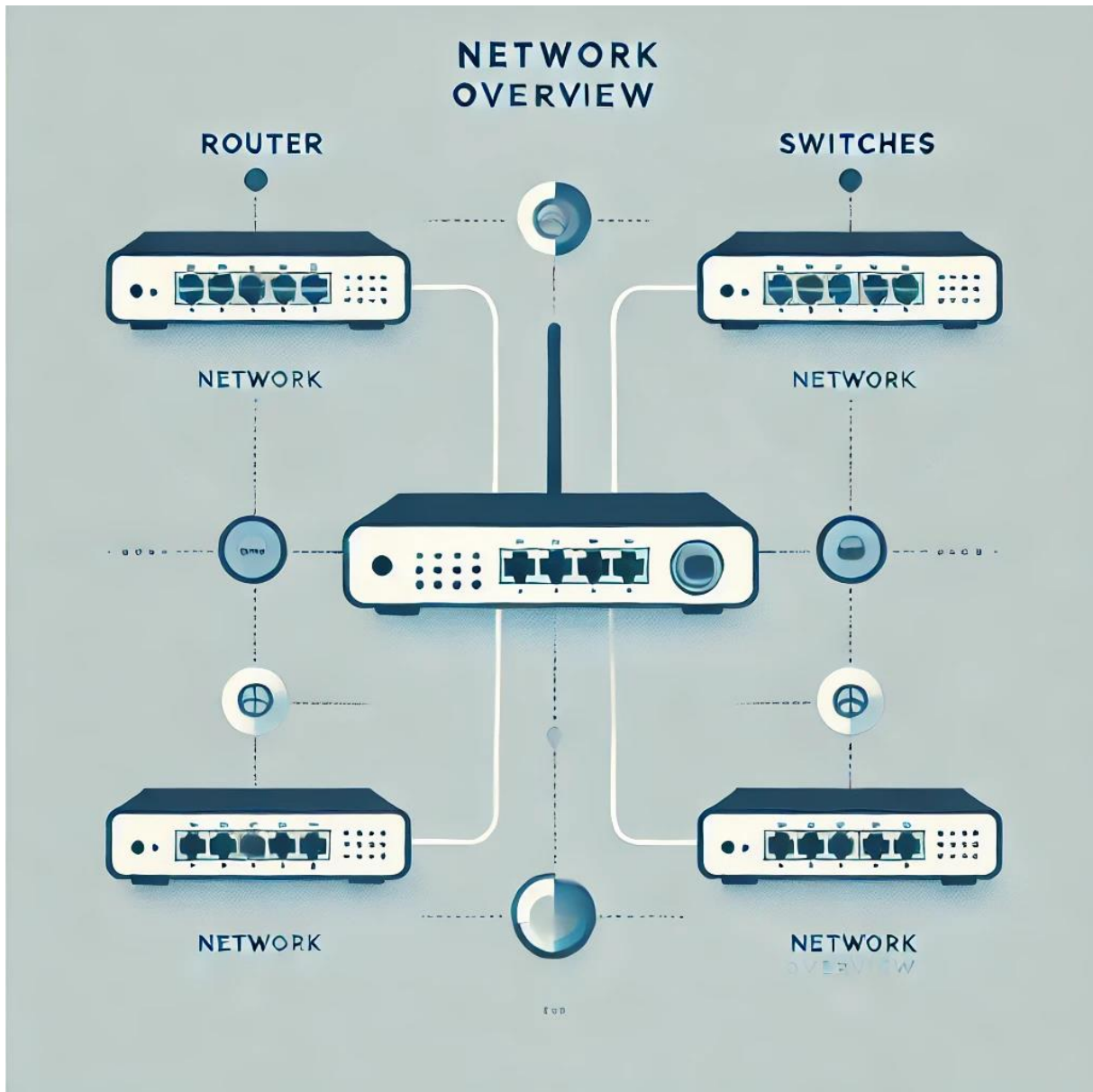


# Network Infrastructure Overview and Configuration



# Inhoud

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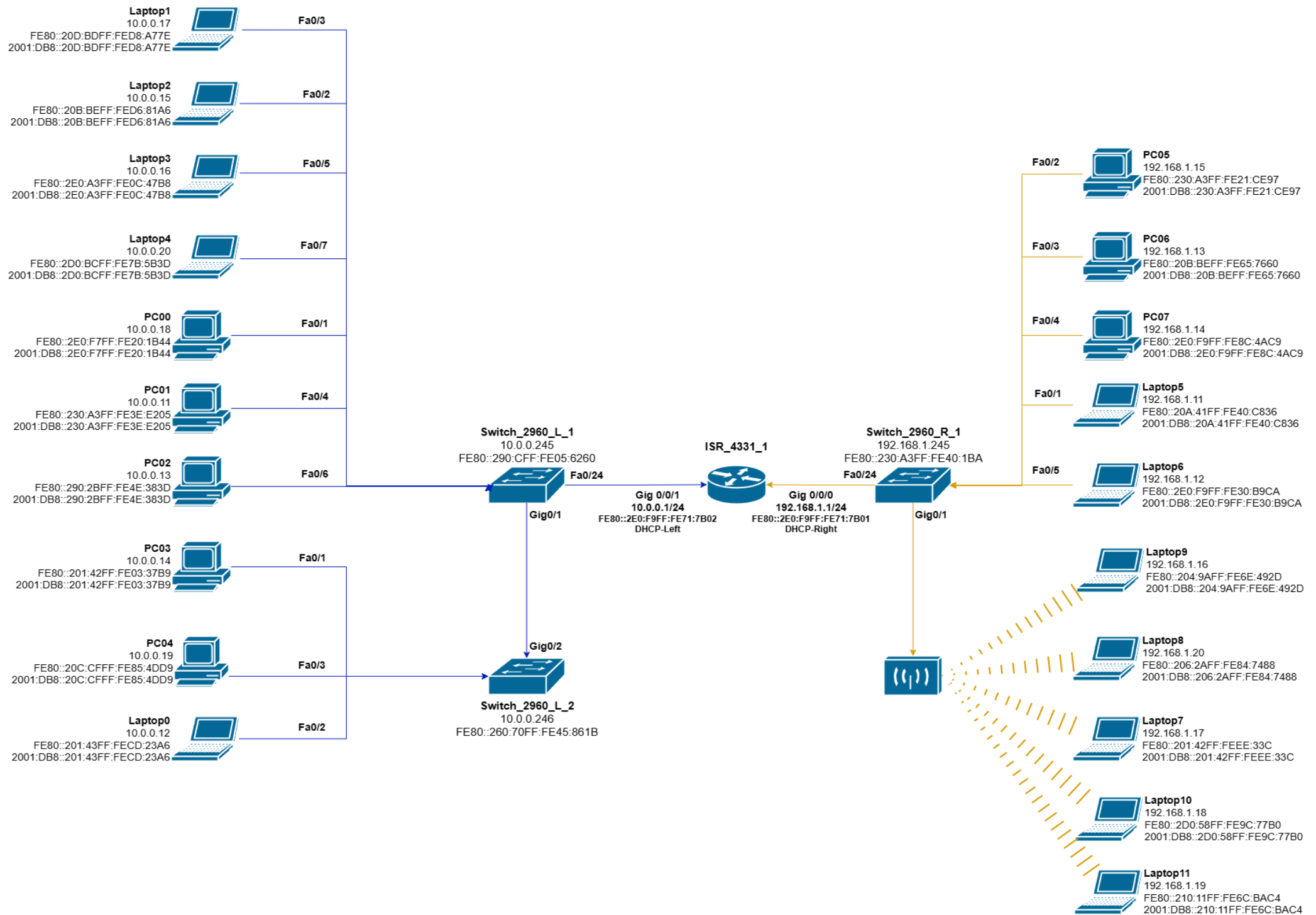
# Network Overview

The configuration involves multiple network devices:

- 1 Router:
  - Cisco ISR4331/K9 (ISR\_4331\_1)
- 3 Switches:
  - Cisco WS-C2960-24TT-L (Switch\_2960\_L\_1)
  - Cisco WS-C2960-24TT-L (Switch\_2960\_L\_2)
  - Cisco WS-C2960-24TT-L (Switch\_2960\_R\_1)
- 12 Laptops:
  - 7 connected with UTP connection
  - 5 connected with Wi-Fi connection
- 8 PC's connected with UTP-Connection
- 1 PT-REPEATER-NM-1CE

## Networkdiagram - Logical Topology

➔ Next page



## Router (ISR\_4331\_1)

Interface	IPv4 Address	IPv6 Address (Link-local)
GigabitEthernet0/0/0	192.168.1.1	FE80::2E0:F9FF:FE71:7B01
GigabitEthernet0/0/1	10.0.0.1	FE80::2E0:F9FF:FE71:7B02

Login password: PXL

Privilege password: PXL

**Note:** All devices are managed by Mijs Bjorn ([12402765@student.pxl.be](mailto:12402765@student.pxl.be)) and have a legal notice banner warning against unauthorized access.

