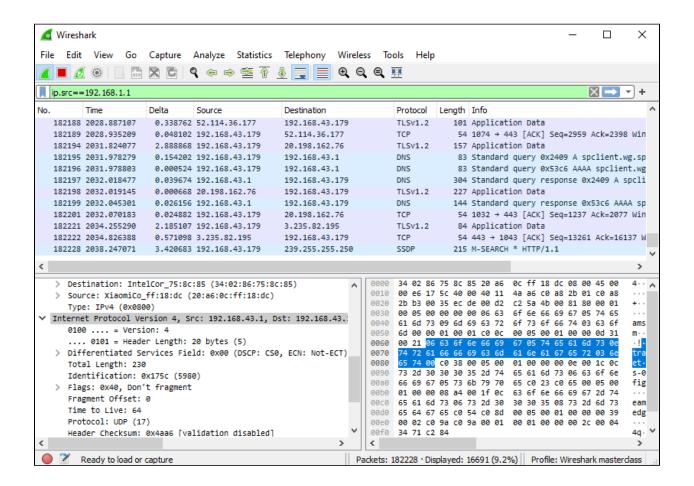
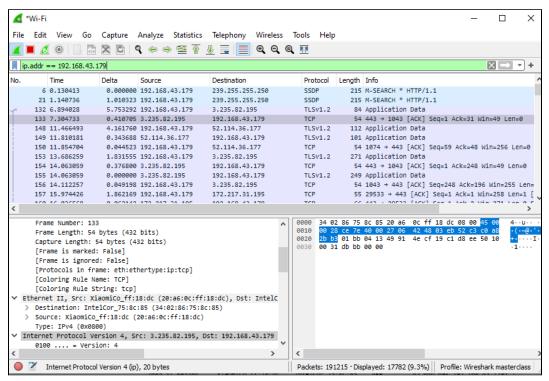
Wireshark

Wire shark is a protocol analyser. Some important filters are illustrated below:

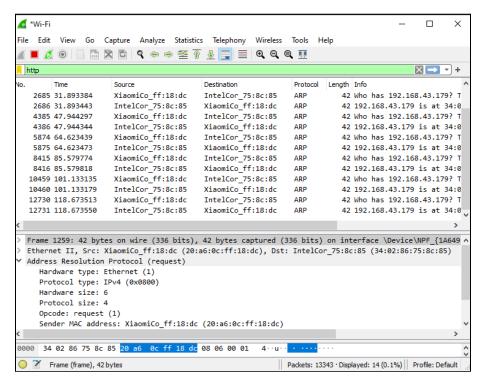
1. Filtering packets from source Google.com (ip addr= 192.168.1.1)



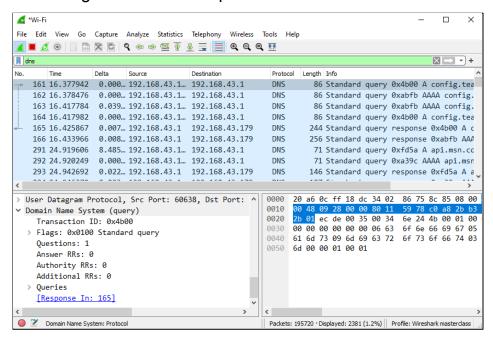
2. Filtering a particular ip address:



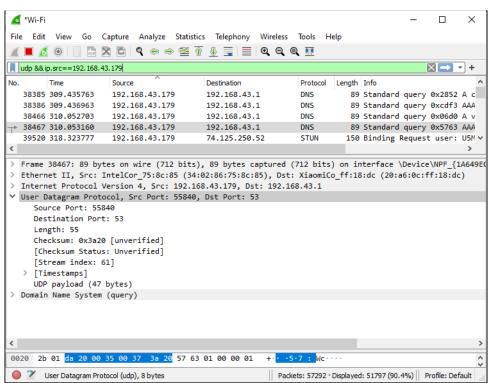
3. Filter HTTP addresses



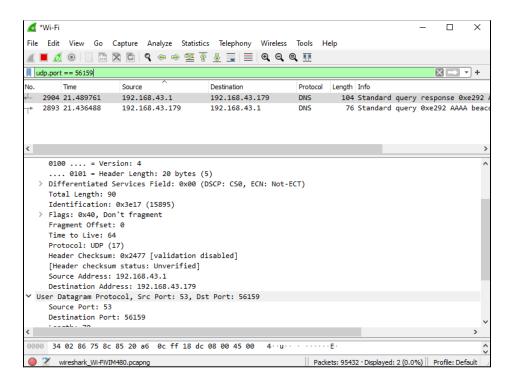
4. Filtering traffic based on protocol:



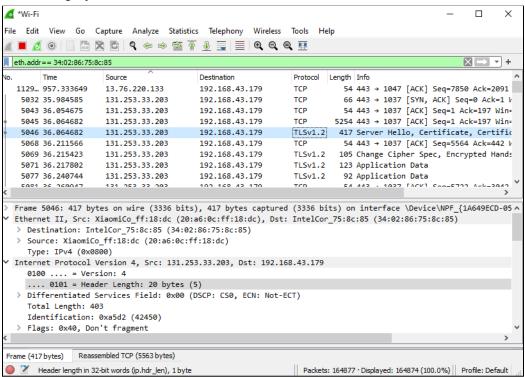
5. Filtering UDP from a particular source



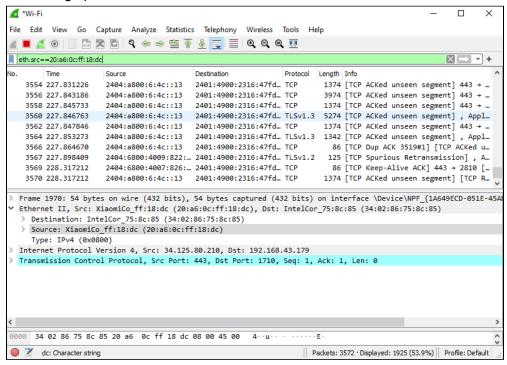
6. Filtering UDP port



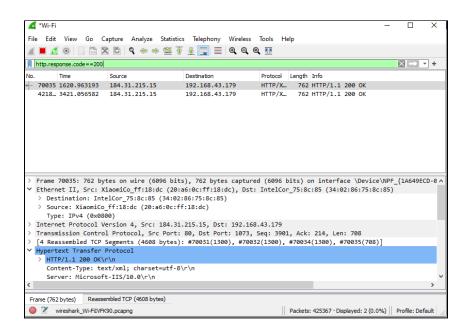
7. Filtering by MAC address



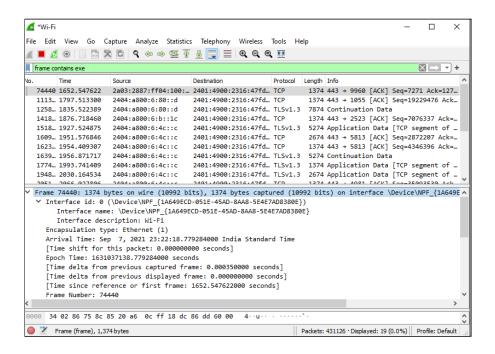
8. Filtering specific source address



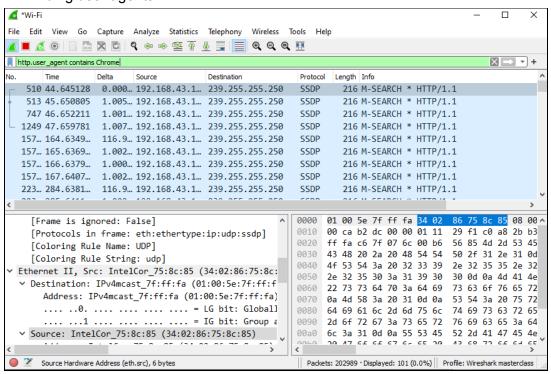
9. Filtering by response code:



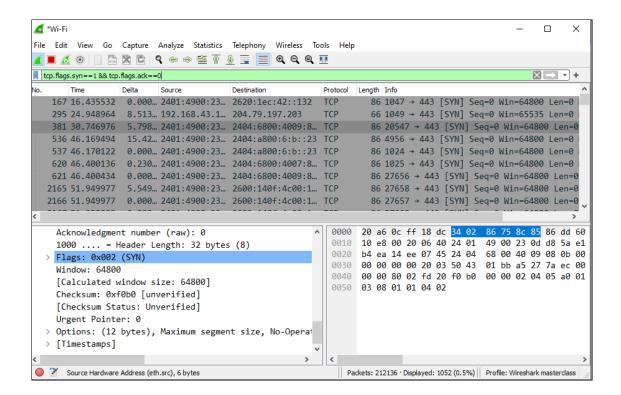
10. Finding executable file types:



11. Finding user agents



Detecting SYN floods(Possible DDoS attacks)



This will filter for the start of new TCP connections. If you see a constant new connections to the same destination IP, it could be a SYN or DDoS attack.

Nmap:

nmap — Network exploration tool and security / port scanner

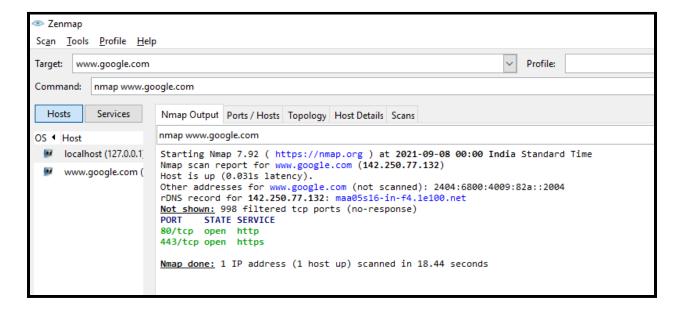
Synopsis: nmap [<Scan Type> ...] [<Options>] { <target specification> }

1. Scanning localhost:

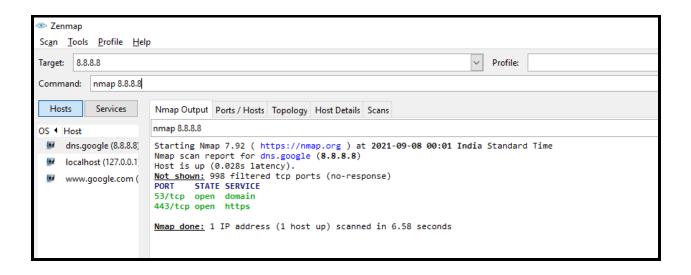


Result:997 closed ports (ports that aren't listening)

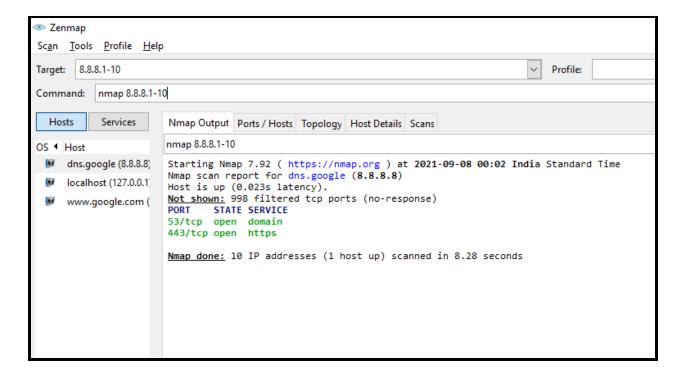
2. Scanning target google.com



3. Scanning google DNS 8.8.8.8



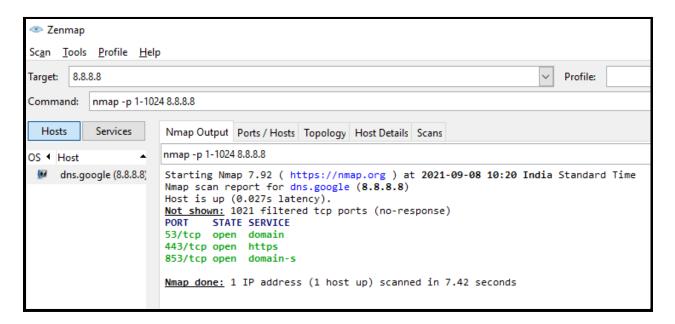
4. Scanning multiple IP addresses:



5. Scanning specific port 443 on a remote server

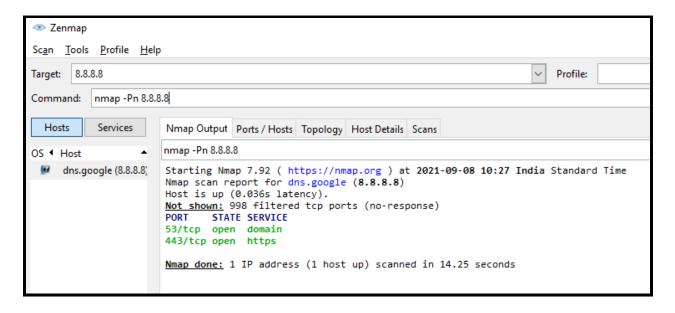


6. Scanning range of ports on a remote server (1-1024 on server 8.8.8.8)

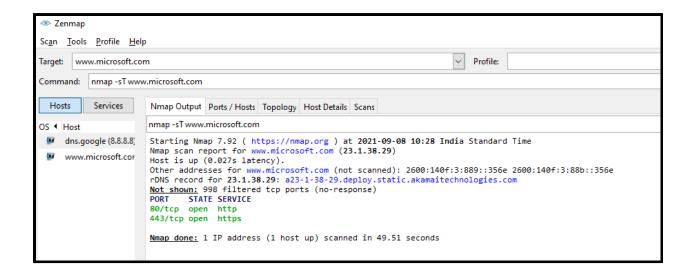


Response: 1021 filtered ports (couldnt be scanned by nmap) and 3 open ports.

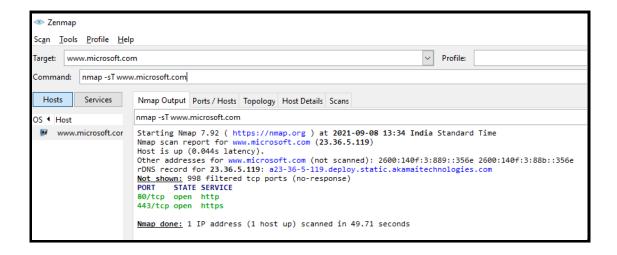
7. Skipping host Discovery (Scanning all hosts)



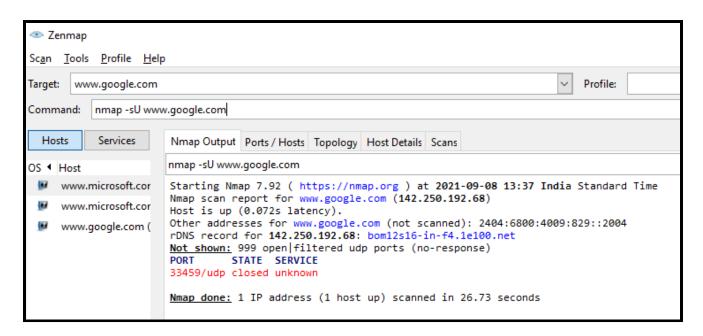
8. TCP connect scan on microsoft.com



9. TCP SYN/Connect

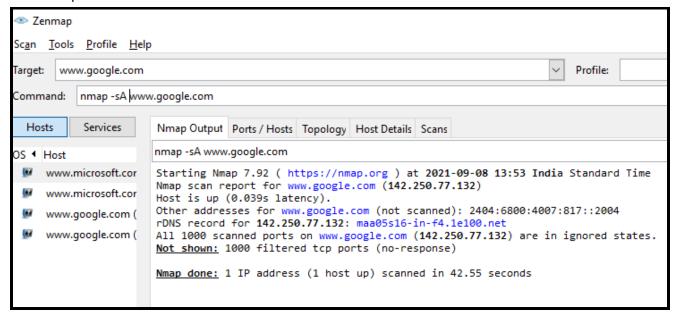


10. UDP Scan

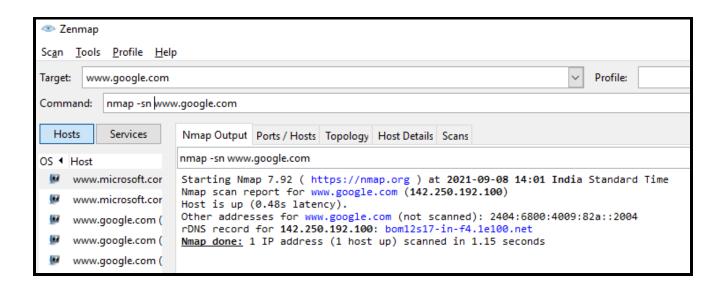


Open filtered shows nmap is not able to decide which of the stwo states describe the ports.

