

2015-07104

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1. How many interfaces are there in agila?

There are two interfaces, namely **eth0** and **eth1**.

```
fsfbayani@agila:~$ ifconfig
eth0      Link encap:Ethernet  HWaddr 00:1a:64:b1:a2:50
          inet addr:202.92.148.163  Bcast:202.92.148.191  Mask:255.255.255.224
          inet6 addr: fe80::21a:64ff:febl:a250/64 Scope:Link
          inet6 addr: 2400:b000:300:23:21a:64ff:febl:a250/64 Scope:Global
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:117523 errors:0 dropped:0 overruns:0 frame:0
          TX packets:88774 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:20857398 (20.8 MB)  TX bytes:61358058 (61.3 MB)

eth1      Link encap:Ethernet  HWaddr 00:1a:64:b1:a2:52
          inet addr:172.16.126.28  Bcast:172.16.126.255  Mask:255.255.255.0
          inet6 addr: fe80::21a:64ff:febl:a252/64 Scope:Link
          inet6 addr: 2400:b000:300:126:21a:64ff:febl:a252/64 Scope:Global
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:2528 errors:0 dropped:0 overruns:0 frame:0
          TX packets:321 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:264224 (264.2 KB)  TX bytes:34661 (34.6 KB)

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1/128 Scope:Host
          UP LOOPBACK RUNNING  MTU:65536  Metric:1
          RX packets:6487 errors:0 dropped:0 overruns:0 frame:0
          TX packets:6487 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1
          RX bytes:1279888 (1.2 MB)  TX bytes:1279888 (1.2 MB)

fsfbayani@agila:~$
```

2. What protocols are being used by the interface(s)?

Both interfaces use **Ethernet**.

```
eth0    Link encap:Ethernet  HWaddr 00:1a:64:b1:a2:50
        inet addr:202.92.148.163  Bcast:202.92.148.191  Mask:255.255.255.224
        inet6 addr: fe80::21a:64ff:febl:a250/64 Scope:Link
        inet6 addr: 2400:b000:300:23:21a:64ff:febl:a250/64 Scope:Global
        UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
        RX packets:117523 errors:0 dropped:0 overruns:0 frame:0
        TX packets:88774 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:1000
        RX bytes:20857398 (20.8 MB)  TX bytes:61358058 (61.3 MB)
```

```
eth1    Link encap:Ethernet  HWaddr 00:1a:64:b1:a2:52
        inet addr:172.16.126.28  Bcast:172.16.126.255  Mask:255.255.255.0
        inet6 addr: fe80::21a:64ff:febl:a252/64 Scope:Link
        inet6 addr: 2400:b000:300:126:21a:64ff:febl:a252/64 Scope:Global
        UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
        RX packets:2528 errors:0 dropped:0 overruns:0 frame:0
        TX packets:321 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:1000
        RX bytes:264224 (264.2 KB)  TX bytes:34661 (34.6 KB)
```

3. What is the IP address of the interface(s)?

For **eth0**:

IPv4: 202.92.148.163

IPv6: fe80::21a:64ff:febl:a250/64 Scope:Link

IPv6: 2400:b000:300:23:21a:64ff:febl:a250/64 Scope:Global

```
eth0    Link encap:Ethernet  HWaddr 00:1a:64:b1:a2:50
        inet addr:202.92.148.163  Bcast:202.92.148.191  Mask:255.255.255.224
        inet6 addr: fe80::21a:64ff:febl:a250/64 Scope:Link
        inet6 addr: 2400:b000:300:23:21a:64ff:febl:a250/64 Scope:Global
```

For **eth1**:

IPv4: 172.16.126.28

IPv6: fe80::21a:64ff:febl:a252/64 Scope:Link

IPv6: 2400:b000:300:126:21a:64ff:febl:a252/64 Scope:Global

```
eth1    Link encap:Ethernet  HWaddr 00:1a:64:b1:a2:52
        inet addr:172.16.126.28  Bcast:172.16.126.255  Mask:255.255.255.0
        inet6 addr: fe80::21a:64ff:febl:a252/64 Scope:Link
        inet6 addr: 2400:b000:300:126:21a:64ff:febl:a252/64 Scope:Global
```

4. What is the subnet mask of the interface(s)?

For **eth0**: 255.255.255.224

```
rsibayani@agila: ~$ ifconfig
eth0      Link encap:Ethernet  HWaddr 00:1a:64:b1:a2:50
          inet addr:202.92.148.163  Bcast:202.92.148.191  Mask:255.255.255.224
          inet6 addr: fe80::21a:64ff:feb1:a252/64 Scope:Link
```

For **eth1**: 255.255.255.0

```
eth1      Link encap:Ethernet  HWaddr 00:1a:64:b1:a2:52
          inet addr:172.16.126.28  Bcast:172.16.126.255  Mask:255.255.255.0
          inet6 addr: fe80::21a:64ff:feb1:a252/64 Scope:Link
```

5. What is the MAC address of the interface(s)?

For **eth0**: 00:1a:64:b1:a2:50

```
eth0      Link encap:Ethernet  HWaddr 00:1a:64:b1:a2:50
          inet addr:202.92.148.163  Bcast:202.92.148.191
```

For **eth1**: 00:1a:64:b1:a2:52

```
eth1      Link encap:Ethernet  HWaddr 00:1a:64:b1:a2:52
          inet addr:172.16.126.28  Bcast:172.16.126.255
```

For questions 6 – 11, use the interface that gives the maximum value for the answer.

