Linux Project On

" System Monitoring Tool"

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Project: System Monitoring Too

1. Introduction

For a Linux system to remain stable and maximize resource use, performance and health monitoring are crucial. Linux offers a range of commands and tools to make system monitoring easier. This allows administrators to keep an eye on important data, spot possible problems, and guarantee smooth operation. Linux provides a comprehensive suite of tools that enable system administrators to efficiently evaluate and control system performance. Understanding and applying these monitoring commands and tools is essential for proactive system management and troubleshooting in this dynamic environment.

1. **Top Description**: A dynamic, real-time picture of system operations is offered by the top command. It shows how much memory, CPU, and each process are using resources.
   Use Case: Ideal for rapidly locating processes that use a lot of resources and assessing the overall health of the system.
   Key Command: Open the terminal and type top.
2. **Htop Description**: Htop is a more aesthetically pleasing and user-friendly variant of top. It provides easier navigation, a better user interface, and color labeling.
   Use Case: Perfect for consumers seeking a top substitute with enhanced interactivity and interface.
   Installation: To install it on most distributions, type sudo apt install htop.
   The key command is htop.
3. **Vmstat Overview**: Virtual Memory Statistics, or vmstat, provides an overview of CPU, memory, processes, interrupts, and I/O system utilization.

   Use Case: Helpful in diagnosing I/O and memory bottlenecks.
   The key command is vmstat 2, which outputs data every two seconds.
4. **Iotop Description**: Iotop lets users see which processes are using the most disk space by displaying the disk I/O consumption by processes in real time.
   Use Case: Excellent for identifying high I/O users and finding disk I/O bottlenecks.
   Use sudo apt install iotop to install it.
   Iotop is the key command.
5. **Netstat/SS Overview**: Netstat and SS are networking tools that provide routing tables, interface statistics, and comprehensive network relationships.
   Use Case: Crucial for tracking network activity and identifying problems with the

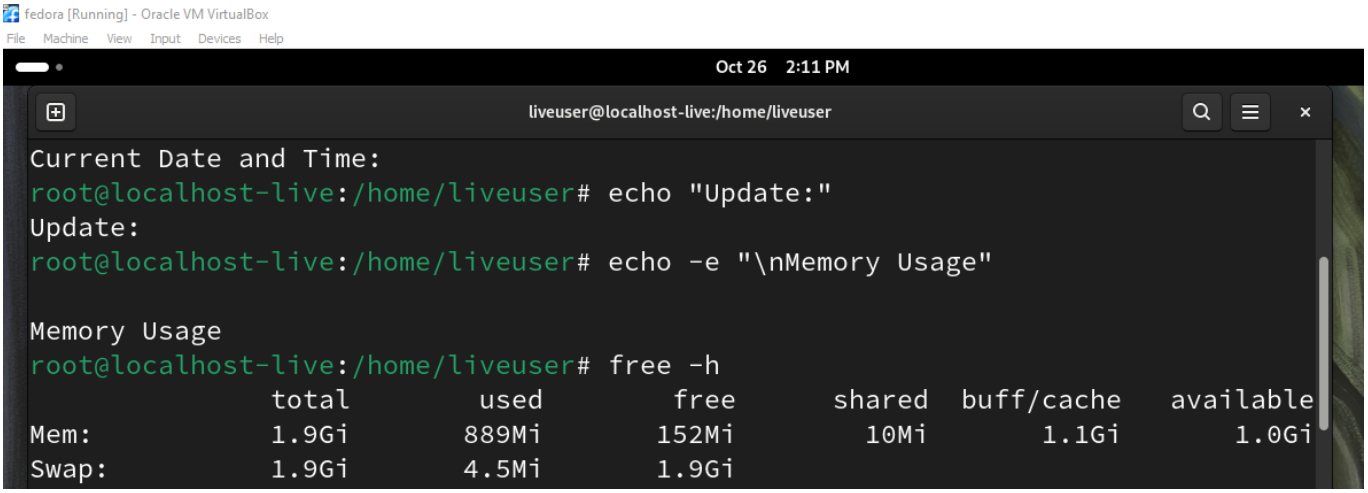
network.
The key command is either ss -tunlp or netstat -tunlp, which both give details about network connections.

