1.



2.

```
C:\Users\acer>nslookup -type=NS tu-dresden.de
服务器:  mx.ustc.edu.cn
Address:  202.38.64.56

非权威应答:
tu-dresden.de   nameserver = adns1.zih.tu-dresden.de
tu-dresden.de   nameserver = dns-3.dfn.de
tu-dresden.de   nameserver = dns-1.dfn.de
tu-dresden.de   nameserver = adns2.zih.tu-dresden.de
```

3.

```
C:\Users\acer>nslookup -type=MX www.yahoo.com
服务器:  mx.ustc.edu.cn
Address:  202.38.64.56

非权威应答:
www.yahoo.com   canonical name = atsv2-fp-shed.wg1.b.yahoo.com

wg1.b.yahoo.com
        primary name server = yf1.yahoo.com
        responsible mail addr = hostmaster.yahoo-inc.com
        serial  = 1569653955
        refresh = 30 (30 secs)
        retry   = 30 (30 secs)
        expire  = 86400 (1 day)
        default TTL = 300 (5 mins)
```

4. Through UDP

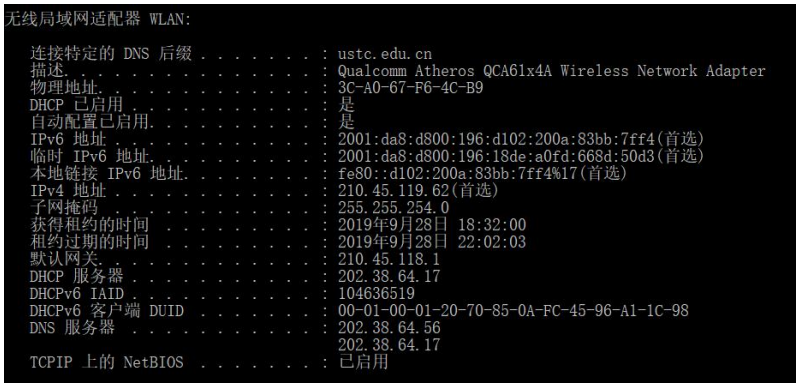
5. Query destination: 53

   Response source: 53

```
User Datagram Protocol, Src Port: 51392, Dst Port: 53
    Source Port: 51392
    Destination Port: 53
```

6. Destination IP address: 202.38.64.17

   My local DNS server's IP address: 202.38.64.17




7. "Type" is Host Address and contains no "answers"

```
Domain Name System (query)
    Transaction ID: 0xfd10
  > Flags: 0x0100 Standard query
    Questions: 1
    Answer RRs: 0
    Authority RRs: 0
    Additional RRs: 0
  v Queries
    v www.ietf.org: type A, class IN
        Name: www.ietf.org
        [Name Length: 12]
        [Label Count: 3]
        Type: A (Host Address) (1)
        Class: IN (0x0001)
```

8. Three answers.

```
▾ Answers
  ▾ www.ietf.org: type CNAME, class IN, cname www.ietf.org.cdn.cloudflare.net
      Name: www.ietf.org
      Type: CNAME (Canonical NAME for an alias) (5)
      Class: IN (0x0001)
      Time to live: 300
      Data length: 33
      CNAME: www.ietf.org.cdn.cloudflare.net
  ▾ www.ietf.org.cdn.cloudflare.net: type A, class IN, addr 104.20.1.85
      Name: www.ietf.org.cdn.cloudflare.net
      Type: A (Host Address) (1)
      Class: IN (0x0001)
      Time to live: 300
      Data length: 4
      Address: 104.20.1.85
  ▾ www.ietf.org.cdn.cloudflare.net: type A, class IN, addr 104.20.0.85
      Name: www.ietf.org.cdn.cloudflare.net
      Type: A (Host Address) (1)
      Class: IN (0x0001)
      Time to live: 300
      Data length: 4
      Address: 104.20.0.85
```

9. 104.20.1.85

```
104.20.1.85          TCP        66 50230 → 80 [SYN] Seq=0 Win=64240 Len=0 MSS=1460 WS=256 SACK_PERM=1
104.20.1.85          TCP        66 50231 → 80 [SYN] Seq=0 Win=64240 Len=0 MSS=1460 WS=256 SACK_PERM=1
182.254.42.87        TCP        66 50232 → 80 [SYN] Seq=0 Win=65535 Len=0 MSS=1460 WS=2 SACK_PERM=1
104.20.1.85          TCP        66 50233 → 80 [SYN] Seq=0 Win=64240 Len=0 MSS=1460 WS=256 SACK_PERM=1
```

10. My host didn’t issue new DNS query.

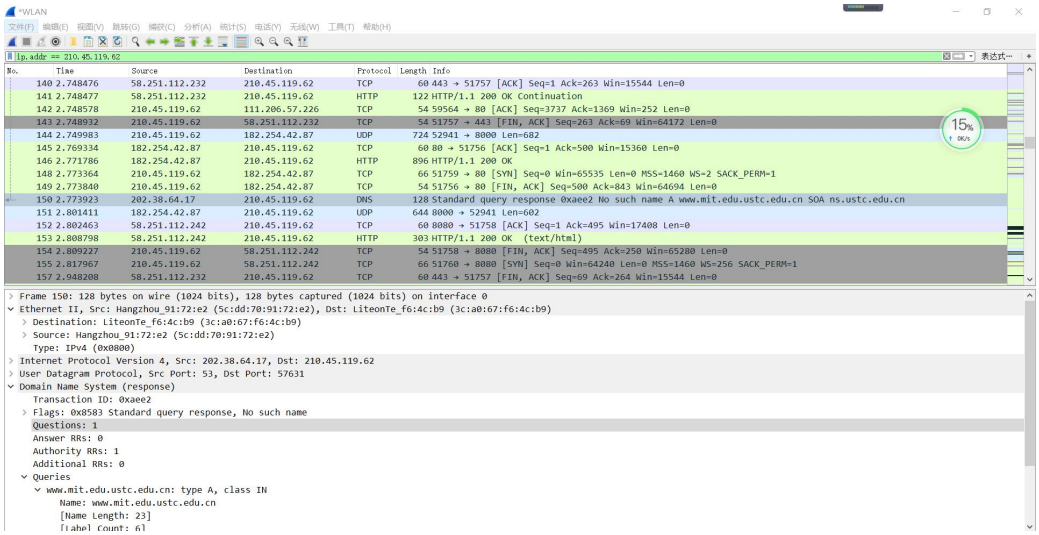
11. Query destination port and response source port are both 53.

