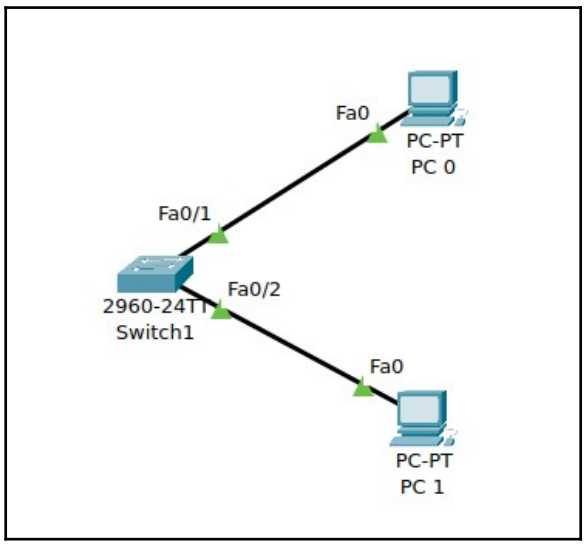
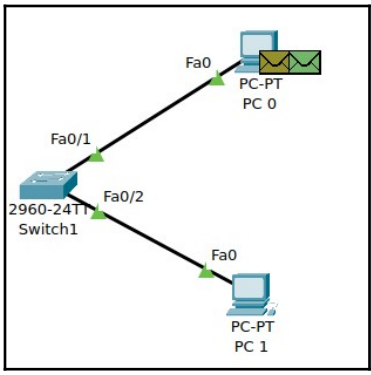
Information about Devices in Network



	IP Address	Subnet Mask	MAC Address
PC 0	**192.168.1.2**	**255.255.255.0**	**0009.7cd8.44b0**
PC 1	**192.168.1.3**	**255.255.255.0**	**00d0.ff96.49d7**
Switch1	**n/a**	**n/a**	**n/a**

Since switch doesn't need any IP or MAC Addresses to work properly n/a is given in the table.

Ping from PC 0 to PC 1



I opened the command prompt of PC 0 and typed "**ping -n 1 192.168.1.3**" to send 1 ICMP package to PC 1.

However ICMP package's not been sent to **Switch1**, because either **PC 0** or **PC 1** doesn't know MAC Addresses of each other.

PC 0

```
C:\>arp -a
No ARP Entries Found
C:\>
```

PC 1

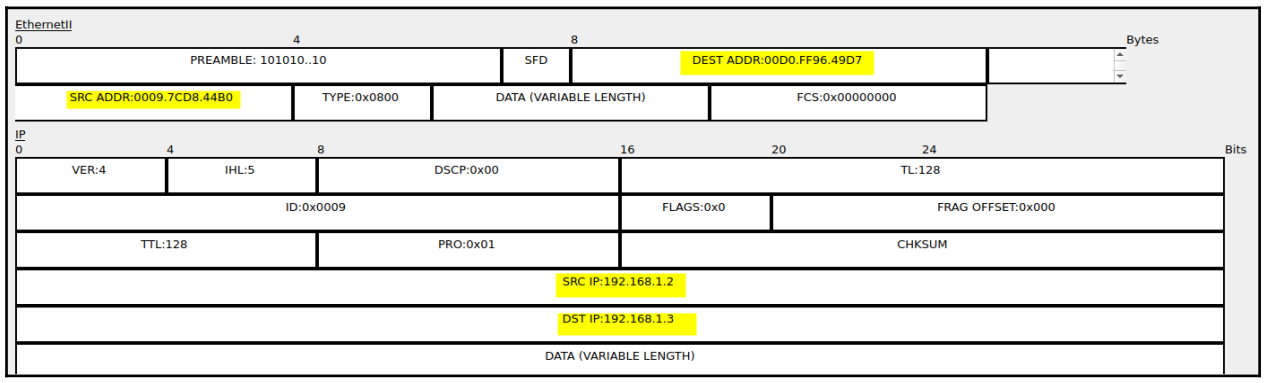
```
C:\>arp -a
No ARP Entries Found
C:\>
```

Since knowing MAC Addresses is mandatory for communication in LAN, ARP package has to be sent before ICMP.

