Εργασία εργαστηρίου Δίκτυα Υπολογιστών

Όνομα: Ζηνοβία Γκόυμα

ΑΜ: Π20048

[Μέρος α]

Δραστηριότητα 1η

1.1)Hostname: Χρησιμοποιείται για την εμφάνιση του ονόματος DNS (Domain Host Name) και τον ορισμό του ονόματος του κεντρικού υπολογιστή.

Παράδειγμα:

```
c:\Games> hostname

    DESKTOP-53I8DNP
```

ipconfig : Χρησιμοποιείται για την προβολή των βασικών πληροφοριών των καρτών δικτύου του υπολογιστή.

Παράδειγμα:

c:\Games>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet:

  Media State . . . . : Media disconnected

  Connection-specific DNS Suffix . :

Ethernet adapter VirtualBox Host-Only Network:

  Connection-specific DNS Suffix . :

Link-local IPv6 Address . . . . . : fe80::c46f:feab:8eef:375b%5

IPv4 Address. . . . . : 192.168.56.1

Subnet Mask . . . . : 255.255.255.0

Default Gateway . . . . :

Wireless LAN adapter Local Area Connection* 1:

Media State . . . . : Media disconnected

Connection-specific DNS Suffix . :

Wireless LAN adapter Local Area Connection* 2:

Media State . . . . : Media disconnected

Connection-specific DNS Suffix . :

Wireless LAN adapter WiFi:

Connection-specific DNS Suffix . : Speedport_W_724V_09071602_00_023A

IPv6 Address. . . . . : 2a02:587:2461:24f4:206b:624e:78f2:cbdd

IPv6 Address. . . . . : 2a02:587:2461:2473:206b:624e:78f2:cbdd

Temporary IPv6 Address. . . . . . : 2a02:587:2461:24f4:e067:2f8e:da06:36e

Link-local IPv6 Address . . . . . : fe80::206b:624e:78f2:cbdd%18

IPv4 Address. . . . . : 192.168.1.7

Subnet Mask . . . . : 255.255.255.0

Default Gateway . . . . : fe80::964a:cff:fe2e:79e0%18

                            192.168.1.1

 Κάποιες παράμετροι είναι:

ipconfig /all : Εμφανίζει εκτενείς πληροφορίες για τις εγκατεστημένες κάρτες δικτύου, όπως είναι πληροφορίες για τους servers DHCP και DNS.

<u>Παράδειγμα</u>:

```
c:\Games>ipconfig /all


Windows IP Configuration


  Host Name . . . . . . . . . . . . : DESKTOP-53I8DNP
  Primary Dns Suffix  . . . . . . . :
  Node Type . . . . . . . . . . . . : Hybrid
  IP Routing Enabled. . . . . . . . : No
  WINS Proxy Enabled. . . . . . . . : No
  DNS Suffix Search List. . . . . . : Speedport_W_724V_09071602_00_023A


Ethernet adapter Ethernet:


  Media State . . . . . . . . . . . : Media disconnected
  Connection-specific DNS Suffix  . :
  Description . . . . . . . . . . . : Intel(R) 82579LM Gigabit Network
Connection
  Physical Address. . . . . . . . . : D8-9D-67-D1-BC-4B
  DHCP Enabled. . . . . . . . . . . : Yes
  Autoconfiguration Enabled . . . . : Yes


Ethernet adapter VirtualBox Host-Only Network:


  Connection-specific DNS Suffix  . :
  Description . . . . . . . . . . . : VirtualBox Host-Only Ethernet Adapter
  Physical Address. . . . . . . . . : 0A-00-27-00-00-05
```

```
   DHCP Enabled. . . . . . . . . . . : No

   Autoconfiguration Enabled . . . . : Yes

   Link-local IPv6 Address . . . . . : fe80::c46f:feab:8eef:375b%5(Preferred)

   IPv4 Address. . . . . . . . . . . : 192.168.56.1(Preferred)

   Subnet Mask . . . . . . . . . . . : 255.255.255.0

   Default Gateway . . . . . . . . . :

   DHCPv6 IAID . . . . . . . . . . . : 705298471

   DHCPv6 Client DUID. . . . . . . . : 00-01-00-01-24-22-25-85-D8-9D-67-D1-
BC-4B

   DNS Servers . . . . . . . . . . . : fec0:0:0:ffff::1%1

                                       fec0:0:0:ffff::2%1

                                       fec0:0:0:ffff::3%1

   NetBIOS over Tcpip. . . . . . . . : Enabled


Wireless LAN adapter Local Area Connection* 1:


   Media State . . . . . . . . . . . : Media disconnected

   Connection-specific DNS Suffix  . :

   Description . . . . . . . . . . . : Microsoft Wi-Fi Direct Virtual Adapter

   Physical Address. . . . . . . . . : 3C-A9-F4-19-C9-85

   DHCP Enabled. . . . . . . . . . . : Yes

   Autoconfiguration Enabled . . . . : Yes


Wireless LAN adapter Local Area Connection* 2:


   Media State . . . . . . . . . . . : Media disconnected

   Connection-specific DNS Suffix  . :

   Description . . . . . . . . . . . : Microsoft Wi-Fi Direct Virtual Adapter
#2

   Physical Address. . . . . . . . . : 3E-A9-F4-19-C9-84
```

