RedHat Certified System Administrator (RHEL 9)

SUMMARY

Processes

- There are three types of processes:
  - Foreground processes: a running process that is bound to a terminal.
  - Background processes: a running process that is not taking control of the terminal that started it.
  - Daemons: processes that are started by the system and run continuously.
- Run a command as a background process: (add & at the end of the command)

  $ command &
- Change a process from foreground to background:

  $ sleep 100

  CTRL + z # Now that process is paused

  $ bg # Continue the process in the background

  $ fg # To get the process back in the foreground
- To display background processes, use the command "jobs":

  Example:

  $ jobs

  [1]+ Stopped sleep 20

  [2]- Running sleep 20 &
- Send Signals to a process using the "kill" command:
  - kill -l : List all signals with their IDs.
  - kill -s [Signal] [PID]

    [PS: Default signal is 15 (SIGTERM)]
  - killall -s [Signal] [ProcessGroup]

    Example: killall -s 9 top # Kills all currently running top commands.
- When a terminal process is killed while it has background processes **running**, they become daemons: Children Processes of systemd process.
- Display Processes using the "ps" command
- Follow real time the resource usage using the "top" command

Priority and niceness

- Niceness is a value from -20 to 19
- The lower the number, the higher the priority
- The default priority is 0
- The nice command can be used to start a process with a specific priority/niceness

  nice -n [Niceness_Value] [COMMAND]
- The renice command can be used to change the priority of a running process

  renice -n [New_Niceness_Value] [PID]
- Only root can start a command with a negative niceness
- Only root can increase the priority of a process (decrease the niceness)

Tuned

- Tuned is a daemon that monitors system activity and automatically tunes the system for optimal performance based on the current workload.
- Tuned can be used to configure the system for different workloads, power consumption profiles, virtualization profiles, ...
- List the available profiles:

  tuned-adm list
- Display the active profile

  tuned-adm active
- Activate a profile

  sudo tuned-adm profile [PROFILE]