

Polecenie netstat

Polecenie netstat służy do wyświetlania informacji o połączeniach sieciowych i statystykach na komputerze. Działanie tego polecenia można modyfikować poprzez przekazanie mu różnych parametrów. a) Sprawdzić jakie informacje są możliwe do uzyskania za pomocą polecenia netstat użytego z wybranymi opcjami (przedstawić uzyskane informacje). Opcja -a: Polecenie -a zmienia działanie podstawowego polecenia poprzez wyświetlenie wszystkich połączeń i oczekujących portów. Wynik zapytania wywołanego w wierszu poleceń:

Active Connections

Proto	Local Address	Foreign Address	State
TCP	0.0.0.0:135	DESKTOP-SSUSOMK:0	LISTENING
TCP	0.0.0.0:445	DESKTOP-SSUSOMK:0	LISTENING
TCP	0.0.0.0:5040	DESKTOP-SSUSOMK:0	LISTENING
TCP	0.0.0.0:5357	DESKTOP-SSUSOMK:0	LISTENING
TCP	0.0.0.0:49664	DESKTOP-SSUSOMK:0	LISTENING
TCP	0.0.0.0:49665	DESKTOP-SSUSOMK:0	LISTENING
TCP	0.0.0.0:49666	DESKTOP-SSUSOMK:0	LISTENING
TCP	0.0.0.0:49667	DESKTOP-SSUSOMK:0	LISTENING
TCP	0.0.0.0:49668	DESKTOP-SSUSOMK:0	LISTENING
TCP	0.0.0.0:49671	DESKTOP-SSUSOMK:0	LISTENING
TCP	127.0.0.1:61620	DESKTOP-SSUSOMK:0	LISTENING
TCP	192.168.13.130:139	DESKTOP-SSUSOMK:0	LISTENING
TCP	192.168.13.130:52971	40.113.110.67:https	ESTABLISHED
TCP	192.168.13.130:53051	40.99.148.114:https	ESTABLISHED
TCP	192.168.13.130:64115	52.97.190.34:https	ESTABLISHED
TCP	192.168.13.130:64132	1b-140-82-114-26-iad:https	ESTABLISHED
TCP	192.168.13.130:64204	52.98.54.130:https	ESTABLISHED
TCP	192.168.13.130:64205	152.199.19.161:https	CLOSE_WAIT
TCP	192.168.13.130:64228	146.75.116.134:https	ESTABLISHED
TCP	192.168.13.130:64230	151.101.128.134:https	ESTABLISHED
TCP	192.168.13.130:64231	151.101.64.134:https	ESTABLISHED

Opcja -e:

Polecenie -e zmienia działanie podstawowego polecenia na wyświetlenie statystyk Ethernet'u. Wynik zapytania wywołanego w wierszu poleceń

Interface Statistics		
	Received	Sent
Bytes	1479539200	62959560
Unicast packets	1058512	562876
Non-unicast packets	16268	1028
Discards	0	0
Errors	0	0
Unknown protocols	0	

Opcja -n:

Polecenie -n zmienia działanie podstawowego polecenia poprzez wyświetlenie adresów i portów w postaci liczbowej. Wynik zapytania wywołanego w wierszu poleceń

Active Connections			
Proto	Local Address	Foreign Address	State
TCP	192.168.13.130:52971	40.113.110.67:443	ESTABLISHED
TCP	192.168.13.130:53051	40.99.148.114:443	ESTABLISHED
TCP	192.168.13.130:64115	52.97.190.34:443	ESTABLISHED
TCP	192.168.13.130:64132	140.82.114.26:443	ESTABLISHED
TCP	192.168.13.130:64204	52.98.54.130:443	ESTABLISHED
TCP	192.168.13.130:64259	52.111.209.3:443	ESTABLISHED
TCP	192.168.13.130:64261	52.111.209.3:443	ESTABLISHED
TCP	192.168.13.130:64281	146.75.116.134:443	ESTABLISHED
TCP	192.168.13.130:64284	151.101.64.134:443	ESTABLISHED
TCP	192.168.13.130:64289	151.101.0.134:443	ESTABLISHED
TCP	192.168.13.130:64295	146.75.116.134:443	ESTABLISHED
TCP	192.168.13.130:64319	152.199.21.118:443	CLOSE_WAIT
TCP	192.168.13.130:64331	20.254.138.227:443	TIME_WAIT
TCP	192.168.13.130:64334	52.98.239.194:443	TIME_WAIT
TCP	192.168.13.130:64335	52.98.239.194:443	TIME_WAIT
TCP	192.168.13.130:64336	178.79.232.140:80	TIME_WAIT
TCP	192.168.13.130:64337	178.79.232.140:80	TIME_WAIT
TCP	192.168.13.130:64338	20.54.232.160:443	TIME_WAIT
TCP	192.168.13.130:64341	52.109.89.36:443	ESTABLISHED
TCP	192.168.13.130:64342	162.159.135.234:443	ESTABLISHED
TCP	192.168.13.130:64345	20.54.232.160:443	ESTABLISHED
TCP	192.168.13.130:64346	52.109.76.225:443	TIME_WAIT
TCP	192.168.13.130:64347	52.109.76.225:443	TIME_WAIT

Opcja -p:

