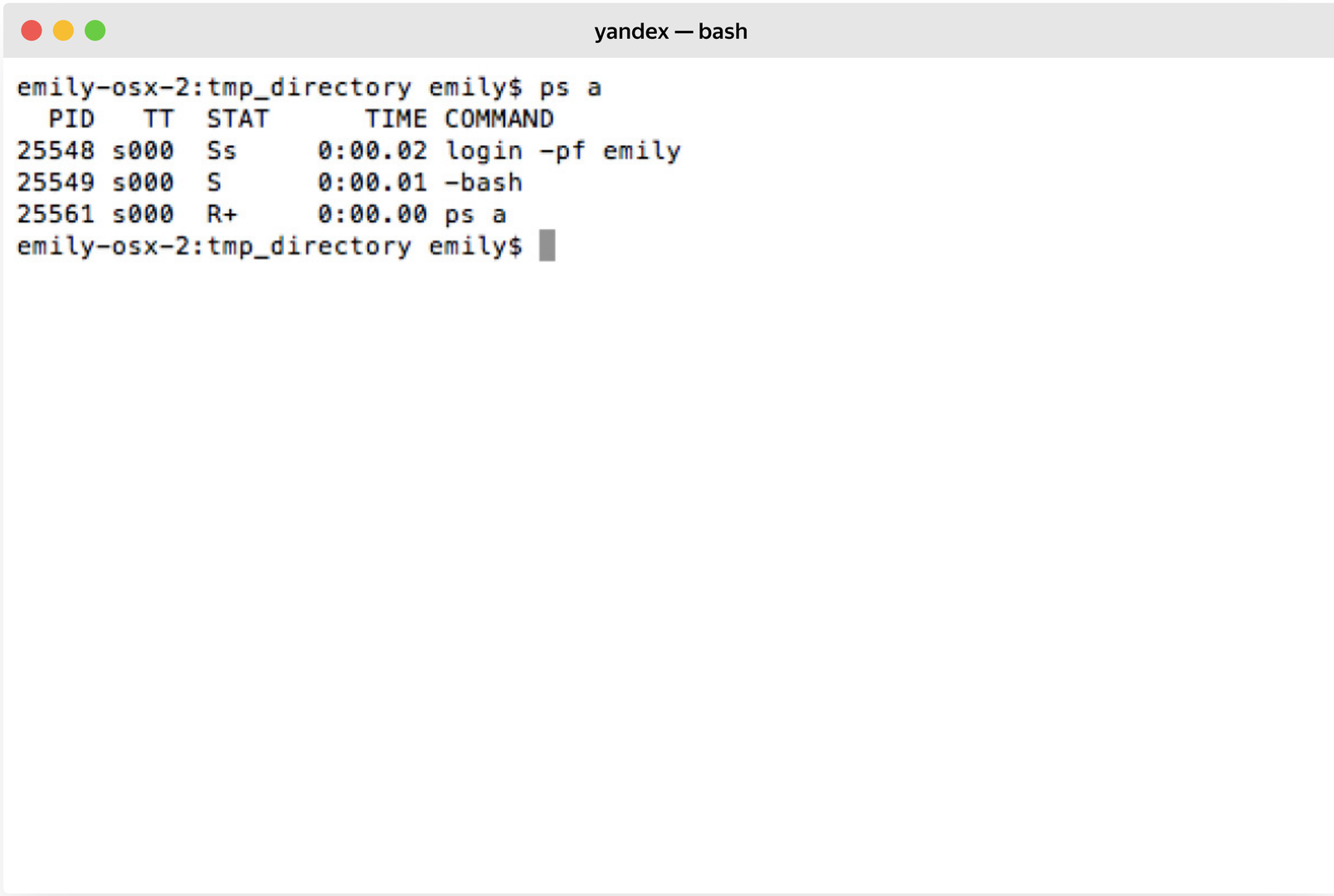
- provides snapshot of the status of currently running processes

ps [options]

ps


yandex — bash
emily-osx-2:tmp_directory emily$ ps
  PID TTY   TIME CMD
25549 ttys000   0:00.01 -bash
emily-osx-2:tmp_directory emily$

