Windows Task Manager:

how it can be useful for troubleshooting performance issues:

- Windows Task Manager is a crucial tool for diagnosing and troubleshooting performance issues on a system. Here's a breakdown of its features and how each can be used for troubleshooting:

- Processes Tab: Displays active applications and background processes. This helps identify processes consuming high CPU, memory, or disk resources. If certain processes consistently use high resources, they might be causing slow performance.

- Performance Tab: Provides a graphical overview of CPU, memory, disk, and network usage in real-time. This tab allows users to pinpoint if a specific resource is under strain.

- App History Tab: Tracks resource usage over time, which is useful for identifying apps with recurring high usage. This can reveal apps that slow down the system when left open for extended periods.

- Startup Tab: Lists programs that automatically run on startup. Disabling non-essential programs can improve boot times and overall performance.

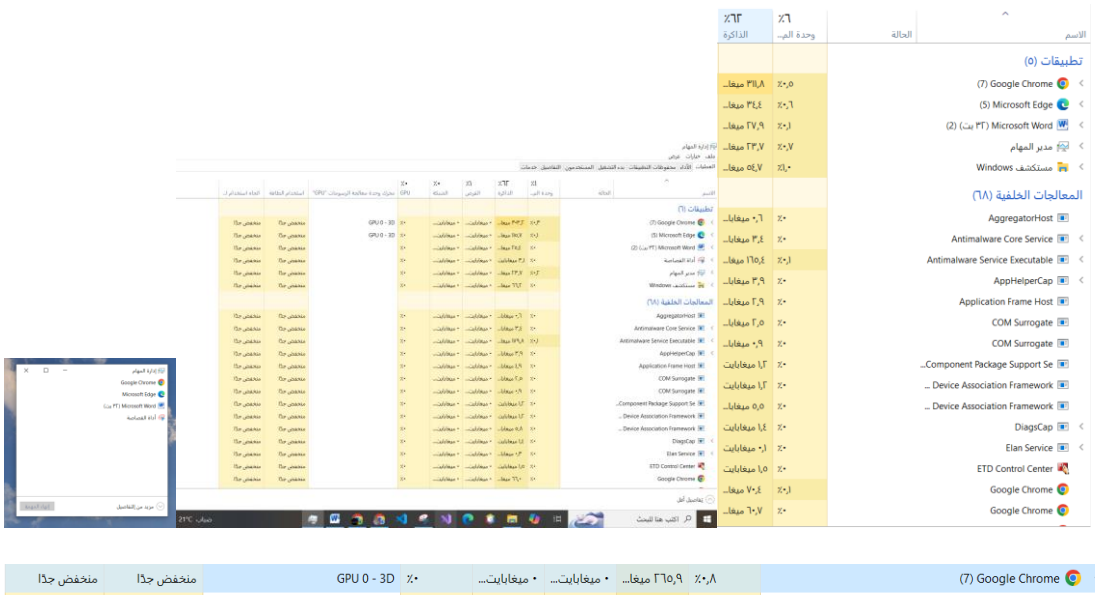
- Users Tab: Displays resource usage by each logged-in user, which is helpful in multi-user environments to see if a specific user session is straining the system.

- Details Tab: Offers advanced information about running processes, including Process ID (PID), which is useful for advanced troubleshooting and resource management.

- Services Tab: Shows system services and their status (running or stopped), useful for checking if essential services are operational

How to document the processes running, the CPU and memory usage, any non-responsive processes:

- Press Ctrl + Shift + Esc on your keyboard to open Task Manager directly.
- Go to the Processes tab within Task Manager.
- Identify processes with high resource usage, such as those consuming more than 10-20% of the CPU or using a large amount of memory (RAM).
- Check the Status column in the Processes tab. Any process marked as "Not Responding" is not responding properly to system commands.



Linux Top Command:

how “top” can help in monitoring and debugging on Linux:

The top command in Linux is an efficient tool for performance monitoring and troubleshooting, providing real-time insights into system processes and resource usage. By displaying updated information at regular intervals (typically every few seconds), it allows users to track the current system status and make rapid decisions to address any potential issues. top is highly interactive, enabling users to sort and manipulate the display to focus on specific performance metrics, such as CPU or memory consumption.

