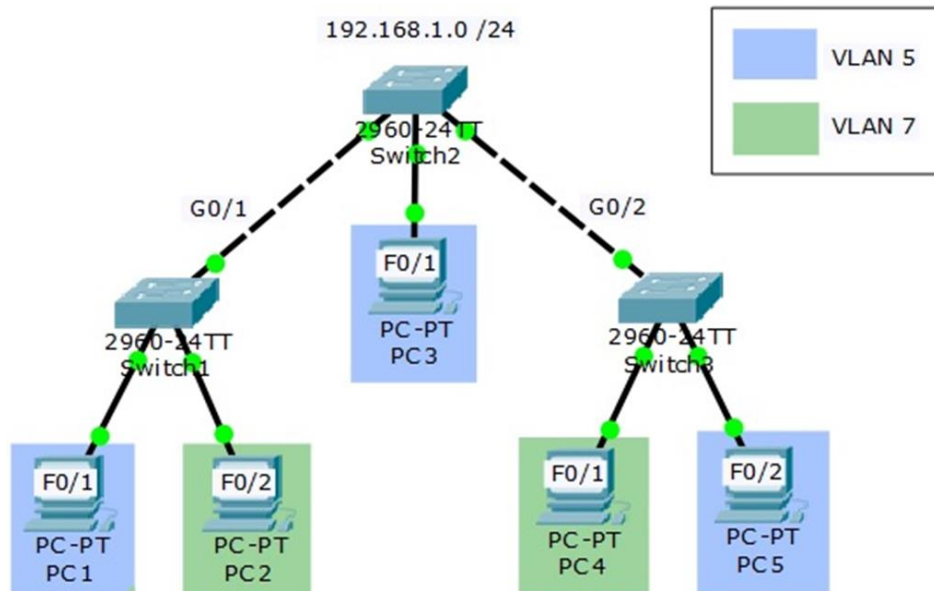


**Goal.** Use the diagram below and configure the following:

1. Hostname according to the diagram and a banner on Switch1 with your name.
2. Access interfaces and VLANs.
3. Trunk interfaces.
4. IP addresses on PCs.
5. Answer the question „Why can't PC2 ping PC4?“ and fix the issue.



## 1. Hostname and banner

```
Switch>enable
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname S1
S1(config)#banner motd #Cyber Quince#
```

## 2. Access and VLANs

### Switch1

```
S1(config)#interface FastEthernet 0/1
S1(config-if)#switchport mode access
S1(config-if)#switchport access vlan 5
% Access VLAN does not exist. Creating vlan 5
S1(config-if)#exit

S1(config)#interface FastEthernet 0/2
S1(config-if)#switchport mode access
S1(config-if)#switchport access vlan 7
% Access VLAN does not exist. Creating vlan 7
S1(config-if)#exit
```

```
S1(config)#interface GigabitEthernet 0/1
S1(config-if)#switchport mode trunk

S1(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1,
changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1,
changed state to up
```

### **Switch2**

```
S2(config)#interface FastEthernet 0/1
S2(config-if)#switchport mode access
S2(config-if)#switchport access vlan 5
% Access VLAN does not exist. Creating vlan 5
S2(config-if)#exit

S2(config)#interface range GigabitEthernet 0/1-2
S2(config-if-range)#switchport mode trunk

S2(config-if-range)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2,
changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2,
changed state to up
```

### **Switch3**

```
S2(config)#interface FastEthernet 0/1
S2(config-if)#switchport mode access
S2(config-if)#switchport access vlan 7
% Access VLAN does not exist. Creating vlan 7
S2(config-if)#exit

S2(config)#interface FastEthernet 0/2
S2(config-if)#switchport mode access
S2(config-if)#switchport access vlan 5
% Access VLAN does not exist. Creating vlan 5
S2(config-if)#exit

S2(config)#interface GigabitEthernet 0/2
S2(config-if)#switchport mode trunk
```

### 3. Trunks

#### **Switch1**

```
S1(config)#interface GigabitEthernet 0/1
S1(config-if)#switchport mode trunk

S1(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1,
changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1,
changed state to up
```

