Lab 6

Oppdeling:

Nett1/Produksjon	Nett2/Salg	Nett3/R1-R2	Nett4/R2-R3
Nettmaske: 255.255.255.192	Nettmaske: 255.255.255.192	Nettmaske: 255.255.255.192	Nettmaske: 255.255.255.192
Nettnummer: 10.0.1.0/26	Nettnummer: 10.0.1.64/26	Nettnummer: 10.0.1.128/26	Nettnummer: 10.0.1.192/26
Broadcast: 10.0.1.63	Broadcast: 10.0.1.127	Broadcast: 10.0.1.191	Broadcast: 10.0.1.255
Første host: 10.0.1.1	Første host: 10.0.1.65	Første host: 10.0.1.129	Første host: 10.0.1.193
Siste host: 10.0.1.62	Siste host: 10.0.1.126	Siste host: 10.0.1.190	Siste host: 10.0.1.254

PC'er

PC1	PC2
IP adresse: 10.0.1.10	IP adresse: 10.0.1.80
Maske: 255.255.255.192	Maske: 255.255.255.192
Gateway: 10.0.1.5	Gateway: 10.0.1.140

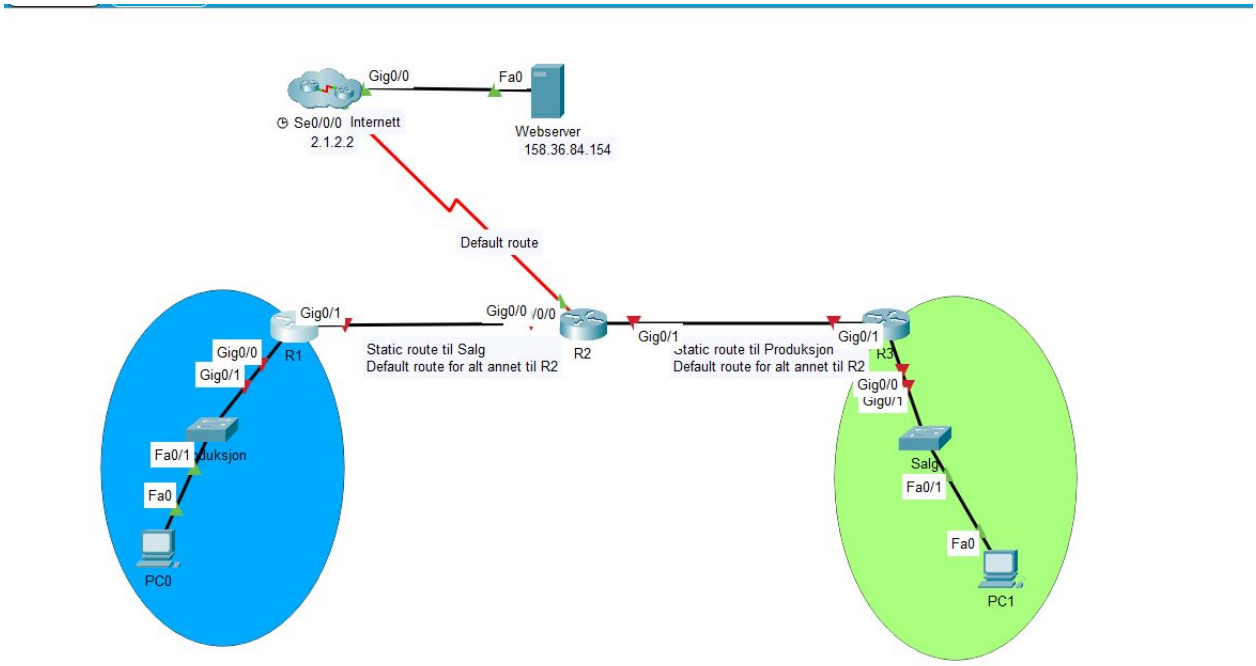
Rutere:

R1	R2	R3
Interface: Gig0/0 Gig0/1	Interface: Gig0/0 Gig0/1	Interface: Gig0/0 Gig0/1
IP adresse: 0/0: 10.0.1.5 0/1: 10.0.1.135	IP adresse: 0/0:10.0.1.140 0/1:10.0.1.210	IP adresse: 0/0: 10.0.1.75 0/1:10.0.1.205
Maske:	Maske:	Maske:

255.255.255.192	255.255.255.192	255.255.255.192

Del 1

Oppgave 1:



Oppgave 2:

A:

```
Router>en
Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname R1
R1(config)#
```

Ctrl+F6 to exit CLI focus Copy Paste

B:

```
R1>en
R1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#int gig0/0
R1(config-if)#ip address 10.0.1.5 255.255.255.192
R1(config-if)#no shutdown
R1(config-if)#exit
R1(config)#
```

```
R1(config)#int gig0/1
R1(config-if)#ip address 10.0.1.135 255.255.255.192
R1(config-if)#no shutdown

R1(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to
up

R1(config-if)#exit
R1(config)#
```

