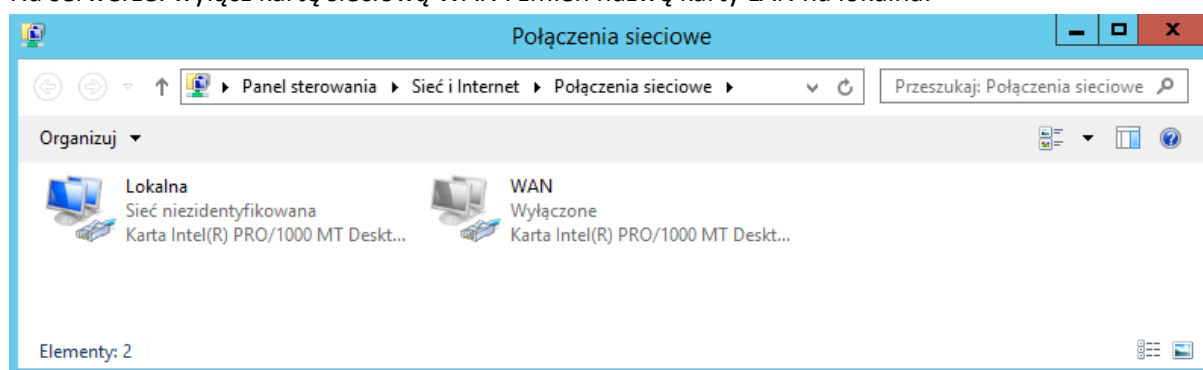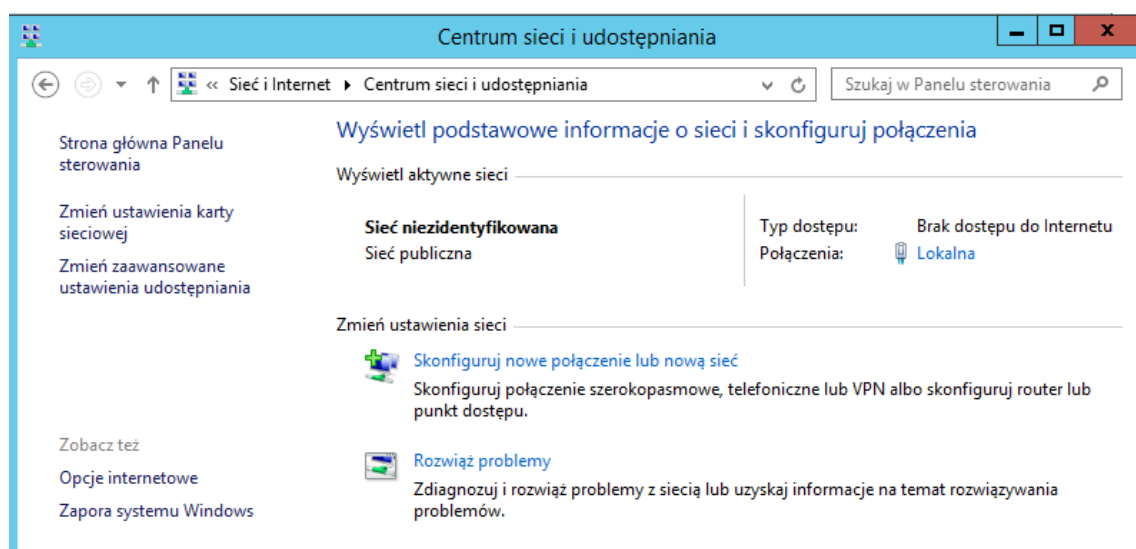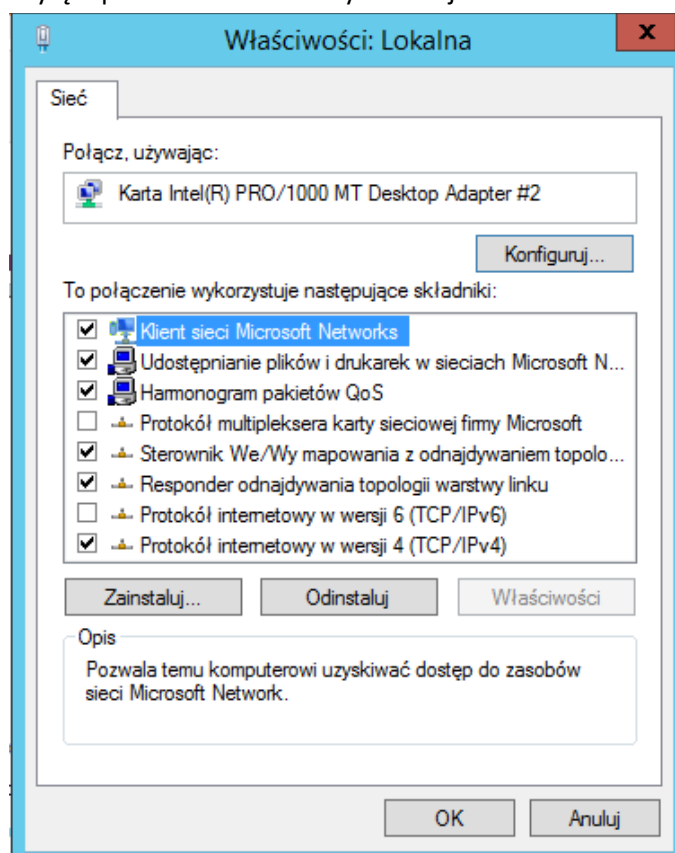**Konfiguracja kart sieciowych**

