APPS@UCU

Linux course

Provesses

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Contents

Processes. Introduction

Processes

- In our case - process - an instance of a running program with it's resources
- But what is the difference between the program and the process?
- Program - a file, containing some information that describes how to construct a process in a runtime
- It includes:
- Binary format identification - some metainformation about the format of executable file. Nowedays UNIX executable files called Executable and Linking format (ELF)
- Machine-language instructions - main algorithm of the program
- Program entry-point address
- Data
- Symbol and relocation tables
- Some other information, more about that on the Operating systems course
- But what is the process? Long story, let's begin

Process. PID

- The very first thing, that is assosiated with any process, it's PID - process id
- It's a positive integer, and system works with processes by their PID's - names (commands) are for humans
- There are no fixed ID's for any process, with exception of init (more about that in the next topic). PID for init equals 1
- Maximum PID number for your OS can be found using the following command:

```
username $ cat /proc/sys/kernel/pid_max
```

- Also one more important PID for all processes - parrent PID or PPID
- If parrent of any process "died" - the child become "adopted" by the init process
- Parent of any process can be found like:

```
username $ cat /proc/PID/status | grep PPid
```

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Sources

Sources

- Linux processes
- "Linux programming interfaces", M. Kerrisk