Oppgave 3:

A:

```
Router>en
Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname R2
R2(config)#
```

Ctrl+F6 to exit CLI focus Copy Paste

B:

```
R2>en
R2#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#int gig0/0
R2(config-if)#ip address 10.0.1.140 255.255.255.192
R2(config-if)#no shutdown

R2(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to
up

%LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet0/0, changed state to up
exit
R2(config)#
```

```
R2(config)#int gig0/1
R2(config-if)#ip address 10.0.1.210 255.255.255.192
R2(config-if)#no shutdown

R2(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to
up

R2(config-if)#exit
R2(config)#
```

Oppgave 4:

A:

```
Router>en
Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname R3
R3(config)#
```

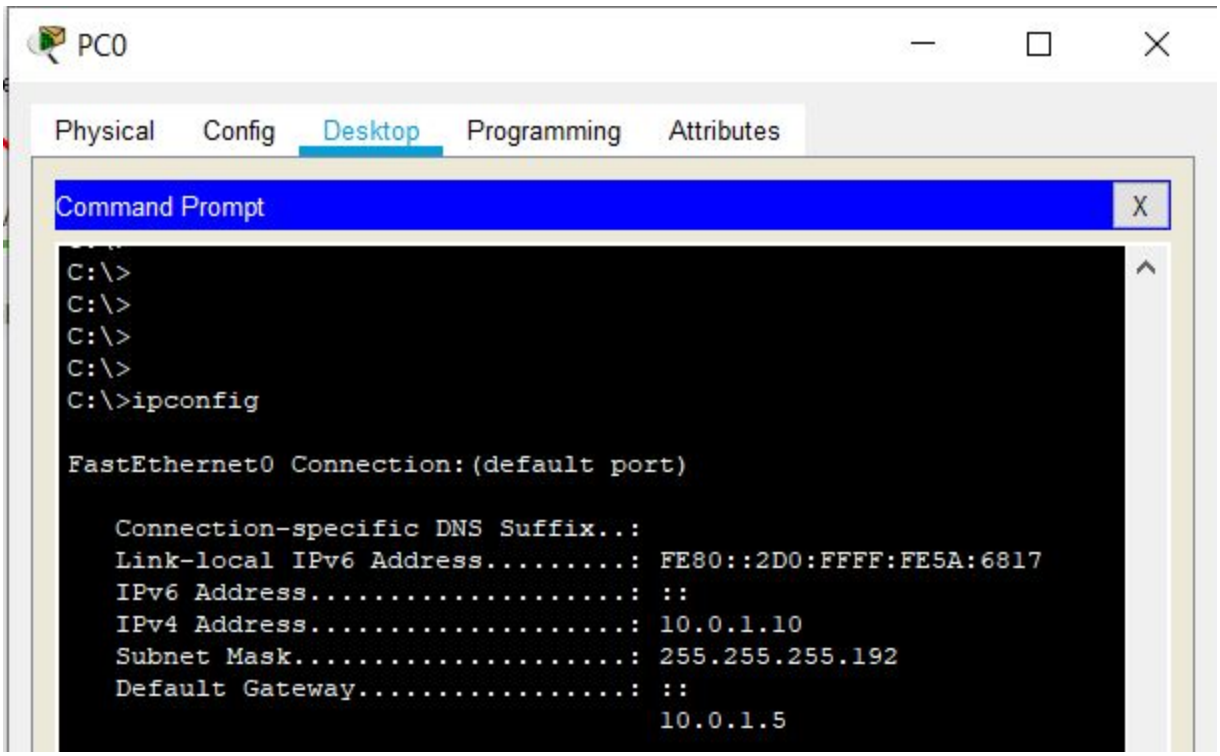
Ctrl+F6 to exit CLI focus Copy Paste

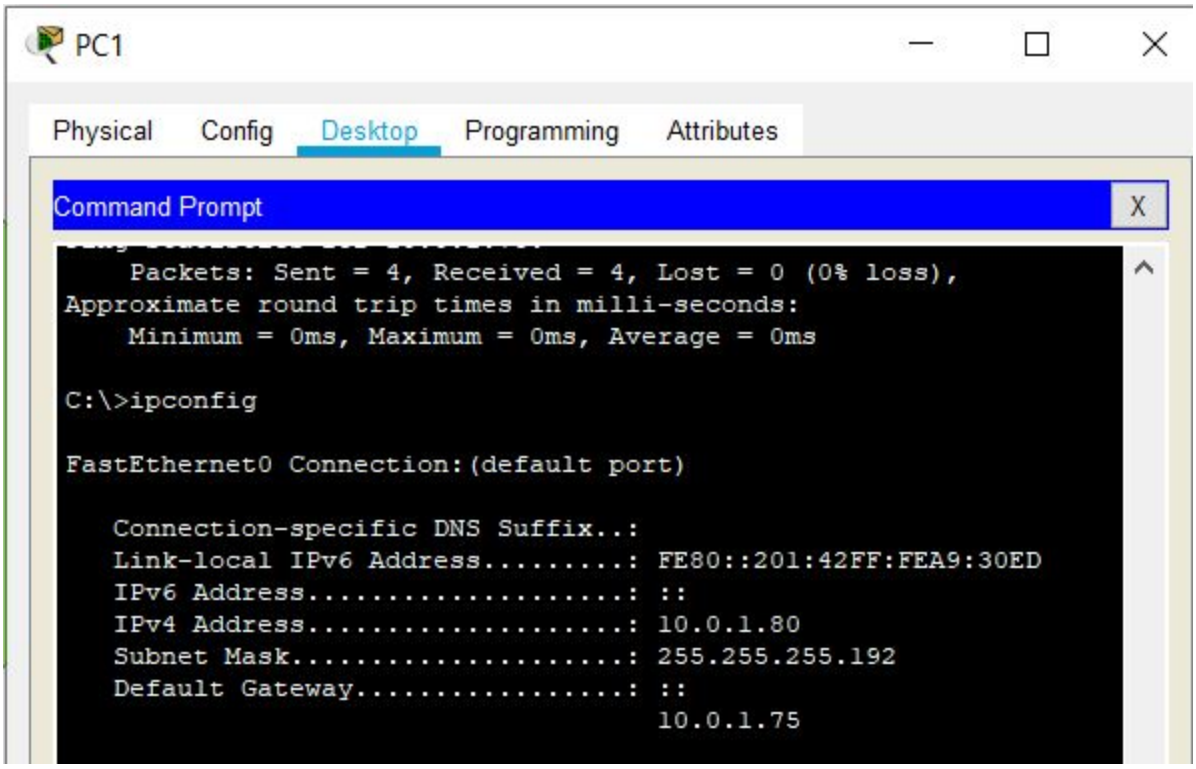
B:

```
R3(config)#int gig0/0
R3(config-if)#ip address 10.0.1.75 255.255.255.192
R3(config-if)#no shutdown

R3(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to
up

%LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet0/0, changed state to up

R3(config-if)#exit
R3(config)#
```

```
R3(config-if)#exit
R3(config)#int gig0/1
R3(config-if)#ip address 10.0.1.205 255.255.255.192
R3(config-if)#no shutdown

R3(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to
up

%LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet0/1, changed state to up
exit
R3(config)#
```

Oppgave 5:

