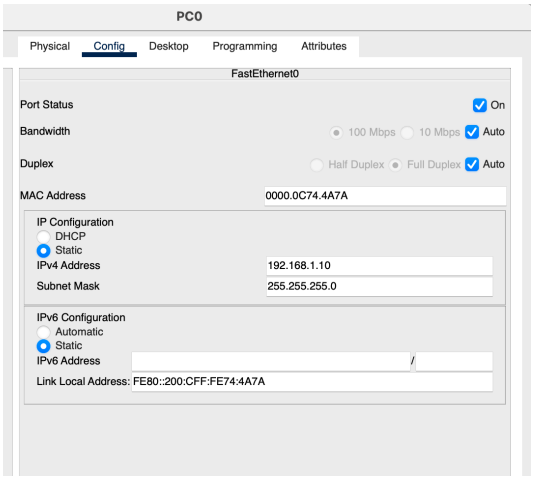
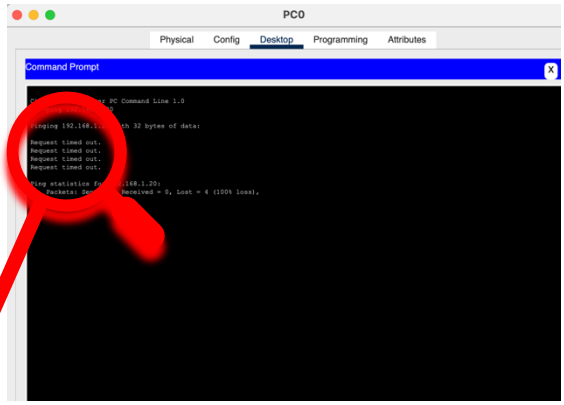
L2- VLAN Misconfiguration Explanation

A newly installed computer cannot access an old server connected to the same switch. Although the internet connection appears active on both devices, the new computer cannot even ping the server. This shows that the physical connection is strong but data cannot be transmitted.

Physical connection: Connection is established via the same switch.
Ping attempt: Failed.
Switch configuration check: Server is configured in VLAN 20, new PC is configured in VLAN 10.

VLANs create virtual networks within a switch. Even if they are connected to the same physical switch, the characteristics of different VLANs cannot be seen. This means a network segmentation at Layer 2.



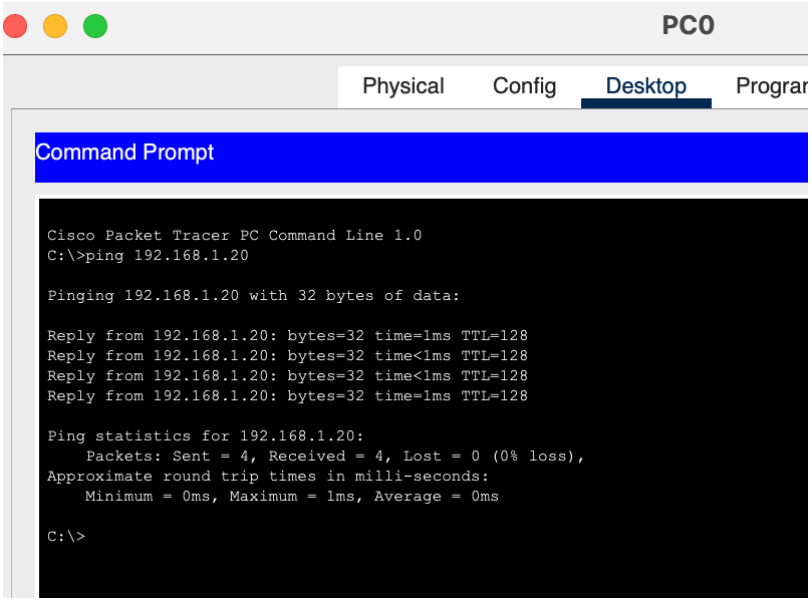



```
C:\>ping 192.168.1.20

Pinging 192.168.1.20 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.1.20:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>
```

On Switch CLI, follow these steps:

```
Switch>
Switch>enable
Switch# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#interface fastethernet0/2
Switch(config-if)#switchport access vlan 20
Switch(config-if)#exit
Switch(config)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#interface FastEthernet0/1
Switch(config-if)#
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/2
Switch(config-if)#
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/1
Switch(config-if)#
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/2
Switch(config-if)#
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/1
Switch(config-if)#
```

With these commands, the port to which the new computer is connected (e.g. Fa0/2) was moved to VLAN 20 and positioned in the same VLAN as the server. Then the connection was established successfully.



This issue falls under OSI Layer 2 - Data Link Layer. VLANs are considered L2 level because they cause data transmission to fail at the MAC address level.