Taller máquina virtual

Pontificia Universidad Javeriana

Materia: Sistemas Operativos

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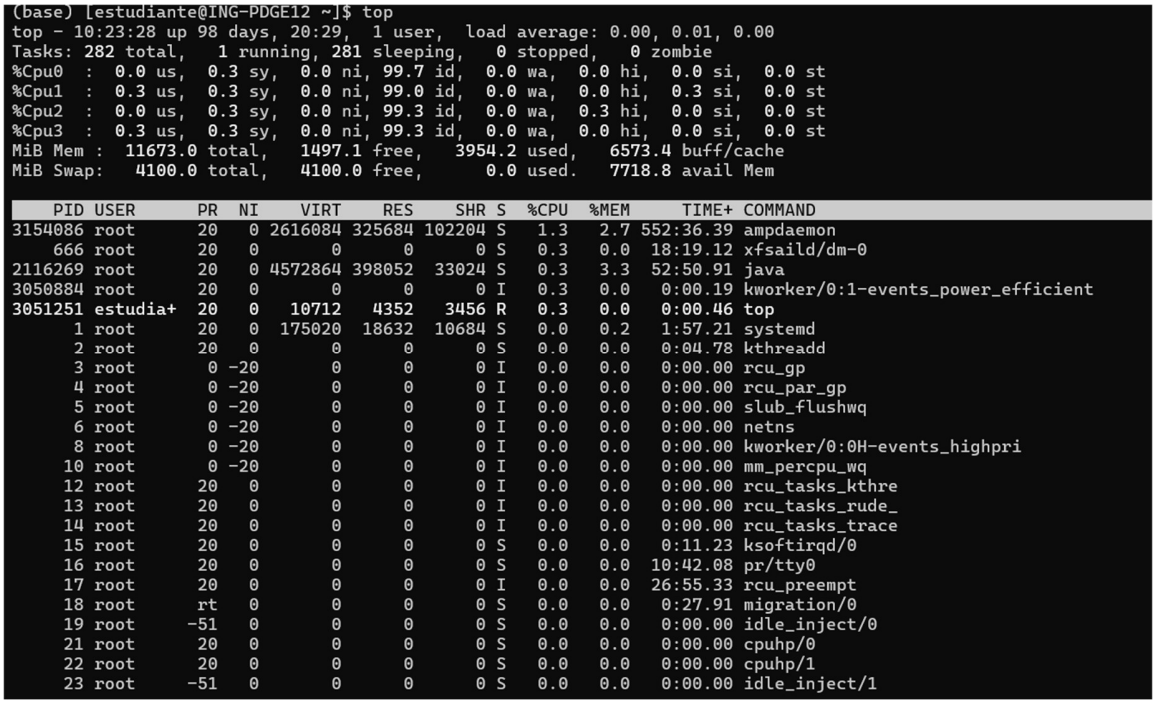
2024

