Processes Concept Multithreaded & Multiprocessing Programming

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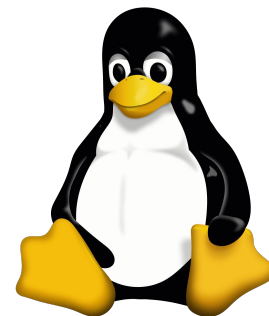
MSKU - CENG 2034 - 2020

Getting Started

https://github.com/caesarsalad/ceng2034_os_labs
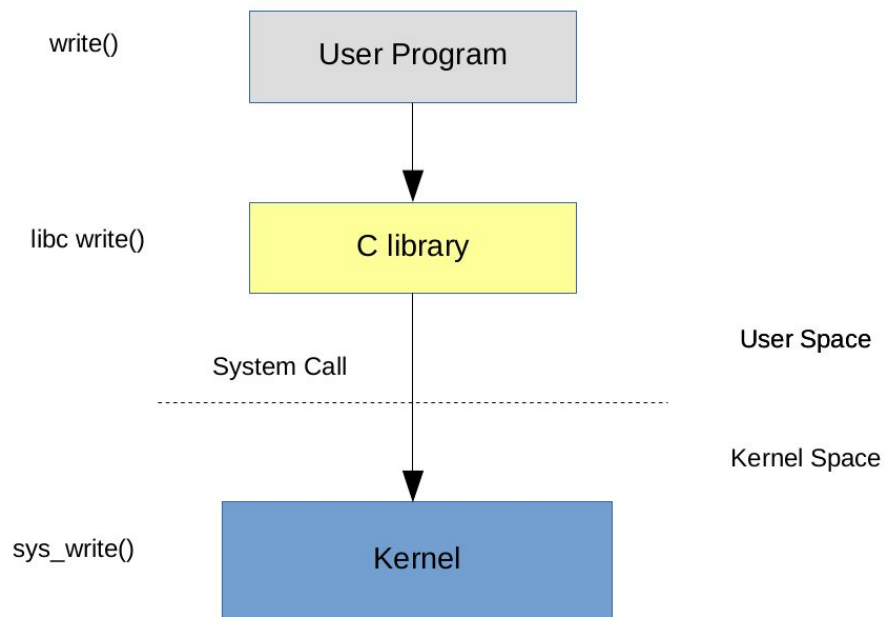
OS for DevOps or Backend Developers

- Linux (Ubuntu 18.04)
- Python3
- Git
- Github Account

Linux Processes

- Everything is a file. (/proc)

- Syscalls

- Python os library

write()

| User Program |

libc write()

| C library |

User Space

System Call

- -

Kernel Space

sys_write()

| Kernel |

Multithreading with Python

- Good for I/O or Network bound jobs.
- Shared memory.
- !GIL (global interpreter lock)

Multiprocessing with Python

- Takes advantage of multiple CPUs & cores.
- Good for CPU bound jobs.
- Avoids GIL limitations for cPython.
- Separate memory space.

Further Reading

- Rob Pike - 'Concurrency Is Not Parallelism'

https://www.youtube.com/watch?v=cN_DpYBzKso

- https://wiki.python.org/moin/GlobalInterpreterLock
- https://rosettacode.org/wiki/Parallel_calculations#Python