Mawlana Bhashani Science And Technology University

Lab-Report

Lab Report No: 03

Lab Report Name: Threads on operating system
Course code: ICT-3110
Course title: Operating System Lab

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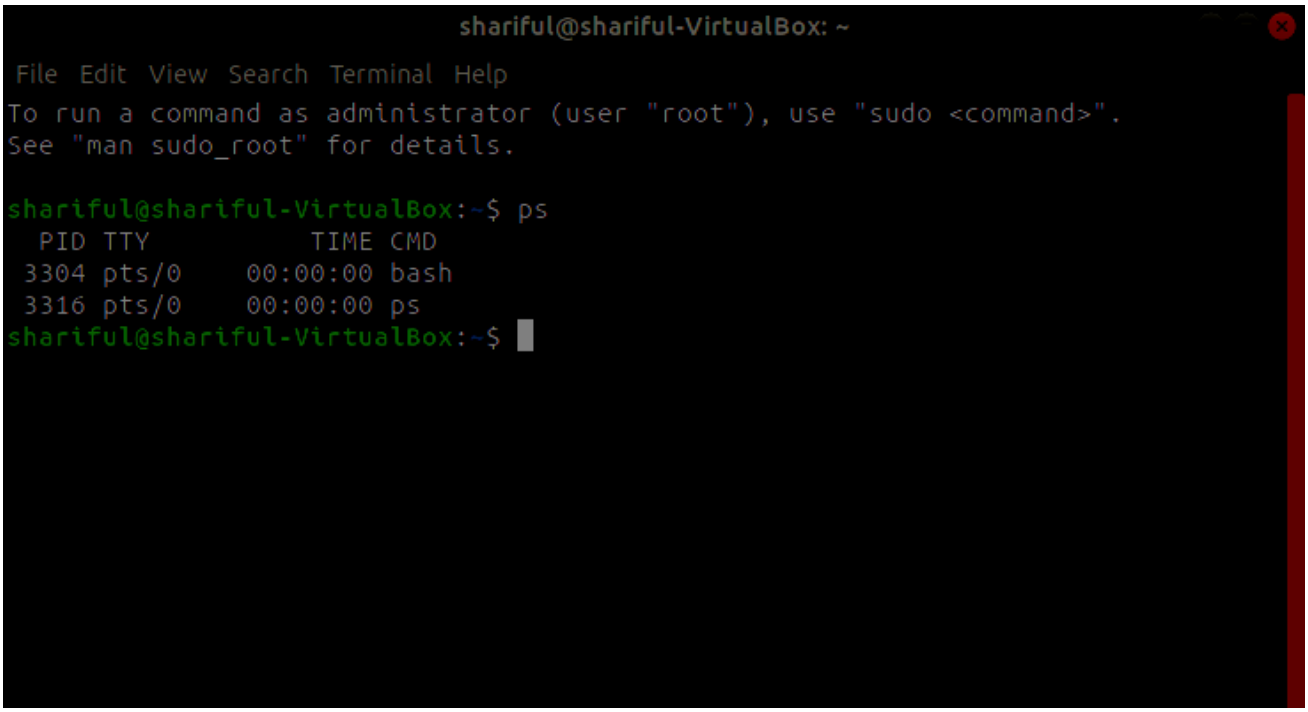
Objectives:

i. What is Thread.
ii. Types of Thread
iii. Implementation of Thread

Theory: ***A thread is a flow of execution through the process code, with its own program***
counter that keeps track of which instruction to execute next, system registers which hold
its current working variables, and a stack which contains the execution history

