

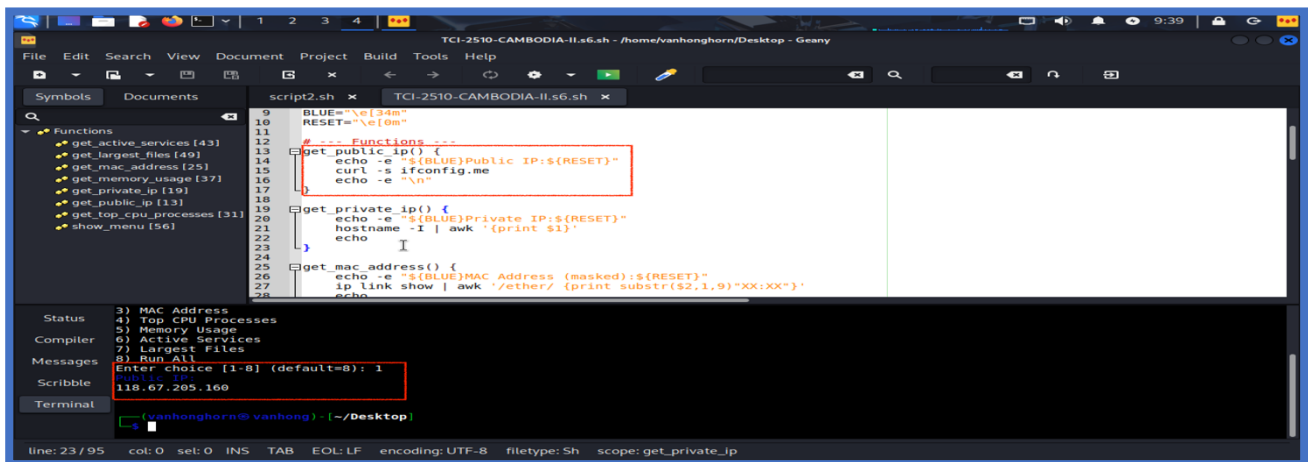


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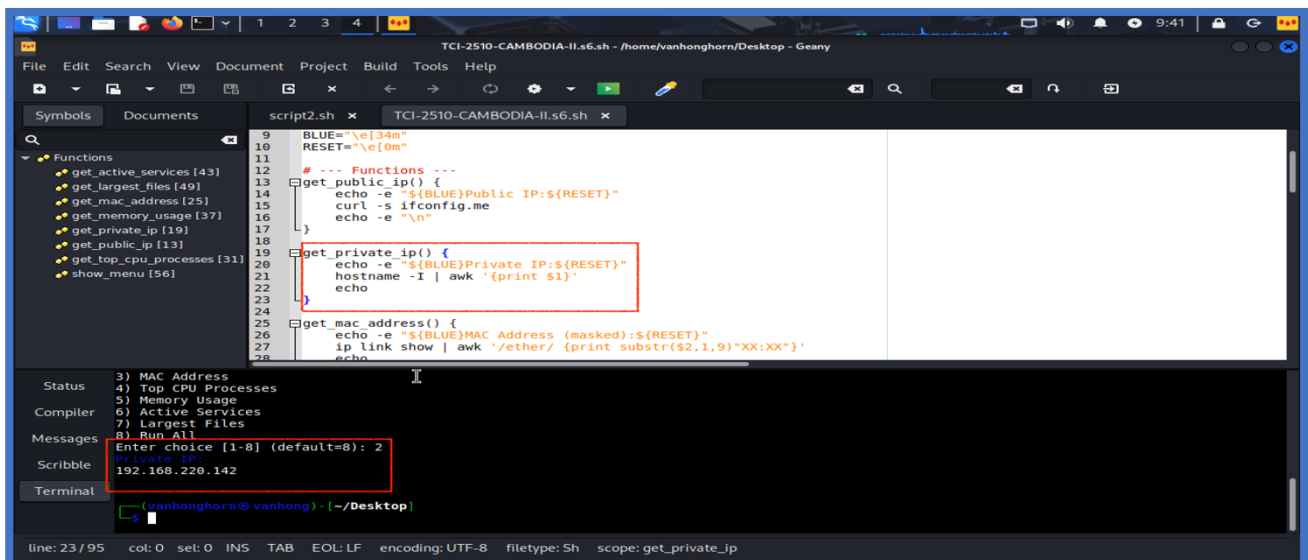
System Diagnostics