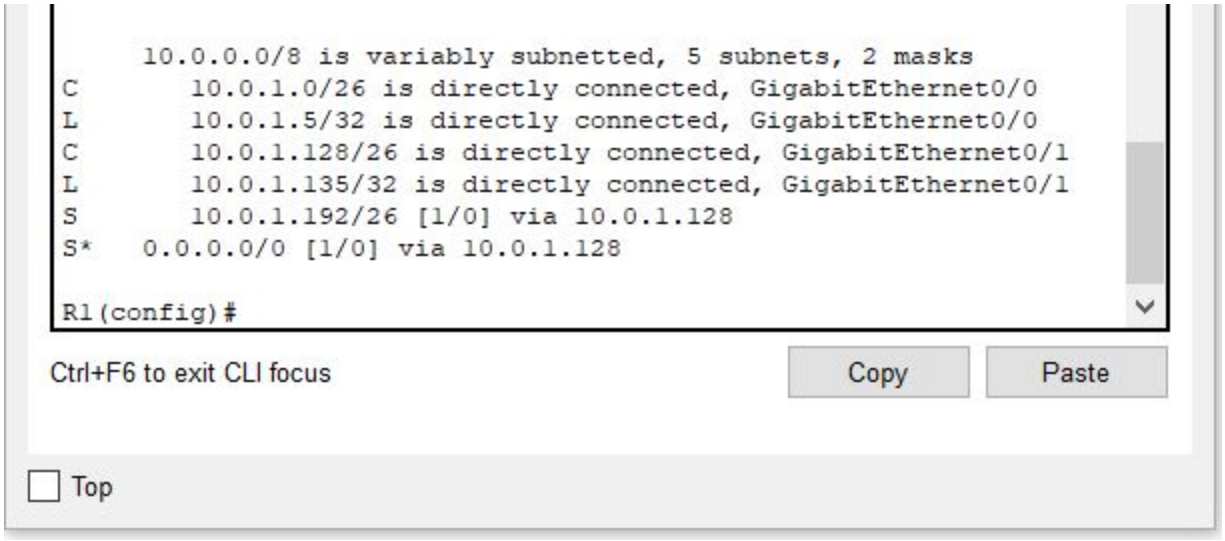





```
Pinging 10.0.1.5 with 32 bytes of data:

Reply from 10.0.1.5: bytes=32 time=6ms TTL=255
Reply from 10.0.1.5: bytes=32 time=1ms TTL=255
Reply from 10.0.1.5: bytes=32 time<1ms TTL=255
Reply from 10.0.1.5: bytes=32 time<1ms TTL=255

Ping statistics for 10.0.1.5:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 6ms, Average = 1ms

C:\>
```

```
C:\>ping 10.0.1.75

Pinging 10.0.1.75 with 32 bytes of data:

Reply from 10.0.1.75: bytes=32 time=1ms TTL=255
Reply from 10.0.1.75: bytes=32 time<1ms TTL=255
Reply from 10.0.1.75: bytes=32 time<1ms TTL=255
Reply from 10.0.1.75: bytes=32 time<1ms TTL=255

Ping statistics for 10.0.1.75:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

Oppgave 6:
A:
1 og 2:

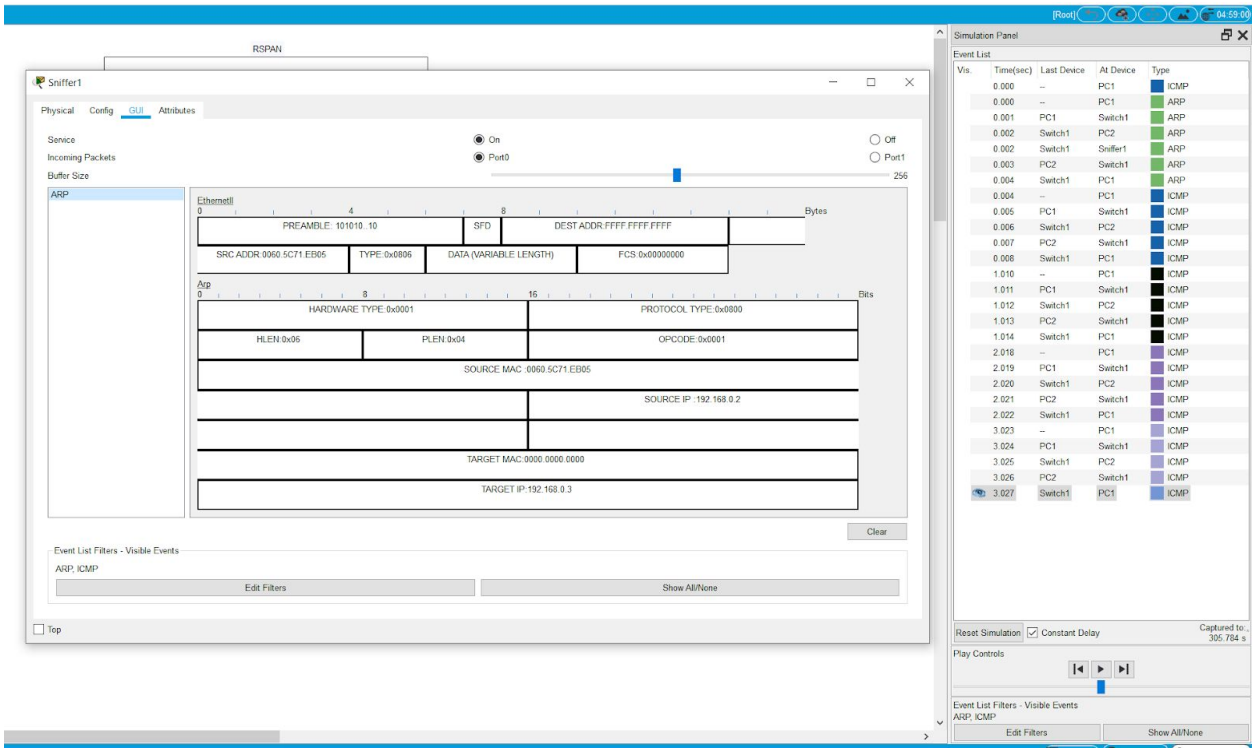


B:
2:

Oppgave 7:

DEL 2

Oppgave 3:
A:



Jeg ser at ARP pakken som blir først sendt, blir plukket opp av snifferen. ICMP pakkene derimot blir ikke plukket.

B:

Eneste som dukker i Sniffer1 er ARP pakken, mens ICMP går bare forbi uten å bli plukket opp.

Oppgave 4:

```
Switch1(config)#monitor session 1 source int fa0/1
Switch1(config)#monitor  session 1 destination int fa0/24
Switch1(config)#
```

Oppgave 5:

A:

Det blir ikke sendt noen ARP pakker ved pinging, men alle ICMP pakkene blir plukket opp av snifferen både de som blir sendt fra PC1 → PC2 og PC2 → PC1.

B:

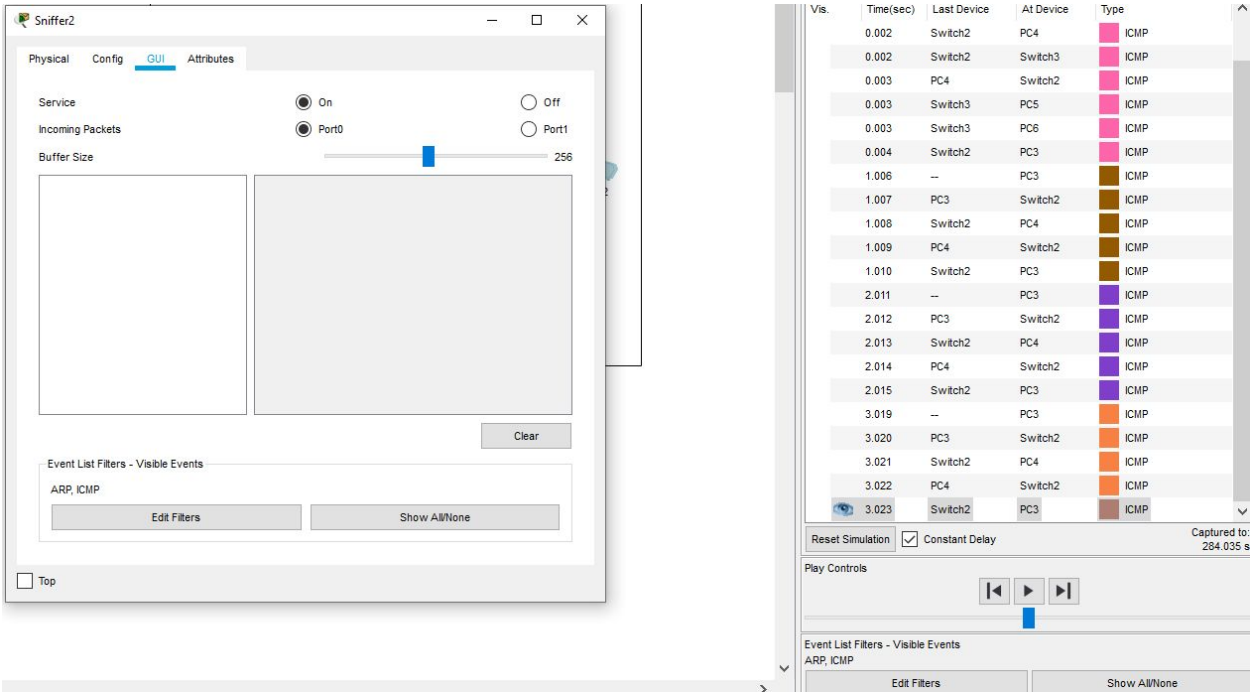
Eneste pakkene som dukker opp er ICMP. Jeg antar at dette er på grunn av at nettverket sender ingen ARP pakker.

Oppgave 6:

A:

Ingen av pakken blir plukket opp av snifferen. Hverken ARP eller ICMP

B:



Ingenting dukker opp på snifferen.

Oppgave 7:

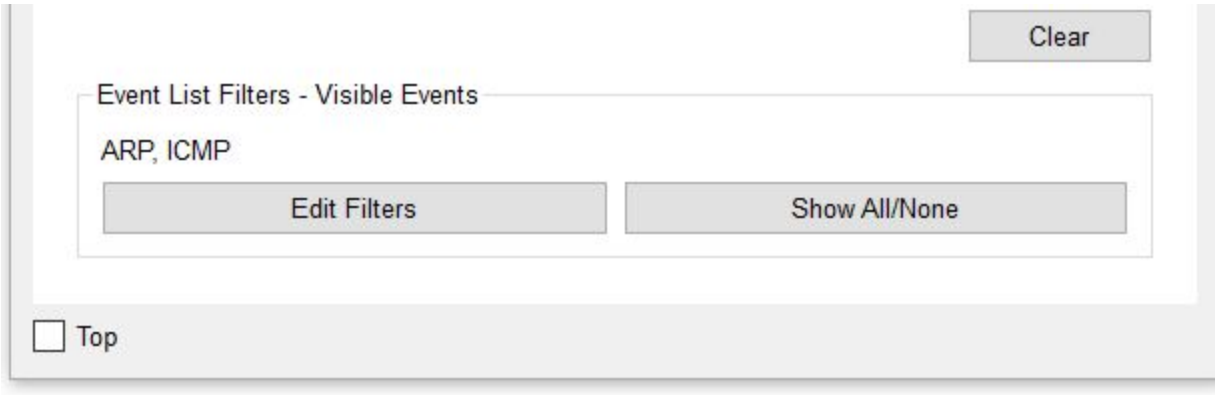
```
Switch2>en
Switch2#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch2(config)#vlan 99
Switch2(config-vlan)#remote span
                     ^
% Invalid input detected at '^' marker.

Switch2(config-vlan)#remote-span
Switch2(config-vlan)#
```

```
Switch3>en
Switch3#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch3(config)#vlan 99
Switch3(config-vlan)#remote-span
Switch3(config-vlan)#exit
Switch3(config)#
```

```
Switch2(config-vlan)#remote-span
Switch2(config-vlan)#exit
Switch2(config)#monitor session 1 source int fa0/1
Switch2(config)#monitor session 1 destination int gig0/1
Switch2(config)#exit
Switch2#
%SYS-5-CONFIG_I: Configured from console by console
```

```
Switch3(config)#monitor session 1 source int Gig0/1
Switch3(config)#monitor session 1 destination Fa0/24
                                              ^
% Invalid input detected at '^' marker.

