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STUDENT

INTRODUCTION

In digital age, understanding the configuration, performance and managing information about your device is essential for maintenance and optimization. The info extractor will serve as a handy tool for system administrators, developers, power users to extract, collect, utilize and enhance their research, decision-making, operational processes, and competitive advantage in today's data-rich environment. The purpose creating a script is to provide a user-friendly interface for extracting information from a system, compile detailed reports on system hardware, software, and performance metrics and to facilitate the troubleshooting process by offering comprehensive system insights.

Methodology

Public IP

"Curl" -- command line tool is widely used to interact with web services and API.

'-s' -- The `-s` flag in `curl` stands for "silent mode"

Lan IP & MAC Address

"ifconfig" -- It is used to display information about LAN IP and MAC address.

CPU USAGE

"ps" -- stands for "process status", used to display information about processes running on the system.

'-e' -- used to select all processes in the system.

'o' -- specify the output format.

'comm%cpu'– is a command name to display with %cpu for each process.

‘--sort=-%cpu' -- Sorts the output based on the CPU usage.

Memory Ram

“free” -- display information about the system's memory usage, including both physical RAM and swap space.

‘-h’ -- option is used to display the output in a human-readable format.

Active System Service Status

“systemctl” -- used to manage units of the systemd system and service manager.

‘list-units’: This subcommand is used to list loaded units.

‘--type=service’: This option specifies that only services should be listed.

‘--state=active’: This option filters the output to show only units that are currently active.

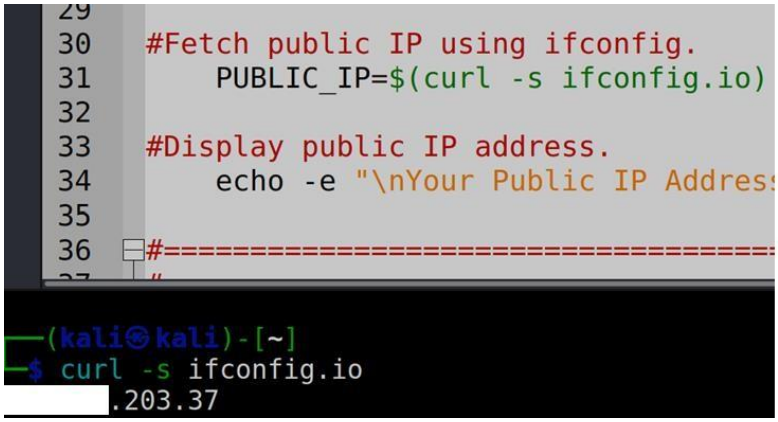
Show DIR files by size

“du” – used to estimate file and directory space usage.

‘-a’ -- Displays disk usage for all files and directories.

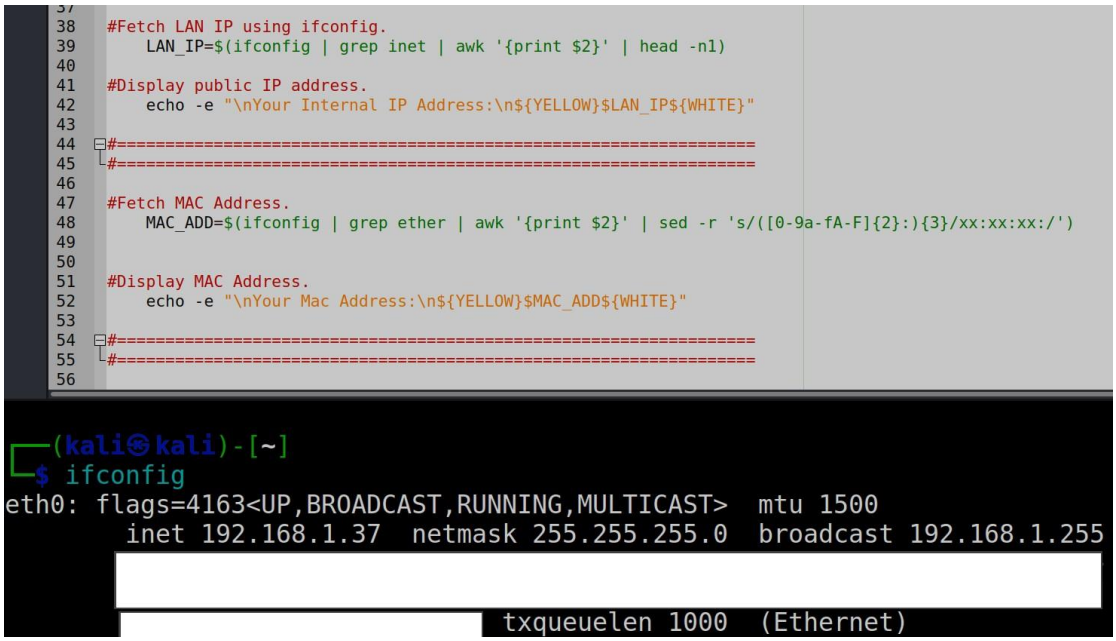
‘-h’ -- Displays disk usage in a human-readable format.