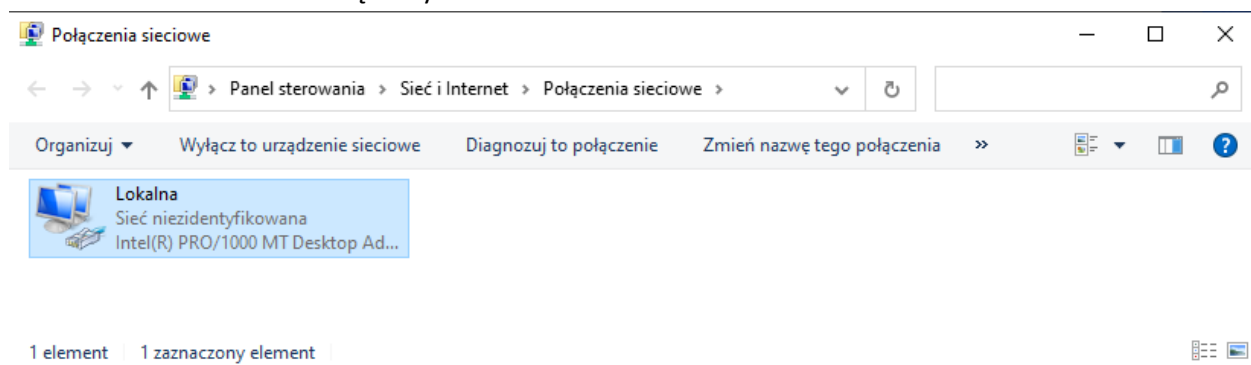| **We wszystkich poleceniach: xx – oznacza klasę, a y lub yy - nr z dziennika** |
| --- |

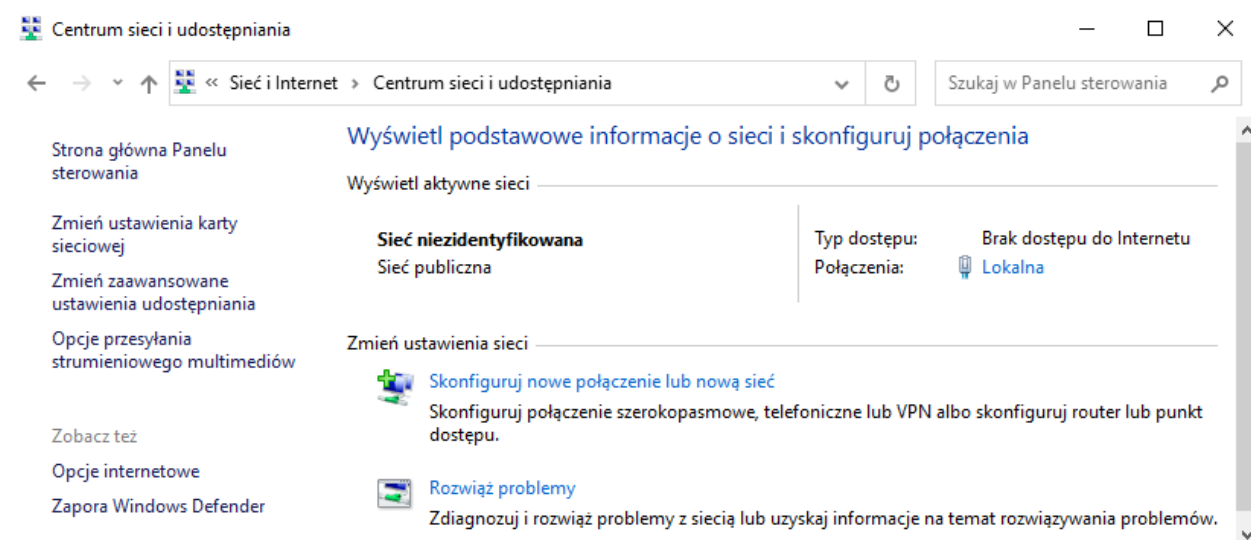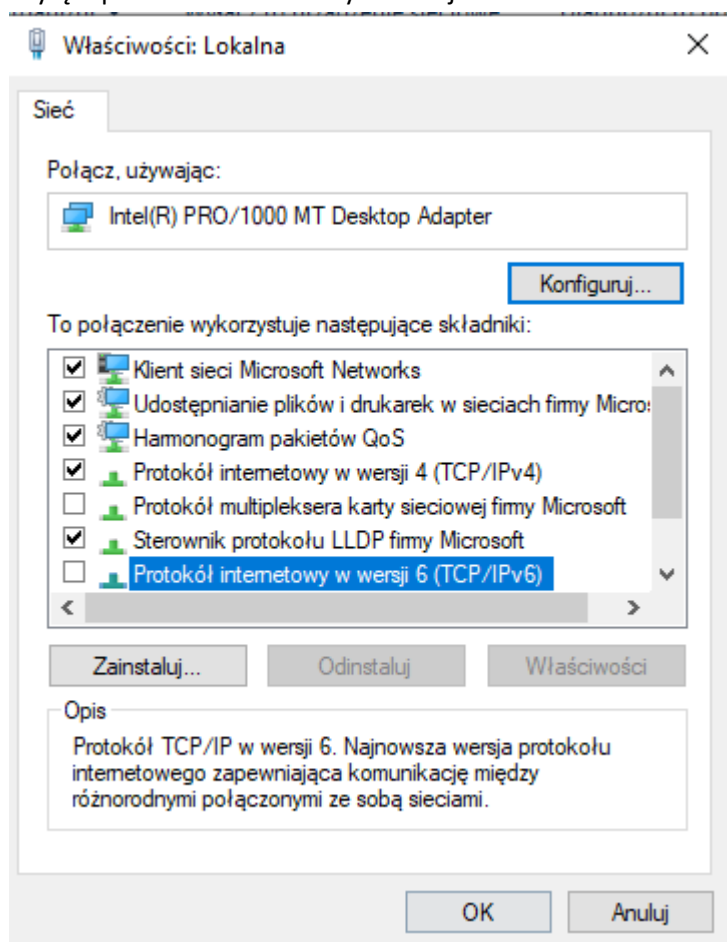Na serwerze: wyłącz kartę sieciową WAN i zmień nazwę karty LAN na lokalna.