12. 202.38.64.56 and it’s my default DNS server.

13. “Type” is Host Address and contains no “answers”.

14. Standard query response, no such name.

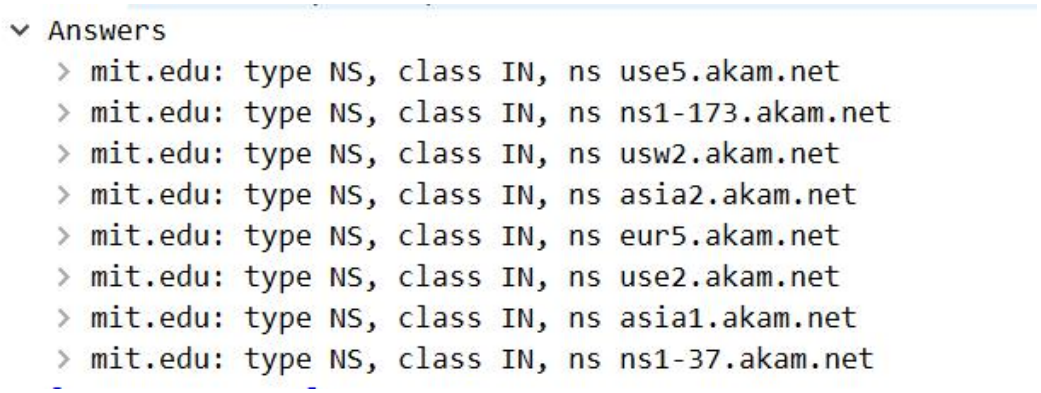
```
▾ Domain Name System (response)
    Transaction ID: 0xaee2
  › Flags: 0x8583 Standard query response, No such name
    Questions: 1
    Answer RRs: 0
    Authority RRs: 1
    Additional RRs: 0
```

15. 

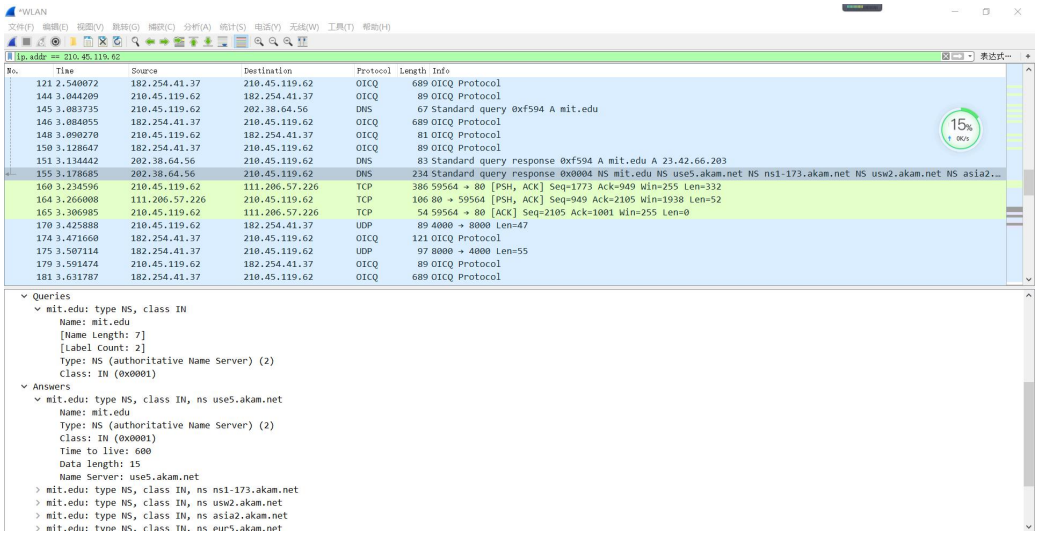

16. 202.38.64.56, and it's my DNS server.

17. "Type" is IP, and contains no "answers".

18. Answers below




IP addresses are not provided.

19. 

20. 202.38.64.1, it’s not my DNS server but the ns.ustc.edu.cn.

21. “Type” is IP, “answers”

```
Answers
  www.baidu.com: type CNAME, class IN, cname www.a.shifen.com
      Name: www.baidu.com
      Type: CNAME (Canonical NAME for an alias) (5)
      Class: IN (0x0001)
      Time to live: 316
      Data length: 15
      CNAME: www.a.shifen.com
  www.a.shifen.com: type A, class IN, addr 182.61.200.7
      Name: www.a.shifen.com
      Type: A (Host Address) (1)
      Class: IN (0x0001)
      Time to live: 228
      Data length: 4
      Address: 182.61.200.7
  www.a.shifen.com: type A, class IN, addr 182.61.200.6
      Name: www.a.shifen.com
      Type: A (Host Address) (1)
      Class: IN (0x0001)
      Time to live: 228
      Data length: 4
      Address: 182.61.200.6
```

22.

23.