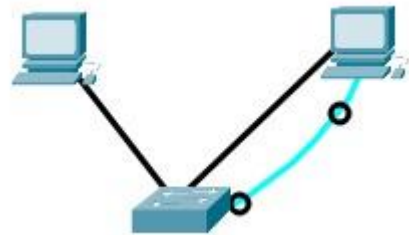


Lab work: MAC addresses and switch MAC address table

1. Open the class computer (password = tllabra)
2. Open the network settings of your computer and make sure that only the TP-Link network card is used, other network cards can be turned off.
3. Assign IP addresses to computers (TP-Link network card) using 192.168.5.0 /24 networks. (Please note that each computer has a unique IP address)

- One PC IP address: 192.168.5.1
- Another PC IP address: 192.168.5.3

4. Build the network shown in the adjacent picture by connecting computers to a switch ports f0/13 and f0/15. Use Switch S1, so from the other computer, also connect the console connection (PC CON) to the console port on the switch (S1-con).



5. Use Putty-software and open the console connection to your switch and give it a name S1.
 - In Putty, use serial connection and COM-3 port
 -

```
ed by non-PnP bootstrapping)
Switch#
Switch#
Switch# ip int br
interface
Vlan1
FastEthernet0/1
FastEthernet0/2
FastEthernet0/3
FastEthernet0/4
FastEthernet0/5
FastEthernet0/6
FastEthernet0/7
FastEthernet0/8
FastEthernet0/9
FastEthernet0/10
FastEthernet0/11
FastEthernet0/12
FastEthernet0/13
FastEthernet0/14
FastEthernet0/15
FastEthernet0/16
FastEthernet0/17
FastEthernet0/18
FastEthernet0/19
FastEthernet0/20
FastEthernet0/21
FastEthernet0/22
FastEthernet0/23
FastEthernet0/24
SgigabitEthernet0/1
SgigabitEthernet0/2
Switch# mac ad
Switch# mac address-table
Mac Address Table
-----
Vlan  Mac Address      Type      Ports
---  -
All  0100.0000.0000  STATIC   CPU
All  0100.0000.0000  STATIC   CPU
All  0180.c300.0000  STATIC   CPU
All  0180.c300.0001  STATIC   CPU
All  0180.c300.0002  STATIC   CPU
All  0180.c300.0003  STATIC   CPU
All  0180.c300.0004  STATIC   CPU
All  0180.c300.0005  STATIC   CPU
All  0180.c300.0006  STATIC   CPU
All  0180.c300.0007  STATIC   CPU
All  0180.c300.0008  STATIC   CPU
All  0180.c300.0009  STATIC   CPU
All  0180.c300.000a  STATIC   CPU
All  0180.c300.000b  STATIC   CPU
All  0180.c300.000c  STATIC   CPU
All  0180.c300.000d  STATIC   CPU
All  0180.c300.000e  STATIC   CPU
All  0180.c300.000f  STATIC   CPU
All  0180.c300.0010  STATIC   CPU
All  ffff.ffff.ffff  STATIC   CPU
1  503c.sacrf.66e9  DYNAMIC  Fa0/15
1  503c.sacrf.66e1  DYNAMIC  Fa0/13
Local Mac Address for this criterion: 22
```

6. Test the connection between the computers with ping. If the connections do not work, find out what is wrong (ask your instructor for help if necessary) and try again.

```
C:\Users\tllabra>ping 192.168.5.3

Pinging 192.168.5.3 with 32 bytes of data:
Reply from 192.168.5.3: bytes=32 time=31ms TTL=128
Reply from 192.168.5.3: bytes=32 time=3ms TTL=128
Reply from 192.168.5.3: bytes=32 time=2ms TTL=128
Reply from 192.168.5.3: bytes=32 time=2ms TTL=128

Ping statistics for 192.168.5.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 31ms, Average = 9ms
```

7. Find the MAC addresses of the computers and note them down (use ipconfig/all command in your PC)
 - 50-3E-AA-CF-66-F1
8. Check out the MAC address table on the switch. (Switch#show mac-address-table OR show mac address-table)
 - What addresses appear on screen after that command • What MAC addresses can be found on ports f0/13 and f0/15?
 - 503e.aacf.66e8 Fa0/15
 - 503e.aacf.66f1 Fa0/13
 - Does the table content match the network you're building?
 - Yes

```
C:\Users\tllabra>ipconfig /all
```

Windows IP Configuration

```
Host Name . . . . . : ri-b104-20
Primary Dns Suffix . . . . . : labra.local
Node Type . . . . . : Hybrid
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No
DNS Suffix Search List. . . . . : labra.local
```

Ethernet adapter Ethernet 2:

```
Connection-specific DNS Suffix . : 
Description . . . . . : TP-LINK Gigabit Ethernet USB Adapter
Physical Address. . . . . : 50-3E-AA-CF-66-F1
DHCP Enabled. . . . . : No
Autoconfiguration Enabled . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::c1ea:b377:5202:aaf5%2(Preferred)
IPv4 Address. . . . . : 192.168.5.1(Preferred)
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 
DHCPv6 IAID . . . . . : 55590570
DHCPv6 Client DUID. . . . . : 00-01-00-01-2C-12-C6-4B-6C-3C-8C-34-3B-8D
DNS Servers . . . . . : fec0:0:0:ffff::1%1
                       fec0:0:0:ffff::2%1
                       fec0:0:0:ffff::3%1
NetBIOS over Tcpip. . . . . : Enabled
```

Ethernet adapter vEthernet (Default Switch):

```
Connection-specific DNS Suffix . : 
Description . . . . . : Hyper-V Virtual Ethernet Adapter
Physical Address. . . . . : 00-15-5D-00-7D-00
DHCP Enabled. . . . . : No
Autoconfiguration Enabled . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::468e:8baf:677b:7bf8%21(Preferred)
IPv4 Address. . . . . : 172.23.32.1(Preferred)
Subnet Mask . . . . . : 255.255.240.0
Default Gateway . . . . . : 
DHCPv6 IAID . . . . . : 352327005
DHCPv6 Client DUID. . . . . : 00-01-00-01-2C-12-C6-4B-6C-3C-8C-34-3B-8D
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\tllabra>
```