1. Identify the system's public IP.



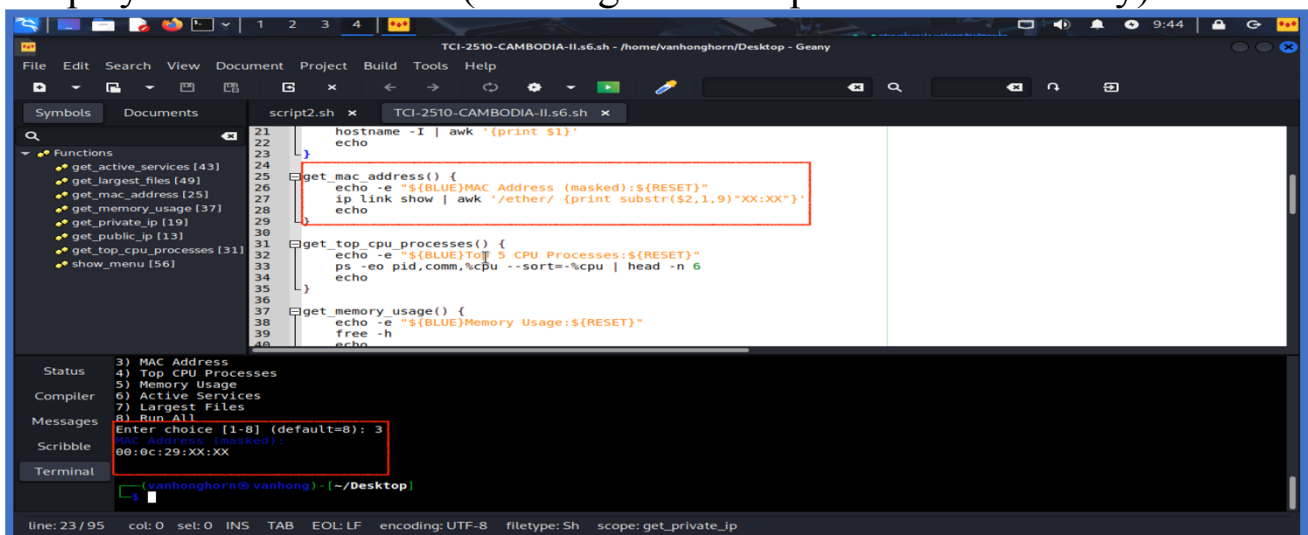
```
TCI-2510-CAMBODIA-II.s6.sh - /home/vanhonghorn/Desktop - Geany
script2.sh x TCI-2510-CAMBODIA-II.s6.sh x
9 BLUE="\e[34m"
10 RESET="\e[0m"
11
12 # --- Functions ---
13 get_public_ip() {
14     echo -e "${BLUE}Public IP:${RESET}"
15     curl -s ifconfig.me
16     echo -e "\n"
17 }
18
19 get_private_ip() {
20     echo -e "${BLUE}Private IP:${RESET}"
21     hostname -I | awk '{print $1}'
22     echo
23 }
24
25 get_mac_address() {
26     echo -e "${BLUE}MAC Address (masked):${RESET}"
27     ip link show | awk '/ether/ {print substr($2,1,9)"XX:XX"}'
28     echo
29 }
30
31 get_top_cpu_processes() {
32     echo -e "${BLUE}Top 5 CPU Processes:${RESET}"
33     ps -eo pid,comm,%cpu --sort=-%cpu | head -n 6
34     echo
35 }
36
37 get_memory_usage() {
38     echo -e "${BLUE}Memory Usage:${RESET}"
39     free -h
40     echo
41 }
42
43 show_menu() {
44     echo
45     echo 1) Run All
46     echo 2) Public IP
47     echo 3) MAC Address
48     echo 4) Top CPU Processes
49     echo 5) Memory Usage
50     echo 6) Active Services
51     echo 7) Largest Files
52 }
53
54 Run All
55 Enter choice [1-8] (default=8): 1
56 Public IP
57 118.67.205.160
58
59 vanhonghorn@vanhong: ~/Desktop
line: 23/95 col: 0 set: 0 INS TAB EOL: LF encoding: UTF-8 filetype: Sh scope: get_private_ip
```

