# 1. Get me the IP address of a particular domain (guvi.in). How do I find the CPU/memory usage of my server? Test the connectivity between 2 nodes.

## STEP : 1 - Get me the IP address of a particular domain (guvi.in)

```
[root@ip-172-31-7-22 ec2-user]# sudo su
[root@ip-172-31-7-22 ec2-user]# nslookup guvi.com
Server:         172.31.0.2
Address:        172.31.0.2#53

Non-authoritative answer:
Name:   guvi.com
Address: 172.67.146.154
Name:   guvi.com
Address: 104.21.79.166
Name:   guvi.com
Address: 2606:4700:3031::6815:4fa6
Name:   guvi.com
Address: 2606:4700:3037::ac43:929a
```

> ➢ **Nslookup** command is used to get the domain name or address

## STEP : 2 -  find my CPU/memory usage of my server

### For better clarity divided into 3 photos

```
top - 06:26:15 up 54 min,  3 users,  load average: 0.00, 0.00, 0.00
Tasks: 109 total,   1 running, 108 sleeping,   0 stopped,   0 zombie
%Cpu(s):  0.6 us,  2.0 sy,  0.0 ni, 82.2 id,  0.0 wa,  0.0 hi,  0.0 si, 15.3 st
MiB Mem :    949.5 total,    554.3 free,    128.3 used,    266.9 buff/cache
MiB Swap:      0.0 total,      0.0 free,      0.0 used.    679.3 avail Mem
```

| PID | USER | PR | NI | VIRT | RES | SHR | S | %CPU | %MEM | TIME+ | COMMAND |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | root | 20 | 0 | 105188 | 16592 | 10164 | S | 0.0 | 1.7 | 0:00.70 | systemd |
| 2 | root | 20 | 0 | 0 | 0 | 0 | S | 0.0 | 0.0 | 0:00.00 | kthreadd |
| 3 | root | 0 | -20 | 0 | 0 | 0 | I | 0.0 | 0.0 | 0:00.00 | rcu_gp |
| 4 | root | 0 | -20 | 0 | 0 | 0 | I | 0.0 | 0.0 | 0:00.00 | rcu_par_gp |
| 5 | root | 0 | -20 | 0 | 0 | 0 | I | 0.0 | 0.0 | 0:00.00 | slub_flushwq |
| 6 | root | 0 | -20 | 0 | 0 | 0 | I | 0.0 | 0.0 | 0:00.00 | netns |
| 8 | root | 0 | -20 | 0 | 0 | 0 | I | 0.0 | 0.0 | 0:00.00 | kworker/0:0H-events_highpri |
| 10 | root | 0 | -20 | 0 | 0 | 0 | I | 0.0 | 0.0 | 0:00.00 | mm_percpu_wq |
| 11 | root | 20 | 0 | 0 | 0 | 0 | I | 0.0 | 0.0 | 0:00.00 | rcu_tasks_kthread |
| 12 | root | 20 | 0 | 0 | 0 | 0 | I | 0.0 | 0.0 | 0:00.00 | rcu_tasks_rude_kthread |

```
    13 root      20   0        0        0        0 I   0.0   0.0   0:00.00 rcu_tasks_trace_kthread
    14 root      20   0        0        0        0 S   0.0   0.0   0:00.13 ksoftirqd/0
    15 root      20   0        0        0        0 I   0.0   0.0   0:00.04 rcu_preempt
    16 root      rt   0        0        0        0 S   0.0   0.0   0:00.01 migration/0
    18 root      20   0        0        0        0 S   0.0   0.0   0:00.00 cpuhp/0
    20 root      20   0        0        0        0 S   0.0   0.0   0:00.00 kdevtmpfs
    21 root       0 -20        0        0        0 I   0.0   0.0   0:00.00 inet_frag_wq
    22 root      20   0        0        0        0 S   0.0   0.0   0:00.00 kauditd
    23 root      20   0        0        0        0 S   0.0   0.0   0:00.00 khungtaskd
    24 root      20   0        0        0        0 S   0.0   0.0   0:00.00 oom_reaper
    27 root       0 -20        0        0        0 I   0.0   0.0   0:00.00 writeback
```

> ➢ **Top** command is used to check the memory usage of my server

## STEP : 3 - . Test the connectivity between 2 nodes

```
[root@ip-172-31-7-22 ec2-user]# ping guvi.com
PING guvi.com (172.67.146.154) 56(84) bytes of data.
64 bytes from 172.67.146.154 (172.67.146.154): icmp_seq=1 ttl=54 time=1.48 ms
64 bytes from 172.67.146.154 (172.67.146.154): icmp_seq=2 ttl=54 time=1.76 ms
64 bytes from 172.67.146.154 (172.67.146.154): icmp_seq=3 ttl=54 time=2.23 ms
64 bytes from 172.67.146.154 (172.67.146.154): icmp_seq=4 ttl=54 time=2.03 ms
64 bytes from 172.67.146.154 (172.67.146.154): icmp_seq=5 ttl=54 time=1.91 ms
64 bytes from 172.67.146.154 (172.67.146.154): icmp_seq=6 ttl=54 time=2.01 ms
64 bytes from 172.67.146.154 (172.67.146.154): icmp_seq=7 ttl=54 time=2.01 ms
^C
--- guvi.com ping statistics ---
7 packets transmitted, 7 received, 0% packet loss, time 6011ms
rtt min/avg/max/mdev = 1.480/1.918/2.234/0.221 ms
[root@ip-172-31-7-22 ec2-user]#
```

> ➢ **Ping** command is used to test the connectivity between 2 devices using ip or domain
> name