Public IP



"Curl" command line tool is widely used to interact with web services and APIs. Will be using ifconfig.io website to obtain our public IP. We still can obtain from ifconfig.me /ifconfig.co /ip.guide.

Lan IP & MAC Address



By flags such as 'grep inet / grep ether', awk and head to grab just the IP and MAC address output.

CPU USAGE

```
#Fetch Top5 CPU usage in %.
    CPU5=$(ps -eo comm,%cpu --sort=-%cpu | head -n 6 | tail -n +2)

#Display Top5 CPU usage in %.4d res
    echo -e "\nYour Top 5 CPU Usage In Percentage:\n${YELLOW}$CPU5${WHITE}"

#================================================================
#================================================================
```

```
┌──(kali㉿kali)-[~]
└─$ ps -eo comm,%cpu --sort=-%cpu | head -n 6 | tail -n +2
Xorg             0.9
geany            0.3
xfwm4            0.1
qterminal        0.1
panel-15-genmon  0.1
```

By adding additional flags “-eo comm,%cpu –sort-%cpu ” the output will display a list of processes along with their command names and the percentage of CPU usage, sorted in descending order based on CPU usage.

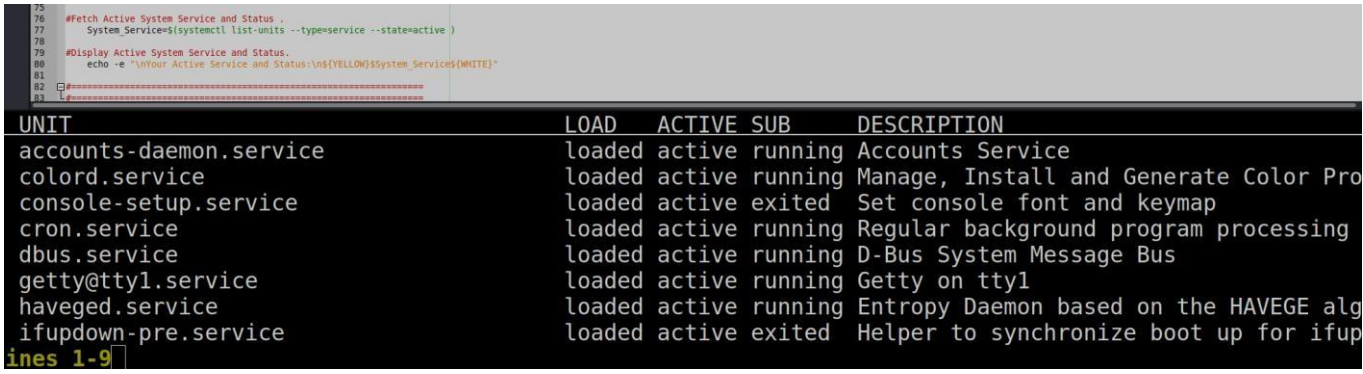
Memory Ram Used & Free

```
#Fetch Top5 Memory usage in %.
    MEM5=$(free -h | awk 'NR==1 {print $1,$2,$3} NR==2 {print $1,$2,$3,$4}')

#Display Top5 Memory usage in %.
    echo -e "\nYour Top 5 Memory Usage In Percentage:\n${YELLOW}$MEM5${WHITE}"

#================================================================
```

```
┌──(kali㉿kali)-[~]
└─$ free -h
               total        used        free      shared  buff/cache   available
Mem:           1.9Gi       853Mi       784Mi       9.1Mi       490Mi       1.1Gi
Swap:          1.0Gi          0B       1.0Gi
```