2. Identify the private IP address assigned to the system's network interface.



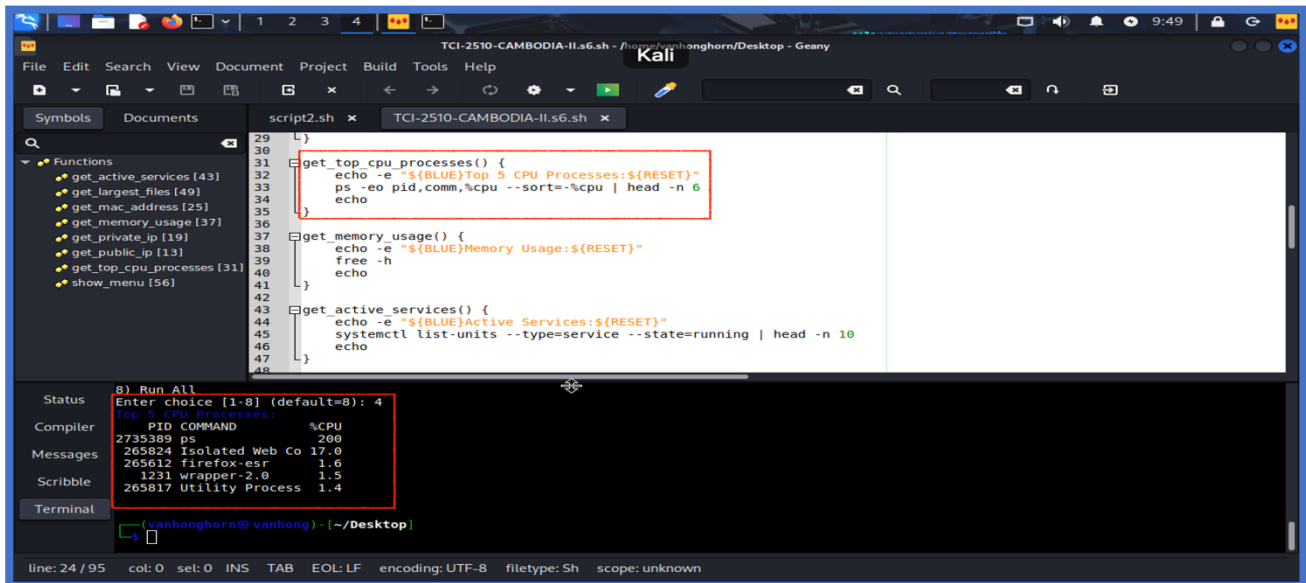
```
TCI-2510-CAMBODIA-II.s6.sh - /home/vanhonghorn/Desktop - Geany
script2.sh x TCI-2510-CAMBODIA-II.s6.sh x
9 BLUE="\e[34m"
10 RESET="\e[0m"
11
12 # --- Functions ---
13 get_public_ip() {
14     echo -e "${BLUE}Public IP:${RESET}"
15     curl -s ifconfig.me
16     echo -e "\n"
17 }
18
19 get_private_ip() {
20     echo -e "${BLUE}Private IP:${RESET}"
21     hostname -I | awk '{print $1}'
22     echo
23 }
24
25 get_mac_address() {
26     echo -e "${BLUE}MAC Address (masked):${RESET}"
27     ip link show | awk '/ether/ {print substr($2,1,9)"XX:XX"}'
28     echo
29 }
30
31 get_top_cpu_processes() {
32     echo -e "${BLUE}Top 5 CPU Processes:${RESET}"
33     ps -eo pid,comm,%cpu --sort=-%cpu | head -n 6
34     echo
35 }
36
37 get_memory_usage() {
38     echo -e "${BLUE}Memory Usage:${RESET}"
39     free -h
40     echo
41 }
42
43 show_menu() {
44     echo
45     echo 1) Run All
46     echo 2) Public IP
47     echo 3) MAC Address
48     echo 4) Top CPU Processes
49     echo 5) Memory Usage
50     echo 6) Active Services
51     echo 7) Largest Files
52 }
53
54 Run All
55 Enter choice [1-8] (default=8): 2
56 Private IP
57 192.168.220.142
58
59 vanhonghorn@vanhong: ~/Desktop
line: 23/95 col: 0 set: 0 INS TAB EOL: LF encoding: UTF-8 filetype: Sh scope: get_private_ip
```

