

Bhuvana Kanakam

SE21UCSE035

COMPUTER NETWORK LAB 1

Command systeminfo / system_profiler : Provides detailed information about a computer hardware and software configuration. It displays the operating system version, system manufacturer, processor details, memory information, network configuration, and more. This command can gather comprehensive system information for diagnostic, troubleshooting, or inventory purposes.

```
poseidon@okbe ~ % system_profiler
Accessibility:

    Accessibility Information:

        Cursor Magnification: Off
        Display: Black on White
        Flash Screen: Off
        Mouse Keys: Off
        Slow Keys: Off
        Sticky Keys: Off
        VoiceOver: Off
        Zoom Mode: Full Screen
        Contrast: 0
        Keyboard Zoom: Off
        Scroll Zoom: Off

Apple Pay:

    Apple Pay Information:
        Platform ID: NSB2M0041782000
        SEID: 043A3B5BDE1C90023110047342319669756AB5C663922F06
        Device: 0xd2
        Production Signed: Yes
        Restricted Mode: No
        Hardware: 0x00000007
        Firmware: 0x0700
        JCOP OS: 19.03

    Controller Information:
        Hardware: b2.2 ( )
        Firmware: 1.95 rev 139831
        Middleware: 5.1.2.20

Applications:

    Brave Browser:

        Version: 121.1.62.153
        Obtained from: Identified Developer
        Last Modified: 1/30/24, 2:22 PM
        Kind: Universal
        Signed by: Developer ID Application: Brave Software, Inc. (KL8NBXSYF4), Developer ID Certification Authority, Apple Root CA
        Location: /Applications/Brave Browser.app
        Get Info String: Brave Browser 121.1.62.153, Copyright © 2024 The Brave Authors. All rights reserved.

    group.is.workflow:

        Obtained from: Unknown
        Last Modified: 1/15/24, 12:59 PM
        Kind: Other
        Location: /Users/poseidon/Library/Application Scripts/group.is.workflow.my.app

    com.apple.ctcategories:

        Obtained from: Unknown
        Last Modified: 1/15/24, 1:02 PM
        Kind: Other
        Location: /Users/poseidon/Library/HTTPStorages/com.apple.ctcategories.service

Recursive File Processing Droplet:
```

Command hostname - Display the hostname of a computer or device in a command-line interface.

```
[poseidon@okbe ~ % hostname
okbe.local
```

Command ping - Ping is used to test the reachability of a host on an Internet

Protocol (IP) network. It sends Internet Control Message Protocol (ICMP) echo request messages to the target host and waits for ICMP echo reply messages.

```
poseidon@okbe ~ % ping google.com
PING google.com (142.250.196.14): 56 data bytes
64 bytes from 142.250.196.14: icmp_seq=0 ttl=58 time=22.409 ms
64 bytes from 142.250.196.14: icmp_seq=1 ttl=58 time=27.121 ms
64 bytes from 142.250.196.14: icmp_seq=2 ttl=58 time=26.200 ms
64 bytes from 142.250.196.14: icmp_seq=3 ttl=58 time=26.730 ms
64 bytes from 142.250.196.14: icmp_seq=4 ttl=58 time=27.256 ms
64 bytes from 142.250.196.14: icmp_seq=5 ttl=58 time=25.772 ms
^[64 bytes from 142.250.196.14: icmp_seq=6 ttl=58 time=26.097 ms
64 bytes from 142.250.196.14: icmp_seq=7 ttl=58 time=25.391 ms
64 bytes from 142.250.196.14: icmp_seq=8 ttl=58 time=25.301 ms
64 bytes from 142.250.196.14: icmp_seq=9 ttl=58 time=25.871 ms
64 bytes from 142.250.196.14: icmp_seq=10 ttl=58 time=26.822 ms
64 bytes from 142.250.196.14: icmp_seq=11 ttl=58 time=27.375 ms
64 bytes from 142.250.196.14: icmp_seq=12 ttl=58 time=25.483 ms
64 bytes from 142.250.196.14: icmp_seq=13 ttl=58 time=25.170 ms
64 bytes from 142.250.196.14: icmp_seq=14 ttl=58 time=23.523 ms
64 bytes from 142.250.196.14: icmp_seq=15 ttl=58 time=24.632 ms
64 bytes from 142.250.196.14: icmp_seq=16 ttl=58 time=23.626 ms
64 bytes from 142.250.196.14: icmp_seq=17 ttl=58 time=23.037 ms
64 bytes from 142.250.196.14: icmp_seq=18 ttl=58 time=23.683 ms
64 bytes from 142.250.196.14: icmp_seq=19 ttl=58 time=26.332 ms
64 bytes from 142.250.196.14: icmp_seq=20 ttl=58 time=26.813 ms
64 bytes from 142.250.196.14: icmp_seq=21 ttl=58 time=22.811 ms
64 bytes from 142.250.196.14: icmp_seq=22 ttl=58 time=24.295 ms
64 bytes from 142.250.196.14: icmp_seq=23 ttl=58 time=23.094 ms
64 bytes from 142.250.196.14: icmp_seq=24 ttl=58 time=23.304 ms
64 bytes from 142.250.196.14: icmp_seq=25 ttl=58 time=25.560 ms
64 bytes from 142.250.196.14: icmp_seq=26 ttl=58 time=26.315 ms
64 bytes from 142.250.196.14: icmp_seq=27 ttl=58 time=26.803 ms
^C
```