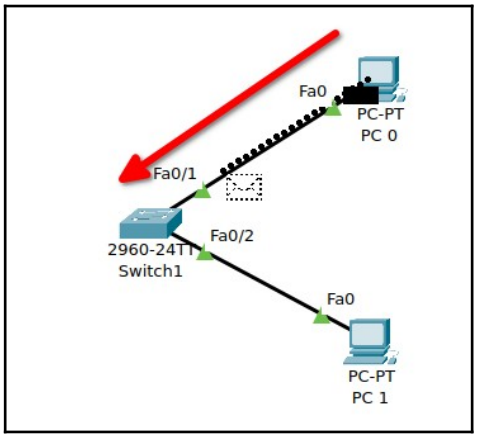
Vis.	Time(sec)	Last Device	At Device	Type
	0.000	--	PC 0	ICMP
	0.000	--	PC 0	ARP
	0.001	PC 0	Switch1	ARP
	0.002	Switch1	PC 1	ARP
	0.003	PC 1	Switch1	ARP
	0.004	Switch1	PC 0	ARP
	0.004	--	PC 0	ICMP

After the ARP process, ICMP package ready to go, which means it knows following:

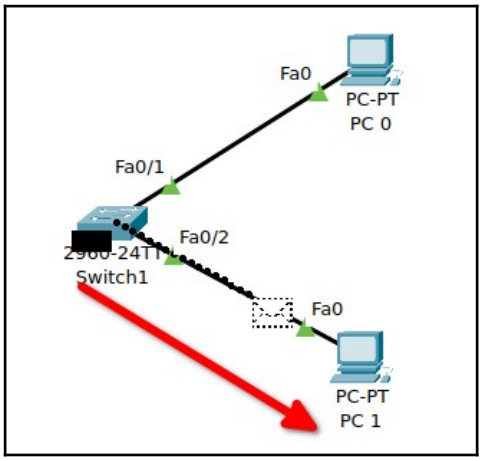
1- Destination MAC Address
2- Source MAC Address
3- Destination IP Address
4- Source IP Address



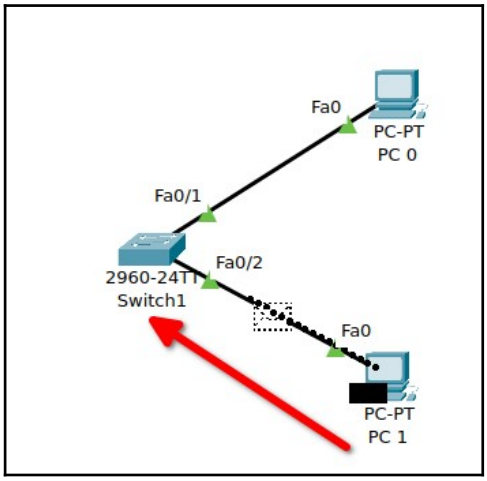
After that, destination and source information for both IP and MAC Addresses in ICMP package will be like so:



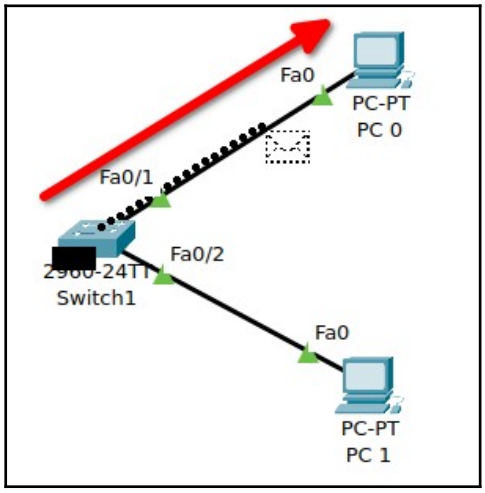
Source IP Address	**192.168.1.2**
Destination IP Address	**192.168.1.3**
Source MAC Address	**0009.7cd8.44b0**
Destination MAC Address	**00d0.ff96.49d7**



Source IP Address	**192.168.1.2**
Destination IP Address	**192.168.1.3**
Source MAC Address	**0009.7cd8.44b0**
Destination MAC Address	**00d0.ff96.49d7**



Source IP Address	**192.168.1.3**
Destination IP Address	**192.168.1.2**
Source MAC Address	**00d0.ff96.49d7**
Destination MAC Address	**0009.7cd8.44b0**



Source IP Address	**192.168.1.3**
Destination IP Address	**192.168.1.2**
Source MAC Address	**00d0.ff96.49d7**
Destination MAC Address	**0009.7cd8.44b0**

After **PC 0** received the ICMP package, we can see the output about it in command prompt.

```
C:\>ping -n 1 192.168.1.3

Pinging 192.168.1.3 with 32 bytes of data:

Reply from 192.168.1.3: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.3:
    Packets: Sent = 1, Received = 1, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```