6. How many total packets have been sent from your machine? How did you obtain this value?

There has been a total of **88774 packets** sent from my machine. It was obtained using the “TX packets” field.

```
rsibayani@agila: ~$ ifconfig
eth0      Link encap:Ethernet
          inet addr:202.92.148.163  Bcast:202.92.148.191  Mask:255.255.255.224
          inet6 addr: fe80::21a:64ff:feb1:a252/64 Scope:Link
          UP BROADCAST RUNNING
          RX packets:117523
          TX packets:88774
          collisions:0 txque
```

7. How much total data (MB) have been sent from your machine? How did you obtain this value?

There has been a total of **61.3 MB** sent from my machine. It was obtained using the “TX bytes” field.

```
fsfbayani@agila:~$ ifconfig
eth0      Link encap:Ethernet  HWaddr 00:1a:64:b1:a2:50
          inet addr:202.92.148.163  Bcast:202.92.148.191  Mask:255.255.255.0
          inet6 addr: fe80::21a:64ff:febl:a250/64 Scope:Link
          inet6 addr: 2400:b000:300:23:21a:64ff:febl:a250/64 Scope:Global
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:117523 errors:0 dropped:0 overruns:0 frame:0
          TX packets:88774 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:20857398 (20.8 MB)  TX bytes:61358058 (61.3 MB)
```

8. How many total packets have been received? How did you obtain this value?

There has been a total of **117523 packets** received. It was obtained using the “RX packets” field.

```
fsfbayani@agila:~$ ifconfig
eth0      Link encap:Ethernet
          inet addr:202.92.148.163  Bcast:202.92.148.191  Mask:255.255.255.0
          inet6 addr: fe80::21a:64ff:febl:a250/64 Scope:Link
          inet6 addr: 2400:b000:300:23:21a:64ff:febl:a250/64 Scope:Global
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:117523 errors:0 dropped:0 overruns:0 frame:0
          TX packets:88774 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:20857398 (20.8 MB)  TX bytes:61358058 (61.3 MB)
```

9. How much total data (MB) have been received? How did you obtain this value?

There has been a total of 20.8 MB received. It was obtained using the “RX bytes” field.

```
fsfbayani@agila:~$ ifconfig
eth0      Link encap:Ethernet  HWaddr 00:1a:64:b1:a2:50
          inet addr:202.92.148.163  Bcast:202.92.148.191  Mask:255.255.255.0
          inet6 addr: fe80::21a:64ff:febl:a250/64 Scope:Link
          inet6 addr: 2400:b000:300:23:21a:64ff:febl:a250/64 Scope:Global
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:117523 errors:0 dropped:0 overruns:0 frame:0
          TX packets:88774 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:20857398 (20.8 MB)  TX bytes:61358058 (61.3 MB)
```

10. How many total collisions have occurred?

There has been **0 collisions**, for both **eth0** and **eth1**.

```
fsfbayani@agila:~$ ifconfig
eth0      Link encap:Ethernet  HWaddr 08:00:27:00:00:00
          inet addr:202.92.148.163  Bcast: 202.92.148.163  Mask: 255.255.255.0
          inet6 addr: fe80::21a:64ff:fe00:0000:0%00  prefixlen 64  scopeid 0x0
          UP BROADCAST RUNNING MULTICAST  MTU: 1500  Metric: 0
          RX packets:117523 errors:0 dropped:0 overruns:0 frame:0
          TX packets:88774 errors:0 dropped:0 overruns:0 frame:0
          collisions:0 txqueuelen:1000  (0.0 MB)
          RX bytes:2643234 (2.6 MB)  TX bytes:2643234 (2.6 MB)
```

```
eth1      Link encap:Ethernet  HWaddr 08:00:27:00:00:00
          inet addr:172.16.126.28  Bcast: 172.16.126.28  Mask: 255.255.255.0
          inet6 addr: fe80::21a:64ff:fe00:0000:0%00  prefixlen 64  scopeid 0x0
          UP BROADCAST RUNNING MULTICAST  MTU: 1500  Metric: 0
          RX packets:2528 errors:0 dropped:0 overruns:0 frame:0
          TX packets:321 errors:0 dropped:0 overruns:0 frame:0
          collisions:0 txqueuelen:1000  (0.0 MB)
          RX bytes:2643234 (2.6 MB)  TX bytes:2643234 (2.6 MB)
```