Command ifconfig - Displays the configuration of network interfaces on a system, including IP address, subnet mask, default gateway, and MAC address.

```
poseidon@okbe ~ % ifconfig
lo0: flags=8049<UP,LOOPBACK,RUNNING,MULTICAST> mtu 16384
    options=1203<RXCSUM,TXCSUM,TXSTATUS,SW_TIMESTAMP>
    inet 127.0.0.1 netmask 0xff000000
    inet6 ::1 prefixlen 128
    inet6 fe80::1%lo0 prefixlen 64 scopeid 0x1
    nd6 options=201<PERFORMNUD,DAD>
gif0: flags=8010<POINTOPOINT,MULTICAST> mtu 1280
stf0: flags=0<> mtu 1280
anpi1: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    options=400<CHANNEL_IO>
    ether 42:b4:02:b5:06:ca
    media: none
    status: inactive
anpi0: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    options=400<CHANNEL_IO>
    ether 42:b4:02:b5:06:c9
    media: none
    status: inactive
en3: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    options=400<CHANNEL_IO>
    ether 42:b4:02:b5:06:a9
    nd6 options=201<PERFORMNUD,DAD>
    media: none
    status: inactive
en4: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    options=400<CHANNEL_IO>
    ether 42:b4:02:b5:06:aa
    nd6 options=201<PERFORMNUD,DAD>
    media: none
    status: inactive
en1: flags=8963<UP,BROADCAST,SMART,RUNNING,PROMISC,SIMPLEX,MULTICAST> mtu 1500
    options=460<TSO4,TSO6,CHANNEL_IO>
    ether 36:1b:e4:c6:88:40
    media: autoselect <full-duplex>
    status: inactive
en2: flags=8963<UP,BROADCAST,SMART,RUNNING,PROMISC,SIMPLEX,MULTICAST> mtu 1500
    options=460<TSO4,TSO6,CHANNEL_IO>
    ether 36:1b:e4:c6:88:44
    media: autoselect <full-duplex>
    status: inactive
```

Command nslookup - allows you to query Domain Name System (DNS) servers to retrieve information about domain names and IP addresses.

```
poseidon@okbe ~ % nslookup google.com
Server:          10.59.121.144
Address:         10.59.121.144#53

Non-authoritative answer:
Name:   google.com
Address: 216.58.200.206
```

Command tracert - Traces the route taken by packets from the source to the destination. It shows the IP addresses of routers along the path and the time taken for each hop.

```
poseidon@okbe ~ % traceroute google.com
traceroute to google.com (142.250.196.14), 64 hops max, 52 byte packets
 1  10.70.0.1 (10.70.0.1)  5.053 ms  3.353 ms  2.895 ms
 2  10.59.112.123 (10.59.112.123)  5.657 ms  4.871 ms  4.207 ms
 3  122.184.65.225 (122.184.65.225)  3.734 ms  3.702 ms  3.519 ms
 4  nsg-corporate-37.145.186.122.airtel.in (122.186.145.37)  6.795 ms  5.701 ms  6.025 ms
 5  * * *
 6  142.250.169.206 (142.250.169.206)  29.852 ms  25.700 ms  23.866 ms
 7  * * *
 8  maa03s44-in-f14.1e100.net (142.250.196.14)  35.460 ms
   74.125.242.129 (74.125.242.129)  25.296 ms
   maa03s44-in-f14.1e100.net (142.250.196.14)  19.934 ms
```

Command netstat - Displays network connections, routing tables, interface statistics, and multicast memberships.