Recursos máquina virtual asignada a Eliana Cepeda con ip 10.43.103.136

Evidencias:



```
(base) [estudiante@ING-PDGE12 ~]$ top
top - 10:23:28 up 98 days, 20:29,  1 user,  load average: 0.00, 0.01, 0.00
Tasks: 282 total,   1 running, 281 sleeping,   0 stopped,   0 zombie
%Cpu0  :  0.0 us,  0.3 sy,  0.0 ni, 99.7 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st
%Cpu1  :  0.3 us,  0.3 sy,  0.0 ni, 99.0 id,  0.0 wa,  0.0 hi,  0.3 si,  0.0 st
%Cpu2  :  0.0 us,  0.3 sy,  0.0 ni, 99.3 id,  0.0 wa,  0.3 hi,  0.0 si,  0.0 st
%Cpu3  :  0.3 us,  0.3 sy,  0.0 ni, 99.3 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st
MiB Mem :  11673.0 total,   1497.1 free,   3954.2 used,   6573.4 buff/cache
MiB Swap:   4100.0 total,   4100.0 free,      0.0 used.   7718.8 avail Mem

    PID USER      PR  NI    VIRT    RES    SHR S  %CPU  %MEM     TIME+ COMMAND
3154086 root      20   0 2616084 325684 102204 S   1.3   2.7 552:36.39 ampdaemon
    666 root      20   0       0      0      0 S   0.3   0.0  18:19.12 xfsaild/dm-0
2116269 root      20   0 4572864 398052  33024 S   0.3   3.3  52:50.91 java
3050884 root      20   0       0      0      0 I   0.3   0.0   0:00.19 kworker/0:1-events_power_efficient
3051251 estudia+  20   0   10712   4352   3456 R   0.3   0.0   0:00.46 top
      1 root      20   0  175020  18632  10684 S   0.0   0.2   1:57.21 systemd
      2 root      20   0       0      0      0 S   0.0   0.0   0:04.78 kthreadd
      3 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 rcu_gp
      4 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 rcu_par_gp
      5 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 slub_flushwq
      6 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 netns
      8 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 kworker/0:0H-events_highpri
     10 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 mm_percpu_wq
     12 root      20   0       0      0      0 I   0.0   0.0   0:00.00 rcu_tasks_kthre
     13 root      20   0       0      0      0 I   0.0   0.0   0:00.00 rcu_tasks_rude_
     14 root      20   0       0      0      0 I   0.0   0.0   0:00.00 rcu_tasks_trace
     15 root      20   0       0      0      0 S   0.0   0.0   0:11.23 ksoftirqd/0
     16 root      20   0       0      0      0 S   0.0   0.0  10:42.08 pr/tty0
     17 root      20   0       0      0      0 I   0.0   0.0  26:55.33 rcu_preempt
     18 root      rt   0       0      0      0 S   0.0   0.0   0:27.91 migration/0
     19 root     -51   0       0      0      0 S   0.0   0.0   0:00.00 idle_inject/0
     21 root      20   0       0      0      0 S   0.0   0.0   0:00.00 cpuhp/0
     22 root      20   0       0      0      0 S   0.0   0.0   0:00.00 cpuhp/1
     23 root     -51   0       0      0      0 S   0.0   0.0   0:00.00 idle_inject/1
```

```
(base) [estudiante@ING-PDGE12 ~]$ lscpu
Architecture:             x86_64
  CPU op-mode(s):         32-bit, 64-bit
  Address sizes:          43 bits physical, 48 bits virtual
  Byte Order:             Little Endian
CPU(s):                   4
  On-line CPU(s) list:    0-3
Vendor ID:                GenuineIntel
  Model name:             Intel(R) Xeon(R) Gold 6348 CPU @ 2.60GHz
    CPU family:           6
    Model:                85
    Thread(s) per core:   1
    Core(s) per socket:   1
    Socket(s):            4
    Stepping:             7
    BogoMIPS:             5187.81
    Flags:                fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush mmx fxsr sse sse2 ss syscall nx pdpe1gb rdtscp lm c
                          onstant_tsc arch_perfmon nopl xtopology tsc_reliable nonstop_tsc cpuid tsc_known_freq pni pclmulqdq ssse3 fma cx16 pcid sse4_1 sse4
                          _2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand hypervisor lahf_lm abm 3dnowprefetch ssbd ibrs ibpb stibp ibrs_
                          enhanced fsgsbase tsc_adjust bmi1 avx2 smep bmi2 invpcid avx512f avx512dq rdseed adx smap clflushopt clwb avx512cd avx512bw avx512v
                          l xsaveopt xsavec xsaves arat pku ospke md_clear flush_l1d arch_capabilities
Virtualization features:
  Hypervisor vendor:      VMware
  Virtualization type:    full
Caches (sum of all):
  L1d:                    192 KiB (4 instances)
  L1i:                    128 KiB (4 instances)
  L2:                     5 MiB (4 instances)
  L3:                     168 MiB (4 instances)
NUMA:
  NUMA node(s):           1
  NUMA node0 CPU(s):      0-3
Vulnerabilities:
  Gather data sampling:   Unknown: Dependent on hypervisor status
  Itlb multihit:          KVM: Mitigation: VMX unsupported
  L1tf:                   Not affected
  Mds:                    Not affected
  Meltdown:               Not affected
  Mmio stale data:        Vulnerable: Clear CPU buffers attempted, no microcode; SMT Host state unknown
  Retbleed:               Mitigation; Enhanced IBRS
```

```
(base) [estudiante@ING-PDGE12 ~]$ df -h
Filesystem                          Size  Used Avail Use% Mounted on
devtmpfs                            4.0M     0  4.0M   0% /dev
tmpfs                               5.7G     0  5.7G   0% /dev/shm
tmpfs                               2.3G   38M  2.3G   2% /run
/dev/mapper/rl_plantillarocky9-root   24G  5.5G   19G  23% /
/dev/sda2                           960M  389M  572M  41% /boot
/dev/sda1                          1022M  7.1M 1015M   1% /boot/efi
/dev/mapper/rl_plantillarocky9-var    15G  1.4G   14G   9% /var
/dev/mapper/rl_plantillarocky9-home   15G  631M   15G   5% /home
tmpfs                               1.2G  4.0K  1.2G   1% /run/user/1001
(base) [estudiante@ING-PDGE12 ~]$
```