3. Display the MAC address (masking sensitive portions for security).



```
TCI-2510-CAMBODIA-II.s6.sh - /home/vanhonghorn/Desktop - Geany
script2.sh x TCI-2510-CAMBODIA-II.s6.sh x
21 hostname -I | awk '{print $1}'
22 echo
23
24 get_mac_address() {
25     echo -e "${BLUE}MAC Address (masked):${RESET}"
26     ip link show | awk '/ether/ {print substr($2,1,9)"XX:XX"}'
27     echo
28 }
29
30
31 get_top_cpu_processes() {
32     echo -e "${BLUE}Top 5 CPU Processes:${RESET}"
33     ps -eo pid,comm,%cpu --sort=-%cpu | head -n 6
34     echo
35 }
36
37 get_memory_usage() {
38     echo -e "${BLUE}Memory Usage:${RESET}"
39     free -h
40     echo
41 }
42
43 show_menu() {
44     echo
45     echo 1) Run All
46     echo 2) Public IP
47     echo 3) MAC Address
48     echo 4) Top CPU Processes
49     echo 5) Memory Usage
50     echo 6) Active Services
51     echo 7) Largest Files
52 }
53
54 Run All
55 Enter choice [1-8] (default=8): 3
56 MAC Address (masked):
57 00:0c:29:XX:XX
58
59 vanhonghorn@vanhong: ~/Desktop
line: 23/95 col: 0 set: 0 INS TAB EOL: LF encoding: UTF-8 filetype: Sh scope: get_private_ip
```

4. Display the percentage of CPU usage for the top 5 processes.



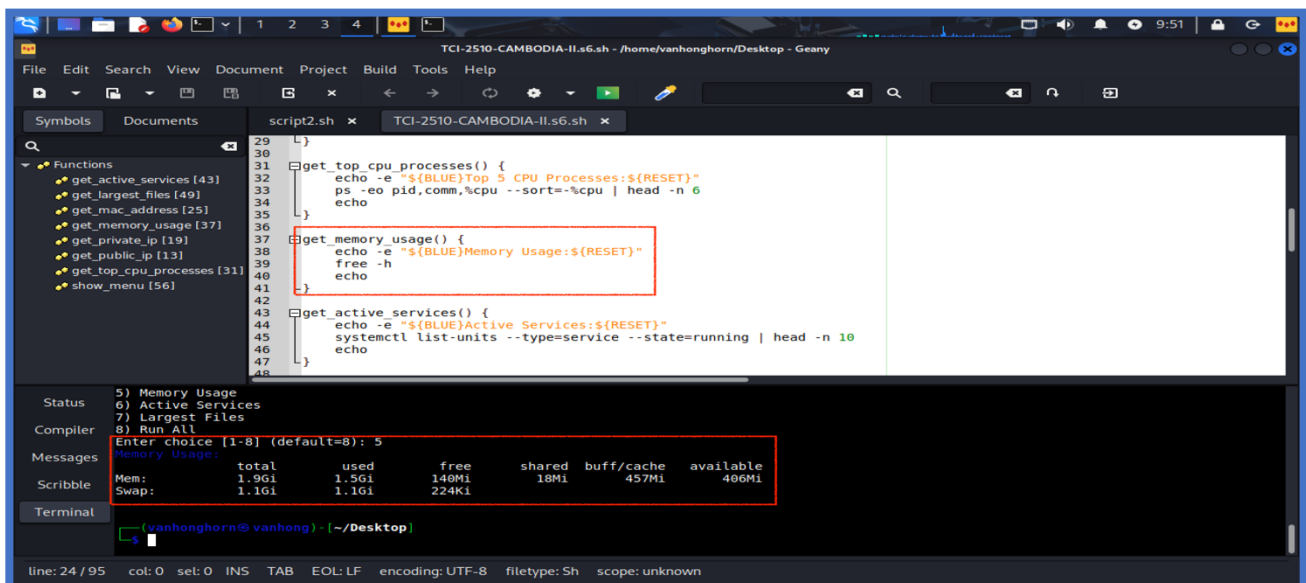
The screenshot shows a Kali Linux terminal window with a script named `script2.sh` being executed. The script contains a function `get_top_cpu_processes()` that uses `ps` to list the top 5 CPU processes. The terminal output shows the results of this function, displaying the PID, COMMAND, and %CPU for the top 5 processes.

```
29 }
30
31 get_top_cpu_processes() {
32     echo -e "${BLUE}Top 5 CPU Processes:${RESET}"
33     ps -eo pid,comm,%cpu --sort=-%cpu | head -n 6
34 }
35
36
37 get_memory_usage() {
38     echo -e "${BLUE}Memory Usage:${RESET}"
39     free -h
40 }
41
42
43 get_active_services() {
44     echo -e "${BLUE}Active Services:${RESET}"
45     systemctl list-units --type=service --state=running | head -n 10
46 }
47
48 }
```