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

Autoconfiguration Enabled . . . . : Yes


Wireless LAN adapter WiFi:


   Connection-specific DNS Suffix  . : Speedport_W_724V_09071602_00_023A

   Description . . . . . . . . . . . : Intel(R) Centrino(R) Ultimate-N 6300
AGN

   Physical Address. . . . . . . . . : 3C-A9-F4-19-C9-84

   DHCP Enabled. . . . . . . . . . . : Yes

   Autoconfiguration Enabled . . . . : Yes

   IPv6 Address. . . . . . . . . . . :
2a02:587:2461:24f8:206b:624e:78f2:cbdd(Preferred)

   IPv6 Address. . . . . . . . . . . :
2a02:587:2461:2473:206b:624e:78f2:cbdd(Deprecated)

   IPv6 Address. . . . . . . . . . . :
2a02:587:2461:24f4:206b:624e:78f2:cbdd(Deprecated)

   Temporary IPv6 Address. . . . . . :
2a02:587:2461:24f4:e067:2f8e:da06:36e(Deprecated)

   Temporary IPv6 Address. . . . . . :
2a02:587:2461:24f8:b986:39c9:aded:784b(Preferred)

   Link-local IPv6 Address . . . . . :
fe80::206b:624e:78f2:cbdd%18(Preferred)

   IPv4 Address. . . . . . . . . . . : 192.168.1.7(Preferred)

   Subnet Mask . . . . . . . . . . . : 255.255.255.0

   Lease Obtained. . . . . . . . . . : 10 April 2022 19:49:17

   Lease Expires . . . . . . . . . . : 03 May 2022 19:23:45

   Default Gateway . . . . . . . . . : fe80::964a:cff:fe2e:79e0%18

                                       192.168.1.1

   DHCP Server . . . . . . . . . . . : 192.168.1.1

   DHCPv6 IAID . . . . . . . . . . . : 138193396
```

DHCPv6 Client DUID. . . . . : 00-01-00-01-24-22-25-85-D8-9D-67-D1-
BC-4B

       DNS Servers . . . . : fe80::964a:cff:fe2e:79e0%

                                            192.168.1.1

                                            192.168.1.1

       NetBIOS over Tcpip. . . . . : Enabled

ipconfig /release: Ελευθερώνει την τρέχουσα διεύθυνση IP, ενημερώνοντας τον DHCP server ότι ο υπολογιστής δεν θέλει να έχει πλέον εκχωρημένη την διεύθυνση αυτή.

Παράδειγμα:

   c:\Games>ipconfig /release

Windows IP Configuration

No operation can be performed on Ethernet while it has its media disconnected.

No operation can be performed on Local Area Connection* 1 while it has its media disconnected.

No operation can be performed on Local Area Connection* 2 while it has its media disconnected.

Ethernet adapter Ethernet:

   Media State . . . . : Media disconnected

   Connection-specific DNS Suffix . :

Ethernet adapter VirtualBox Host-Only Network:

   Connection-specific DNS Suffix . :

   Link-local IPv6 Address . . . . . : fe80::c46f:feab:8eef:375b%5

   IPv4 Address. . . . . : 192.168.56.1

   Subnet Mask . . . . : 255.255.255.0

   Default Gateway . . . . :

```
Wireless LAN adapter Local Area Connection* 1:


   Media State . . . . . . . . . . . : Media disconnected

   Connection-specific DNS Suffix  . :


Wireless LAN adapter Local Area Connection* 2:


   Media State . . . . . . . . . . . : Media disconnected

   Connection-specific DNS Suffix  . :
Wireless LAN adapter WiFi:

   Connection-specific DNS Suffix  . :

