

你的 IP 地址 (IP address)

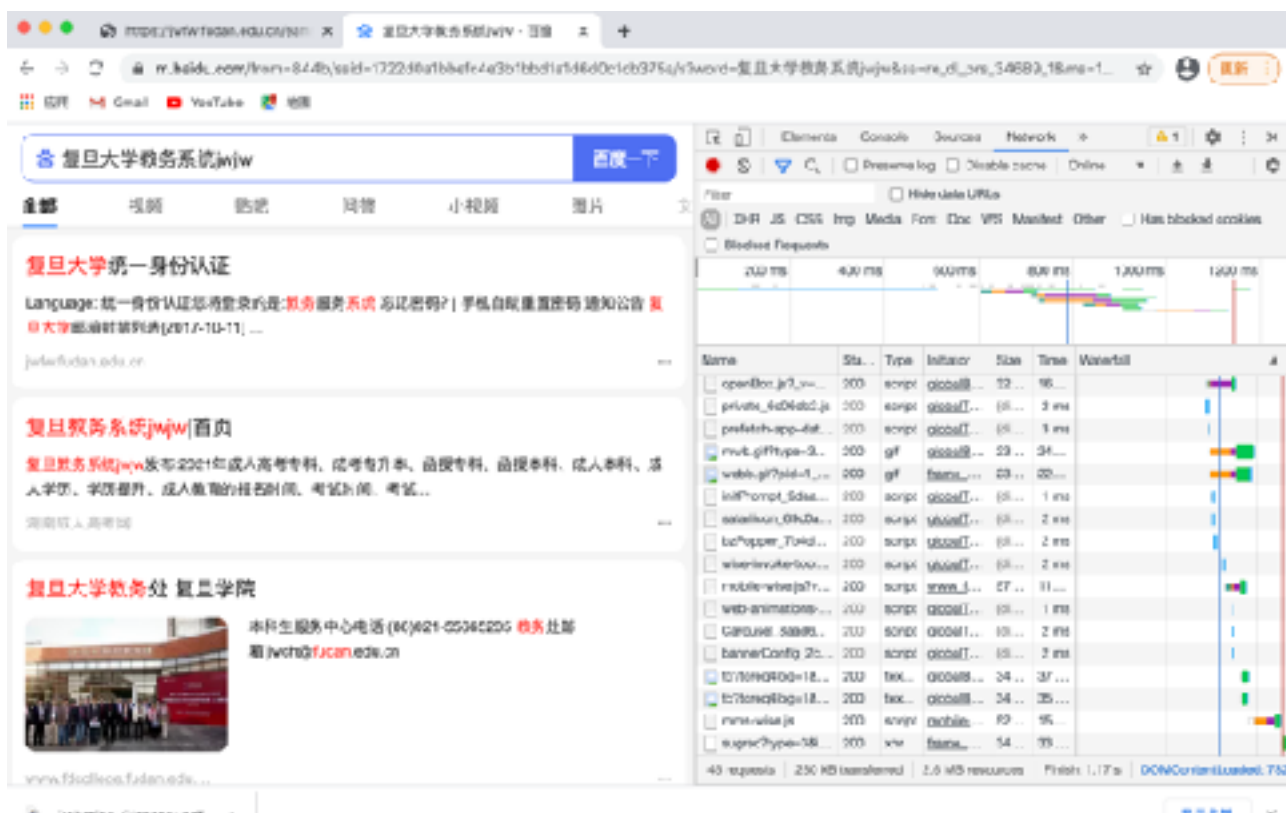
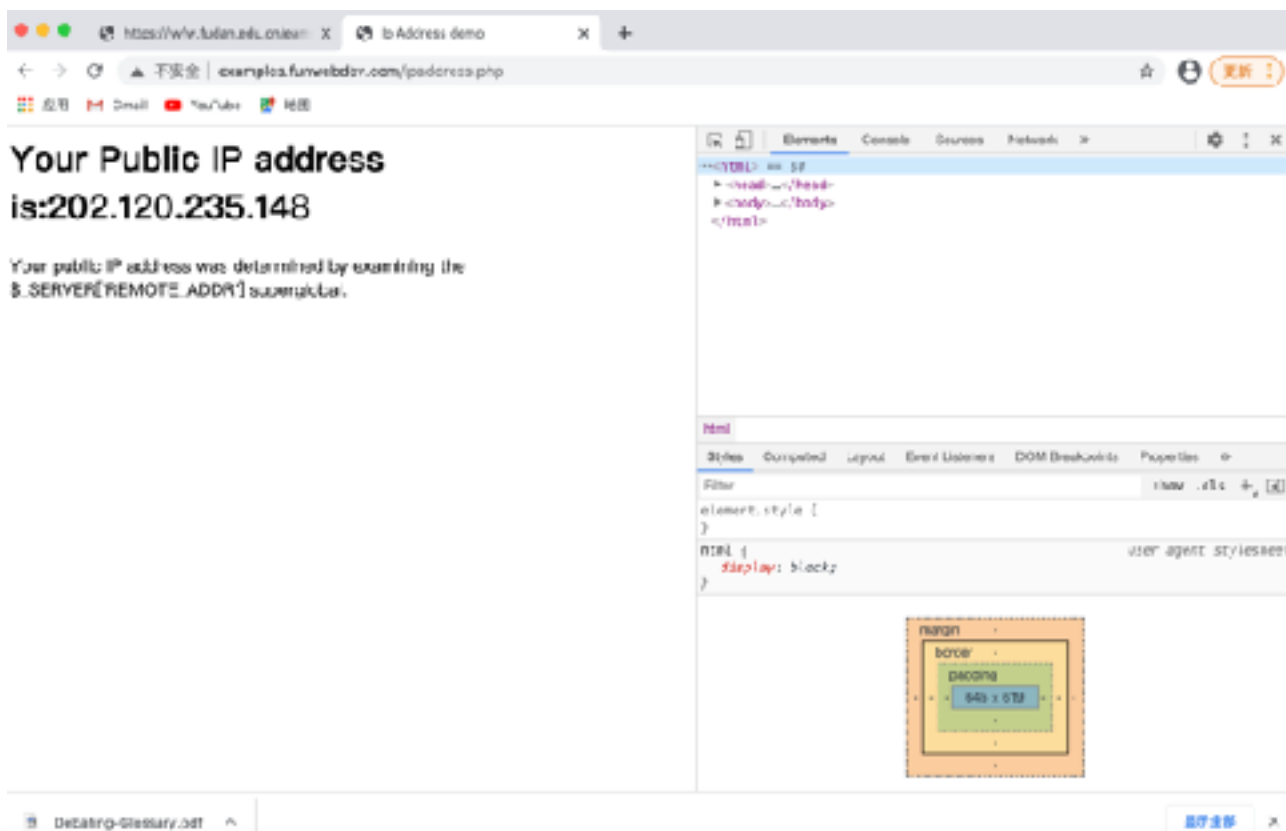
```
en5: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    ether ac:de:48:00:11:22
    inet6 fe80::aede:48ff:fe00:1122%en5 prefixlen 64 scopeid 0x8
    nd6 options=201<PERFORMNUD,DAD>
    media: autoselect (100baseTX <full-duplex>)
    status: active

en0: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    ether a4:83:e7:5e:76:5c
    inet6 fe80::c74:5b49:4a6c:cf8e%en0 prefixlen 64 secured scopeid 0xa
    inet 10.219.182.171 netmask 0xffffc000 broadcast 10.219.191.255
    nd6 options=201<PERFORMNUD,DAD>
    media: autoselect
    status: active

p2p0: flags=8843<UP,BROADCAST,RUNNING,SIMPLEX,MULTICAST> mtu 2304
    ether 06:83:e7:5e:76:5c
    media: autoselect
    status: inactive

awdl0: flags=8943<UP,BROADCAST,RUNNING,PROMISC,SIMPLEX,MULTICAST> mtu 1484
    ether c2:5a:2e:d3:ec:8f
    inet6 fe80::c05a:2eff:fed3:ec8f%awdl0 prefixlen 64 scopeid 0xc
    nd6 options=201<PERFORMNUD,DAD>
    media: autoselect
    status: active
```