8) Run All
Enter choice [1-8] (default=8): 4
Top 5 CPU Processes:

PID	COMMAND	%CPU
2735389	ps	200
265824	Isolated Web Co	17.0
265612	firefox-esr	1.6
1231	wrapper-2.0	1.5
265817	Utility Process	1.4

5. Display memory usage statistics: total and available memory.



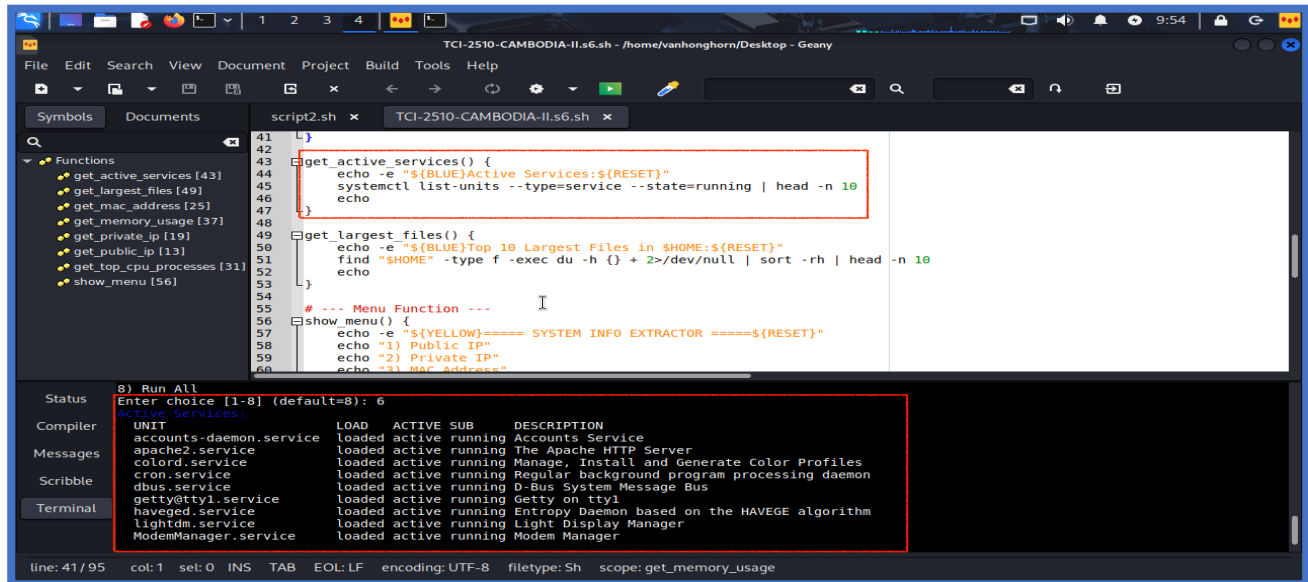
The screenshot shows the same Kali Linux terminal window with the script `script2.sh`. The function `get_memory_usage()` is now being executed, displaying memory usage statistics. The terminal output shows the results of this function, displaying the total, used, free, shared, buff/cache, and available memory.

```
29 }
30
31 get_top_cpu_processes() {
32     echo -e "${BLUE}Top 5 CPU Processes:${RESET}"
33     ps -eo pid,comm,%cpu --sort=-%cpu | head -n 6
34 }
35
36
37 get_memory_usage() {
38     echo -e "${BLUE}Memory Usage:${RESET}"
39     free -h
40 }
41
42
43 get_active_services() {
44     echo -e "${BLUE}Active Services:${RESET}"
45     systemctl list-units --type=service --state=running | head -n 10
46 }
47
48 }
```

