

OPERATING SYSTEMS & PARALLEL COMPUTING

OEL7 Examples

Examples Thread & Processes with Python

- Test test_thread.py
- Test test_thread2.py
- Test test_process1.py
- Test test_process2.py

- Which conclusions ?

Monitoring Example: cluster_analysis.py

- top to retrieve the PID for python3
- top -H -p 28342
- ls /proc/28342/task

Example: cluster_analysis.py

```
[opc@oraclelinux76 ~]$ top -H -p 28342
top - 07:44:06 up 78 days, 3:36, 2 users, load average: 1.95, 0.99, 0.62
Threads: 15 total, 1 running, 14 sleeping, 0 stopped, 0 zombie
%Cpu(s): 14.4 us, 13.6 sy, 0.0 ni, 72.0 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
KiB Mem : 61560280 total, 486488 free, 28592640 used, 32481152 buff/cache
KiB Swap: 8388604 total, 1075336 free, 7313268 used. 31731760 avail Mem
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
28342	opc	20	0	1814980	651704	55236	R	99.9	1.1	1:57.80	python3
28368	opc	20	0	1814980	651704	55236	S	17.0	1.1	0:21.80	python3
28370	opc	20	0	1814980	651704	55236	S	17.0	1.1	0:22.19	python3
28372	opc	20	0	1814980	651704	55236	S	17.0	1.1	0:20.95	python3
28374	opc	20	0	1814980	651704	55236	S	17.0	1.1	0:21.09	python3
28369	opc	20	0	1814980	651704	55236	S	16.7	1.1	0:21.78	python3
28371	opc	20	0	1814980	651704	55236	S	16.7	1.1	0:21.44	python3
28373	opc	20	0	1814980	651704	55236	S	16.3	1.1	0:21.33	python3
28352	opc	20	0	1814980	651704	55236	S	0.0	1.1	0:00.13	python3
28353	opc	20	0	1814980	651704	55236	S	0.0	1.1	0:00.13	python3
28354	opc	20	0	1814980	651704	55236	S	0.0	1.1	0:00.11	python3
28355	opc	20	0	1814980	651704	55236	S	0.0	1.1	0:00.11	python3
28356	opc	20	0	1814980	651704	55236	S	0.0	1.1	0:00.11	python3
28357	opc	20	0	1814980	651704	55236	S	0.0	1.1	0:00.12	python3
28358	opc	20	0	1814980	651704	55236	S	0.0	1.1	0:00.12	python3

```
[opc@oraclelinux76 ~]$ ls /proc/28342/task
28342 28352 28353 28354 28355 28356 28357 28358 28368 28369 28370 28371 28372 28373 28374
```

Execution in OEL7

- `time python3 ./cluster_analysis.py`
- `(500000, 33)`
- Execution Time: 0 hour:2 min:59 sec

- real 3m8.175s
- user 3m53.725s
- sys 2m38.097s