ps a

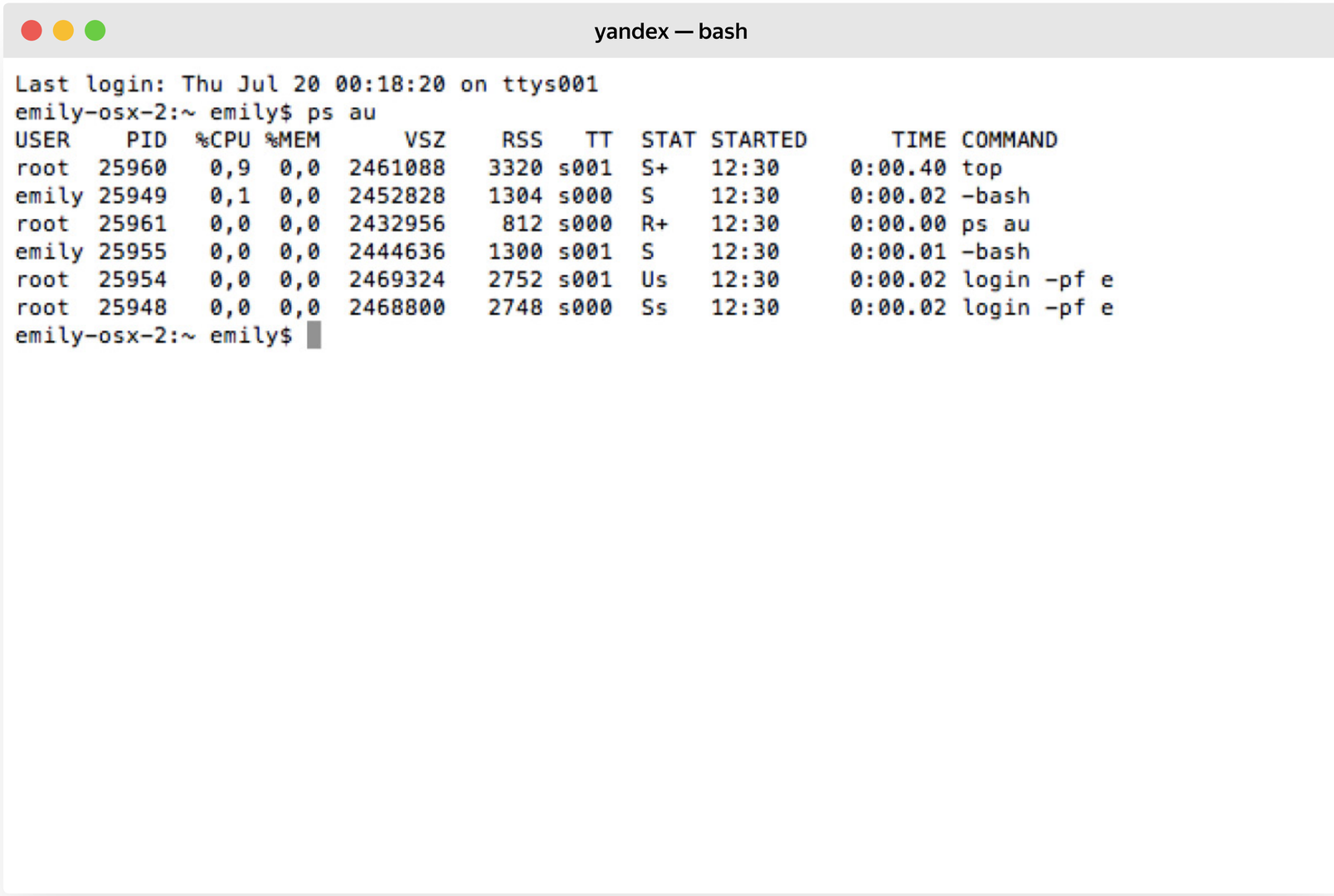

yandex — bash
emily-osx-2:tmp_directory emily$ ps a
  PID   TT STAT   TIME COMMAND
25548 s000 Ss   0:00.02 login -pf emily
25549 s000 S   0:00.01 -bash
25561 s000 R+   0:00.00 ps a
emily-osx-2:tmp_directory emily$

kill

- sends a signal to a process

kill [-s] [-l] %pid

kill


yandex — bash
Last login: Thu Jul 20 00:18:20 on ttys001
emily-osx-2:~ emily$ ps au
USER   PID %CPU %MEM   VSZ   RSS   TT STAT STARTED   TIME COMMAND
root 25960   0,9 0,0 2461088   3320 s001 S+   12:30   0:00.40 top
emily 25949   0,1 0,0 2452828   1304 s000 S   12:30   0:00.02 -bash
root 25961   0,0 0,0 2432956   812 s000 R+   12:30   0:00.00 ps au
emily 25955   0,0 0,0 2444636   1300 s001 S   12:30   0:00.01 -bash
root 25954   0,0 0,0 2469324   2752 s001 Us   12:30   0:00.02 login -pf e
root 25948   0,0 0,0 2468800   2748 s000 Ss   12:30   0:00.02 login -pf e
emily-osx-2:~ emily$

kill

yandex — bash

```
Last login: Thu Jul 20 00:18:20 on ttys001
emily-osx-2:~ emily$ ps au
USER    PID  %CPU %MEM      VSZ    RSS   TT  STAT STARTED      TIME COMMAND
root  25960   0,9  0,0  2461088   3320 s001  S+   12:30     0:00.40 top
emily 25949   0,1  0,0  2452828   1304 s000  S    12:30     0:00.02 -bash
root  25961   0,0  0,0  2432956    812 s000  R+   12:30     0:00.00 ps au
emily 25955   0,0  0,0  2444636   1300 s001  S    12:30     0:00.01 -bash
root  25954   0,0  0,0  2469324   2752 s001  Us   12:30     0:00.02 login -pf e
root  25948   0,0  0,0  2468800   2748 s000  Ss   12:30     0:00.02 login -pf e
emily-osx-2:~ emily$ kill -9 25960
emily-osx-2:~ emily$ ps au
USER    PID  %CPU %MEM      VSZ    RSS   TT  STAT STARTED      TIME COMMAND
root  25971   0,0  0,0  2432956    820 s000  R+   12:30     0:00.00 ps au
emily 25955   0,0  0,0  2444636   1304 s001  S+   12:30     0:00.01 -bash
root  25954   0,0  0,0  2469324   2752 s001  Us   12:30     0:00.02 login -pf e
emily 25949   0,0  0,0  2452828   1312 s000  S    12:30     0:00.02 -bash
root  25948   0,0  0,0  2468800   2748 s000  Ss   12:30     0:00.02 login -pf e
emily-osx-2:~ emily$
```

Nice =)

› runs a command with a modified scheduling priority

nice [OPTION] [COMMAND [ARG]...]

In-video quiz

- How to display a real-time view of a running system?
- How to display the total amount of free and used memory?
- What does nice command do?

Outcome

- We use the following list of commands for processes managing:
  - free
  - top
  - ps
  - kill
- And one nice command: nice =)

BigDATAteam