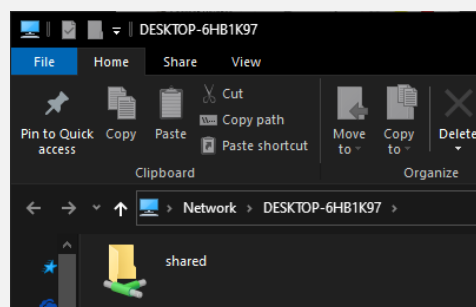1–

IPv4 Address: 192.168.202.232

IPv4 Default Gateway: 192.168.202.1

Class C

2–

3–


```
Ethernet adapter Ethernet:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : Realtek PCIe GBE Family Controller
   Physical Address. . . . . . . . . : A8-1E-84-09-8B-15
   DHCP Enabled. . . . . . . . . . . : Yes
   Autoconfiguration Enabled . . . . : Yes
```

```
   DNS Servers . . . . . . . . . . . : 194.146.151.20
                                       194.146.151.21
```

دستور ipconfig /all تمامی اطلاعات مربوط به شبکه سیستم را نشان میدهد

```
   DHCP Enabled. . . . . . . . . . . : Yes
   Autoconfiguration Enabled . . . . : Yes
```

به صورت اتوماتیک تنظیم شده

```
   DHCP Enabled. . . . . . . . . . . : No
   Autoconfiguration Enabled . . . . : Yes
   IPv4 Address. . . . . . . . . . . : 192.168.58.3(Preferred)
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : 192.168.58.1
```

دستور release یه پیغام DHCP release میفرستد تا آی پی کلاینت آزاد شود و دوباره در دسترس قرار گیرد

دستور renew به سرور DHCP اعلام میکند که سیستم آماده اتصال به شبکه و گرفتن آی پی است

دستور getmac آدرس های فیزیکی سیستم را نشان میدهد

```
C:\Users\Arshia>ping iut.ac.ir

Pinging iut.ac.ir [176.101.52.155] with 32 bytes of data:
Reply from 176.101.52.155: bytes=32 time=2ms TTL=61
Reply from 176.101.52.155: bytes=32 time=134ms TTL=61
Reply from 176.101.52.155: bytes=32 time=180ms TTL=61
Reply from 176.101.52.155: bytes=32 time=209ms TTL=61
```

```
Minimum = 128ms, Maximum = 150ms, Average = 127ms

C:\Users\Arshia>ping www.google.com

Pinging www.google.com [142.250.74.68] with 32 bytes of data:
Reply from 142.250.74.68: bytes=32 time=126ms TTL=51
Reply from 142.250.74.68: bytes=32 time=126ms TTL=51
Reply from 142.250.74.68: bytes=32 time=127ms TTL=51
Reply from 142.250.74.68: bytes=32 time=126ms TTL=51
```

```
C:\Users\Arshia>tracert www.google.com

Tracing route to www.google.com [172.217.18.132]
over a maximum of 30 hops:

  1   113 ms      2 ms      3 ms  192.168.1.1
  2    22 ms     21 ms     21 ms  adsl-188-158-128-1.sabanet.ir [188.158.128.1]
  3    23 ms     22 ms     21 ms  10.10.10.17
  4    30 ms     30 ms     29 ms  192.168.254.201
  5    32 ms     33 ms     30 ms  10.201.176.21
  6    35 ms     32 ms     33 ms  10.201.147.214
  7    34 ms     30 ms     31 ms  10.21.21.22
  8   114 ms    112 ms     56 ms  213.202.4.172
  9     *          *          *    Request timed out.
 10     *          *          *    Request timed out.
 11    61 ms     61 ms     60 ms  134.0.217.233
 12    61 ms     59 ms     79 ms  213.202.4.171
 13    62 ms     62 ms     61 ms  216.239.41.83
 14    62 ms     61 ms     59 ms  142.251.66.203
 15    62 ms     62 ms     61 ms  arn02s05-in-f132.1e100.net [172.217.18.132]

Trace complete.
```