Code:-

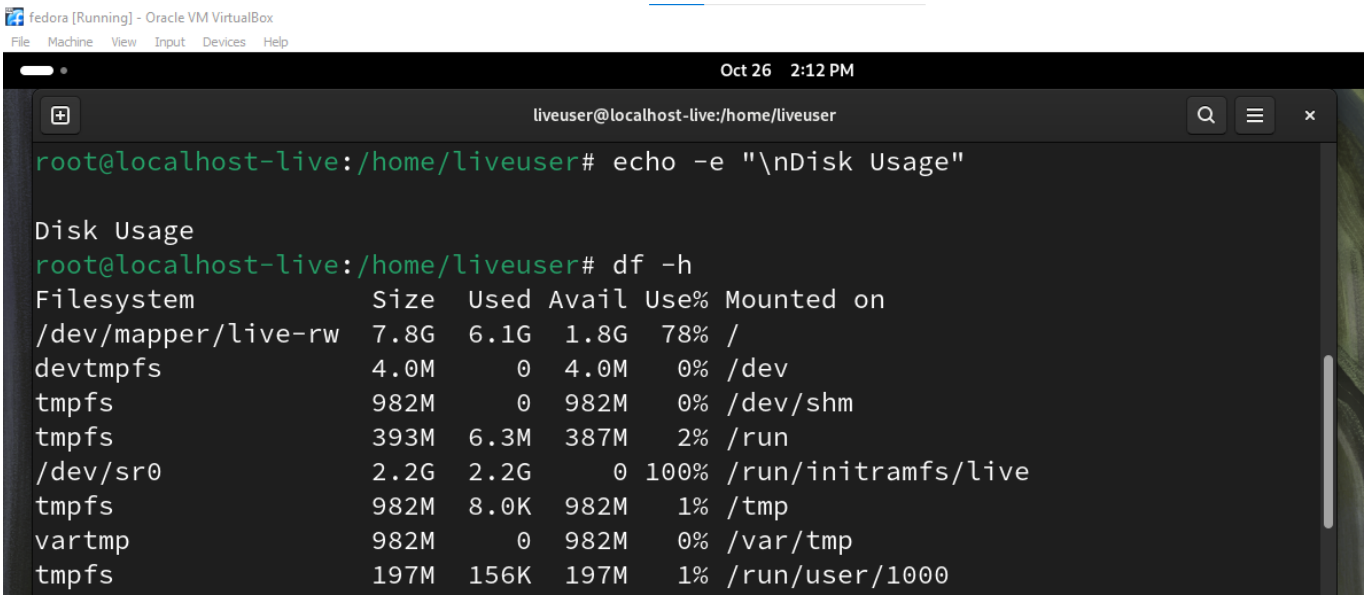
- echo “System Monitoring Tool” :- Headline in My Linux terminal

```
root@localhost-live:/home/liveuser# echo "System Monitoring Tool"
System Monitoring Tool
root@localhost-live:/home/liveuser# echo "======================"
======================
```

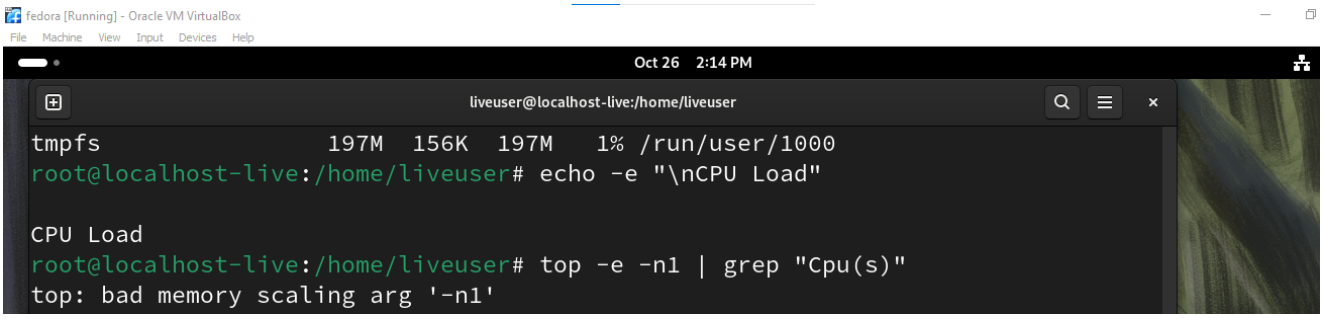
- **echo “Update:”**
- **echo -e “\nMemory Usage”**
- **free -h (For Memory check inside My Linux)**



