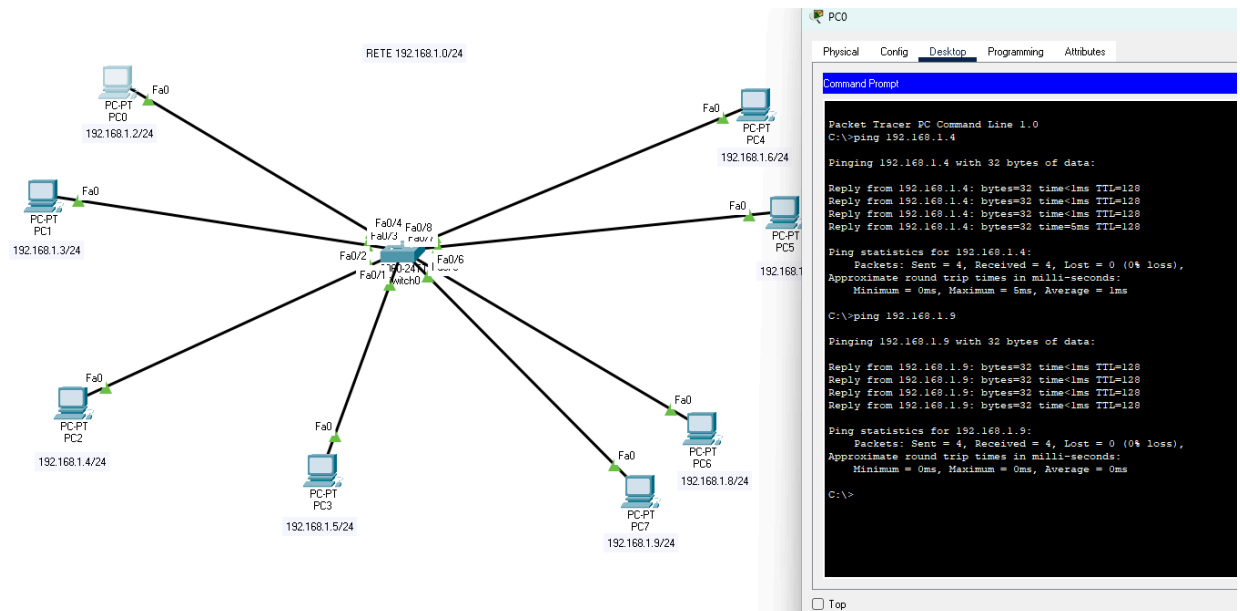Esercizio di Oggi

L'esercizio di oggi riguarderà la creazione di una rete segmentata con 4 VLAN diverse. Oltre agli screenshot del progetto, spiegherete le motivazioni per cui si è scelto di ricorrere alle VLAN.

As requested we're going to create a network with 4 different VLAN. And we're gonna explain why it is convenient.

First of all we need to create a network system.
In this case we have 1 Switch and 8 devices all connected to the same Switch.
IP Network 192.168.1.0/24
IP PC0 192.168.1.2/24
IP PC1 192.168.1.3/24
IP PC2 192.168.1.4/24
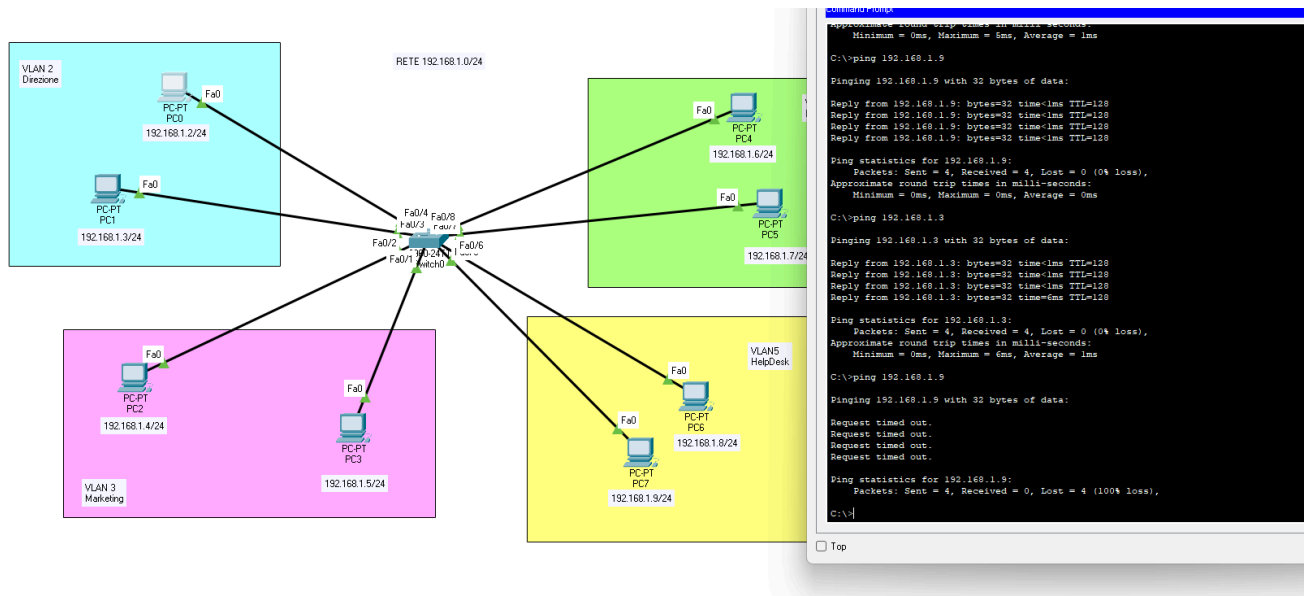IP PC3 192.168.1.5/24
IP PC4 192.168.1.6/24
IP PC5 192.168.1.7/24
IP PC6 192.168.1.8/24
IP PC7 192.168.1.9/24