Polecenie -p zmienia działanie podstawowego polecenia poprzez wyświetlenie połączeń tylko dla wybranego protokołu. Może być wybrany protokół TCP lub UDP. Wynik zapytania wywołanego w wierszu poleceń

```
Active Connections

Proto Local Address Foreign Address State
TCP 192.168.13.130:52971 40.113.110.67:https ESTABLISHED
TCP 192.168.13.130:53051 40.99.148.114:https ESTABLISHED
TCP 192.168.13.130:64115 52.97.190.34:https ESTABLISHED
TCP 192.168.13.130:64204 52.98.54.130:https ESTABLISHED
TCP 192.168.13.130:64259 52.111.209.3:https ESTABLISHED
TCP 192.168.13.130:64261 52.111.209.3:https ESTABLISHED
TCP 192.168.13.130:64319 152.199.21.118:https CLOSE_WAIT
TCP 192.168.13.130:64351 20.54.232.160:https TIME_WAIT
TCP 192.168.13.130:64354 server-18-66-233-84:https ESTABLISHED
TCP 192.168.13.130:64355 172.67.72.5:https ESTABLISHED
TCP 192.168.13.130:64357 muc03s08-in-f42:https ESTABLISHED
TCP 192.168.13.130:64358 waw02s22-in-f4:https ESTABLISHED
TCP 192.168.13.130:64359 104.18.12.69:https ESTABLISHED
TCP 192.168.13.130:64360 104.18.13.69:https ESTABLISHED
TCP 192.168.13.130:64361 104.17.25.14:https ESTABLISHED
TCP 192.168.13.130:64362 104.22.6.203:https ESTABLISHED
TCP 192.168.13.130:64366 192.178.25.163:https ESTABLISHED
TCP 192.168.13.130:64369 104.18.13.69:https ESTABLISHED
TCP 192.168.13.130:64373 waw02s22-in-f3:https ESTABLISHED
TCP 192.168.13.130:64374 waw02s22-in-f4:https ESTABLISHED
TCP 192.168.13.130:64375 waw02s22-in-f3:https ESTABLISHED
TCP 192.168.13.130:64377 192.178.25.163:https ESTABLISHED
TCP 192.168.13.130:64378 lb-140-82-114-25-iad:https ESTABLISHED
TCP 192.168.13.130:64381 162.159.134.234:https ESTABLISHED
```

Opcja -r:

Polecenie -r zmienia działanie podstawowego polecenia poprzez wyświetlenie tabeli routingu. Wynik zapytania wywołanego w wierszu poleceń:

```
=====
Interface List
14...ec f4 bb 07 18 62 .....Intel(R) Ethernet Connection I218-LM
6...fc f8 ae 77 3f db .....Microsoft Wi-Fi Direct Virtual Adapter
3...fe f8 ae 77 3f da .....Microsoft Wi-Fi Direct Virtual Adapter #2
18...fc f8 ae 77 3f de .....Bluetooth Device (Personal Area Network)
1.....Software Loopback Interface 1
4...fc f8 ae 77 3f da .....Intel(R) Dual Band Wireless-AC 7260
=====

IPv4 Route Table
=====
Active Routes:
Network Destination        Netmask          Gateway           Interface        Metric
0.0.0.0                    0.0.0.0          192.168.13.1      192.168.13.130    25
127.0.0.0                  255.0.0.0        On-link           127.0.0.1         331
127.0.0.1                  255.255.255.255  On-link           127.0.0.1         331
127.255.255.255            255.255.255.255  On-link           127.0.0.1         331
192.168.13.0                255.255.255.0    On-link           192.168.13.130    281
192.168.13.130              255.255.255.255  On-link           192.168.13.130    281
192.168.13.255              255.255.255.255  On-link           192.168.13.130    281
224.0.0.0                  240.0.0.0        On-link           127.0.0.1         331
224.0.0.0                  240.0.0.0        On-link           192.168.13.130    281
255.255.255.255            255.255.255.255  On-link           127.0.0.1         331
255.255.255.255            255.255.255.255  On-link           192.168.13.130    281
=====
Persistent Routes:
None

IPv6 Route Table
=====
Active Routes:
If Metric Network Destination      Gateway
1      331 ::1/128                  On-link
14     281 fe80::/64                On-link
14     281 fe80::de87:2b16:276:af72/128
                                           On-link
1      331 ff00::/8                 On-link
14     281 ff00::/8                 On-link
=====
Persistent Routes:
None
```

Opcja -s:

Polecenie -s zmienia działanie podstawowego polecenia poprzez wyświetlenie statystyki dla wybranego protokołu. Domyślnie jest to statystyka dla protokołów TCP, UDP, IP. Wynik zapytania wywołanego w wierszu poleceń

```
C:\Users\Stan>netstat -s

IPv4 Statistics

Packets Received           = 321798
Received Header Errors     = 0
Received Address Errors    = 21
Datagrams Forwarded        = 0
Unknown Protocols Received = 0
Received Packets Discarded = 4421
Received Packets Delivered = 322655
Output Requests            = 226311
Routing Discards           = 0
Discarded Output Packets   = 272
Output Packet No Route     = 10
Reassembly Required        = 0
Reassembly Successful      = 0
Reassembly Failures        = 0
Datagrams Successfully Fragmented = 0
Datagrams Failing Fragmentation = 0
Fragments Created          = 0
```