Lab Exercise 3: DNS

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Exercise 3: Digging into DNS

Question 1: 150.203.161.98, dig www.cecs.anu.edu.au A

Question 2: CNAME: rproxy.cecs.anu.edu.au, 150.203.161.98. An alias is advantageous as multiple IP addresses allows a node on a network to have multiple connections to a network which each serving a different purpose. This can help reduce administration overhead and from installing lots of physical network interfaces as you won't need multiple hardware devices for each service, but rather have one single server with different addresses.

Question 3: The Authority section provides what DNS servers can provide an authoritative answer to my query. In my output I can see 3 DNS servers responsible for the domain name: ns2, ns3, ns4.

In the Additional section it lists the IP addresses of DNS servers in the Authority section. In the output we see each server has 2 IPv4 and IPv6 address.

Question 4: For my local machine I have two DNS servers, 198.142.152.164 and 198.142.152.165

Question 5:

ns2.cecs.anu.edu.au. IP: 150.203.161.36
ns3.cecs.anu.edu.au. IP: 150.203.161.50
ns3.cecs.anu.edu.au. IP: 150.203.161.38

Question 6: www.engineering.unsw.edu.au. dig -x 149.171.158.109 +short

Question 7: Yes there is an authoritative answer since it has the aa flag in the response message.

Question 8: No there isn't since they do not have an aa flag. Result for 150.203.161.36 is qr rd ra.

Question 9: dig @ns1.yahoo.com yahoo.com MX

Question 10:
dig @198.41.0.4 lyre00.cse.unsw.edu.au .au
dig @58.65.254.73 lyre00.cse.unsw.edu.au .edu.au
dig @65.22.196.1 lyre00.cse.unsw.edu.au .unsw.edu.au
dig @129.94.0.192 lyre00.cse.unsw.edu.au .cse.unsw.edu.au
dig @129.94.172.11 lyre00.cse.unsw.edu.au lyre100.cse.unsw.edu.au

5 queries to get the IP address of my host: 129.94.210.20

Question 11: Yes, a physical machine can have several name and/or IP addresses associated with it.