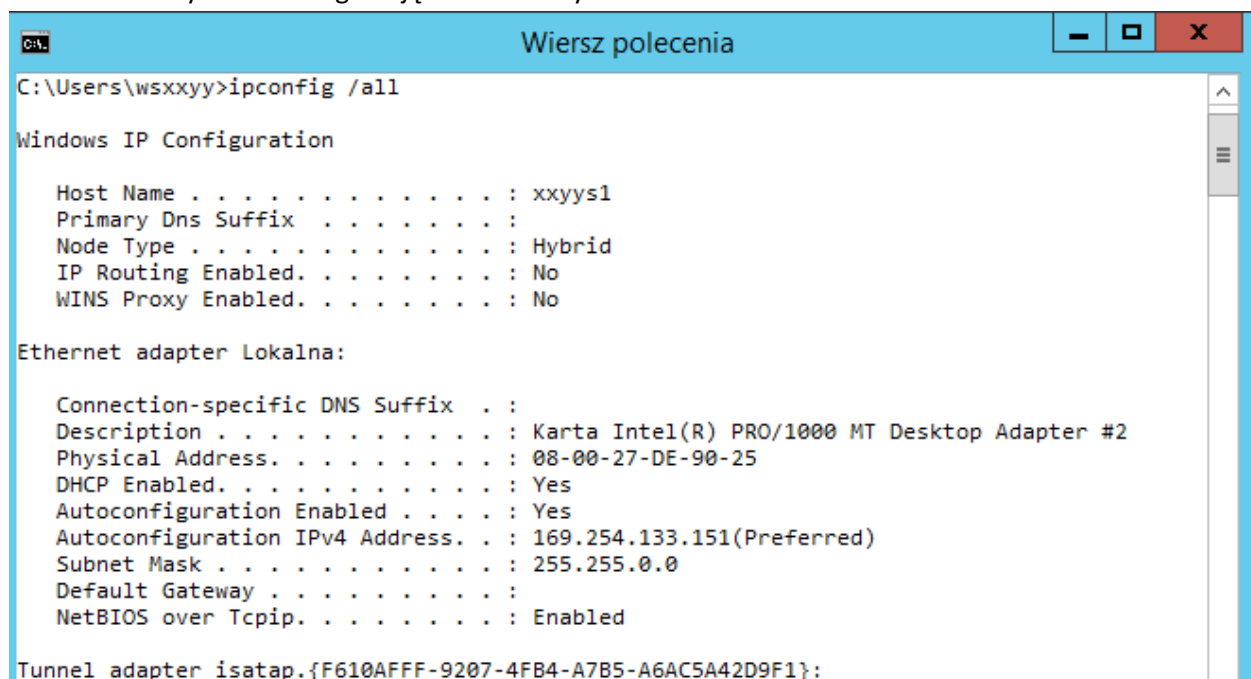Wyłącz protokół internetowy w wersji 6

Na Windows 10: zmień nazwę karty LAN na lokalna.

Wyłącz protokół internetowy w wersji 6.