   IPv6 Address. . . . . . . . . . . : 2a02:587:2461:24f8:206b:624e:78f2:cbdd

   IPv6 Address. . . . . . . . . . . : 2a02:587:2461:24f4:206b:624e:78f2:cbdd

   Temporary IPv6 Address. . . . . . : 2a02:587:2461:24f8:e10d:e680:503c:7fec

   Link-local IPv6 Address . . . . . : fe80::206b:624e:78f2:cbdd%18

   Default Gateway . . . . . . . . . : fe80::964a:cff:fe2e:79e0%18
```

ipconfig /renew: Αυτή η εντολή ζητάει απ'τον DHCP server μία καινούργια διεύθυνση IP, αφού έχει απελευθερωθεί η παλιά.

 <u>Παράδειγμα</u>:

   c:\Games>ipconfig /renew

Windows IP Configuration

No operation can be performed on Ethernet while it has its media disconnected.

No operation can be performed on Local Area Connection* 1 while it has its media disconnected.

Ethernet adapter Ethernet:

```
   Media State . . . . . . . . . . . : Media disconnected

   Connection-specific DNS Suffix  . :


Ethernet adapter VirtualBox Host-Only Network:

   Connection-specific DNS Suffix  . :

   Link-local IPv6 Address . . . . . : fe80::c46f:feab:8eef:375b%5

   IPv4 Address. . . . . . . . . . . : 192.168.56.1

   Subnet Mask . . . . . . . . . . . : 255.255.255.0

   Default Gateway . . . . . . . . . :


Wireless LAN adapter Local Area Connection* 1:

   Media State . . . . . . . . . . . : Media disconnected

   Connection-specific DNS Suffix  . :


Wireless LAN adapter WiFi:

   Connection-specific DNS Suffix  . : Speedport_W_724V_09071602_00_023A

   IPv6 Address. . . . . . . . . . . : 2a02:587:2461:24f8:206b:624e:78f2:cbdd

   IPv6 Address. . . . . . . . . . . : 2a02:587:2461:24f4:206b:624e:78f2:cbdd

   Temporary IPv6 Address. . . . . . : 2a02:587:2461:24f8:8818:ec5a:feba:22d8

   Link-local IPv6 Address . . . . . : fe80::206b:624e:78f2:cbdd%18

   IPv4 Address. . . . . . . . . . . : 192.168.1.7

   Subnet Mask . . . . . . . . . . . : 255.255.255.0

   Default Gateway . . . . . . . . . : fe80::964a:cff:fe2e:79e0%18

                                       192.168.1.1
```

ipconfig /flushdns: Χρησιμοποιείται για την εκκαθάριση της DNS cache του υπολογιστή.

Παράδειγμα:

        c:\Games>ipconfig /flushdns

         Windows IP Configuration

Successfully flushed the DNS Resolver Cache.

ipconfig /displaydns: Προβάλλει το σύνολο των καταχωρήσεων στην DNS cache.

<u>Παράδειγμα</u>:

c:\Games>ipconfig /displaydns

Windows IP Configuration

google-bidout-d.openx.net

Record Name . . . . . : google-bidout-d.openx.net

Record Type . . . . . : 1

Time To Live . . . . : 235

Data Length . . . . . : 4

Section . . . . : Answer

A (Host) Record . . . : 35.244.159.8

Record Name . . . . . : google-bidout-d.openx.net

Record Type . . . . . : 1

Time To Live . . . . : 235

Data Length . . . . . : 4

Section . . . . : Answer

A (Host) Record . . . : 34.98.64.218

teams.microsoft.com

Record Name . . . . . : teams.microsoft.cOM

Record Type . . . . . : 5

Time To Live . . . . : 14

Data Length . . . . . : 8

Section . . . . : Answer

CNAME Record . . . . : teams.office.cOM

netstat: Είναι ιδιαίτερα χρήσιμη για την αντιμετώπιση προβλημάτων σύνδεσης TCP/IP. Κατά την χρήση της, προβάλλει όλες τις ενεργές συνδέσεις TCP.

<u>Παράδειγμα</u>:

c:\Games>netstat

Active Connections

Proto	Local Address	Foreign Address	State
TCP	192.168.1.5:53864	20.199.120.151:https	ESTABLISHED
TCP	192.168.1.5:53892	5.62.53.131:http	ESTABLISHED
TCP	192.168.1.5:53895	fra02-014:http	ESTABLISHED
TCP	192.168.1.5:55138	93.184.220.29:http	CLOSE_WAIT
TCP	192.168.1.5:59532	a92-123-225-113:https	CLOSE_WAIT
TCP	192.168.1.5:59533	a92-123-225-113:https	CLOSE_WAIT
TCP	192.168.1.5:59534	212.205.126.80:https	CLOSE_WAIT
TCP	192.168.1.5:59893	52.112.113.6:https	ESTABLISHED
TCP	192.168.1.5:59897	236:https	ESTABLISHED

Κάποιες παράμετροι είναι:

netstat -a: Εμφανίζει όλες τις συνδέσεις TCP (ενεργές και μη) και τις θύρες TCP και UDP στις οποίες ακούει ο υπολογιστής.

<u>Παράδειγμα</u>:

c:\Games>netstat -a

Active Connections

Proto	Local Address	Foreign Address	State
TCP	0.0.0.0:135	DESKTOP-53I8DNP:0	LISTENING
TCP	0.0.0.0:445	DESKTOP-53I8DNP:0	LISTENING
TCP	0.0.0.0:5040	DESKTOP-53I8DNP:0	LISTENING