### IPv4 DHCP Pools

#### **LAN\_Left Pool:**

- Network: 192.168.1.0/24
- Default Router: 192.168.1.1
- Total Addresses: 254
- Leased Addresses: 10
- Excluded Addresses: 2

#### **LAN\_Right Pool:**

- Network: 10.0.0.0/24
- Default Router: 10.0.0.1
- Total Addresses: 254
- Leased Addresses: 10
- Excluded Addresses: 2

## IPv4 DHCP Pool configuration

### **Pool LAN\_Right :**

Utilization mark (high/low) : 100 / 0  
Subnet size (first/next) : 0 / 0  
Total addresses : 254  
Leased addresses : 10  
Excluded addresses : 2  
Pending event : none

1 subnet is currently in the pool

Current index	IP address range	Leased/Excluded	/Total
10.0.0.1	10.0.0.1 - 10.0.0.254	10 / 2	/ 254

### **Pool LAN\_Left :**

Utilization mark (high/low) : 100 / 0  
Subnet size (first/next) : 0 / 0  
Total addresses : 254  
Leased addresses : 10  
Excluded addresses : 2  
Pending event : none

1 subnet is currently in the pool

Current index	IP address range	Leased/Excluded	/Total
192.168.1.1	192.168.1.1 - 192.168.1.254	10 / 2	/ 254

## IPv4 DHCP Addressing

Hostname	IP address	Hardware address	Lease	Type
Laptop0	10.0.0.12	0001.43CD.23A6	--	Automatic
Laptop1	10.0.0.17	000D.BDD8.A77E	--	Automatic
Laptop2	10.0.0.15	000B.BED6.81A6	--	Automatic
Laptop3	10.0.0.16	00E0.A30C.47B8	--	Automatic
Laptop4	10.0.0.20	00D0.BC7B.5B3D	--	Automatic
PC00	10.0.0.18	00E0.F720.1B44	--	Automatic
PC01	10.0.0.11	0030.A33E.E205	--	Automatic
PC02	10.0.0.14	0090.2B4E.383D	--	Automatic
PC03	10.0.0.23	0001.4203.37B9	--	Automatic
PC04	10.0.0.19	000C.CF85.4DD9	--	Automatic
Laptop5	192.168.1.11	000A.4140.C836	--	Automatic
Laptop6	192.168.1.12	00E0.F930.B9CA	--	Automatic
Laptop7	192.168.1.17	0001.42EE.033C	--	Automatic
Laptop8	192.168.1.20	0006.2A84.7488	--	Automatic
Laptop9	192.168.1.16	0004.9A6E.492D	--	Automatic
Laptop10	192.168.1.18	00D0.589C.77B0	--	Automatic
Laptop11	192.168.1.19	0010.116C.BAC4	--	Automatic
PC05	192.168.1.15	0030.A321.CE97	--	Automatic
PC06	192.168.1.13	000B.BE65.7660	--	Automatic
PC07	192.168.1.14	00E0.F98C.4AC9	--	Automatic

## IPv6 Addressing

Hostname	IPv6 Address	IPv6 Address (Link-Local)	Age	Link-layer Addr	Interface
Laptop0	2001:DB8::201:43FF:FECD:23A6	FE80::201:43FF:FECD:23A6	0	0001.4203.37B9	Gig0/0/1
Laptop1	2001:DB8::20D:BDFF:FED8:A77E	FE80::20D:BDFF:FED8:A77E	0	000D.BDD8.A77E	Gig0/0/1
Laptop2	2001:DB8::20B:BEFF:FED6:81A6	FE80::20B:BEFF:FED6:81A6	0	000B.BED6.81A6	Gig0/0/1
Laptop3	2001:DB8::2E0:A3FF:FE0C:47B8	FE80::2E0:A3FF:FE0C:47B8	0	00E0.A30C.47B8	Gig0/0/1
Laptop4	2001:DB8::2D0:BCFF:FE7B:5B3D	FE80::2D0:BCFF:FE7B:5B3D	0	00D0.BC7B.5B3D	Gig0/0/1
PC00	2001:DB8::2E0:F7FF:FE20:1B44	FE80::2E0:F7FF:FE20:1B44	0	00E0.F720.1B44	Gig0/0/1
PC01	2001:DB8::230:A3FF:FE3E:E205	FE80::230:A3FF:FE3E:E205	0	0030.A33E.E205	Gig0/0/1
PC02	2001:DB8::290:2BFF:FE4E:383D	FE80::290:2BFF:FE4E:383D	0	0090.2B4E.383D	Gig0/0/1
PC03	2001:DB8::201:42FF:FE03:37B9	FE80::201:42FF:FE03:37B9	0	0001.4203.37B9	Gig0/0/1
PC04	2001:DB8::20C:CFFF:FE85:4DD9	FE80::20C:CFFF:FE85:4DD9	0	000C.CF85.4DD9	Gig0/0/1
Laptop5	2001:DB8::20A:41FF:FE40:C836	FE80::20A:41FF:FE40:C836	1	000A.4140.C836	Gig0/0/0
Laptop6	2001:DB8::2E0:F9FF:FE30:B9CA	FE80::2E0:F9FF:FE30:B9CA	1	00E0.F930.B9CA	Gig0/0/0
Laptop7	2001:DB8::201:42FF:EEEE:33C	FE80::201:42FF:EEEE:33C	1	0001.42EE.033C	Gig0/0/0
Laptop8	2001:DB8::206:2AFF:FE84:7488	FE80::206:2AFF:FE84:7488	1	0006.2A84.7488	Gig0/0/0
Laptop9	2001:DB8::204:9AFF:FE6E:492D	FE80::204:9AFF:FE6E:492D	1	0004.9A6E.492D	Gig0/0/0
Laptop10	2001:DB8::2D0:58FF:FE9C:77B0	FE80::2D0:58FF:FE9C:77B0	1	00D0.589C.77B0	Gig0/0/0
Laptop11	2001:DB8::210:11FF:FE6C:BAC4	FE80::210:11FF:FE6C:BAC4	1	0010.116C.BAC4	Gig0/0/0
PC05	2001:DB8::230:A3FF:FE21:CE97	FE80::230:A3FF:FE21:CE97	1	0030.A321.CE97	Gig0/0/0
PC06	2001:DB8::20B:BEFF:FE65:7660	FE80::20B:BEFF:FE65:7660	1	000B.BE65.7660	Gig0/0/0
PC07	2001:DB8::2E0:F9FF:FE8C:4AC9	FE80::2E0:F9FF:FE8C:4AC9	1	00E0.F98C.4AC9	Gig0/0/0



