EDA344 – Prelab Lab 1

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1 Prelab assignments

1. (a) The three protocols we selected:
   - TCP - Transport Layer
   - DNS - Application Layer
   - HTTP - Application Layer

   (b) The time difference between the GET and OK request / response were about 130ms.

   (c) The public IP address for the webserver hosting the website is 128.119.245.12.

   (d) The LAN IP address of my computer is currently 10.0.0.214, the public IP address of my computer is currently 129.16.39.53 (on a semi-public network).

2. (a) The information we found:
   - **Hostname:** defcon-3
   - **Address (IPV4):** 10.0.0.214
   - **Mask:** 255.255.255.0
   - **Default gateway:** 10.0.0.1
   - **DHCP:** Yes
   - **DNS:** 10.0.0.1

   (b) Running nslookup for the domain duckduckgo.com:
   - Basic nslookup query.
     - **Name:** duckduckgo.com
     - **Type:** A (host address)
     - **TTL:** 23 seconds
     - **Value:** 46.51.179.90
   - Nslookup for authoritative name servers
     - dns1.p05.nsone.net, internet address = 198.51.44.5
     - dns2.p05.nsone.net, internet address = 198.51.45.5
     - dns3.p05.nsone.net, internet address = 198.51.44.69

- dns4.p05.nsone.net, internet address = 198.51.45.69
- nslookup using authoritative name server dns1.p05.nsone.net
  - **Name:** duckduckgo.com
  - **Type:** A (host address)
  - **TTL:** 2 minutes
  - **Value:** 46.51.179.90

(c)
- The operating system we are using (Linux) does not come with a dns cache by default, but we are using systemd-resolved as a dns cache for this assignment. The three methods we can think of to manage the dns cache are the following:
  - **Display the cache:** We can query for individual domains using "resolvectl query", or we could look into the /etc/hosts file which can be used for manually managing dns, but displaying the entire cache is not possible.
  - **Flush the cache:** command that can be used to do this: resolvectl flush-caches
  - **Edit the cache:** you can edit the /etc/hosts file to manually map hostnames to addresses. Alternatively you can query for an address to automatically cache it.