分析一个网页的组成部分



域名服务器 (Name server)

查询 baidu.com 的 A 地址记录截图

```
Last login: Mon Mar 15 16:16:10 on ttys000
penguindeMacBook-Pro:~ penguinaugustus$ nslookup baidu.com
Server:      8.8.8.8
Address:     8.8.8.8#53

Non-authoritative answer:
Name:   baidu.com
Address: 220.181.38.148
Name:   baidu.com
Address: 39.156.69.79
```

使用授权服务器查询 baidu.com 的 IP 地址的截图

```
penguindeMacBook-Pro:~ penguinaugustus$ nslookup baidu.com ns2.baidu.com
Server:      ns2.baidu.com
Address:     220.181.33.31#53

Name:   baidu.com
Address: 39.156.69.79
Name:   baidu.com
Address: 220.181.38.148
```

查询 baidu.com 的 域名服务器截图

```
Last login: Tue Mar 16 10:33:34 on ttys000
penguindeMacBook-Pro:~ penguinaugustus$ nslookup -type=ns baidu.com
Server:      202.120.224.26
Address:     202.120.224.26#53

Non-authoritative answer:
baidu.com    nameserver = ns2.baidu.com.
baidu.com    nameserver = ns3.baidu.com.
baidu.com    nameserver = ns4.baidu.com.
baidu.com    nameserver = ns7.baidu.com.
baidu.com    nameserver = dns.baidu.com.

Authoritative answers can be found from:
dns.baidu.com    internet address = 110.242.68.134
ns2.baidu.com    internet address = 220.181.33.31
ns3.baidu.com    internet address = 112.80.243.64
ns4.baidu.com    internet address = 14.215.178.80
ns7.baidu.com    internet address = 180.76.76.92
```

观察 HTTP 标头 (HTTP headers)



追踪数据包 (Tracing a packet)

跟踪一个从你的计算机发往 microsoft.com 的数据包

```
penguin@MacBook-Pro:~$ pingaugustus$ traceroute microsoft.com
traceroute: Warning: microsoft.com has multiple addresses; using 104.215.148.63
traceroute to microsoft.com [104.215.148.63], 64 hops max, 62 byte packets
 1  10.219.128.1 (10.219.128.1)  17.596 ms  36.311 ms  14.124 ms
 2  * * *
 3  10.255.1.210 (10.255.1.210)  15.827 ms  4.222 ms  237.317 ms
 4  * * *
 5  10.255.19.1 (10.255.19.1)  93.463 ms  10.727 ms  15.386 ms
 6  10.255.249.45 (10.255.249.45)  10.171 ms  14.299 ms  11.762 ms
 7  10.255.38.250 (10.255.38.250)  16.468 ms  22.344 ms  23.589 ms
 8  * 202.112.27.1 (202.112.27.1)  181.485 ms *
 9  101.4.116.105 (101.4.116.105)  14.282 ms  15.390 ms  7.392 ms
10  101.4.117.90 (101.4.117.90)  32.531 ms  33.915 ms  38.798 ms
11  101.4.116.118 (101.4.116.118)  115.766 ms  37.404 ms  37.238 ms
12  101.4.112.69 (101.4.112.69)  44.426 ms  37.839 ms  38.287 ms
13  101.4.113.110 (101.4.113.110)  39.308 ms  53.623 ms  38.187 ms
14  101.4.116.82 (101.4.116.82)  41.951 ms  241.141 ms
    101.4.116.206 (101.4.116.206)  42.939 ms
15  101.4.117.102 (101.4.117.102)  63.981 ms  41.626 ms  45.428 ms
16  101.4.117.214 (101.4.117.214)  187.843 ms  184.582 ms  208.042 ms
17  ix-ae-9-1-5-0.tcore1.lva-losangeles.as6453.net (66.130.50.181)  240.675 ms  181.375 ms  194.446 ms
18  if-a-ae-60-2.tcore1.svl-santaclara.as6453.net (63.243.250.54)  285.987 ms
    if-a-8-3.tcore1.svl-santaclara.as6453.net (63.243.250.58)  195.871 ms  193.573 ms
19  if-a-8-2.tcore1.svl-santaclara.as6453.net (63.243.251.2)  480.748 ms * *
20  if-a-7-2.tcore1.pdx-paloalto.as6453.net (209.58.96.74)  284.523 ms  192.785 ms  204.555 ms
21  66.198.127.161 (66.198.127.161)  262.434 ms  216.583 ms  193.575 ms
[22  ae26-0.1cr02.ny21.ntwk.msn.net (104.44.239.0)  197.302 ms  195.247 ms  215.721 ms
23  be-142-0.1br04.ny21.ntwk.msn.net (104.44.22.177)  386.385 ms
    be-122-0.1br03.ny21.ntwk.msn.net (104.44.22.169)  361.961 ms
    be-142-0.1br04.ny21.ntwk.msn.net (104.44.22.177)  474.348 ms
24  be-3-0.1br02.pdx30.ntwk.msn.net (104.44.16.65)  458.548 ms  549.486 ms  555.285 ms
25  be-7-0.1br01.tyc79.ntwk.msn.net (104.44.18.156)  527.597 ms  359.522 ms
    be-5-0.1br02.tyc79.ntwk.msn.net (104.44.19.84)  458.154 ms
26  be-13-0.1br02.sg2.ntwk.msn.net (104.44.7.173)  389.287 ms  362.023 ms
    be-9-0.1br01.sg2.ntwk.msn.net (104.44.18.213)  553.406 ms
27  ae160-0.1cr01.sg2.ntwk.msn.net (104.44.11.188)  357.456 ms  384.319 ms
    ae122-0.1cr02.sg2.ntwk.msn.net (104.44.20.8)  501.616 ms
28  * * *
29  * * *
30  * * *
31  * * *
32  * * *
```