As we can see from the picture above, all the devices can communicate among them as the ping test has positive results.

As the task is to create a VLAN network now we've created 4 different VLAN networks:
- VLAN 2 - Direzione (PC0 and PC1)
- VLAN 3 - Marketing (PC2 and PC3)
- VLAN 4 - HR   (PC4 and PC5)
- VLAN 4 - Help Delk (PC6 and PC7)

As we can see from the ping test PC0 (**192.168.1.2**) **can communicate** with PC1 (**192.168.1.3**) as they're part of the same VLAN Network (you can see the 4 different VLAN Networks as they're into the same group color) and, at the same time, PC0 (**192.168.1.2**) **cannot communicate** with PC7 (**192.168.1.9**); it means that the VLAN Network setup is working.
Please refer to the above image as example and the following as another example.
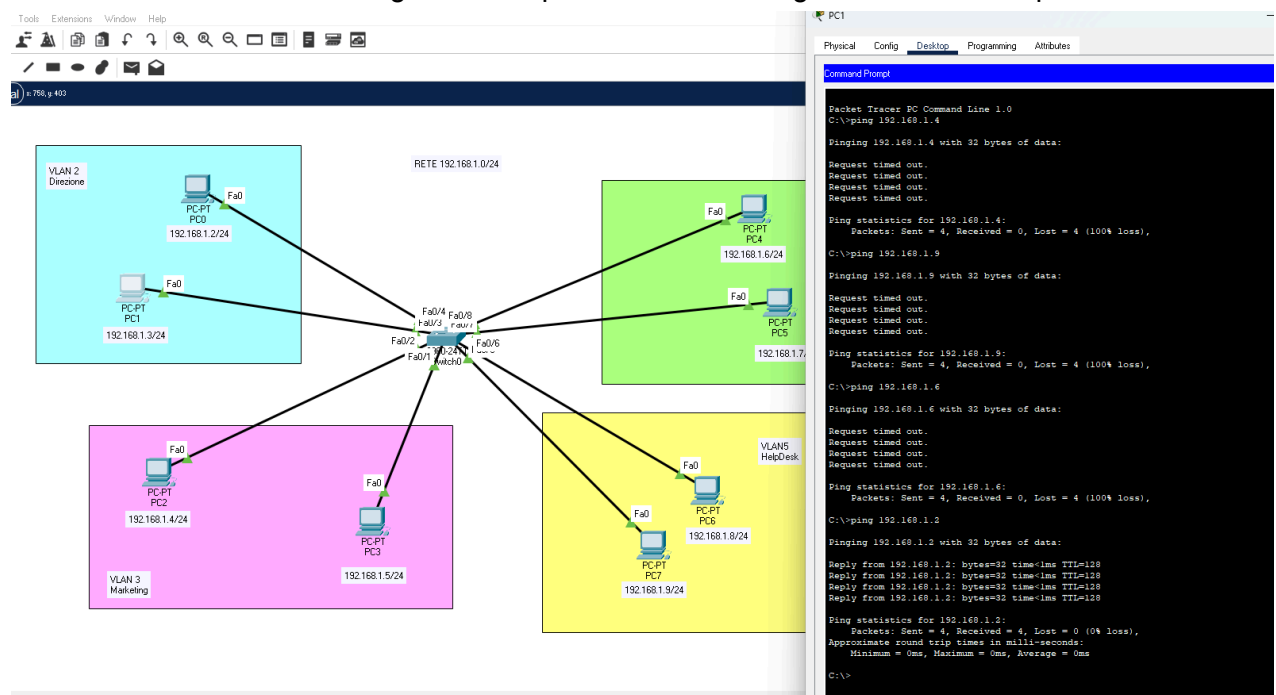
Conclusions

VLAN (Virtual Local Area Network) is a network which is used to "segment" a Network in more isolated sub-networks.

It's independent from switches and cables configuration and it offers an easier network management and a safer network traffic.

Keeping the traffic on the network separate will improve the **Security** of the network as there's no connection between devices of different VLAN and we improve the **Performance** of the network in general as there will be much less data load.

Moreover, it will be much **easier** the general **management** of the network and we will have much more **flexibility** if we need to reorganize the network according to new needs.