Na serwerze wyświetl konfigurację kart sieciowych.

```
C:\Users\wsxxyy>ipconfig /all

Windows IP Configuration

   Host Name . . . . . . . . . . . . : xxyys1
   Primary Dns Suffix  . . . . . . . :
   Node Type . . . . . . . . . . . . : Hybrid
   IP Routing Enabled. . . . . . . . : No
   WINS Proxy Enabled. . . . . . . . : No

Ethernet adapter Lokalna:

   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : Karta Intel(R) PRO/1000 MT Desktop Adapter #2
   Physical Address. . . . . . . . . : 08-00-27-DE-90-25
   DHCP Enabled. . . . . . . . . . . : Yes
   Autoconfiguration Enabled . . . . : Yes
   Autoconfiguration IPv4 Address. . : 169.254.133.151(Preferred)
   Subnet Mask . . . . . . . . . . . : 255.255.0.0
   Default Gateway . . . . . . . . . :
   NetBIOS over Tcpip. . . . . . . . : Enabled

Tunnel adapter isatap.{F610AFFF-9207-4FB4-A7B5-A6AC5A42D9F1}:
```
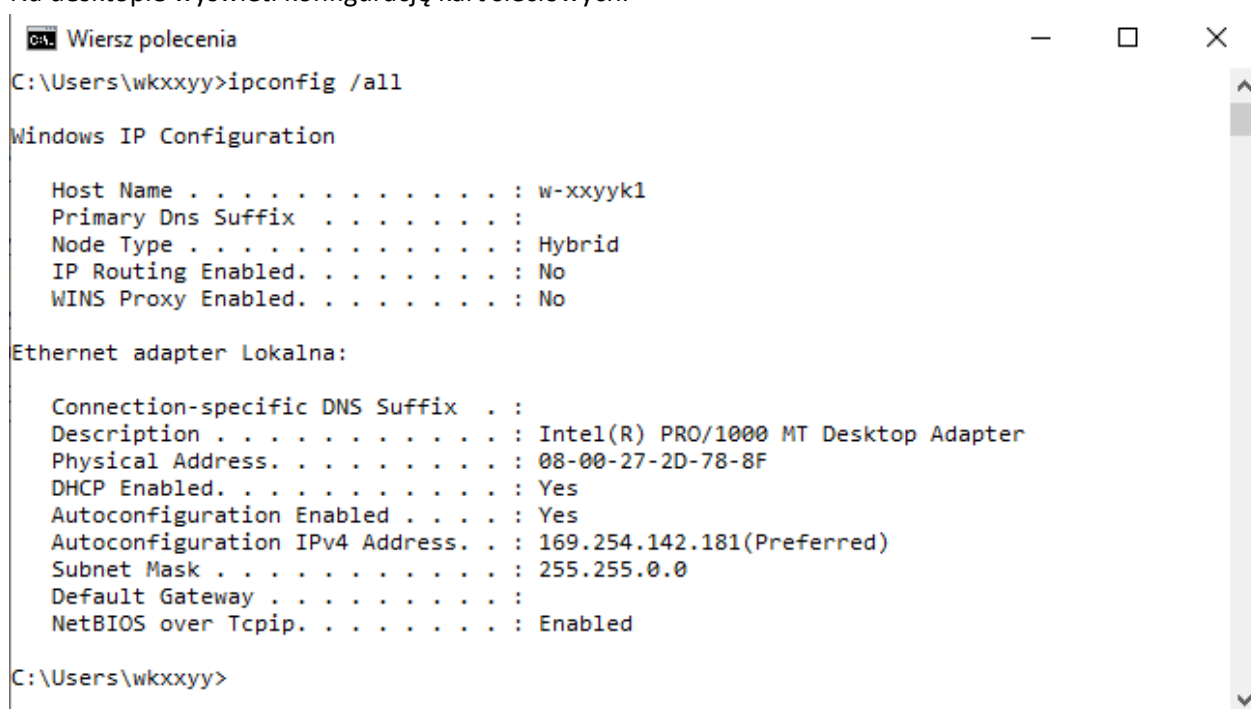
Na desktopie wyświetl konfigurację kart sieciowych.

```
C:\Users\wkxxyy>ipconfig /all

Windows IP Configuration

   Host Name . . . . . . . . . . . . : w-xxyyk1
   Primary Dns Suffix  . . . . . . . :
   Node Type . . . . . . . . . . . . : Hybrid
   IP Routing Enabled. . . . . . . . : No
   WINS Proxy Enabled. . . . . . . . : No

Ethernet adapter Lokalna:

   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : Intel(R) PRO/1000 MT Desktop Adapter
   Physical Address. . . . . . . . . : 08-00-27-2D-78-8F
   DHCP Enabled. . . . . . . . . . . : Yes
   Autoconfiguration Enabled . . . . : Yes
   Autoconfiguration IPv4 Address. . : 169.254.142.181(Preferred)
   Subnet Mask . . . . . . . . . . . : 255.255.0.0
   Default Gateway . . . . . . . . . :
   NetBIOS over Tcpip. . . . . . . . : Enabled

C:\Users\wkxxyy>
```
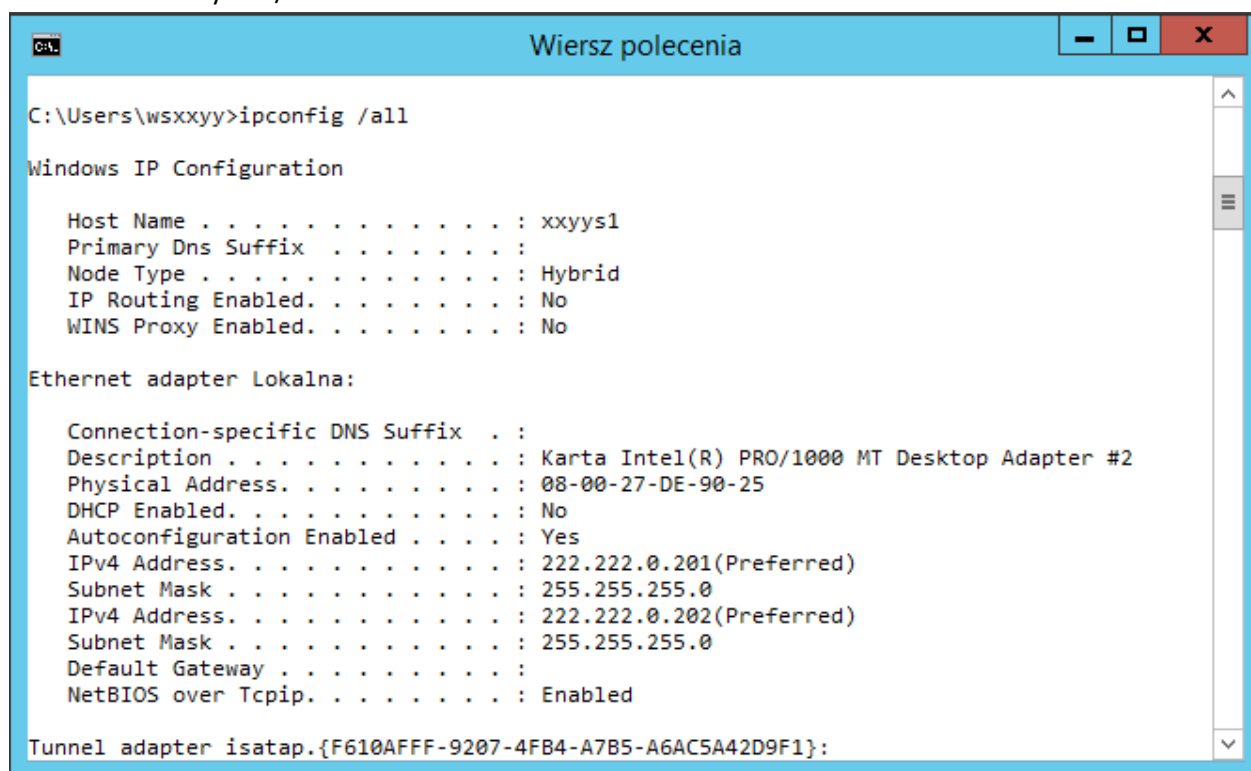
Co to są za adresy?
Dlaczego te?

