
Exercise: Difference in Linux between processes and threads (ca. 1-2h)

1. Introduction

In the lecture we have talked about the differences between processes and threads. Now a good question is: *How does an operating system implement processes and threads?*

2. Understand how Linux implements processes and threads

Search for sources that explain how processes and threads differ in Linux. Then answer the following questions:

- (i) What is the Linux OS function to create a new process?
- (ii) What is the Linux OS function to create a new thread?

3. Write example code

For the following coding tasks use a Linux installation. If you do not have Linux installed, you can use, e.g., the free version of VMware Workstation Player

https://my.vmware.com/de/web/vmware/free#desktop_end_user_computing/vmware_workstation_player/12_0

and create a *virtual machine* with an Ubuntu installation:

<https://www.ubuntu.com/download/desktop>

Now write a small program `f.cpp` and call the corresponding Linux OS function from your code to create a new process. Print some information from the parent and the child process.

Then write a small program `c.cpp` and call the corresponding Linux OS function from your code to create a new thread. Print some information from the process and the thread.