```
TCP    0.0.0.0:5432          DESKTOP-53I8DNP:0      LISTENING

TCP    0.0.0.0:49664         DESKTOP-53I8DNP:0      LISTENING

TCP    0.0.0.0:49665         DESKTOP-53I8DNP:0      LISTENING

TCP    0.0.0.0:49666         DESKTOP-53I8DNP:0      LISTENING

TCP    0.0.0.0:49667         DESKTOP-53I8DNP:0      LISTENING

TCP    0.0.0.0:49668         DESKTOP-53I8DNP:0      LISTENING

TCP    192.168.1.5:53895      fra02-014:http        ESTABLISHED

TCP    192.168.1.5:55138      93.184.220.29:http    CLOSE_WAIT

TCP    192.168.1.5:59971      a23-39-67-186:https   CLOSE_WAIT

TCP    192.168.1.5:59977      a92-123-225-113:https LAST_ACK

TCP    192.168.1.5:59978      a92-123-225-113:https LAST_ACK

TCP    192.168.1.5:59979      212.205.126.80:https  LAST_ACK

TCP    192.168.1.5:60011      52.112.113.10:https   ESTABLISHED

UDP    [::]:60831            *:*

UDP    [::]:63451            *:*

UDP    [::1]:1900            *:*

UDP    [::1]:62471           *:*

UDP    [2a02:587:243e:da89:206b:624e:78f2:cbdd]:2177  *:*

UDP    [2a02:587:243e:da89:d0f4:695:9730:f7d7]:2177  *:*

UDP    [fe80::c46f:feab:8eef:375b%5]:2177  *:*

UDP    [fe80::c46f:feab:8eef:375b%5]:62469  *:*
```

netstat –p (proto): Χρησιμοποιείται για την εμφάνιση των συνδέσεων ανά πρωτόκολλο (Όπου proto, τα tcp, udp, tcpv6 ή udpv6).

<u>Παράδειγμα</u>:

```
c:\Games>netstat -p tcp

Active Connections


Proto  Local Address        Foreign Address       State
```

```
TCP    192.168.1.5:53864     20.199.120.151:https   ESTABLISHED

TCP    192.168.1.5:53892     5.62.53.131:http       ESTABLISHED

TCP    192.168.1.5:53895     fra02-014:http         ESTABLISHED

TCP    192.168.1.5:55138     93.184.220.29:http     CLOSE_WAIT

TCP    192.168.1.5:59971     a23-39-67-186:https    CLOSE_WAIT

TCP    192.168.1.5:60447     a92-123-225-113:https  CLOSE_WAIT

TCP    192.168.1.5:60448     a92-123-225-113:https  CLOSE_WAIT
```

netstat -e: Δημιουργεί μια στατιστική της διεπαφής δικτύου, η οποία προβάλλει πληροφορίες όπως τον αριθμό των byte, τα unicast και non-unicast πακέτα, κλπ.

