

Linux Sysadmin Decal b5 Solutions

1.1: HTTP uses TCP because webpages need to deliver all of their packages; loading a site completely is more important than loading a site quickly.

Discord and Skype use UDP for real time communications because being able to hear someone in real-time is more important than a few dropped packets (which is why your voice cuts off sometimes).

1.2: Realtek (QEMU Virtual NIC)

1.3: 2^{24} or 16,777,216

32 bits total, 8 are masked, leaving 24 bits for the host.

1.4: A, NS, CNAME, MX (depending on your DNS server)

If you did this lab when Facebook was down, no records would also be an acceptable answer.

Most DNS servers only respond with A records by default. You can request more records by using the ANY option (e.g. `dig facebook.com ANY`)

2.1: (Possible Answer)

```
#!/bin/bash

ping -c 1 $1 &> /dev/null

if [ $? -eq 0 ]; then
    echo "OK"
else
    echo "Host is not reachable"
fi
```

2.2: `ip link show | tail -n 1 | cut -c 16-33`