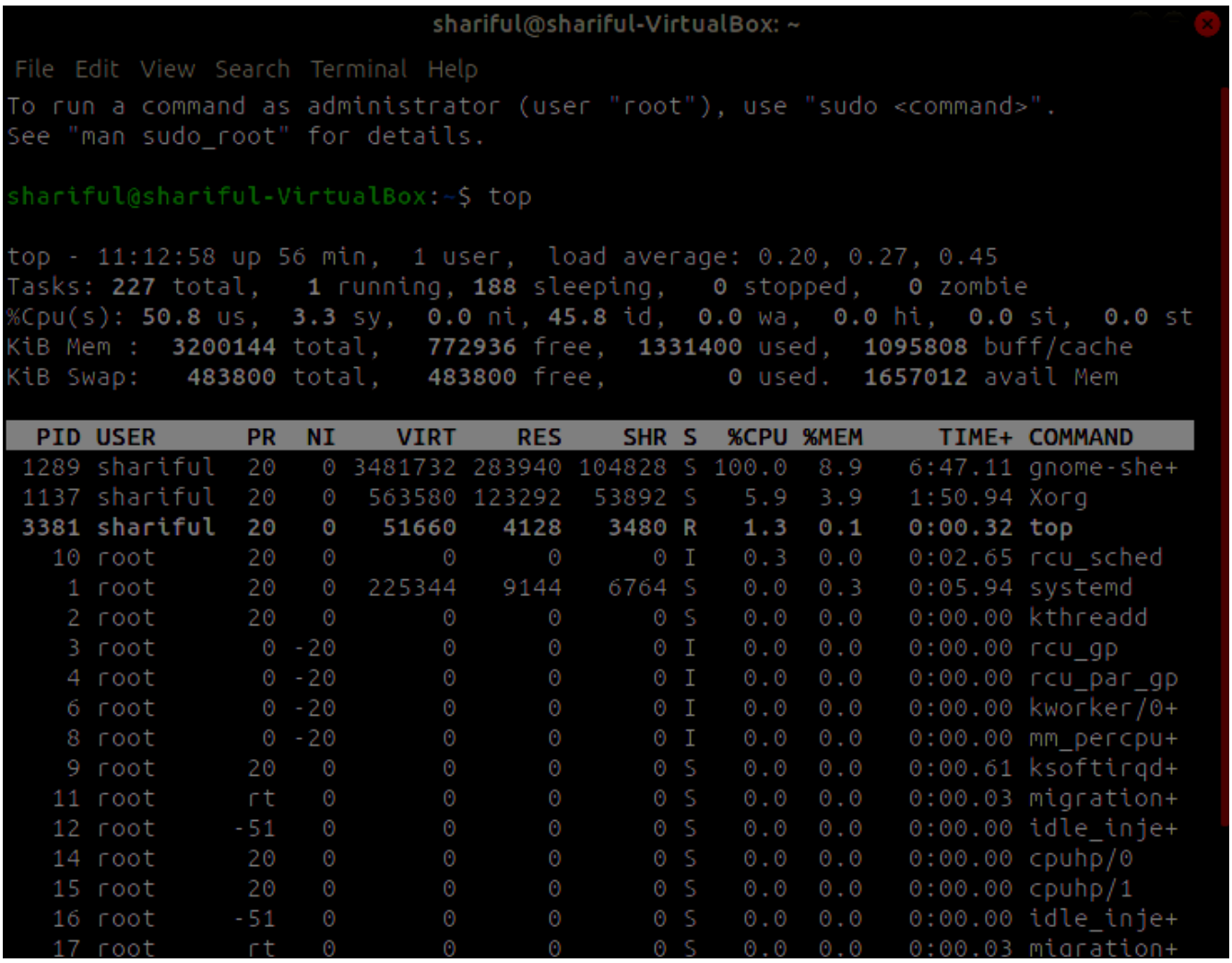
1: PS

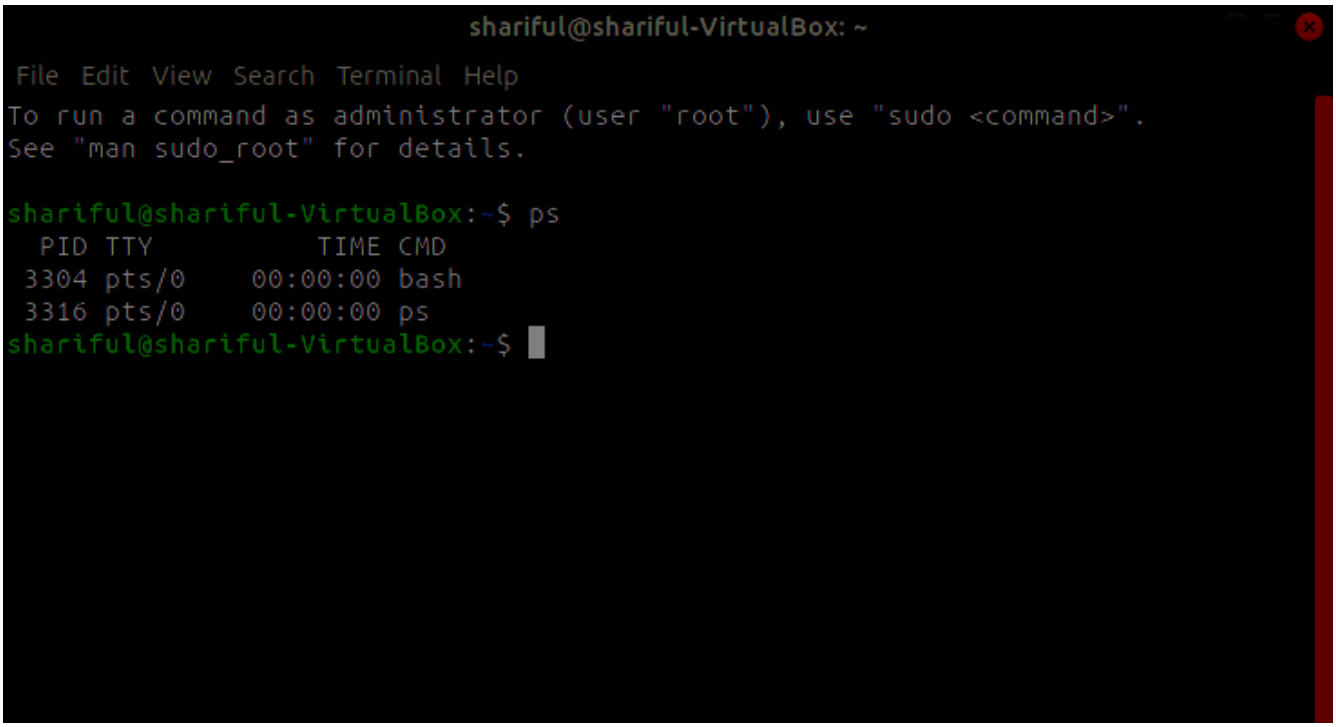
In ps command, "-T" option enables thread views. The following command list all
threads created by a process with <pid>



2: Top:

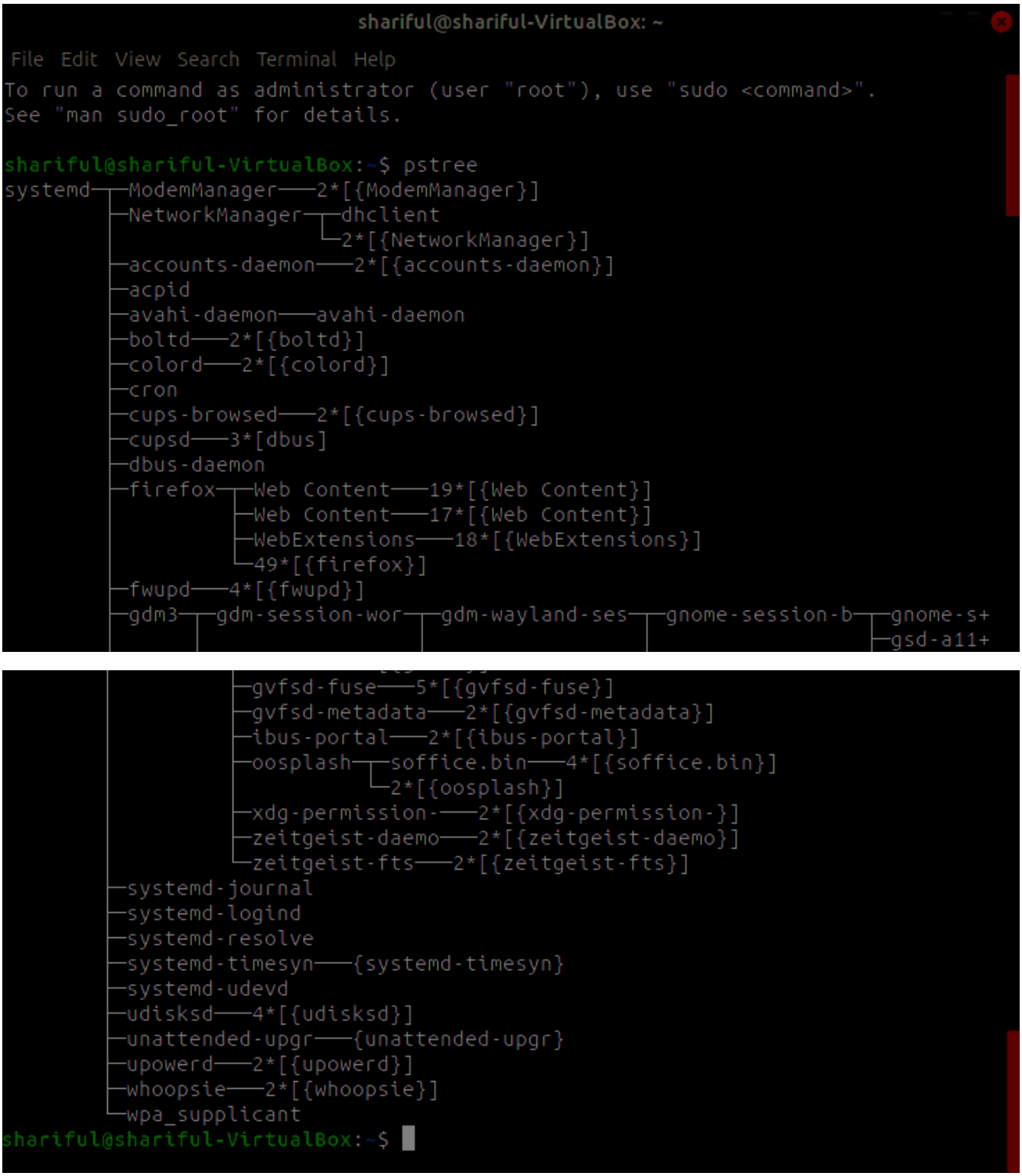
The top command can show a real-time view of individual threads. To enable thread views in the top output, invoke top with "-H" option. This will list all Linux threads.