```
c:\Games>netstat -e

Interface Statistics


                              Received          Sent

Bytes                       3658598146      468008520

Unicast packets                3530254        1872885

Non-unicast packets              84721          54887

Discards                             0              0

Errors                               0              0

Unknown protocols                    0
```

netstat –s: Προβάλλει στατιστικά στοιχεία για όλα τα διαθέσιμα πρωτόκολλα (συμπεριλαμβανόμενων των TCP, UDP, ICMP και IP).

<u>Παράδειγμα</u>:

```
c:\Games>netstat -s


IPv4 Statistics

Packets Received                = 4783334
```

Received Header Errors   = 0

Received Address Errors   = 13

Datagrams Forwarded   = 0

Unknown Protocols Received   = 0

Received Packets Discarded   = 50134

Received Packets Delivered   = 4876809

Output Requests   = 947165

Routing Discards   = 0

Discarded Output Packets   = 123

Output Packet No Route   = 180

Reassembly Required   = 0

Reassembly Successful   = 0

Reassembly Failures   = 0

Datagrams Successfully Fragmented = 0

Datagrams Failing Fragmentation   = 0

Fragments Created   = 0

IPv6 Statistics

Packets Received   = 8810504

Received Header Errors   = 0

Received Address Errors   = 56

Datagrams Forwarded   = 0

Unknown Protocols Received   = 613

Received Packets Discarded   = 5915

Received Packets Delivered   = 8850710

Output Requests   = 1232104

Routing Discards   = 0

Discarded Output Packets   = 306

Output Packet No Route   = 123

Reassembly Required   = 0

Reassembly Successful   = 0

Reassembly Failures   = 0

Datagrams Successfully Fragmented   = 0

Datagrams Failing Fragmentation   = 0

Fragments Created   = 0

ICMPv4 Statistics

	Received	Sent
Messages	94	4095
Errors	0	0
Destination Unreachable	59	4061
Time Exceeded	25	0
Parameter Problems	0	0
Source Quenches	0	0
Redirects	0	0
Echo Replies	10	0
Echos	0	34
Timestamps	0	0
Timestamp Replies	0	0
Address Masks	0	0
Address Mask Replies	0	0
Router Solicitations	0	0
Router Advertisements	0	0

ICMPv6 Statistics

	Received	Sent
Messages	24537	23289

Errors	0	0
Destination Unreachable	331	1193
Packet Too Big	0	0
Time Exceeded	19	0
Parameter Problems	0	0
Echos	5	26
Echo Replies	21	0
MLD Queries	2	0
MLD Reports	0	0
MLD Dones	0	0
Router Solicitations	0	177
Router Advertisements	6347	0
Neighbor Solicitations	14648	6714
Neighbor Advertisements	2519	15179
Redirects	12	0
Router Renumberings	0	0
Type 139	139	72
Type 143	143	561

TCP Statistics for IPv4

Active Opens	= 19701
Passive Opens	= 126
Failed Connection Attempts	= 586
Reset Connections	= 9560
Current Connections	= 16
Segments Received	= 901653
Segments Sent	= 416916
Segments Retransmitted	= 0

TCP Statistics for IPv6

Active Opens	= 6709
Passive Opens	= 0
Failed Connection Attempts	= 1417
Reset Connections	= 1672
Current Connections	= 19
Segments Received	= 659909
Segments Sent	= 303460
Segments Retransmitted	= 0

UDP Statistics for IPv4

Datagrams Received	= 3920817
No Ports	= 25881
Receive Errors	= 53378
Datagrams Sent	= 318345

UDP Statistics for IPv6

Datagrams Received	= 4117957
No Ports	= 2524
Receive Errors	= 4060646
Datagrams Sent	= 805453

route <command>: Χρησιμοποιείται για την προβολή και τον χειρισμό του πίνακα δρομολόγησης IP.

route print: Εμφανίζει τον πίνακα δρομολόγησης του υπολογιστή.

<u>Παράδειγμα:</u>

 c:\Games>route print

===

Interface List

 14...d8 9d 67 d1 bc 4b ......Intel(R) 82579LM Gigabit Network Connection

 5...0a 00 27 00 00 05 ......VirtualBox Host-Only Ethernet Adapter

 4...3c a9 f4 19 c9 85 ......Microsoft Wi-Fi Direct Virtual Adapter

 6...3e a9 f4 19 c9 84 ......Microsoft Wi-Fi Direct Virtual Adapter #2

 18...3c a9 f4 19 c9 84 ......Intel(R) Centrino(R) Ultimate-N 6300 AGN

 1...........................Software Loopback Interface 1

===

IPv4 Route Table

===

Active Routes:

Network Destination	Netmask	Gateway	Interface	Metric
0.0.0.0	0.0.0.0	192.168.1.1	192.168.1.5	50
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
192.168.1.0	255.255.255.0	On-link	192.168.1.5	306
192.168.1.5	255.255.255.255	On-link	192.168.1.5	306
192.168.1.255	255.255.255.255	On-link	192.168.1.5	306
192.168.56.0	255.255.255.0	On-link	192.168.56.1	281

