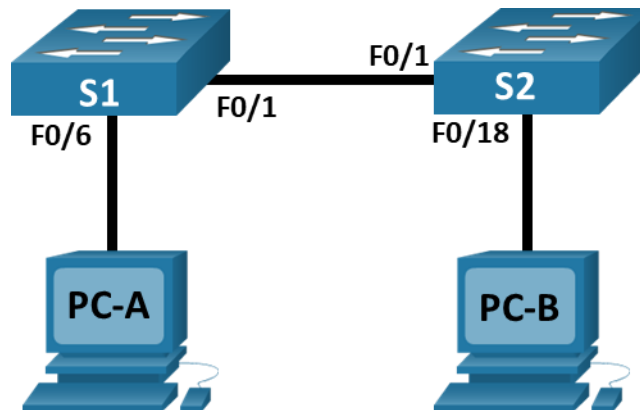


Lab - Basic Switch and End Device Configuration

Topology



Addressing Table

Device	Interface	IP Address	Subnet Mask
S1	VLAN 1	192.168.1.1	255.255.255.0
S2	VLAN 1	192.168.1.2	255.255.255.0
PC-A	NIC	192.168.1.10	255.255.255.0
PC-B	NIC	192.168.1.11	255.255.255.0

Objectives

- Set Up the Network Topology
- Configure PC Hosts
- Configure and Verify Basic Switch Settings

Background / Scenario

In this lab, you will build a simple network with two hosts and two switches. You will also configure basic settings including hostname, local passwords, and login banner. Use **show** commands to display the running configuration, IOS version, and interface status. Use the **copy** command to save device configurations.

You will apply IP addressing for this lab to the PCs and switches to enable communication between the devices. Use the **ping** utility to verify connectivity.

Note: The switches used are Cisco Catalyst 2960s with Cisco IOS Release 15.0(2) (lanbasek9 image). Other switches and Cisco IOS versions can be used. Depending on the model and Cisco IOS version, the commands available and output produced might vary from what is shown in the labs.

Note: Make sure that the switches have been erased and have no startup configurations. Refer to Appendix A for the procedure to initialize and reload a switch.

Required Resources

- 2 Switches (Cisco 2960 with Cisco IOS Release 15.0(2) lanbasek9 image or comparable)
- 2 PCs (Windows with terminal emulation program, such as Tera Term)
- Console cables to configure the Cisco IOS devices via the console ports
- Ethernet cables as shown in the topology

Instructions

Step 1: Set Up the Network Topology

In this step, you will cable the devices together according to the network topology.

- a. Power on the devices.

Zrobione.

- b. Connect the two switches.

Zrobione.

- c. Connect the PCs to their respective switches.

Zrobione. Wyczyszczona konfiguracja urządzeń.

- d. Visually inspect network connections.

Zrobione.

Step 2: Configure PC Hosts

- a. Configure static IP address information on the PCs according to the Addressing Table.

Zrobione.

- b. Verify PC settings and connectivity.

Zroobione.

Step 3: Configure and Verify Basic Switch Settings

- a. Console into the switch. Enter the global configuration mode.

Zrobione

configure terminal

- b. Give the switch a name according to the Addressing Table.

Zrobione.

hostname S1

- c. Prevent unwanted DNS lookups.

Zrobione.

no ip domain-lookup

- d. Enter local passwords. Use **class** as the privileged EXEC password and **cisco** as the password for console access.

Zrobione.

enable

configure terminal

enable secret class

Lab - Basic Switch and End Device Configuration

```
line con 0
password cisco
login
end
write memory
```

e. Configure and enable the SVI according to the Addressing Table.

Zrobione.

```
configure terminal
interface vlan 1
ip address 192.168.1.1 255.255.255.0
no shutdown
exit
```

f. Enter a login MOTD banner to warn about unauthorized access.

Zrobione.

```
configure terminal
banner motd #Authorized Access Only#
```

g. Save the configuration.

Zrobione.

```
copy running-config startup-config
```

h. Display the current configuration.

Zrobione.

```
show running-config
```

i. Display the IOS version and other useful switch information.

Zrobione.

```
show version
```

j. Display the status of the connected interfaces on the switch.

Zrobione.

```
show interfaces
```

k. Configure switch S2.

Zrobione.

l. Record the interface status for the following interfaces.

Interface	S1 Status	S1 Protocol	S2 Status	S2 Protocol
F0/1	up	up	up	up
F0/6	up	up	down	down
F0/18	down	down	up	up
VLAN 1	up	up	up	up

- m. From a PC, ping S1 and S2. The pings should be successful.

Work.

```
C:\Users\eventgda>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:
Request timed out.
Reply from 192.168.1.1: bytes=32 time=1ms TTL=255
Reply from 192.168.1.1: bytes=32 time=31ms TTL=255
Reply from 192.168.1.1: bytes=32 time=6ms TTL=255

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 31ms, Average = 12ms
```

```
C:\Users\eventgda>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:
Reply from 192.168.1.2: bytes=32 time<1ms TTL=255
Reply from 192.168.1.2: bytes=32 time=3ms TTL=255
Reply from 192.168.1.2: bytes=32 time=4ms TTL=255
Reply from 192.168.1.2: bytes=32 time=1ms TTL=255

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 4ms, Average = 2ms

C:\Users\eventgda>
```

- n. From a switch, ping PC-A and PC-B. The pings should be successful.

Work

```
C:\Users\eventgda>ping 192.168.1.11

Pinging 192.168.1.11 with 32 bytes of data:
Reply from 192.168.1.11: bytes=32 time<1ms TTL=128
Reply from 192.168.1.11: bytes=32 time=1ms TTL=128
Reply from 192.168.1.11: bytes=32 time<1ms TTL=128
Reply from 192.168.1.11: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.11:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

```
S1#ping 192.168.1.10
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.1.10, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/9/33 ms
S1#ping 192.168.1.11
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.1.11, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/203/1007 ms
S1#
```

```
C:\Users\eventgda>ping 192.168.1.10

Pinging 192.168.1.10 with 32 bytes of data:
Reply from 192.168.1.10: bytes=32 time<1ms TTL=128
Reply from 192.168.1.10: bytes=32 time<1ms TTL=128
Reply from 192.168.1.10: bytes=32 time<1ms TTL=128
Reply from 192.168.1.10: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Users\eventgda>
```

```
S2#ping 192.168.1.10
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.1.10, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/203/1007 ms
S2#ping 192.168.1.11
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.1.11, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/8 ms
S2#
```

Reflection Question

Why some FastEthernet ports on the switches are up and others are down?

Porty mogą być w stanie "down" z powodu braku połączenia z urządzeniem, błędnej konfiguracji, uszkodzenia kabla lub portu, lub braku aktywnego urządzenia podłączonego do portu.

What could prevent a ping from being sent between the PCs?

Problemy z połączeniem fizycznym (np. uszkodzone kable), brak konfiguracji adresów IP, nieprawidłowe ustawienia routingu, wyłączone zapory ogniowe lub błędna konfiguracja sieciowa mogą uniemożliwić wysyłanie pingu.