**2. I have deployed an application in guvi.com:9000, and logs show my app is running, but I'm unable to view the page. Check whether my port is open or not ?**

**Given data**

**Domain name :** guvi.com

**Port number :** 9000

**Solution**

**Step : 1 - Check whether my port is open or not**

**Final output**

**Installation files are not asked but i attached for further reference**

➢ **Telnet** command is not installed in my linux server so i installed using
➢ **Yum install telent** command is used to install telent command

```
Dependencies resolved.
================================================================================
 Package            Architecture      Version                    Repository         Size
================================================================================
Installing:
 telnet             x86_64            1:0.17-83.amzn2023.0.2      amazonlinux        64 k

Transaction Summary
================================================================================
Install  1 Package

Total download size: 64 k
Installed size: 121 k
Downloading Packages:
```

```
telnet-0.17-83.amzn2023.0.2.x86_64.rpm                        1.0 MB/s |  64 kB     00:00
--------------------------------------------------------------------------------
Total                                                         531 kB/s |  64 kB     00:00
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing        :                                                                1/1
  Installing       : telnet-1:0.17-83.amzn2023.0.2.x86_64                           1/1
  Running scriptlet: telnet-1:0.17-83.amzn2023.0.2.x86_64                           1/1
  Verifying        : telnet-1:0.17-83.amzn2023.0.2.x86_64                           1/1

Installed:
  telnet-1:0.17-83.amzn2023.0.2.x86_64

Complete!
```

➢ **Telnet <domain name> <ip address>** command is used to check the port open or close

```
[root@ip-172-31-22-105 ec2-user]# telnet guvi.com 9000
Trying 104.21.79.166...
telnet: connect to address 104.21.79.166: Connection timed out
Trying 172.67.146.154...
telnet: connect to address 172.67.146.154: Connection timed out
Trying 2606:4700:3037::ac43:929a...
telnet: connect to address 2606:4700:3037::ac43:929a: Network is unreachable
Trying 2606:4700:3031::6815:4fa6...
telnet: connect to address 2606:4700:3031::6815:4fa6: Network is unreachable
[root@ip-172-31-22-105 ec2-user]#
```

➢ For this it shows error so i tried another way then installed **nmap** using **yum install nmap** command

```
[root@ip-172-31-11-16 ec2-user]# yum install nmap
Last metadata expiration check: 0:09:14 ago on Fri Aug 30 06:59:31 2024.
Dependencies resolved.
================================================================================
 Package          Architecture      Version                   Repository     Siz
================================================================================
Installing:
 nmap             x86_64            3:7.93-4.amzn2023          amazonlinux    5.5
Installing dependencies:
 libssh2          x86_64            1.10.0-1.amzn2023.0.3      amazonlinux    120
 nmap-ncat        x86_64            3:7.93-4.amzn2023          amazonlinux    225

Transaction Summary
================================================================================
```

```
Transaction Summary
================================================================================
Install  3 Packages

Total download size: 5.9 M
Installed size: 25 M
Is this ok [y/N]: y
Downloading Packages:
(1/3): nmap-ncat-7.93-4.amzn2023.x86_64.rpm               3.0 MB/s | 225 kB    00:00
(2/3): libssh2-1.10.0-1.amzn2023.0.3.x86_64.rpm          1.1 MB/s | 120 kB    00:00
(3/3): nmap-7.93-4.amzn2023.x86_64.rpm                    27 MB/s | 5.5 MB    00:00
--------------------------------------------------------------------------------
Total                                                    23 MB/s | 5.9 MB    00:00
Running transaction check
```

```
--------------------------------------------------------------------------------------------------------------------------------
Total                                                                                                   23 MB/s | 5.9 MB
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing        :
  Installing       : nmap-ncat-3:7.93-4.amzn2023.x86_64
  Running scriptlet: nmap-ncat-3:7.93-4.amzn2023.x86_64
  Installing       : libssh2-1.10.0-1.amzn2023.0.3.x86_64
  Installing       : nmap-3:7.93-4.amzn2023.x86_64
  Running scriptlet: nmap-3:7.93-4.amzn2023.x86_64
  Verifying        : libssh2-1.10.0-1.amzn2023.0.3.x86_64
  Verifying        : nmap-3:7.93-4.amzn2023.x86_64
  Verifying        : nmap-ncat-3:7.93-4.amzn2023.x86_64

Installed:
  libssh2-1.10.0-1.amzn2023.0.3.x86_64          nmap-3:7.93-4.amzn2023.x86_64          nmap-ncat-3:7.93-4.amzn2023.x86_64

Complete!
```

> ➢ Finally , **nmap**  command is used to check the port status
> ➢ **Nmap <domain name>**

## Result

```
[root@ip-172-31-11-16 ec2-user]# nmap guvi.com
Starting Nmap 7.93 ( https://nmap.org ) at 2024-08-30 07:09 UTC
Nmap scan report for guvi.com (172.67.146.154)
Host is up (0.0028s latency).
Other addresses for guvi.com (not scanned): 104.21.79.166 2606:4700:3031::6815:4fa6 2606:4700:3037::ac43:929a
Not shown: 996 filtered tcp ports (no-response)
PORT     STATE SERVICE
80/tcp   open  http
443/tcp  open  https
8080/tcp open  http-proxy
8443/tcp open  https-alt

Nmap done: 1 IP address (1 host up) scanned in 4.86 seconds
[root@ip-172-31-11-16 ec2-user]#
```

Hence, there is **no port available with guvi.com 9000** and the **available ports are 80,443,8080,8443.**