

CSE Hands-On-1: Domain Name Service

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Question1: Please briefly answer the role of DNS in your own words...

- DNS is a kind of connection between some domain names and an only ip address. For example, if we type "202.108.22.5" which is called ip address, we gonna open the main page of Baidu. However, this kind of ip address made up of numbers is quite difficult for us to remember if too many. So, DNS has provided us with a good solution, that is we can use a string name like "Baidu" to represent the ip address, which will make it easier for us to remember and use.

Question2: The type field have a few different values to indicate the ...

- A means "host", which means a domain name is connected to an ip address. Users can also change the connection between them.
- NS means "Name Server", which refers to the name server responsible for domain name resolution in the specific area.
- CNAME means "nickname", which means we can create another "domain name" that connect to the ip, then we can use the new name to visit the website the same as the former domain name.

Question3: How can we ask a specific dns server (instead of the default)...

- Dig 8.8.8.8 www.baidu.com

Question4: Do you know the process of solving domain name...

use the order : dig @8.8.8.8 lirone.csail.mit.edu

- Firstly, it comes to the root server to find the ".edu", then it returns the secondary domain server ip address to the user server, the return message indicates that "Received 619 bytes from 198.97.190.53#53(h.root-servers.net) in 357 ms"
- Secondly, it comes to Secondary Domain Name Server "mit.edu", and the return message indicates that "Received 913 bytes from 192.31.80.30#53(d.edu-servers.net) in 1721 ms"
- Thirdly, it comes to Name Server "csail.mit.edu", and the return message indicates that "Received 205 bytes from 23.74.25.64#53(eur5.akam.net) in 228 ms"
- Finally, it comes to the determined Domain Name Server "lirone.csail.mit.edu", and the return message indicates that "Received 507 bytes from 128.52.32.80#53(auth-ns2.csail.mit.edu) in 259 ms"

Question5: Please explain the above phenomenon. Have a guess!

- twitter cannot be visited because of the special "chinese great wall", however baidu can be successfully visited because it hasn't been banned by the wall.
- The 1.0.0.0 doesn't exist, so dig www.baidu.com @1.0.0.0 cannot be visited even though the domain name hasn't been banned. The twitter has been banned so the command "dig www.twitter.com @1.0.0.0" just ignore the later part "@1.0.0.0" and return message immediately which says "cannot be visited."

Question6: The ips which dig returns to you belong to google indeed. Give ...

- Because if you use some ips to directly visit google, it just skip the DNS resolution.