Na serwerze do karty sieciowej Lokalna przypisz dwa adresy:

- 222.222.y.201/24
- 222.222.y.202/24

```
                              Wiersz polecenia                        _  □  X

C:\Users\wsxxyy>ipconfig /all

Windows IP Configuration

    Host Name . . . . . . . . . . . . : xxyys1
    Primary Dns Suffix  . . . . . . . :
    Node Type . . . . . . . . . . . . : Hybrid
    IP Routing Enabled. . . . . . . . : No
    WINS Proxy Enabled. . . . . . . . : No

Ethernet adapter Lokalna:

    Connection-specific DNS Suffix  . :
    Description . . . . . . . . . . . : Karta Intel(R) PRO/1000 MT Desktop Adapter #2
    Physical Address. . . . . . . . . : 08-00-27-DE-90-25
    DHCP Enabled. . . . . . . . . . . : No
    Autoconfiguration Enabled . . . . : Yes
    IPv4 Address. . . . . . . . . . . : 222.222.0.201(Preferred)
    Subnet Mask . . . . . . . . . . . : 255.255.255.0
    IPv4 Address. . . . . . . . . . . : 222.222.0.202(Preferred)
    Subnet Mask . . . . . . . . . . . : 255.255.255.0
    Default Gateway . . . . . . . . . :
    NetBIOS over Tcpip. . . . . . . . : Enabled

Tunnel adapter isatap.{F610AFFF-9207-4FB4-A7B5-A6AC5A42D9F1}:
```

Na desktopie do karty sieciowej Lokalna przypisz adres:

- 222.222.y.151/24

```
    Wiersz polecenia                                        —  □  X

C:\Users\wkxxyy>ipconfig /all

Windows IP Configuration

    Host Name . . . . . . . . . . . . : w-xxyyk1
    Primary Dns Suffix  . . . . . . . :
    Node Type . . . . . . . . . . . . : Hybrid
    IP Routing Enabled. . . . . . . . : No
    WINS Proxy Enabled. . . . . . . . : No

Ethernet adapter Lokalna:

    Connection-specific DNS Suffix  . :
    Description . . . . . . . . . . . : Intel(R) PRO/1000 MT Desktop Adapter
    Physical Address. . . . . . . . . : 08-00-27-2D-78-8F
    DHCP Enabled. . . . . . . . . . . : No
    Autoconfiguration Enabled . . . . : Yes
    IPv4 Address. . . . . . . . . . . : 222.222.0.151(Preferred)
    Subnet Mask . . . . . . . . . . . : 255.255.255.0
    Default Gateway . . . . . . . . . :
    NetBIOS over Tcpip. . . . . . . . : Enabled

C:\Users\wkxxyy>
```
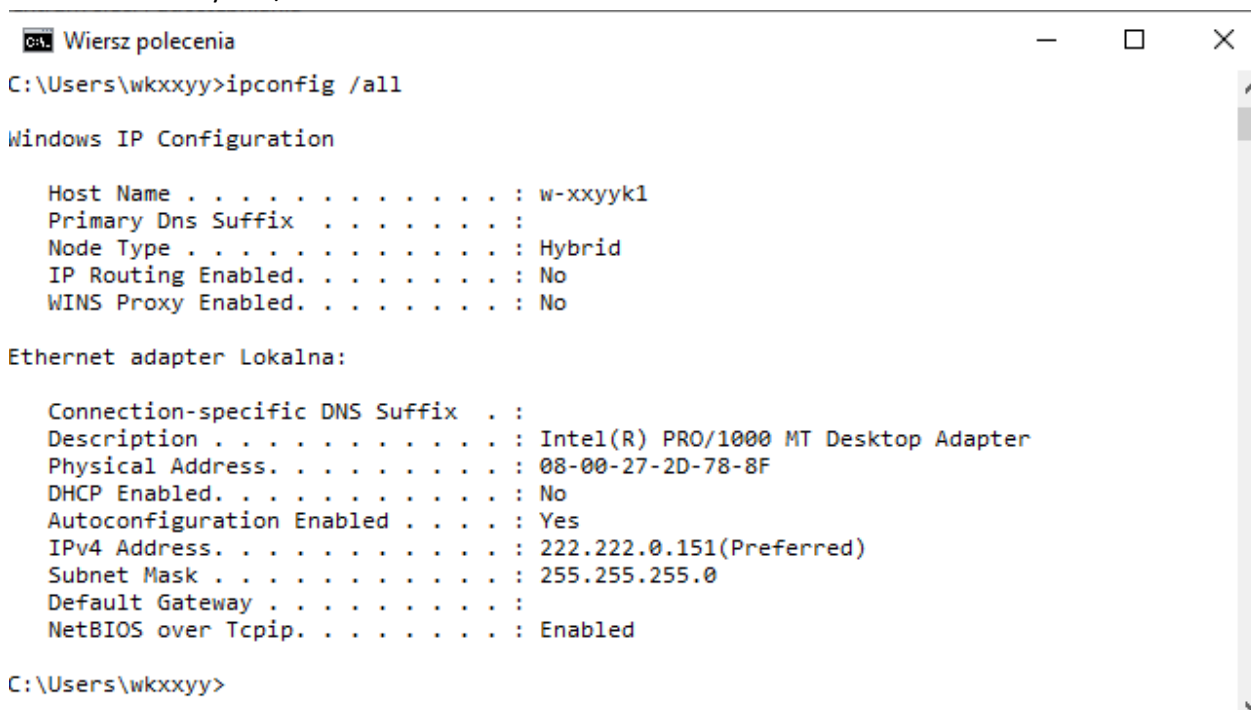
Dołącz do sieci Desktop Ubuntu z adresem statycznym 222.222.y.101/24. W przypadku zbyt małej ilości pamięci RAM, wykonaj te ćwiczenia wyłączając poszczególne komputery.

```
⊗ ⊖ ▣   adxxyy@kdesktop-xxyy: ~
adxxyy@kdesktop-xxyy:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group defaul
t qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP
group default qlen 1000
    link/ether 08:00:27:b0:6d:aa brd ff:ff:ff:ff:ff:ff
    inet 222.222.0.101/24 brd 222.222.0.255 scope global enp0s3
       valid_lft forever preferred_lft forever
    inet6 fe80::8ce9:bb77:e747:baa9/64 scope link
       valid_lft forever preferred_lft forever
adxxyy@kdesktop-xxyy:~$ █
```

```
▣       Wiersz polecenia                              _ □ X

C:\Users\wsxxyy>ping 222.222.0.151

Pinging 222.222.0.151 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 222.222.0.151:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```

```
▣       Wiersz polecenia                              _ □ X

C:\Users\wsxxyy>ping 222.222.0.101

Pinging 222.222.0.101 with 32 bytes of data:
Reply from 222.222.0.101: bytes=32 time<1ms TTL=64
Reply from 222.222.0.101: bytes=32 time<1ms TTL=64
Reply from 222.222.0.101: bytes=32 time<1ms TTL=64
Reply from 222.222.0.101: bytes=32 time<1ms TTL=64

Ping statistics for 222.222.0.101:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

```
▣ Wiersz polecenia                              —  □  X

C:\Users\wkxxyy>ping 222.222.0.201

Pinging 222.222.0.201 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 222.222.0.201:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\Users\wkxxyy>ping 222.222.0.101

Pinging 222.222.0.101 with 32 bytes of data:
Reply from 222.222.0.101: bytes=32 time=1ms TTL=64
Reply from 222.222.0.101: bytes=32 time<1ms TTL=64
Reply from 222.222.0.101: bytes=32 time<1ms TTL=64
Reply from 222.222.0.101: bytes=32 time<1ms TTL=64

Ping statistics for 222.222.0.101:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

```
adxxyy@kdesktop-xxyy: ~
adxxyy@kdesktop-xxyy:~$ ping 222.222.0.151 -c3
PING 222.222.0.151 (222.222.0.151) 56(84) bytes of data.