```
   192.168.56.1  255.255.255.255      On-link    192.168.56.1   281

  192.168.56.255  255.255.255.255      On-link    192.168.56.1   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    192.168.56.1   281

    224.0.0.0      240.0.0.0     On-link     192.168.1.5   306

 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    192.168.56.1   281

 255.255.255.255  255.255.255.255      On-link     192.168.1.5   306

===========================================================================
```

Persistent Routes:

 None

IPv6 Route Table

===

Active Routes:

 If Metric Network Destination   Gateway

 18   66 ::/0   fe80::964a:cff:fe2e:79e0

  1   331 ::1/128   On-link

 18   66 2a02:587:243e:da89::/64 On-link

 18   306 2a02:587:243e:da89:206b:624e:78f2:cbdd/128

              On-link

 18   306 2a02:587:243e:da89:d0f4:695:9730:f7d7/128

              On-link

 18   66 2a02:587:243e:dae8::/64 On-link

 18   306 2a02:587:243e:dae8:206b:624e:78f2:cbdd/128

              On-link

 18   306 2a02:587:243e:dae8:6d0b:e68a:3553:104b/128

              On-link

  5   281 fe80::/64   On-link
```

18   306 fe80::/64                 On-link

18   306 fe80::206b:624e:78f2:cbdd/128

                         On-link

 5   281 fe80::c46f:feab:8eef:375b/128

                         On-link

 1   331 ff00::/8                  On-link

 5   281 ff00::/8                  On-link

18   306 ff00::/8                   On-link

=============================================================================

Persistent Routes:

 None


**1.2)** Όνομα υπολογιστή: DESKTOP-53I8DNP
     workstation domain: WORKGROUP

```
c:\Games>net config workstation
Computer name                       \\DESKTOP-53I8DNP
Full Computer name                  DESKTOP-53I8DNP
User name                           user

Workstation active on
        NetBT_Tcpip_{1A9B5DDE-7192-4779-AA31-C214EF42ED5F} (0A0027000005)

Software version                    Windows 10 Pro

Workstation domain                  WORKGROUP
Logon domain                        DESKTOP-53I8DNP

COM Open Timeout (sec)              0
COM Send Count (byte)               16
COM Send Timeout (msec)             250
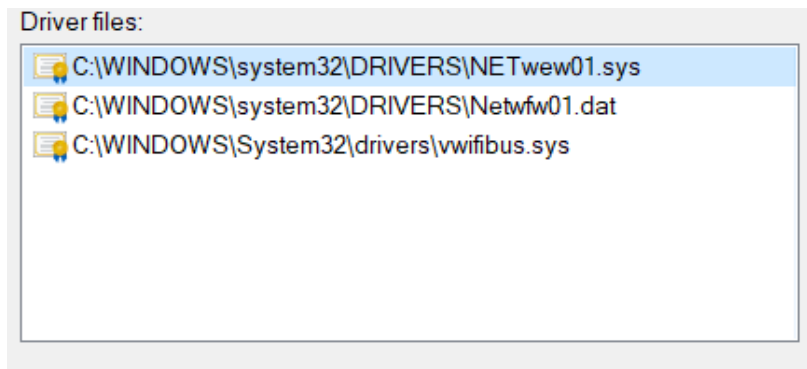The command completed successfully.
```

Δραστηριότητα 2η

2.1) Network Adapter: Client for Microsoft Networks

2.2) Ταχύτητα σύνδεσης: 11Mbps

2.3) MAC address: 3C-A9-F4-19-C9-84

2.4) Κατασκευαστής κάρτας δικτύωσης: Intel Corporation

2.5) Driver Version: 15.16.0.2   και τα ονόματα των αρχείων είναι:

Driver files:

C:\WINDOWS\system32\DRIVERS\NETwew01.sys
C:\WINDOWS\system32\DRIVERS\Netwfw01.dat
C:\WINDOWS\System32\drivers\vwifibus.sys

2.6)

Networking	Sharing

Connect using:

Intel(R) Centrino(R) Ultimate-N 6300 AGN

Configure...

This connection uses the following items:

☑ Client for Microsoft Networks
☑ File and Printer Sharing for Microsoft Networks
☑ VirtualBox NDIS6 Bridged Networking Driver
☑ QoS Packet Scheduler
☑ Internet Protocol Version 4 (TCP/IPv4)
☐ Microsoft Network Adapter Multiplexor Protocol
☑ Microsoft LLDP Protocol Driver

Networking	Sharing

Connect using:

Intel(R) Centrino(R) Ultimate-N 6300 AGN

Configure...

