

Weryfikacja poprawność działania routingu

Wymagania wstępne:

- Kontroler domeny na Windows Serwer 2019
 - Nazwa komputera kd-xyy
 - Domena szkola.lokalna
 - Dwie karty sieciowe – sieć wewnętrzna
 - LAN
 - IP1: 172.16.y.1/24
 - IP2 172.16.y.2/24
 - DNS 127.0.0.1
 - WAN
 - IP 10.10.y.10
 - Brama 10.10.y.1
 - DNS 8.8.8.8
 - Skonfigurowana usługa routingu
 - Skonfigurowany serwer DHCP
 - Skonfigurowane opcje zakresu: brama, DNS
- Dwa desktopy
 - w-xyy1 IP 10.10.0.100/24
 - w-xyy2 IP z DHCP

1. Sprawdzamy konfigurację kart sieciowych serwera - obie karty skonfigurowane statycznie

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Administrator: Wiersz polecenia
C:\Users\Administrator>ipconfig /all

Windows IP Configuration

Host Name . . . . . : kd-xyy
Primary Dns Suffix . . . . . : szkola.lokalna
Node Type . . . . . : Hybrid
IP Routing Enabled. . . . . : Yes
WINS Proxy Enabled. . . . . : No
DNS Suffix Search List. . . . . : szkola.lokalna

Ethernet adapter WAN:

Connection-specific DNS Suffix . : 
Description . . . . . : Intel(R) PRO/1000 MT Desktop Adapter
Physical Address. . . . . : 08-00-27-48-41-21
DHCP Enabled. . . . . : No
Autoconfiguration Enabled . . . . : Yes
IPv4 Address. . . . . : 10.10.0.10(Preferred)
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 10.10.0.1
DNS Servers . . . . . : 8.8.8.8
NetBIOS over Tcpip. . . . . : Enabled

Ethernet adapter LAN:

Connection-specific DNS Suffix . : 
Description . . . . . : Intel(R) PRO/1000 MT Desktop Adapter #2
Physical Address. . . . . : 08-00-27-31-BC-A7
DHCP Enabled. . . . . : No
Autoconfiguration Enabled . . . . : Yes
IPv4 Address. . . . . : 172.16.0.1(Preferred)
Subnet Mask . . . . . : 255.255.255.0
IPv4 Address. . . . . : 172.16.0.2(Preferred)
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 
DNS Servers . . . . . : 127.0.0.1
NetBIOS over Tcpip. . . . . : Enabled
  
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2. Sprawdzamy konfigurację karty sieciowej Windows 10 – karta skonfigurowana dynamicznie z DHCP

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Administrator: Wiersz polecenia

Windows IP Configuration

Host Name . . . . . : w-xxyy2
Primary Dns Suffix . . . . . : szkoła.lokalna
Node Type . . . . . : Hybrid
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No
DNS Suffix Search List. . . . . : szkoła.lokalna

Ethernet adapter Ethernet:

    Connection-specific DNS Suffix  . : szkoła.lokalna
    Description . . . . . : Intel(R) PRO/1000 MT Desktop Adapter
    Physical Address. . . . . : 08-00-27-A4-CF-9C
    DHCP Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . : Yes
    Link-local IPv6 Address . . . . . : fe80::29cf:9ada:839e:55dd%5(Preferred)
    IPv4 Address. . . . . : 172.16.0.125(Preferred)
    Subnet Mask . . . . . : 255.255.255.0
    Lease Obtained. . . . . : Środa, 16 listopada 2022 11:54:33
    Lease Expires . . . . . : Środa, 16 listopada 2022 12:14:32
    Default Gateway . . . . . : 172.16.0.1
    DHCP Server . . . . . : 172.16.0.1
    DHCPv6 IAID . . . . . : 101187623
    DHCPv6 Client DUID. . . . . : 00-01-00-01-2B-06-66-49-08-00-27-A4-CF-9C
    DNS Servers . . . . . : 172.16.0.1
    NetBIOS over Tcpip. . . . . : Enabled

C:\Users\administrator>

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3. Pingujemy z Windows 10, pierwszy adres karty lokalna serwera: 172.16.y.1 – jest odpowiedź

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Administrator: Wiersz polecenia

C:\Users\administrator>ping 172.16.0.1

Pinging 172.16.0.1 with 32 bytes of data:
Reply from 172.16.0.1: bytes=32 time<1ms TTL=128
Reply from 172.16.0.1: bytes=32 time=1ms TTL=128
Reply from 172.16.0.1: bytes=32 time=1ms TTL=128
Reply from 172.16.0.1: bytes=32 time<1ms TTL=128

Ping statistics for 172.16.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\Users\administrator>

```

4. Pingujemy z Windows 10 adres karty WAN serwera: 10.10.y.10 – jest odpowiedź, routing działa poprawnie

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Administrator: Wiersz polecenia

C:\Users\administrator>ping 10.10.0.10

Pinging 10.10.0.10 with 32 bytes of data:
Reply from 10.10.0.10: bytes=32 time<1ms TTL=127
Reply from 10.10.0.10: bytes=32 time=1ms TTL=127
Reply from 10.10.0.10: bytes=32 time<1ms TTL=127
Reply from 10.10.0.10: bytes=32 time<1ms TTL=127

Ping statistics for 10.10.0.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\Users\administrator>

```

5. Sprawdzamy konfigurację karty sieciowej drugiego Windows 10 – karta skonfigurowana statycznie

```

C:\Users\administrator>ipconfig /all

Windows IP Configuration

    Host Name . . . . . : w-xyyyk1
    Primary Dns Suffix . . . . . : szkoła.lokalna
    Node Type . . . . . : Hybrid
    IP Routing Enabled. . . . . : No
    WINS Proxy Enabled. . . . . : No
    DNS Suffix Search List. . . . . : szkoła.lokalna

Ethernet adapter Ethernet:

    Connection-specific DNS Suffix . : 
    Description . . . . . : Intel(R) PRO/1000 MT Desktop Adapter
    Physical Address. . . . . : 08-00-27-19-9C-1D
    DHCP Enabled. . . . . : No
    Autoconfiguration Enabled . . . . : Yes
    Link-local IPv6 Address . . . . . : fe80::f145:6f4c:956c:17a3%5(Preferred)
    IPv4 Address. . . . . : 10.10.0.100(Preferred)
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 10.10.0.1
    DHCPv6 IAID . . . . . : 101187623
    DHCPv6 Client DUID. . . . . : 00-01-00-01-2B-05-2C-B0-08-00-27-19-9C-1D
    DNS Servers . . . . . : fec0:0:0:ffff::1%1
                           fec0:0:0:ffff::2%1
                           fec0:0:0:ffff::3%1
    NetBIOS over Tcpip. . . . . : Enabled

C:\Users\administrator>ipconfig /all

```

6. Pingujemy z pierwszego Windows 10 adres karty drugiego Windows 10: 10.10.y.100 – jest odpowiedź, routing działa poprawnie

```

C:\Users\administrator>ping 10.10.0.100

Pinging 10.10.0.100 with 32 bytes of data:
Reply from 10.10.0.100: bytes=32 time<1ms TTL=127
Reply from 10.10.0.100: bytes=32 time=1ms TTL=127
Reply from 10.10.0.100: bytes=32 time=1ms TTL=127
Reply from 10.10.0.100: bytes=32 time=1ms TTL=127

Ping statistics for 10.10.0.100:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\Users\administrator>ping 172.16.0.1

```