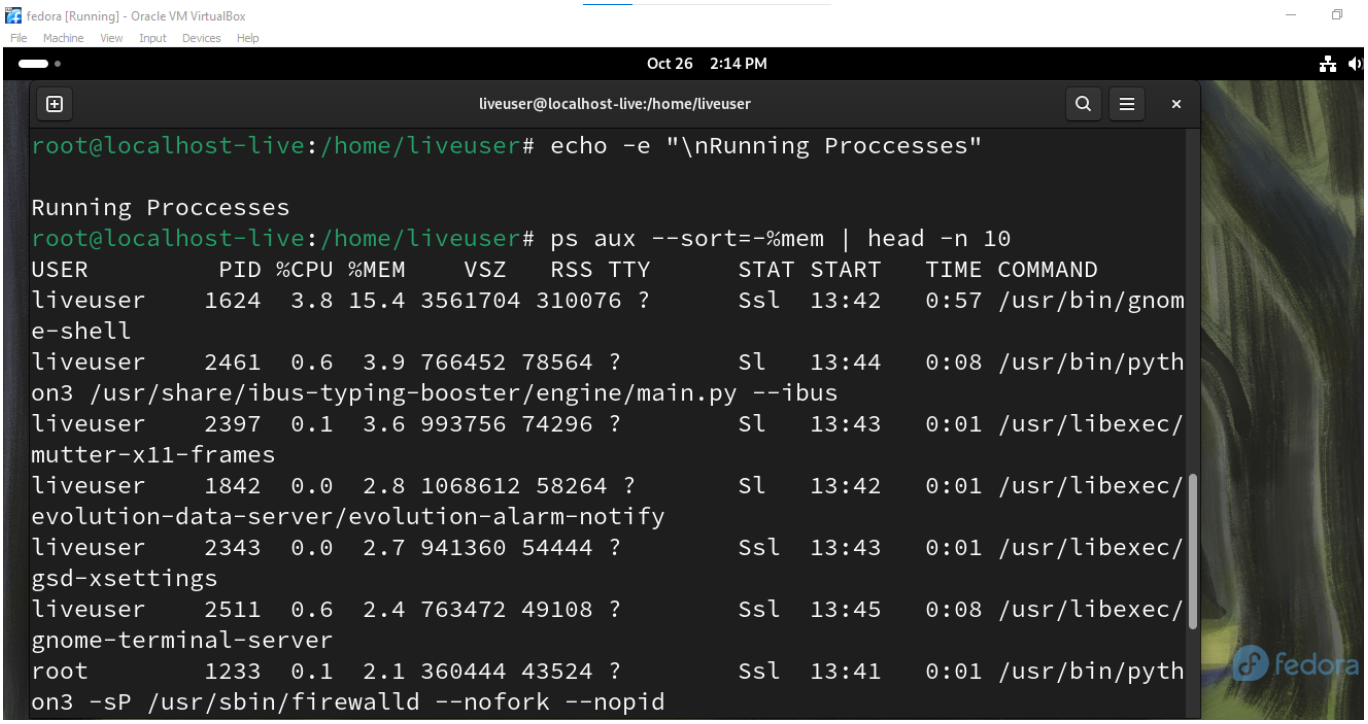
- **echo -e “\nDisk Usage”**
- **df -h (for check disk inside my Linux)**



- echo -e “\nCPU Load”
- top -e -n1 | grep “\nCpu(s)”



- echo -e “\nRunning Proccesses”
- ps aux –sort=-%mem | head -n 10



Conclusion:-

These tools offer a variety of functions, ranging from simple real-time monitoring to more thorough diagnostics. The particular needs and degree of information required to address the system's health and performance determine which tool is best.

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