تایم اوت میتواند به دلیل شلوغی شبکه، یا تنظیمات آن روتر خاص باشد.

```
:\Users\Arshia>nslookup
efault Server:  localhost
ddress:  127.0.0.1
```

```
C:\Users\Arshia>nslookup www.google.com
Server:  localhost
Address:  127.0.0.1

Non-authoritative answer:
Name:     www.google.com
Addresses:  2a00:1450:400f:80b::2004
            142.250.74.100
```

```
C:\Users\Arshia>nslookup www.yahoo.com
Server:  localhost
Address:  127.0.0.1

Non-authoritative answer:
Name:     new-fp-shed.wg1.b.yahoo.com
Addresses:  2a00:1288:110:c305::1:8001
            2a00:1288:110:c305::1:8000
            87.248.100.214
```

```
C:\Users\Arshia>arp -a

Interface: 192.168.56.1 --- 0xd
  Internet Address      Physical Address      Type
  192.168.56.255        ff-ff-ff-ff-ff-ff     static
  224.0.0.22            01-00-5e-00-00-16     static
  224.0.0.251           01-00-5e-00-00-fb     static
  224.0.0.252           01-00-5e-00-00-fc     static
  239.255.255.250       01-00-5e-7f-ff-fa     static

Interface: 192.168.202.232 --- 0xe
  Internet Address      Physical Address      Type
  192.168.202.1         a4-18-75-40-42-50     dynamic
  192.168.202.222       4c-eb-bd-6f-52-da     dynamic
  192.168.202.255       ff-ff-ff-ff-ff-ff     static
  224.0.0.22            01-00-5e-00-00-16     static
  224.0.0.251           01-00-5e-00-00-fb     static
  224.0.0.252           01-00-5e-00-00-fc     static
  239.255.255.250       01-00-5e-7f-ff-fa     static
  255.255.255.255       ff-ff-ff-ff-ff-ff     static

Interface: 10.198.75.60 --- 0x17
  Internet Address      Physical Address      Type
  10.198.75.61          00-ff-ef-8e-52-a9     dynamic
  10.198.75.255         ff-ff-ff-ff-ff-ff     static
  224.0.0.22            01-00-5e-00-00-16     static
  224.0.0.251           01-00-5e-00-00-fb     static
  224.0.0.252           01-00-5e-00-00-fc     static
  239.255.255.250       01-00-5e-7f-ff-fa     static
```

```
C:\WINDOWS\system32>arp -s 192.168.56.1 00-11-22-33-44-55

C:\WINDOWS\system32>arp -a

Interface: 192.168.56.1 --- 0xd
  Internet Address      Physical Address      Type
  192.168.56.1          00-11-22-33-44-55     static
  192.168.56.255        ff-ff-ff-ff-ff-ff     static
  224.0.0.22            01-00-5e-00-00-16     static
  224.0.0.251           01-00-5e-00-00-fb     static
  224.0.0.252           01-00-5e-00-00-fc     static
  239.255.255.250       01-00-5e-7f-ff-fa     static
```

```
C:\WINDOWS\system32>arp -d 192.168.56.1

C:\WINDOWS\system32>arp -a

Interface: 192.168.56.1 --- 0xd
  Internet Address      Physical Address      Type
  192.168.56.255        ff-ff-ff-ff-ff-ff     static
  224.0.0.22            01-00-5e-00-00-16     static
  224.0.0.251           01-00-5e-00-00-fb     static
  224.0.0.252           01-00-5e-00-00-fc     static
  239.255.255.250       01-00-5e-7f-ff-fa     static
```

8–

دستور netstat -n تمامی کانکشن های فعال TCP را به صورت ip:port نشان میدهد

```
C:\WINDOWS\system32>netstat -n

Active Connections

  Proto  Local Address          Foreign Address        State
  TCP    10.198.75.60:1030      152.199.19.161:443     CLOSE_WAIT
  TCP    10.198.75.60:1043      204.79.197.200:443     CLOSE_WAIT
  TCP    10.198.75.60:1046      204.79.197.200:443     CLOSE_WAIT
  TCP    10.198.75.60:5687      104.26.6.95:443        ESTABLISHED
  TCP    10.198.75.60:5690      149.154.167.91:443     ESTABLISHED
  TCP    10.198.75.60:5696      149.154.167.91:443     ESTABLISHED
  TCP    10.198.75.60:5697      149.154.167.91:443     ESTABLISHED
  TCP    10.198.75.60:5708      149.154.167.91:443     ESTABLISHED
  TCP    10.198.75.60:5714      3.211.81.239:80        ESTABLISHED
  TCP    10.198.75.60:7243      52.159.49.199:443      ESTABLISHED
  TCP    10.198.75.60:7567      52.159.49.199:443      ESTABLISHED
  TCP    10.198.75.60:13894     185.159.159.140:443    CLOSE_WAIT
  TCP    10.198.75.60:28392     68.232.34.200:443      TIME_WAIT
  TCP    10.198.75.60:28408     151.101.2.137:443      ESTABLISHED
  TCP    10.198.75.60:28422     20.40.245.117:443      CLOSE_WAIT
  TCP    10.198.75.60:28425     2.23.144.179:443       ESTABLISHED
  TCP    10.198.75.60:28435     149.154.166.120:443    TIME_WAIT
  TCP    10.198.75.60:28441     149.154.166.120:443    TIME_WAIT
  TCP    10.198.75.60:28448     20.189.173.13:443      ESTABLISHED
  TCP    10.198.75.60:28451     149.154.165.120:443    ESTABLISHED
  TCP    10.198.75.60:28454     149.154.165.120:80     TIME_WAIT
  TCP    10.198.75.60:30769     13.107.3.254:443       CLOSE_WAIT
  TCP    10.198.75.60:30772     13.107.246.53:443      CLOSE_WAIT
```

اضافه کردن فلگ a-، تمامی کانکشن های فعال را بدون هیچ شرطی نشان میدهد

TCP, UDP, TCPv6, UDPv6

9–

```
Wireless LAN adapter Wi-Fi:

   Connection-specific DNS Suffix  . :
   IPv4 Address. . . . . . . . . . . : 192.168.58.3
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : 192.168.0.1
```

```
Wireless LAN adapter Wi-Fi:

   Connection-specific DNS Suffix  . :
   IPv4 Address. . . . . . . . . . . : 192.168.202.232
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : 192.168.202.1
```

```
   DNS Servers . . . . . . . . . . . : 18.72.0.3
```

```
   DNS Servers . . . . . . . . . . . : 194.146.151.20
                                        194.146.151.21
```

دستور netstat -n تمامی کانکشن های فعال TCP را به صورت ip:port نشان میدهد