--- 222.222.0.151 ping statistics ---
3 packets transmitted, 0 received, 100% packet loss, time 2035ms

adxxyy@kdesktop-xxyy:~$ ping 222.222.0.201 -c3
PING 222.222.0.201 (222.222.0.201) 56(84) bytes of data.

--- 222.222.0.201 ping statistics ---
3 packets transmitted, 0 received, 100% packet loss, time 2051ms

adxxyy@kdesktop-xxyy:~$ 
```
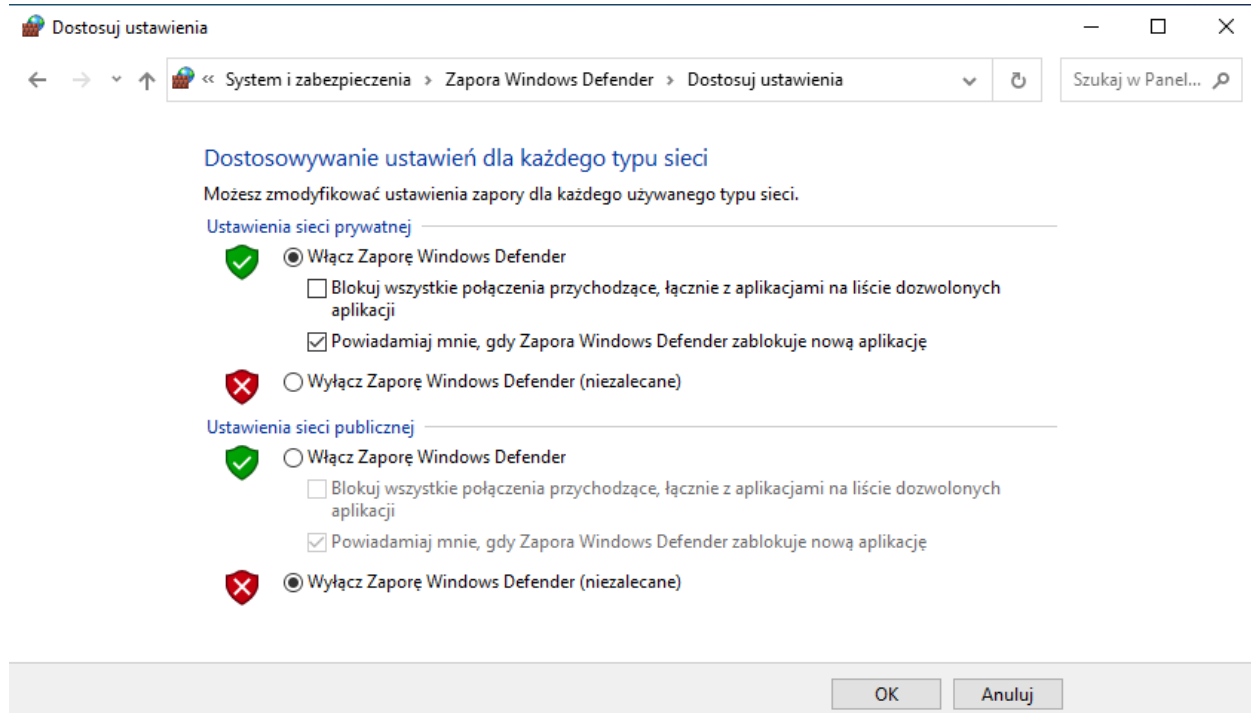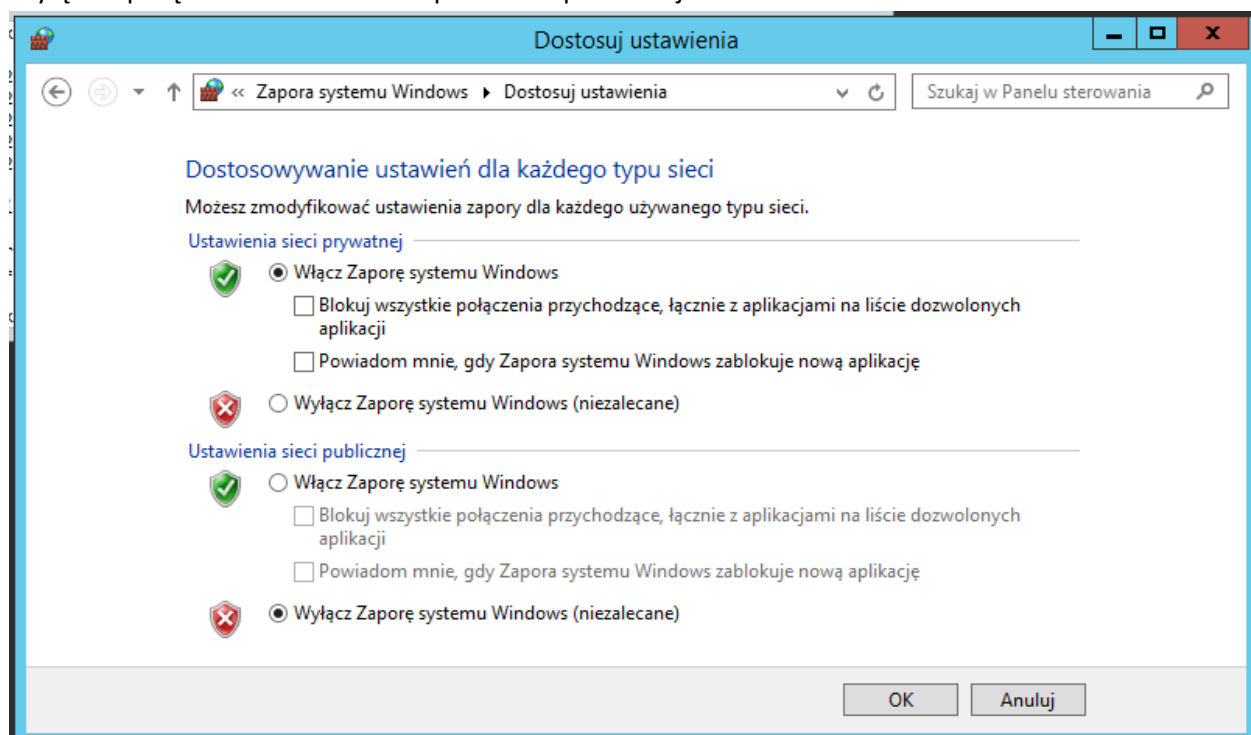
Wypisz wnioski:

Wyłącz zaporę na serwerze i desktopie w sieci publicznej

Sprawdź pingi, wypisz wnioski.