Explain the information provided by “top” on your system:

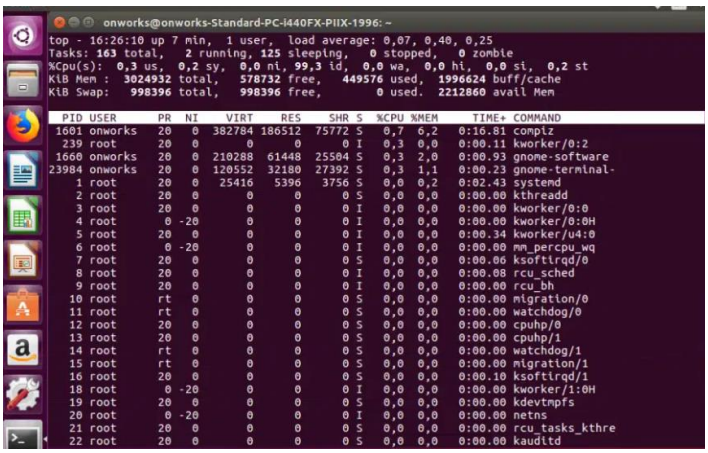
How to Access Information Provided by the top Command in Linux?

1. **Open the Terminal:**

   In Linux, you can open the terminal from the applications menu or by using a keyboard shortcut (such as Ctrl + Alt + T).

2. **Run the top Command:**

   Type top in the terminal and press Enter. This will display the top user interface, showing real-time system information.



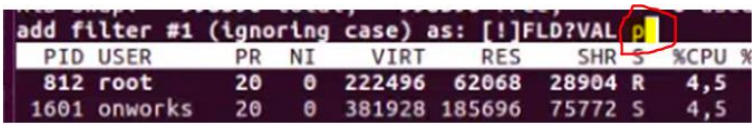
3. **Understand the Displayed Data:**

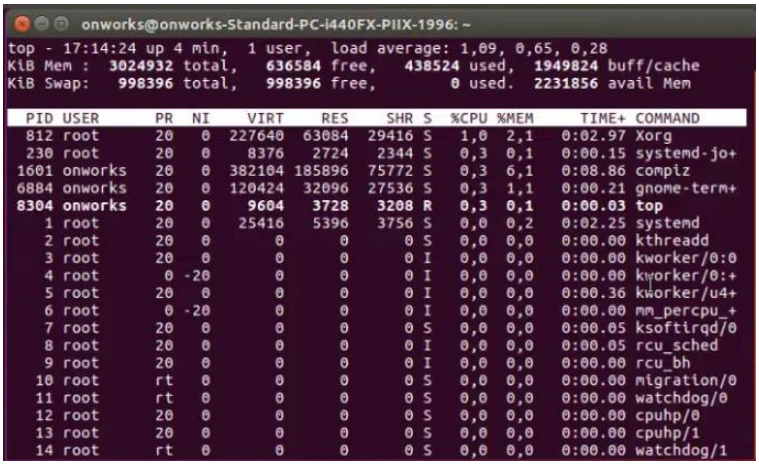
   After running top, several key pieces of information will appear at the top, including:

   - System Statistics: Uptime, number of users, and average CPU load.
   - CPU and Memory Usage: Indicates CPU and memory consumption.
   - Process List: Displays active processes along with their details like PID, user, resource usage percentages, and commands being executed.

4. **Use Sorting Options:**

   You can press M to sort processes by memory usage or P to sort by CPU usage. These functions help quickly identify the most resource-intensive processes.





5. **Exit the Command:**

   Press q to exit the top interface when you finish monitoring.

Compare Task Manager and Top (functionality & usage):

The top command in Linux can be likened to Windows Task Manager, as both provide access to essential resource data and control over processes, including the ability to end unresponsive tasks. However, top operates through a command-line interface, appealing to advanced users, while Windows Task Manager provides a **graphical** interface suitable for general users.

Additionally, top offers **dynamic and interactive** data sorting, allowing users to adjust criteria, such as by CPU or memory usage. Conversely, Windows Task Manager has visual aids like resource graphs, making it easier to track resource usage over time in a more user-friendly way.

References

For Windows Task Manager: Microsoft learn - task manager

https://learn.microsoft.com/en-us/shows/inside/task-manager

Linux Top Command: phoenixnap
https://phoenixnap.com/kb/top-command-in-linux

i used ChatGPT to rephrase sentences in an organized manner and to translate sentences i finds challenging to write in proficient English.

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