Operating System

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**OS process definition and management**

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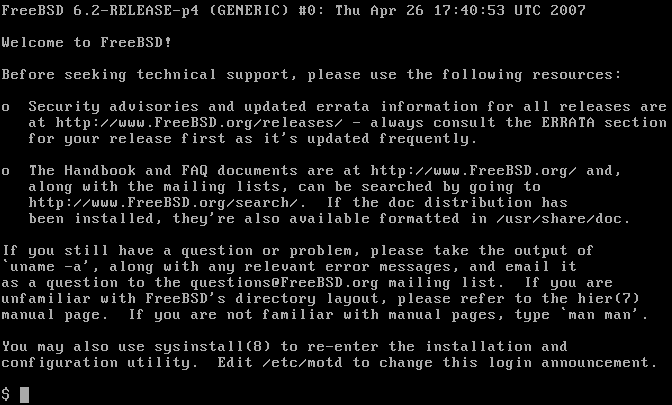
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References



Process? Processor? What are those things?

Let’s make it easy, can a human do any action without his brain being awake to send any action to his body Or even sense? That’s our CPU Processor work, The CPU works here as if it’s the brain of the PC to know each Action when happens and what to do.

So, you can say a program does nothing unless its instructions are executed by a CPU.

1

What are the needs of a simple process?

**A process needs certain resources:**

* **CPU Time: for conducting which one should be first**
* **Memory: you know, the place where we can store this process in her queue.**
* **Files**
* **I/O Devices**

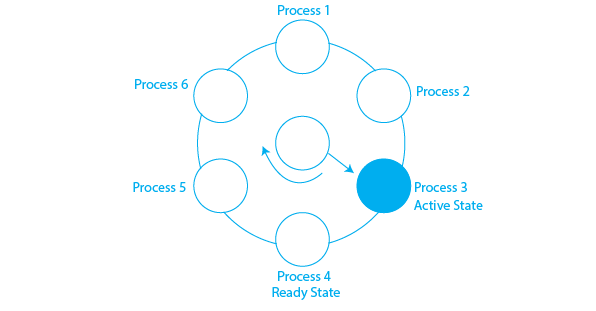
**And all those for completing the needed task.**

Does that mean only 1 process only for 1 task?

**Look, the advantage of using “multiprocessing” as we talked about is performing a lot of tasks at the same time without the need to wait for something till the first one is done. how was something like that performed?**

**How time-sharing works?**

**sharing of a computing resource among many tasks or users. It enables multi-tasking by a single user or enables multiple user sessions.**



Is there a simple example about it?

The user may have started a video editing program and instructed it to convert a one-hour video to a certain format (something that can take hours) and then gone off to surf the Web. Meanwhile, a background process that wakes up periodically to check for incoming emails may have started running. Thus, we have (at least) three active processes: the video editor, the Web browser, and the email receiver. Periodically, the operating system decides to stop running one process and start running another, perhaps because the first one has used up more than its share of CPU time in the past second or two

After getting suspended temporarily, it must later be restarted in exactly the same state it had when it was stopped. This means that all information about the process must be explicitly saved somewhere during the suspension

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