```
C:\Users\wsxxyy>ping 222.222.0.151

Pinging 222.222.0.151 with 32 bytes of data:
Reply from 222.222.0.151: bytes=32 time=1ms TTL=128
Reply from 222.222.0.151: bytes=32 time<1ms TTL=128
Reply from 222.222.0.151: bytes=32 time<1ms TTL=128
Reply from 222.222.0.151: bytes=32 time<1ms TTL=128

Ping statistics for 222.222.0.151:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\Users\wsxxyy>ping 222.222.0.101

Pinging 222.222.0.101 with 32 bytes of data:
Reply from 222.222.0.101: bytes=32 time=1ms TTL=64
Reply from 222.222.0.101: bytes=32 time<1ms TTL=64
Reply from 222.222.0.101: bytes=32 time<1ms TTL=64
Reply from 222.222.0.101: bytes=32 time<1ms TTL=64

Ping statistics for 222.222.0.101:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\Users\wsxxyy>
```

```
C:\Users\wkxxyy>ping 222.222.0.101

Pinging 222.222.0.101 with 32 bytes of data:
Reply from 222.222.0.101: bytes=32 time=1ms TTL=64
Reply from 222.222.0.101: bytes=32 time<1ms TTL=64
Reply from 222.222.0.101: bytes=32 time<1ms TTL=64
Reply from 222.222.0.101: bytes=32 time<1ms TTL=64

Ping statistics for 222.222.0.101:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\Users\wkxxyy>ping 222.222.0.201

Pinging 222.222.0.201 with 32 bytes of data:
Reply from 222.222.0.201: bytes=32 time=2ms TTL=128
Reply from 222.222.0.201: bytes=32 time<1ms TTL=128
Reply from 222.222.0.201: bytes=32 time<1ms TTL=128
Reply from 222.222.0.201: bytes=32 time=1ms TTL=128

Ping statistics for 222.222.0.201:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 2ms, Average = 0ms

C:\Users\wkxxyy>
```

```
⊗ ⊖ ▣   adxxyy@kdesktop-xxyy: ~
adxxyy@kdesktop-xxyy:~$ ping 222.222.0.201 -c3
PING 222.222.0.201 (222.222.0.201) 56(84) bytes of data.
64 bytes from 222.222.0.201: icmp_seq=1 ttl=128 time=1.04 ms
64 bytes from 222.222.0.201: icmp_seq=2 ttl=128 time=0.463 ms
64 bytes from 222.222.0.201: icmp_seq=3 ttl=128 time=0.527 ms

--- 222.222.0.201 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2022ms
rtt min/avg/max/mdev = 0.463/0.677/1.041/0.258 ms
adxxyy@kdesktop-xxyy:~$ ping 222.222.0.151 -c3
PING 222.222.0.151 (222.222.0.151) 56(84) bytes of data.
64 bytes from 222.222.0.151: icmp_seq=1 ttl=128 time=0.544 ms
64 bytes from 222.222.0.151: icmp_seq=2 ttl=128 time=0.519 ms
64 bytes from 222.222.0.151: icmp_seq=3 ttl=128 time=0.647 ms

--- 222.222.0.151 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2053ms
rtt min/avg/max/mdev = 0.519/0.570/0.647/0.055 ms
adxxyy@kdesktop-xxyy:~$ ▮
```