Switch3(config)#monitor session 1 destination int Fa0/24
Switch3(config)#exit
Switch3#
%SYS-5-CONFIG_I: Configured from console by console
```

Oppgave 8:

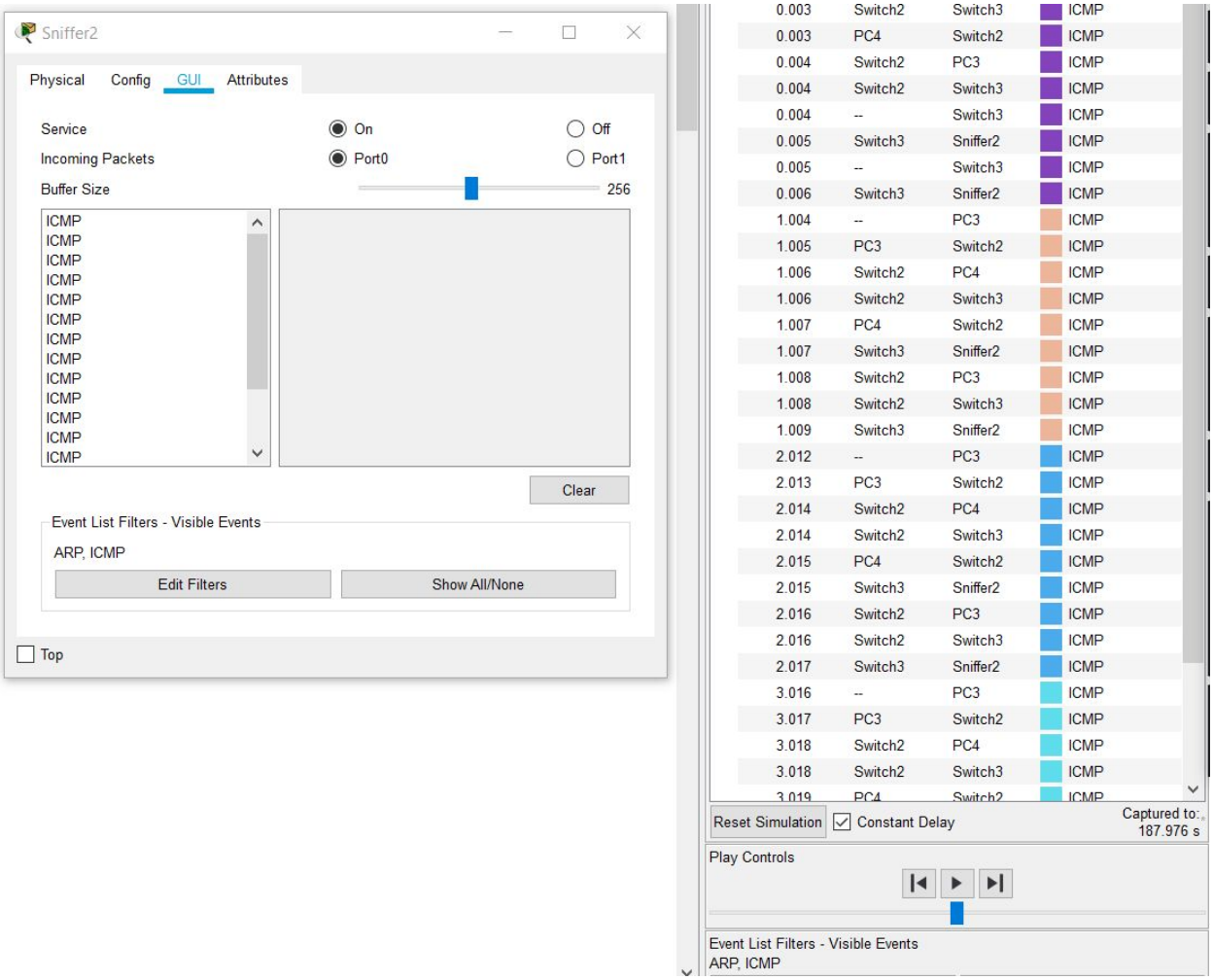


Oppgave 9:

A:

Det er ingen ARP pakker som blir sendt. Alle pakkene er ICMP pakker. Disse blir sendt