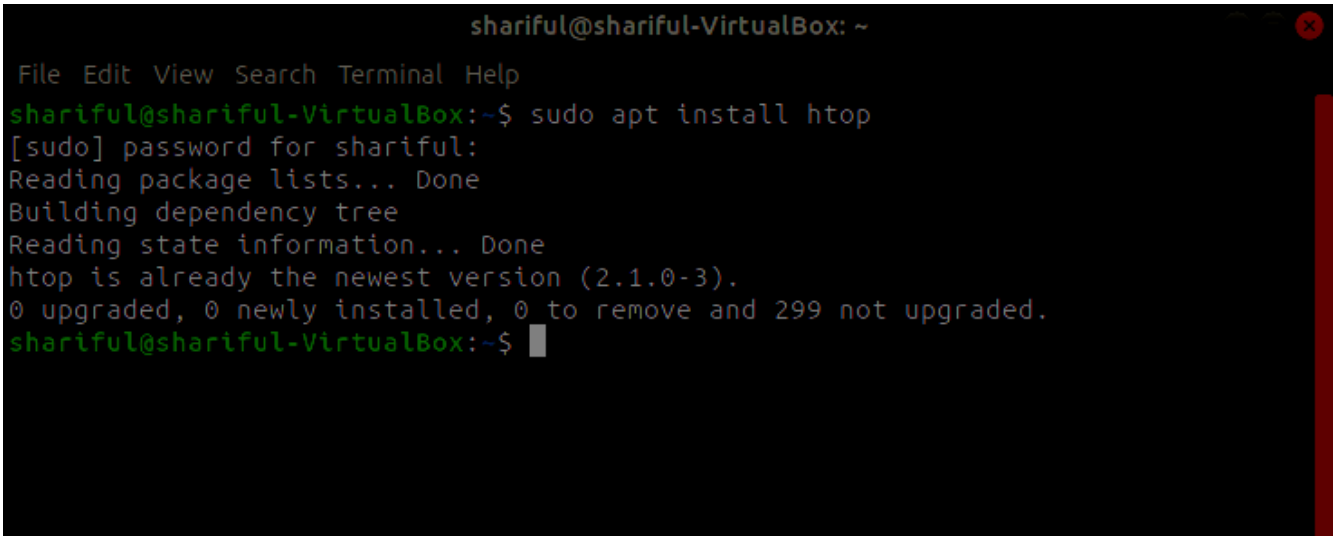
03: pstree

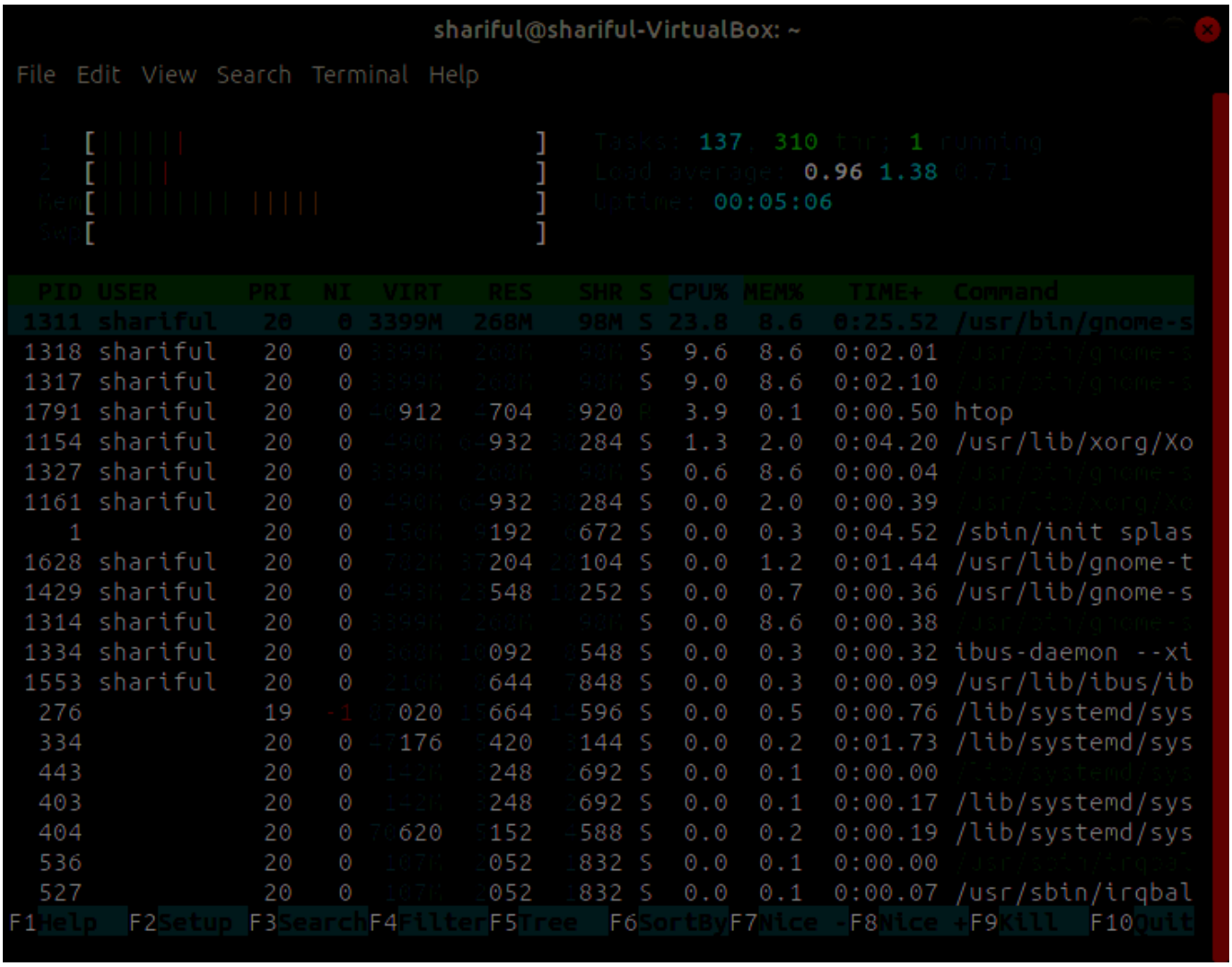
You can also use `pstree` to show threads per process. Here as you see linux thread count and check number of threads linux process


