

10.0.0.2/26



Lukas

10.0.0.3/26



Lisa

10.0.0.4/26



Elo

10.0.0.5/26

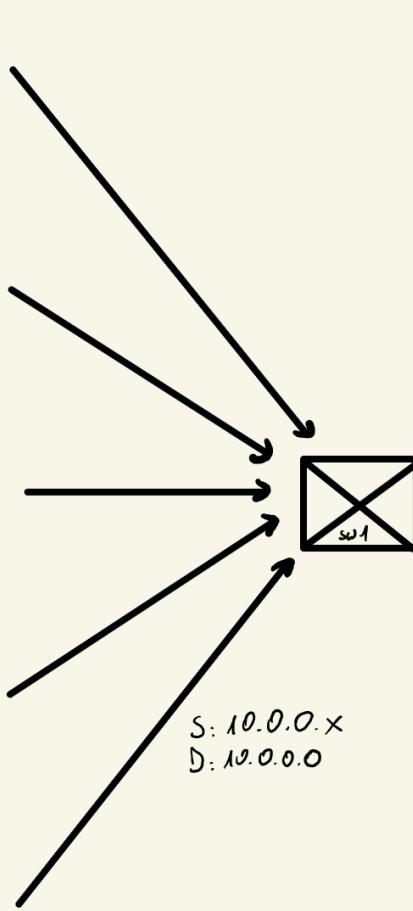


Ben

10.0.0.6/26



Elias

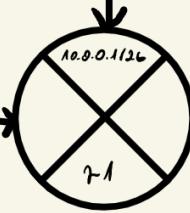


10.0.1.2/28



NAS

S: 10.0.1.2
D: 10.0.1.0



Ziel
10.0.0.1/26
10.0.2.1/28

Route
0
1

```
mininet> ben route -n
Kernel IP routing table
Destination     Gateway         Genmask        Flags Metric Ref  Use Iface
0.0.0.0         10.0.0.1       0.0.0.0        UG    0      0      0 ben-eth0
10.0.0.0        0.0.0.0        255.255.255.192 U     0      0      0 ben-eth0
mininet> r1 route -n
Kernel IP routing table
Destination     Gateway         Genmask        Flags Metric Ref  Use Iface
10.0.0.0        0.0.0.0        255.255.255.192 U     0      0      0 r1-eth0
10.0.1.0        0.0.0.0        255.255.255.248 U     0      0      0 r1-eth1
mininet> nas route -n
Kernel IP routing table
Destination     Gateway         Genmask        Flags Metric Ref  Use Iface
0.0.0.0         10.0.1.1       0.0.0.0        UG    0      0      0 nas-eth0
10.0.1.0        0.0.0.0        255.255.255.248 U     0      0      0 nas-eth0
```

```
mininet> ben ping -c 5 10.0.1.2
PING 10.0.1.2 (10.0.1.2) 56(84) bytes of data.
From 10.0.0.1 icmp_seq=1 Destination Net Unreachable
From 10.0.0.1 icmp_seq=2 Destination Net Unreachable
From 10.0.0.1 icmp_seq=3 Destination Net Unreachable
From 10.0.0.1 icmp_seq=4 Destination Net Unreachable

--- 10.0.1.2 ping statistics ---
5 packets transmitted, 0 received, +4 errors, 100% packet loss, time 4086ms
```

10.0.0.2/26



Lukas

10.0.0.3/26



Lisa

10.0.0.4/26



Elo

10.0.0.5/26



Ben

10.0.0.6/26



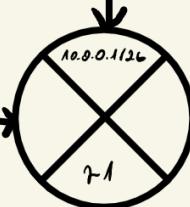
Elias

10.0.1.2/28



NAS

S: 10.0.1.2
D: 10.0.1.0



S: 10.0.0.1
O: 10.0.1.0, 10.0.0.0

Ziel
10.0.0.1/26
10.0.1.1/28
Route
0
1

10.0.0.2/26



Lukas

10.0.0.3/26



Lisa

10.0.0.4/26



Elo

10.0.0.5/26



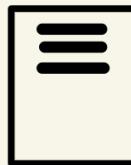
Ben

10.0.0.6/26



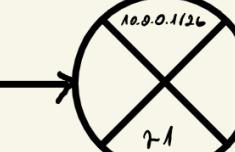
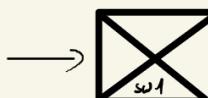
Elias

10.0.1.2/28



NAS

S: 10.0.1.2
D: 10.0.1.0

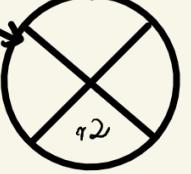


Route

2:el
10.0.0.126
10.0.1.128
10.0.1.64/31

0
1
2

S: 10.0.0.x
D: 10.0.0.0



Route

2:el

10.0.2.125
10.0.1.65/31

0
1

Ein /25 Subnetz teilt die 32 Bits einer IP-Adresse in 25 Bits für das Netz und 7 Bits für die Hosts auf.

- Mit 7 Host-Bits erhalten wir $2^7 = 128$ mögliche Adressen.
- In jedem Subnetz sind jedoch zwei Adressen reserviert: die Netzwerkkadresse (alle Host-Bits auf 0) und die Broadcast-Adresse (alle Host-Bits auf 1).

Die Anzahl der nutzbaren Geräte ist also $128 - 2 = 126$