- Cantidad de CPUs: 4 numeradas de 0 a 3
- Almacenamiento disco duro: 24 G

  Nota: 19 G disponibles al momento de realizar el informe

- RAM: 11673 MiB
- División de memoria Cache:

  L1d: 192 KiB (4 instancias)

  L1i: 128 KiB (4 instancias)

  L2: 5 MiB (4 instancias)

  L3: 168 MiB (4 instancias)

- RAM: 11673 MiB

Actividades

1. Se crea una carpeta con nombre Cepeda

   $ mkdir Cepeda

   $ ls

```
(base) [estudiante@ING-PDGE12 ~]$ mkdir Cepeda
(base) [estudiante@ING-PDGE12 ~]$ ls
Cepeda  spark-3.5.2-bin-hadoop3.tgz  Torregroza
(base) [estudiante@ING-PDGE12 ~]$
```

2. Se entra a la carpeta creada

   $ cd Cepeda

```
(base) [estudiante@ING-PDGE12 ~]$ cd Cepeda
(base) [estudiante@ING-PDGE12 Cepeda]$
```

3. Se observa la ruta actual

   $ pwd

4. Se crea un directorio llamado fork

   $ mkdir fork

   $ cd fork

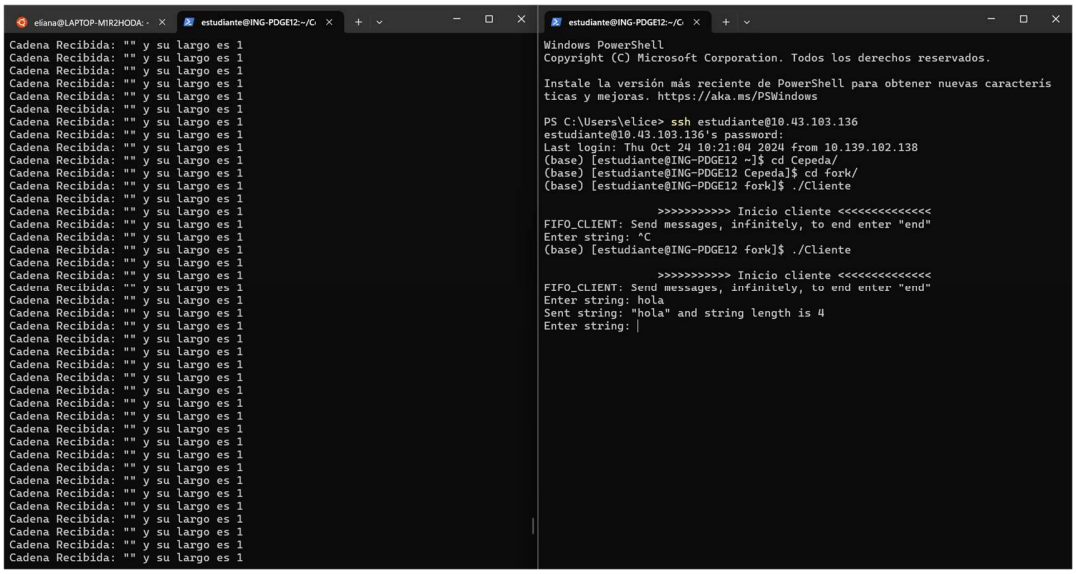
```
(base) [estudiante@ING-PDGE12 Cepeda]$ cd fork
(base) [estudiante@ING-PDGE12 fork]$
```

5. Se copian 2 ficheros fork “Cliente.c” y “Servidor.c”

   $ nano cliente.c

   $nano servidor.c

   Nota: para salir ^x



6. Salir carpeta fork

   $ cd ..

7. Crear carpeta posix

   $mkdir posix

   $cd posix

```
(base) [estudiante@ING-PDGE12 Cepeda]$ mkdir posix
(base) [estudiante@ING-PDGE12 Cepeda]$ cd posix/
(base) [estudiante@ING-PDGE12 posix]$ ls
(base) [estudiante@ING-PDGE12 posix]$
```

8. Crear código fuente de prod_cons_posix.c

   $nano prod_cons_posix.c