shariful@shariful-VirtualBox: ~
File Edit View Search Terminal Help
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.
shariful@shariful-VirtualBox:~$ pstree
systemd─┬─ModemManager───2*[{ModemManager}]
├─NetworkManager─┬─dhclient
└─2*[{NetworkManager}]
├─accounts-daemon───2*[{accounts-daemon}]
├─acpid
├─avahi-daemon───avahi-daemon
├─boltd───2*[{boltd}]
├─colord───2*[{colord}]
├─cron
├─cups-browsed───2*[{cups-browsed}]
├─cupsd───3*[dbus]
├─dbus-daemon
├─firefox─┬─Web Content───19*[{Web Content}]
├─Web Content───17*[{Web Content}]
├─WebExtensions───18*[{WebExtensions}]
└─49*[{firefox}]
├─fwupd───4*[{fwupd}]
├─gdm3─┬─gdm-session-wor─┬─gdm-wayland-ses─┬─gnome-session-b─┬─gnome-s+
├─gsd-a11+
├─gvfsd-fuse───5*[{gvfsd-fuse}]
├─gvfsd-metadata───2*[{gvfsd-metadata}]
├─ibus-portal───2*[{ibus-portal}]
├─oosplash─┬─soffice.bin───4*[{soffice.bin}]
└─2*[{oosplash}]
├─xdg-permission-───2*[{xdg-permission-}]
├─zeitgeist-daemo───2*[{zeitgeist-daemo}]
└─zeitgeist-fts───2*[{zeitgeist-fts}]
├─systemd-journal
├─systemd-logind
├─systemd-resolve
├─systemd-timesyn───{systemd-timesyn}
├─systemd-udevd
├─udisksd───4*[{udisksd}]
├─unattended-upgr───{unattended-upgr}
├─upowerd───2*[{upowerd}]
├─whoopsie───2*[{whoopsie}]
└─wpa_supplicant
shariful@shariful-VirtualBox:~$

4: Htop:

A more user-friendly way to view threads per process is via `htop`, an `ncurses`-based interactive process viewer. This program allows you to monitor individual threads in tree views.





Conclusion:

In computer science, a thread of execution is the smallest sequence of programmed instructions that **can** be managed independently by a scheduler, which is typically a part of the operating