This connection uses the following items:

☑ QoS Packet Scheduler
☑ Internet Protocol Version 4 (TCP/IPv4)
☐ Microsoft Network Adapter Multiplexor Protocol
☑ Microsoft LLDP Protocol Driver
☑ Internet Protocol Version 6 (TCP/IPv6)
☑ Link-Layer Topology Discovery Responder
☑ Link-Layer Topology Discovery Mapper I/O Driver

Δραστηριότητα 3 η

3.1) Η διεύθυνση IP είναι: 192.168.1.5

3.2) Η μάσκα υποδικτύου είναι: 255.255.255.0

3.3) Η διεύθυνση του υποδικτύου είναι : 192.168.1.0

3.4) Μπορούν να διευθυσιοδοτηθούν 253 σταθμοί.

3.5) Η διεύθυνση πύλης είναι: 192.168.1.1

3.6) Το όνομα της DNS είναι:

```
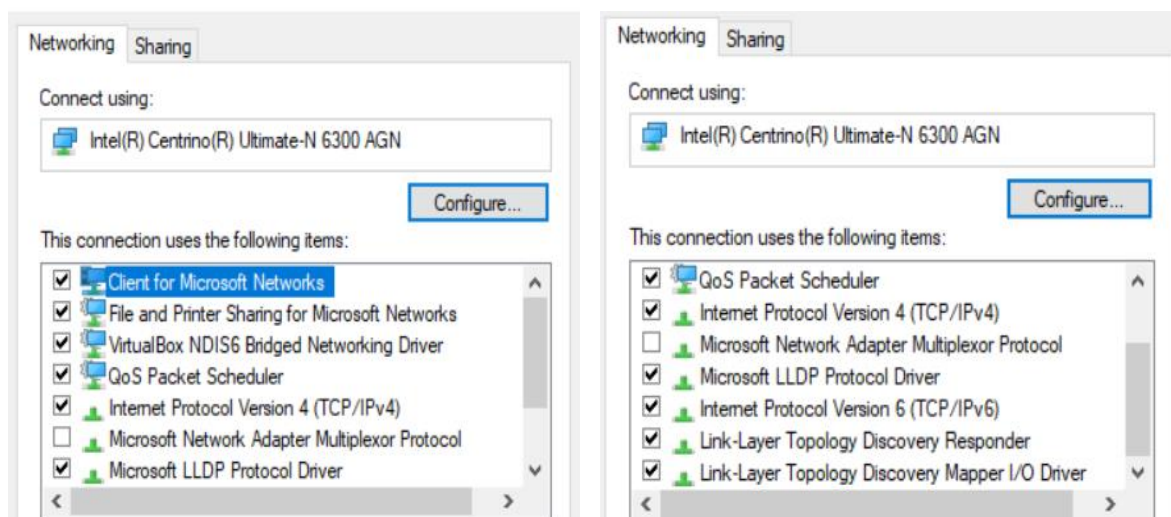DNS Servers . . . . . . . . . . . : fe80::964a:cff:fe2e:79e0%18
                                     192.168.1.1
                                     192.168.1.1
```

3.7) Η διεύθυνση IP του DNS είναι: 192.168.1.1

3.8) Η διεύθυνση IP του DHCP είναι :

```
DHCP Server . . . . . . . . . . . : 192.168.1.1
```