5) Memory Usage
6) Active Services
7) Largest Files
8) Run All
Enter choice [1-8] (default=8): 5
Memory Usage:

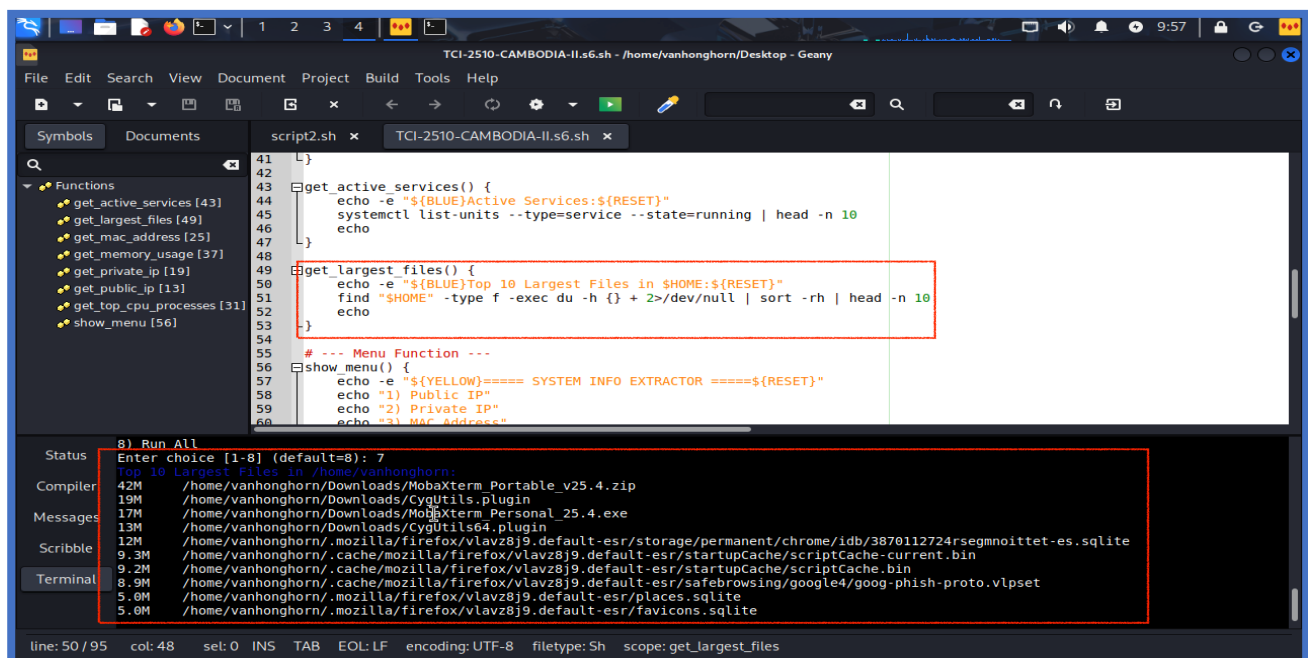
	total	used	free	shared	buff/cache	available
Mem:	1.96G	1.56G	140M	18M	457M	406M
Swap:	1.16G	1.16G	224K			