[illegible]

Command arp - a network utility used to display and modify the Address Resolution Protocol (ARP) cache, which maps IP addresses to MAC addresses on a local network.


```

poseidon@okbe ~ % arp -a
? (10.70.0.1) at 70:10:6f:92:b3:5c on en0 ifscope [ethernet]
? (10.70.1.202) at a2:2d:fe:4e:fc:0 on en0 ifscope [ethernet]
? (10.70.7.131) at c2:60:e7:a6:97:7c on en0 ifscope [ethernet]
? (10.70.7.238) at 3c:6:30:43:b1:e4 on en0 ifscope [ethernet]
? (10.70.8.76) at 3c:6:30:53:dd:a on en0 ifscope [ethernet]
? (10.70.10.13) at 10:bd:3a:7e:8a:4 on en0 ifscope [ethernet]
? (10.70.10.131) at bc:d0:74:8:73:fc on en0 ifscope [ethernet]
? (10.70.10.132) at 3e:35:75:17:25:4f on en0 ifscope [ethernet]
? (10.70.10.135) at 8c:7a:aa:f0:2a:e8 on en0 ifscope [ethernet]
? (10.70.15.208) at a0:78:17:8f:e3:c6 on en0 ifscope [ethernet]
? (10.70.15.209) at 3c:6:30:3:23:6f on en0 ifscope [ethernet]
? (10.70.16.112) at 8c:7a:aa:e6:6a:4c on en0 ifscope [ethernet]
? (10.70.17.145) at be:66:89:e9:f:7f on en0 ifscope [ethernet]
? (10.70.19.117) at 10:bd:3a:5d:39:26 on en0 ifscope [ethernet]
? (10.70.20.159) at a0:78:17:8e:4b:77 on en0 ifscope [ethernet]
? (10.70.20.225) at c8:89:f3:ea:f1:9 on en0 ifscope [ethernet]
? (10.70.21.158) at b6:dd:52:f0:31:bc on en0 ifscope [ethernet]
? (10.70.21.209) at 14:7d:da:c8:3b:4d on en0 ifscope [ethernet]
? (10.70.23.23) at f8:4d:89:8e:8e:51 on en0 ifscope [ethernet]
? (10.70.24.5) at 3c:a6:f6:7:7b:f3 on en0 ifscope [ethernet]
? (10.70.25.85) at 3c:a6:f6:22:13:3 on en0 ifscope [ethernet]
? (10.70.26.222) at d0:88:c:61:cd:5f on en0 ifscope [ethernet]
? (10.70.26.230) at d4:57:63:f1:fc:ff on en0 ifscope [ethernet]
? (10.70.32.10) at a4:c6:f0:24:f2:e3 on en0 ifscope [ethernet]
? (10.70.33.205) at 1e:eb:90:68:5b:90 on en0 ifscope [ethernet]
? (10.70.34.85) at 3c:6:30:3e:38:ea on en0 ifscope [ethernet]
? (10.70.34.252) at f4:d4:88:78:af:a6 on en0 ifscope [ethernet]
? (10.70.35.220) at 1c:57:dc:79:47:40 on en0 ifscope [ethernet]
? (10.70.36.55) at 3c:6:30:43:a5:f7 on en0 ifscope [ethernet]
? (10.70.63.255) at ff:ff:ff:ff:ff:ff on en0 ifscope [ethernet]
mdns.mcast.net (224.0.0.251) at 1:0:5e:0:0:fb on en0 ifscope permanent [ethernet]

```

Command route - Displays and modifies the local IP routing table. It shows the routing table entries used by the operating system to determine the path of packets.

```

poseidon@okbe ~ % route -n
usage: route [-dnqtvl] command [[modifiers] args]

```