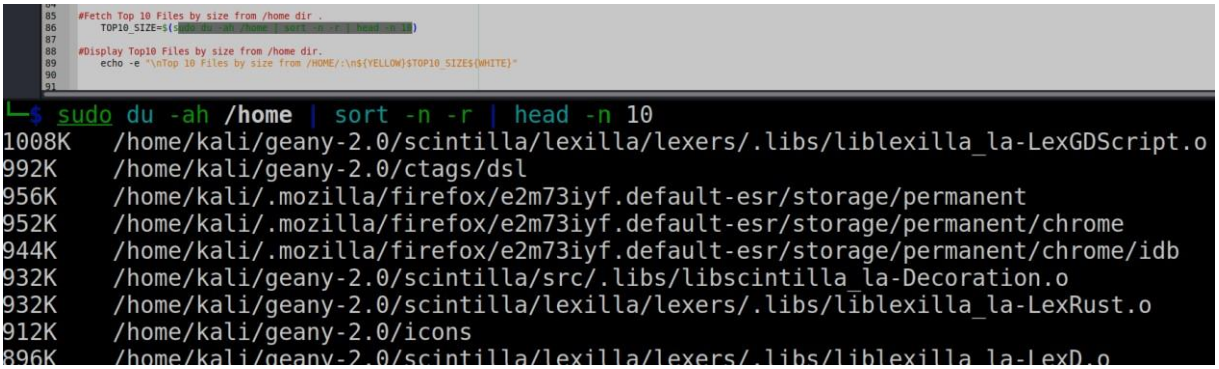
Adding flag ‘-h’ is to display the memory sizes in a human-readable format. Using ‘awk NR==’ I can grab which lines and column to show as output.

Active System Service Status



By adding flags such as “list-units’ used to list unit in the system, “-state=active`: This option filters the list to show only units that are currently in the active state.

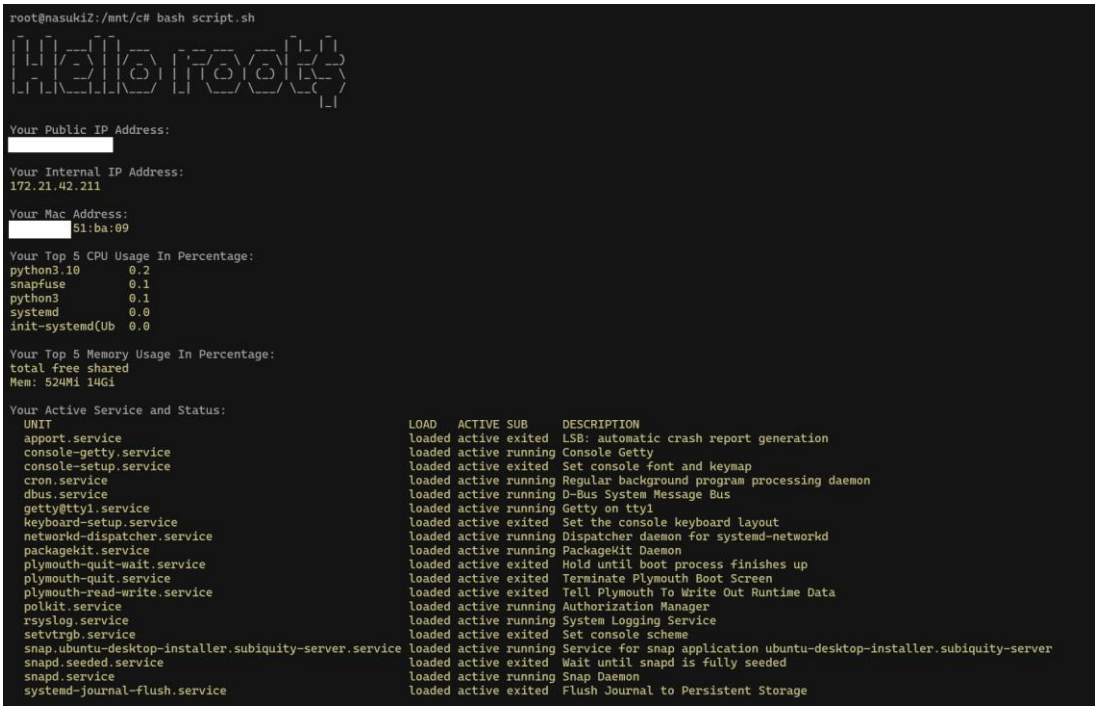
Display /home top 10 files by size.



‘du’ stands for "disk usage". It is used to estimate file space usage. It shows the disk space used by the files and subdirectories in that directory. However, we need ‘sudo’ command to run as it may have restricted permission that prevent regular user from accessing their contents thus allowing it to access all directories and provide a more comprehensive overview of disk usage.

Recommendations

Servers can run on both Linux or Windows operating system thus scripts may have to execute either OS, in order for scripts to able to run on Window OS, we may install ‘Ubuntu’ on Window OS to execute scripts.



Links:

Ubuntu : https://ubuntu.com/