6. List active system services with their status.



```
TCI-2510-CAMBODIA-11.s6.sh - /home/vanhonghorn/Desktop - Geany
File Edit Search View Document Project Build Tools Help
Symbols Documents script2.sh x TCI-2510-CAMBODIA-11.s6.sh x
41 }
42
43 get_active_services() {
44     echo -e "${BLUE}Active Services:${RESET}"
45     systemctl list-units --type=service --state=running | head -n 10
46     echo
47 }
48
49 get_largest_files() {
50     echo -e "${BLUE}Top 10 Largest Files in $HOME:${RESET}"
51     find "$HOME" -type f -exec du -h {} + 2>/dev/null | sort -rh | head -n 10
52     echo
53 }
54
55 # --- Menu Function ---
56 show_menu() {
57     echo -e "${YELLOW}===== SYSTEM INFO EXTRACTOR =====${RESET}"
58     echo "1) Public IP"
59     echo "2) Private IP"
60     echo "3) MAC Address"
61 }
62
63 8) Run All
Enter choice [1-8] (default=8): 6
Active Services:
UNIT                                LOAD    ACTIVE SUB    DESCRIPTION
accounts-daemon.service            loaded active running Accounts Service
apache2.service                    loaded active running The Apache HTTP Server
colord.service                      loaded active running Manage, Install and Generate Color Profiles
cron.service                       loaded active running Regular background program processing daemon
dbus.service                       loaded active running D-Bus System Message Bus
getty@tty1.service                 loaded active running Getty on tty1
haveged.service                    loaded active running Entropy Daemon based on the HAVEGE algorithm
lightdm.service                    loaded active running Light Display Manager
ModemManager.service               loaded active running Modem Manager
```

7. Locate the Top 10 Largest Files in /home.



```
TCI-2510-CAMBODIA-11.s6.sh - /home/vanhonghorn/Desktop - Geany
File Edit Search View Document Project Build Tools Help
Symbols Documents script2.sh x TCI-2510-CAMBODIA-11.s6.sh x
41 }
42
43 get_active_services() {
44     echo -e "${BLUE}Active Services:${RESET}"
45     systemctl list-units --type=service --state=running | head -n 10
46     echo
47 }
48
49 get_largest_files() {
50     echo -e "${BLUE}Top 10 Largest Files in $HOME:${RESET}"
51     find "$HOME" -type f -exec du -h {} + 2>/dev/null | sort -rh | head -n 10
52     echo
53 }
54
55 # --- Menu Function ---
56 show_menu() {
57     echo -e "${YELLOW}===== SYSTEM INFO EXTRACTOR =====${RESET}"
58     echo "1) Public IP"
59     echo "2) Private IP"
60     echo "3) MAC Address"
61 }
62
63 8) Run All
Enter choice [1-8] (default=8): 7
Top 10 Largest Files in /home/vanhonghorn:
42M /home/vanhonghorn/Downloads/MobaXterm_Portable_v25.4.zip
19M /home/vanhonghorn/Downloads/CygUtils.plugin
17M /home/vanhonghorn/Downloads/MobaXterm_Personal_25.4.exe
13M /home/vanhonghorn/Downloads/CygUtils64.plugin
12M /home/vanhonghorn/.mozilla/firefox/vlavz8j9.default-esr/storage/permanent/chrome/idb/3870112724rsegmnoittet-es.sqlite
9.3M /home/vanhonghorn/.cache/mozilla/firefox/vlavz8j9.default-esr/startupCache/scriptCache-current.bin
9.2M /home/vanhonghorn/.cache/mozilla/firefox/vlavz8j9.default-esr/startupCache/scriptCache-bin
8.9M /home/vanhonghorn/.cache/mozilla/firefox/vlavz8j9.default-esr/safebrowsing/google4/goog-phish-proto.vlpset
5.0M /home/vanhonghorn/.mozilla/firefox/vlavz8j9.default-esr/places.sqlite
5.0M /home/vanhonghorn/.mozilla/firefox/vlavz8j9.default-esr/favicons.sqlite
```