利用 whois 查询 tencent.com 的相关信息

```
Domain Name: tencent.com
Registry Domain ID: 3216596_DOMAIN_COM-VRSN
Registrar WHOIS Server: whois.markmonitor.com
Registrar URL: http://www.markmonitor.com
Updated Date: 2021-03-02T19:06:11-0800
Creation Date: 1998-09-13T21:00:00-0700
Registrar Registration Expiration Date: 2030-09-12T21:00:00-0700
Registrar: MarkMonitor, Inc.
Registrar IANA ID: 292
Registrar Abuse Contact Email: abusecomplaints@markmonitor.com
Registrar Abuse Contact Phone: +1.2083895770
Domain Status: clientUpdateProhibited (https://www.icann.org/epp#clientUpdateProhibited)
Domain Status: clientTransferProhibited (https://www.icann.org/epp#clientTransferProhibited)
Domain Status: clientDeleteProhibited (https://www.icann.org/epp#clientDeleteProhibited)
Domain Status: serverUpdateProhibited (https://www.icann.org/epp#serverUpdateProhibited)
Domain Status: serverTransferProhibited (https://www.icann.org/epp#serverTransferProhibited)
Domain Status: serverDeleteProhibited (https://www.icann.org/epp#serverDeleteProhibited)
Registrant Organization: Tencent Technology (shenzhen) Co.Ltd.
Registrant State/Province: Guang Dong
Registrant Country: CN
Registrant Email: Select Request Email Form at https://domains.markmonitor.com/whois/tencent.com
Admin Organization: Tencent Technology (shenzhen) Co.Ltd.
Admin State/Province: Guang Dong
Admin Country: CN
Admin Email: Select Request Email Form at https://domains.markmonitor.com/whois/tencent.com
Tech Organization: Tencent Technology (shenzhen) Co.Ltd.
Tech State/Province: Guang Dong
Tech Country: CN
Tech Email: Select Request Email Form at https://domains.markmonitor.com/whois/tencent.com
Name Server: ns3.qq.com
Name Server: ns2.qq.com
Name Server: ns4.qq.com
Name Server: ns1.qq.com
DNSSEC: unsigned
URL of the ICANN WHOIS Data Problem Reporting System: http://wdprs.internic.net/
>>> Last update of WHOIS database: 2021-03-11T00:17:40-0800 <<<
```