Dokumentacja zadanie 6.1:

1. Rozmieszczenie 3 komputerów, 3 switchy oraz 3 blank routerów
2. Dołożenie 2 kart światłowodowych oraz karty sieciowej Ethernet.
3. Połączenie komputerów ze switchami oraz switchy z routerami kablem ehternetowym. Dodatkowo połączenie pomiędzy routerami światłowodem.
4. Wybranie adresu dla sieci Lan1 : 192.168.100/22, obliczenie rozmiaru sieci oraz pierwszego IP. Analogicznie dla sieci Lan2 i Lan3:

Lan1 192.168.100.0/22

1st 192.168.100.1
last: 192.168.103.254
netmask: 255.255.252.0

Lan2 192.168.108.0/22
1st: 192.168.108.1
last: 192.168.111.254
netmask: 255.255.252.0

Lan3 192.168.104.0/22
1st: 192.168.104.1
last: 192.168.107.254
netmask: 255.255.252.0

5. Ustawienie statycznych adresów IP dla komputerów, .100.10 ; .104.10; 108.10 oraz maski podsieci 255.255.252.0.
6. Ustawienie odpowiedniego IP oraz maski dla Routerów

Router1:
FastEthernet8/0 IP: 192.168.0.10/30 → połączenie z Routerem3
FastEthernet9/0 IP: 192.168.0.1/30   → połączenie z Routerem2
GigabitEthernet7/0 IP: 192.168.100.1/22 → połączenie z Switch0

Router2:
FastEthernet8/0 IP: 192.168.0.2/30 → połączenie z Routerem1
FastEthernet9/0 IP: 192.168.0.5/30   → połączenie z Routerem3
GigabitEthernet7/0 IP: 192.168.100.1/22 → połączenie z Switch2

Router3:
FastEthernet8/0 IP: 192.168.0.9/30 → połączenie z Routerem1
FastEthernet9/0 IP: 192.168.0.6/30   → połączenie z Routerem2
GigabitEthernet7/0 IP: 192.168.100.1/22 → połączenie z Switch1

Tablica Routingu Router1:

Network Address
192.168.104.0/22 via 192.168.0.2
192.168.108.0/22 via 192.168.0.9

Tablica Routingu Router2

Network Address
192.168.100.0/22 via 192.168.0.1
192.168.108.0/22 via 192.168.0.6

Tablica Routingu Router3

Network Address

192.168.104.0/22 via 192.168.0.5

192.168.100.0/22 via 192.168.0.1

192.168.100.0/22 via 192.168.0.5

Sprawdzenie połączenia pomiędzy Lan1 <-> Lan2:

```
C:\>ipconfig

FastEthernet0 Connection:(default port)

   Link-local IPv6 Address.........: FE80::260:2FFF:FE69:EB8
   IP Address......................: 192.168.100.10
   Subnet Mask.....................: 255.255.252.0
   Default Gateway.................: 192.168.100.1

Bluetooth Connection:

   Link-local IPv6 Address.........: ::
   IP Address......................: 0.0.0.0
   Subnet Mask.....................: 0.0.0.0
   Default Gateway.................: 0.0.0.0

C:\>ping 192.168.108.10

Pinging 192.168.108.10 with 32 bytes of data:

Reply from 192.168.108.10: bytes=32 time<1ms TTL=125
Reply from 192.168.108.10: bytes=32 time<1ms TTL=125
Reply from 192.168.108.10: bytes=32 time<1ms TTL=125
Reply from 192.168.108.10: bytes=32 time=1ms TTL=125

Ping statistics for 192.168.108.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

```
C:\>ipconfig

FastEthernet0 Connection:(default port)

   Link-local IPv6 Address..........: FE80::202:16FF:FECA:1A07
   IP Address.......................: 192.168.108.10
   Subnet Mask......................: 255.255.252.0
   Default Gateway..................: 192.168.108.1

Bluetooth Connection:

   Link-local IPv6 Address..........: ::
   IP Address.......................: 0.0.0.0
   Subnet Mask......................: 0.0.0.0
   Default Gateway..................: 0.0.0.0