#### **Switch2**

```
S2(config)#interface range GigabitEthernet 0/1-2
S2(config-if-range)#switchport mode trunk

S2(config-if-range)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2,
changed state to down

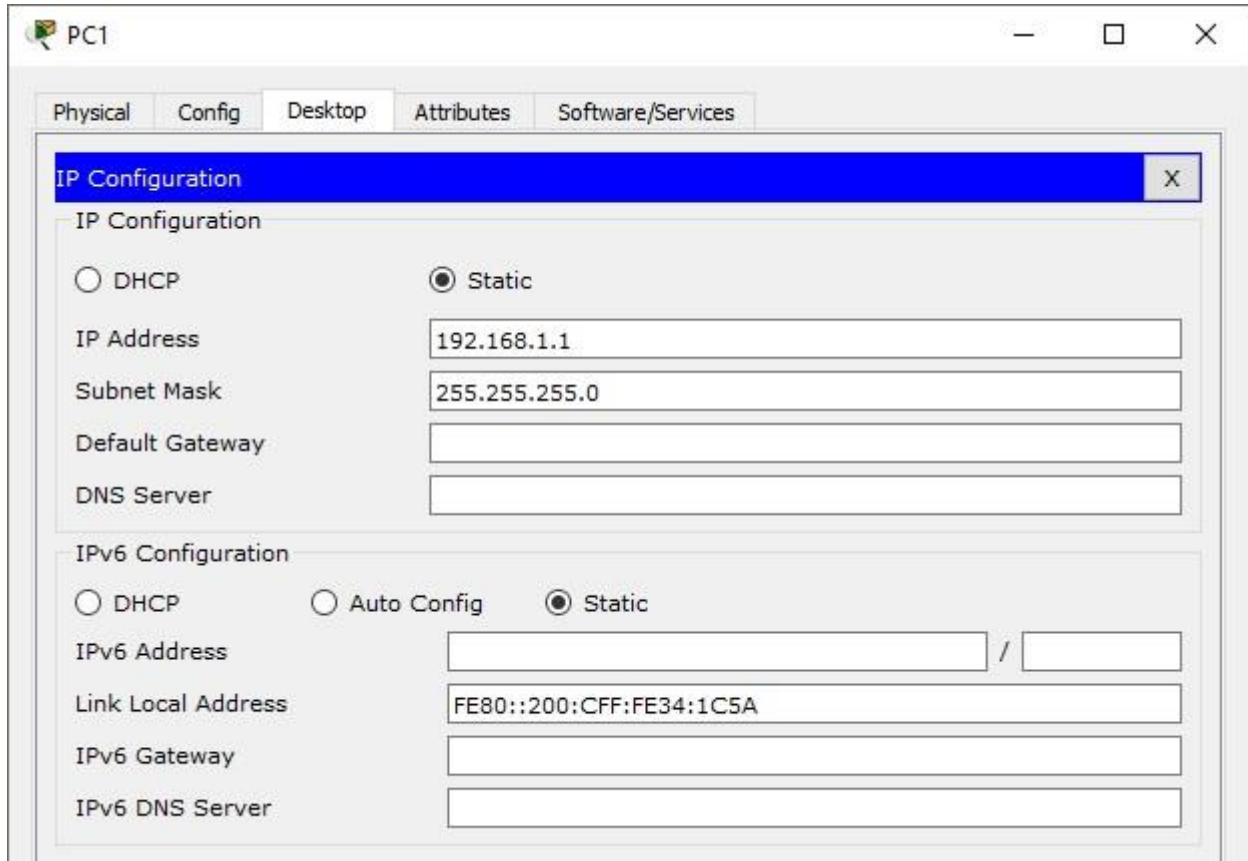
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2,
changed state to up
```

#### **Switch3**

```
S2(config)#interface GigabitEthernet 0/2
S2(config-if)#switchport mode trunk
```

#### 4. PC IP addresses

Each PC should have an IP address from the following subnet: 192.168.1.0 /24



The screenshot shows the configuration window for PC1. The 'Config' tab is selected. The 'IP Configuration' section is active, showing 'Static' IP configuration. The IP Address is set to 192.168.1.1, and the Subnet Mask is set to 255.255.255.0. The 'IPv6 Configuration' section is also visible, showing 'Static' configuration. The IPv6 Address is set to FE80::200:CFF:FE34:1C5A.

Field	Value
IP Address	192.168.1.1
Subnet Mask	255.255.255.0
Default Gateway	
DNS Server	
IPv6 Address	FE80::200:CFF:FE34:1C5A
Link Local Address	
IPv6 Gateway	
IPv6 DNS Server	

#### 5. Why can't PC2 ping PC4

*PC2 should be able to ping PC4, since they belong to the same VLAN. But the ping fails.*

**Reason:** Switch2, which is on the way, isn't aware that VLAN 7 exists in the network.

**Solution:** create VLAN 7 on Switch2:

```
S2(config)#vlan 7
```