3.9) Χρισημοποιείται η εντολή route print

```
IPv4 Route Table
===========================================================================
Active Routes:
Network Destination        Netmask          Gateway       Interface  Metric
          0.0.0.0          0.0.0.0      192.168.1.1      192.168.1.5     50
        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
      192.168.1.0    255.255.255.0         On-link       192.168.1.5    306
      192.168.1.5  255.255.255.255         On-link       192.168.1.5    306
    192.168.1.255  255.255.255.255         On-link       192.168.1.5    306
     192.168.56.0    255.255.255.0         On-link      192.168.56.1    281
     192.168.56.1  255.255.255.255         On-link      192.168.56.1    281
   192.168.56.255  255.255.255.255         On-link      192.168.56.1    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      192.168.56.1    281
        224.0.0.0        240.0.0.0         On-link       192.168.1.5    306
  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      192.168.56.1    281
  255.255.255.255  255.255.255.255         On-link       192.168.1.5    306
===========================================================================
```

```
IPv6 Route Table
===============================================================================
Active Routes:
 If Metric Network Destination       Gateway
 18     66 ::/0                       fe80::964a:cff:fe2e:79e0
  1    331 ::1/128                    On-link
 18     66 2a02:587:243e:da89::/64   On-link
 18    306 2a02:587:243e:da89:206b:624e:78f2:cbdd/128
                                      On-link
 18    306 2a02:587:243e:da89:d0f4:695:9730:f7d7/128
                                      On-link
 18     66 2a02:587:243e:dae8::/64   On-link
 18    306 2a02:587:243e:dae8:206b:624e:78f2:cbdd/128
                                      On-link
 18    306 2a02:587:243e:dae8:6d0b:e68a:3553:104b/128
                                      On-link
  5    281 fe80::/64                  On-link
 18    306 fe80::/64                  On-link
 18    306 fe80::206b:624e:78f2:cbdd/128
                                      On-link
  5    281 fe80::c46f:feab:8eef:375b/128
                                      On-link
  1    331 ff00::/8                   On-link
  5    281 ff00::/8                   On-link
 18    306 ff00::/8                   On-link
===============================================================================
```

Δραστηριότητα 4η

4.1) Δυο πρωτόκολλα, το TCP και το UDP.

```
TCP Statistics for IPv4

  Active Opens                    = 21098
  Passive Opens                   = 149
  Failed Connection Attempts      = 893
  Reset Connections               = 10114
  Current Connections             = 7
  Segments Received               = 936346
  Segments Sent                   = 432575
  Segments Retransmitted          = 0

TCP Statistics for IPv6

  Active Opens                    = 7213
  Passive Opens                   = 7
  Failed Connection Attempts      = 1468
  Reset Connections               = 1827
  Current Connections             = 25
  Segments Received               = 1790916
  Segments Sent                   = 853048
  Segments Retransmitted          = 0
```

4.2)

4.3) Παραπάνω πακέτα IPv4.

Δραστηριότητα 5η

5.1) Η *ipconfig -release* χρησιμοποιείται για να απελευθερώσει την τρέχον διεύθυνση IP του υπολογιστή.

Η *ipconfig –renew* χρησιμοποιείται για την απόκτηση καινούργιας διεύθυνσης IP.

5.2) Με την διεύθυνση 192.168.1.5 . Αυτή η διεύθυνση ανήκει στην κλάση C.

5.3) Port Number: 53864

```
Active Connections

  Proto  Local Address          Foreign Address        State
  TCP    192.168.1.5:53864      20.199.120.151:https   ESTABLISHED
  TCP    192.168.1.5:53892      5.62.53.131:http       ESTABLISHED
  TCP    192.168.1.5:53895      fra02-014:http         ESTABLISHED
  TCP    192.168.1.5:55138      93.184.220.29:http     CLOSE_WAIT
  TCP    192.168.1.5:62154      52.114.128.233:https   ESTABLISHED
  TCP    192.168.1.5:62193      52.109.76.36:https     TIME_WAIT
  TCP    192.168.1.5:62196      52.109.28.63:https     TIME_WAIT
  TCP    192.168.1.5:62197      13.89.179.9:https      ESTABLISHED
  TCP    192.168.1.5:62199      188.114.98.140:http    ESTABLISHED
  TCP    192.168.1.5:62200      a-0003:https           ESTABLISHED
  TCP    192.168.1.5:62203      a23-48-165-18:https    CLOSE_WAIT
  TCP    192.168.1.5:62204      a23-48-165-18:https    CLOSE_WAIT
  TCP    192.168.1.5:62207      a-0003:https           ESTABLISHED
```

[Μέρος β]

1.1) Πληκτρολογώντας την εντολή *nslookup* έχουμε το παρακάτω αποτέλεσμα.

```
C:\Games>nslookup
Default Server:  UnKnown
Address:  fe80::964a:cff:fe2e:79e0
```

1.2) Πληκτρολογώντας την εντολή *nslookup www.unipi.gr* έχουμε το παρακάτω αποτέλεσμα.

```
C:\Games>nslookup www.unipi.gr
Server:  UnKnown
Address:  fe80::964a:cff:fe2e:79e0

Non-authoritative answer:
Name:     unipiweb.unipi.gr
Address:  195.251.229.4
Aliases:  www.unipi.gr
```

1.3)

```
C:\Games>nslookup 195.251.229.4
Server:   UnKnown
Address:  fe80::964a:cff:fe2e:79e0

Name:     unipiweb.unipi.gr
Address:  195.251.229.4
```