C:\>ping 192.168.100.10

Pinging 192.168.100.10 with 32 bytes of data:

Reply from 192.168.100.10: bytes=32 time<1ms TTL=126
Reply from 192.168.100.10: bytes=32 time<1ms TTL=126
Reply from 192.168.100.10: bytes=32 time<1ms TTL=126
Reply from 192.168.100.10: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.100.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

Sprawdzenie połączenia pomiędzy Lan1 <-> Lan3:

```
C:\>ipconfig

FastEthernet0 Connection:(default port)

   Link-local IPv6 Address..........: FE80::260:2FFF:FE69:EB8
   IP Address.......................: 192.168.100.10
   Subnet Mask......................: 255.255.252.0
   Default Gateway..................: 192.168.100.1

Bluetooth Connection:

   Link-local IPv6 Address..........: ::
   IP Address.......................: 0.0.0.0
   Subnet Mask......................: 0.0.0.0
   Default Gateway..................: 0.0.0.0

C:\>ping 192.168.104.10

Pinging 192.168.104.10 with 32 bytes of data:

Reply from 192.168.104.10: bytes=32 time=1ms TTL=126
Reply from 192.168.104.10: bytes=32 time<1ms TTL=126
Reply from 192.168.104.10: bytes=32 time=1ms TTL=126
Reply from 192.168.104.10: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.104.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

```
C:\>ipconfig

FastEthernet0 Connection:(default port)

   Link-local IPv6 Address.........: FE80::20A:41FF:FE12:B3DB
   IP Address.......................: 192.168.104.10
   Subnet Mask......................: 255.255.252.0
   Default Gateway..................: 192.168.104.1

Bluetooth Connection:

   Link-local IPv6 Address.........: ::
   IP Address.......................: 0.0.0.0
   Subnet Mask......................: 0.0.0.0
   Default Gateway..................: 0.0.0.0

C:\>ping 192.168.100.10

Pinging 192.168.100.10 with 32 bytes of data:

Reply from 192.168.100.10: bytes=32 time<1ms TTL=126
Reply from 192.168.100.10: bytes=32 time=1ms TTL=126
Reply from 192.168.100.10: bytes=32 time<1ms TTL=126
Reply from 192.168.100.10: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.100.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

Sprawdzenie połączenia pomiędzy Lan3 <-> Lan2:

```
C:\>ipconfig

FastEthernet0 Connection:(default port)

   Link-local IPv6 Address.........: FE80::202:16FF:FECA:1A07
   IP Address......................: 192.168.108.10
   Subnet Mask.....................: 255.255.252.0
   Default Gateway.................: 192.168.108.1

Bluetooth Connection:

   Link-local IPv6 Address.........: ::
   IP Address......................: 0.0.0.0
   Subnet Mask.....................: 0.0.0.0
   Default Gateway.................: 0.0.0.0

C:\>ping 192.168.104.10

Pinging 192.168.104.10 with 32 bytes of data:

Reply from 192.168.104.10: bytes=32 time<1ms TTL=126
Reply from 192.168.104.10: bytes=32 time<1ms TTL=126
Reply from 192.168.104.10: bytes=32 time<1ms TTL=126
Reply from 192.168.104.10: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.104.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

```
C:\>ipconfig

FastEthernet0 Connection:(default port)

   Link-local IPv6 Address.........: FE80::20A:41FF:FE12:B3DB
   IP Address......................: 192.168.104.10
   Subnet Mask.....................: 255.255.252.0
   Default Gateway.................: 192.168.104.1

Bluetooth Connection:

   Link-local IPv6 Address.........: ::
   IP Address......................: 0.0.0.0
   Subnet Mask.....................: 0.0.0.0
   Default Gateway.................: 0.0.0.0

C:\>ping 192.168.108.10

Pinging 192.168.108.10 with 32 bytes of data:

Reply from 192.168.108.10: bytes=32 time=1ms TTL=126
Reply from 192.168.108.10: bytes=32 time=1ms TTL=126
Reply from 192.168.108.10: bytes=32 time<1ms TTL=126
Reply from 192.168.108.10: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.108.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```