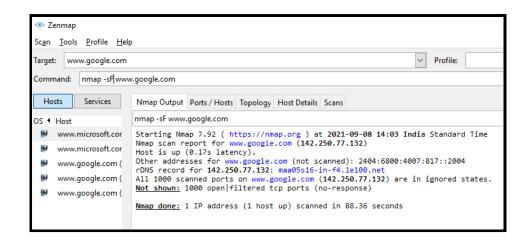
11. TCP ACK port scan



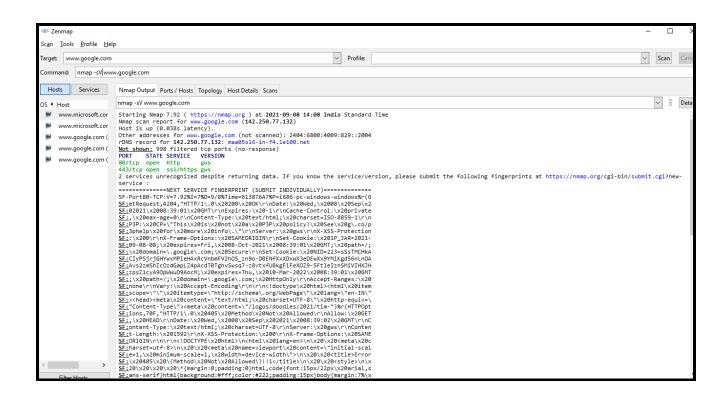
12. Disable port scanning, host discovery only



13. TCP FIN scan



14. Determining Service/Version information:



15. OS detection, version detection, script scanning and traceroute:



```
NZ PRODUCTIZATNO-OXILUM IOSZAGTODYNEKONYVAINNOUKLK-FKWOMIGA: EXDITES=ING. 10-MAT-2022 06:42:33 GMI: DALNET: GOMAINE,800818.COM: NILDK
      Accept-Ranges: none
      Vary: Accept-Encoding
      <!doctype html><html itemscope="" itemtype="http://schema.org/WebPage" lang="en-IN"><head><meta content="text/html; charset=UT
Type"><meta content="/logos/doodles/2021/tim-
    HTTPOptions:
      HTTP/1.0 405 Method Not Allowed
      Allow: GET, HEAD
      Date: Wed, 08 Sep 2021 08:42:56 GMT
      Content-Type: text/html; charset=UTF-8
      Server: gws
Content-Length: 1592
      X-XSS-Protection: 0
      X-Frame-Options: SAMEORIGIN
      <!DOCTYPE html>
      <html lang=en>
      <meta charset=utf-8>
      <meta name=viewport content="initial-scale=1, minimum-scale=1, width=device-width">
      <title>Error 405 (Method Not Allowed)!!1</title>
      *{margin:0;padding:0}html,code{font:15px/22px arial,sans-serif}html{background:#fff;color:#222;padding:15px}body{margin:7% aut
height:180px;padding:30px 0 15px)* > body{background:url(//www.google.com/images/errors/robot.png) 100% 5px no-repeat;padding-right:22px;overflow:hidden}ins{color:#777;text-decoration:none}a img{border:0}@media screen and (max-width:772px){body{background:none;mar
right:0}}#1
 _http-server-header: gws
443/tcp open ssl/https?
| tls-alon:
    grpc-exp
    http/1.1
 tls-nextprotoneg:
    grpc-exp
    h2
    http/1.1
  ssl-cert: Subject: commonName=www.google.com
  Subject Alternative Name: DNS:www.google.com
  Not valid before: 2021-08-16T03:56:32
 Not valid after: 2021-11-08T03:56:31
 service unrecognized despite returning data. If you know the service/version, please submit the following fingerprint at https://
```