via PC3 → PC4 og blir sendt en kopi videre fra Switch2 til Switch 3 som sender kopien videre til Sniffer2.

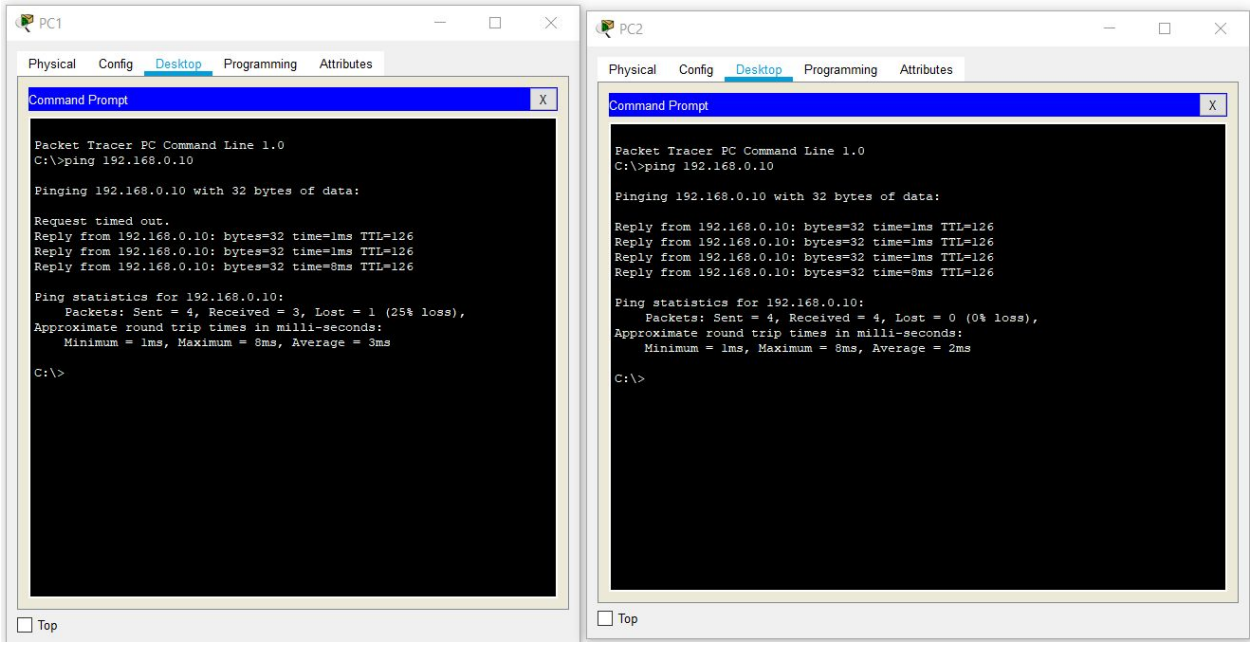
B:



Bare ICMP pakker. Det er ingen ARP pakker som blir sendt ved pinging.

DEL 3

Oppgave 1:



Oppgave 2

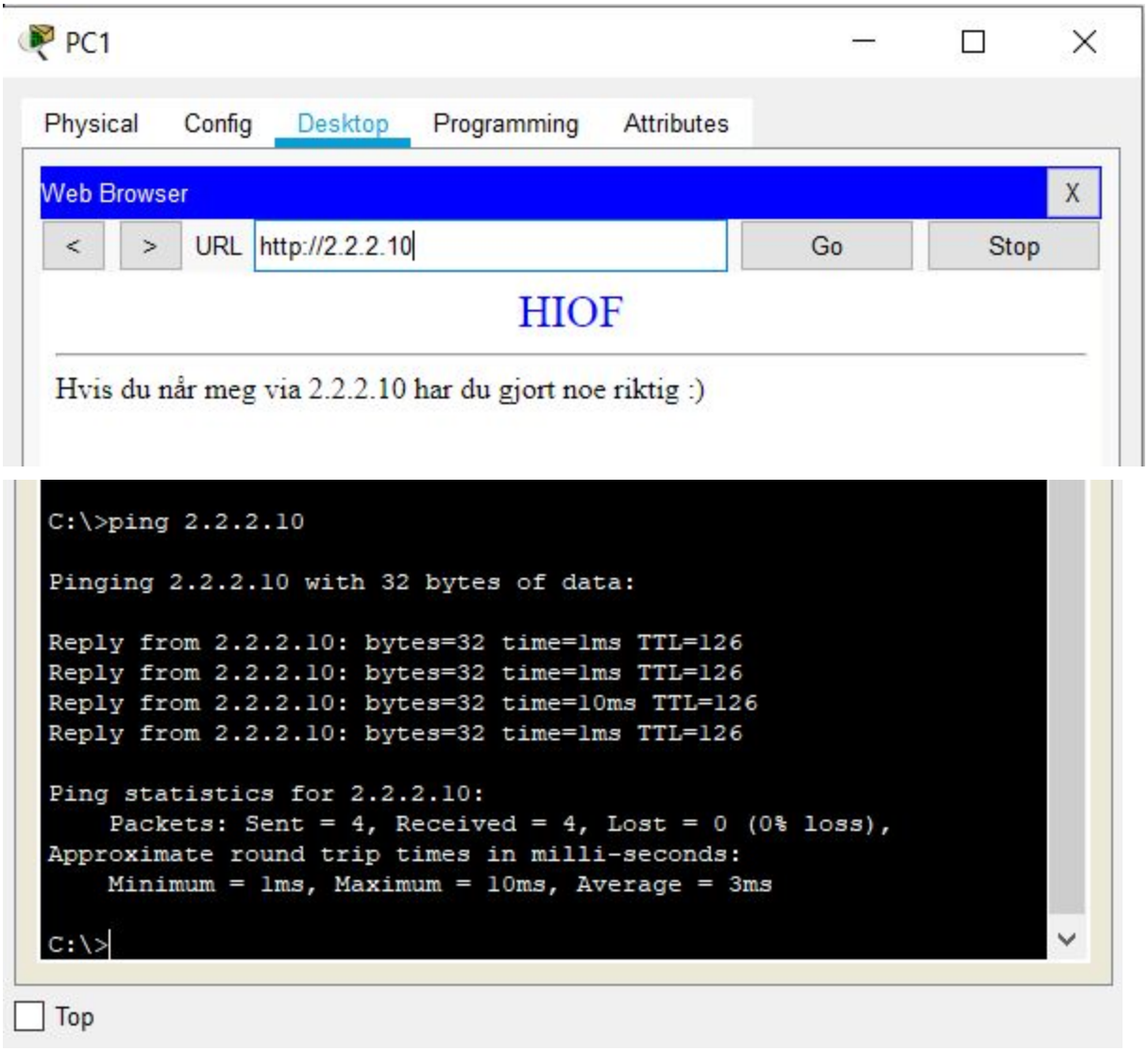
A:

```
R2#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#int Gig0/0
R2(config-if)#ip nat inside
R2(config-if)#exit
R2(config)#int Se0/0/0
R2(config-if)#ip nat outside
R2(config-if)#exit
R2(config)#
```

B:

```
R2(config-if)#exit
R2(config)#int Se0/0/0
R2(config-if)#ip nat inside source static 192.168.0.10 2.2.2.10
R2(config)#exit
R2#
```

Oppgave 3:



Oppgave 4:
A:

```
R2#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#int Gig0/0
R2(config-if)#ip nat inside
R2(config-if)#exit
R2(config)#int Se0/0/0
R2(config-if)#ip nat outside
R2(config-if)#exit
R2(config)#int Se0/0/0
R2(config-if)#ip nat inside source static 192.168.0.10 2.2.2.10
R2(config)#exit
R2#
%SYS-5-CONFIG_I: Configured from console by console

R2#
```

B:

```
R1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#access-list 1 permit 10.0.0.0 0.255.255.255
R1(config)#
```

C:

```
255.0.0.0
                                        ^
% Invalid input detected at '^' marker.

R1(config)#ip nat pool POOL10 2.2.2.100 2.2.2.150 netmask
255.0.0.0
R1(config)#
```

D:

```
R1(config)#ip nat inside source list 1 pool POOL10
R1(config)#
```

Ctrl+F6 to exit CLI focus Copy Paste

E:

```
R1#show ip nat translations
Pro  Inside global     Inside local       Outside local      Outside global
icmp 2.2.2.102:14      10.0.0.20:14       2.2.2.10:14        2.2.2.10:14
icmp 2.2.2.102:15      10.0.0.20:15       2.2.2.10:15        2.2.2.10:15
icmp 2.2.2.102:16      10.0.0.20:16       2.2.2.10:16        2.2.2.10:16
icmp 2.2.2.102:17      10.0.0.20:17       2.2.2.10:17        2.2.2.10:17
icmp 2.2.2.102:18      10.0.0.20:18       2.2.2.10:18        2.2.2.10:18
icmp 2.2.2.102:19      10.0.0.20:19       2.2.2.10:19        2.2.2.10:19
icmp 2.2.2.102:20      10.0.0.20:20       2.2.2.10:20        2.2.2.10:20

R1#
```

Ctrl+F6 to exit CLI focus

Oppgave 5:

```
R1#show ip nat translations
Pro  Inside global     Inside local       Outside local      Outside global
icmp 2.2.2.102:21      10.0.0.10:21       2.2.2.10:21        2.2.2.10:21
icmp 2.2.2.102:22      10.0.0.10:22       2.2.2.10:22        2.2.2.10:22
icmp 2.2.2.102:23      10.0.0.10:23       2.2.2.10:23        2.2.2.10:23
icmp 2.2.2.102:24      10.0.0.10:24       2.2.2.10:24        2.2.2.10:24
icmp 2.2.2.103:21      10.0.0.20:21       2.2.2.10:21        2.2.2.10:21
icmp 2.2.2.103:22      10.0.0.20:22       2.2.2.10:22        2.2.2.10:22
icmp 2.2.2.103:23      10.0.0.20:23       2.2.2.10:23        2.2.2.10:23
icmp 2.2.2.103:24      10.0.0.20:24       2.2.2.10:24        2.2.2.10:24

R1#
```