11. How many packets can your NIC queue for transmission?

The NIC can queue **1000 packets** for transmission, for both **eth0** and **eth1**.

```
fsfbayani@agila:~$ ifconfig
eth0      Link encap:Ethernet  HWaddr 08:00:27:00:00:00
          inet addr:202.92.148.163  Bcast: 202.92.148.163  Mask: 255.255.255.0
          inet6 addr: fe80::21a:64ff:fe00:0000:0%00  prefixlen 64  scopeid 0x0
          UP BROADCAST RUNNING MULTICAST  MTU: 1500  Metric: 0
          RX packets:117523 errors:0 dropped:0 overruns:0 frame:0
          TX packets:88774 errors:0 dropped:0 overruns:0 frame:0
          collisions:0 txqueuelen:1000  (0.0 MB)
          RX bytes:2643234 (2.6 MB)  TX bytes:2643234 (2.6 MB)
```

```
eth1      Link encap:Ethernet  HWaddr 08:00:27:00:00:00
          inet addr:172.16.126.28  Bcast: 172.16.126.28  Mask: 255.255.255.0
          inet6 addr: fe80::21a:64ff:fe00:0000:0%00  prefixlen 64  scopeid 0x0
          UP BROADCAST RUNNING MULTICAST  MTU: 1500  Metric: 0
          RX packets:2528 errors:0 dropped:0 overruns:0 frame:0
          TX packets:321 errors:0 dropped:0 overruns:0 frame:0
          collisions:0 txqueuelen:1000  (0.0 MB)
          RX bytes:2643234 (2.6 MB)  TX bytes:2643234 (2.6 MB)
```

12. What is the average time taken for 64 bytes of data to return from [www.google.com](http://www.google.com)?

The average time taken is **29.161 ms**.

```
PING www.google.com (216.58.199.4) 56(84) bytes of data:
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=1 ttl=55 time=29.1 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=2 ttl=55 time=29.1 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=3 ttl=55 time=29.1 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=4 ttl=55 time=29.1 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=5 ttl=55 time=29.4 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=6 ttl=55 time=29.1 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=7 ttl=55 time=29.1 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=8 ttl=55 time=29.1 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=9 ttl=55 time=29.1 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=10 ttl=55 time=29.3 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=11 ttl=55 time=29.1 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=12 ttl=55 time=29.1 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=13 ttl=55 time=29.1 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=14 ttl=55 time=29.1 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=15 ttl=55 time=29.1 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=16 ttl=55 time=29.1 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=17 ttl=55 time=29.0 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=18 ttl=55 time=29.1 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=19 ttl=55 time=29.1 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=20 ttl=55 time=29.2 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=21 ttl=55 time=29.1 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=22 ttl=55 time=29.3 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=23 ttl=55 time=29.1 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=24 ttl=55 time=29.1 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=25 ttl=55 time=29.1 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=26 ttl=55 time=29.0 ms
64 bytes from hkg12s02-in-f4.1e100.net (216.58.199.4): icmp_seq=27 ttl=55 time=29.1 ms
^C
--- www.google.com ping statistics ---
27 packets transmitted, 27 received, 0% packet loss, time 26034ms
rtt min/avg/max/mdev = 29.097/29.161/29.405/0.196 ms
```

13. What is the IP address of [sais.up.edu.ph](http://sais.up.edu.ph)?

The IP address is **202.92.142.15**.

```
fsfbayani@agila:~$ host sais.up.edu.ph
sais.up.edu.ph has address 202.92.142.15
```

14. What are the services running on timog.upm.edu.ph?

The services running include **FTP**, **domain**, **HTTP**, **ANET**, and **HTTPS**.

```
fsfbayani@agila:~$ nmap timog.upm.edu.ph

Starting Nmap 7.01 ( https://nmap.org ) at 2018-01-23 20:57 +08
Nmap scan report for timog.upm.edu.ph (172.16.1.130)
Host is up (0.00030s latency).
Other addresses for timog.upm.edu.ph (not scanned): 2400:b000:300:1:214:5eff:fe69:75ef
Not shown: 995 closed ports
PORT      STATE SERVICE
21/tcp    open  ftp
53/tcp    open  domain
80/tcp    open  http
212/tcp   open  anet
443/tcp   open  https
```

15. What is the hostname of 202.92.148.182?

The hostname is **lawin.upm.edu.ph**.

```
fsfbayani@agila:~$ nslookup 202.92.148.182
Server:      172.16.1.130
Address:     172.16.1.130#53

182.148.92.202.in-addr.arpa    name = lawin.upm.edu.ph.
```