## Router full configuration (ISR\_4331\_1)

```
ISR_4331_1#sh run
Building configuration...

Current configuration : 1860 bytes
!
version 15.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
service password-encryption
!
hostname ISR_4331_1
!
enable secret 5 $1$mERr$vkYaXnKGfLgWNDfn7gSo9/
!
ip dhcp excluded-address 192.168.1.0 192.168.1.10
ip dhcp excluded-address 10.0.0.0 10.0.0.10
!
ip dhcp pool LAN_Right
    network 10.0.0.0 255.255.255.0
    default-router 10.0.0.1
    dns-server 10.0.0.1
ip dhcp pool LAN_Left
    network 192.168.1.0 255.255.255.0
    default-router 192.168.1.1
    dns-server 192.168.1.1
!
ip cef
no ipv6 cef
!
username cisco password 7 08117462
!
ip domain-name PXL
!
spanning-tree mode pvst
!
interface GigabitEthernet0/0/0
    ip address 192.168.1.1 255.255.255.0
    duplex auto
    speed auto
!
interface GigabitEthernet0/0/1
    ip address 10.0.0.1 255.255.255.0
    duplex auto
    speed auto
!
interface GigabitEthernet0/0/2
    no ip address
    duplex auto
    speed auto
    shutdown
!
```

```

interface Vlan1
  no ip address
  shutdown
!
ip classless
!
ip flow-export version 9
!
banner motd ^C
*****
*           This Router is managed by           *
*           Mijs Bjorn                         *
*           12402765@student.px1.be            *
* Legal Notice: Unauthorized access to this    *
* device is prohibited. All activities on this *
* system are monitored and recorded for security *
* reasons. Violations of this policy may result *
* in disciplinary action, and may be reported to *
* law enforcement.                             *
*                                           *
*                               "WPL1"          *
*****
"^C
!
line con 0
  password 7 08117462
  login
!
line aux 0
!
line vty 0 4
  login local
  transport input ssh
line vty 5 15
  login local
  transport input ssh
!
end

```

# Switches Configuration

## Switch IP Addresses

Switch Name	IPv4 Address	IPv6 Address (Link-local)
Switch_2960_L_1	10.0.0.245	FE80::290:CFF:FE05:6260
Switch_2960_L_2	10.0.0.246	FE80::260:70FF:FE45:861B
Switch_2960_R_1	192.168.1.245	FE80::230:A3FF:FE40:1BA

Login password: PXL

Privilege password: PXL

**Note:** All devices are managed by Mijs Bjorn ([12402765@student.pxl.be](mailto:12402765@student.pxl.be)) and have a legal notice banner warning against unauthorized access.

## Switch\_2960\_L\_1

### MAC Address Table

<b>Vlan</b>	<b>Mac Address</b>	<b>Type</b>	<b>Port</b>
1	0001.4203.37b9	DYNAMIC	Gig0/1
1	0001.43cd.23a6	DYNAMIC	Gig0/1
1	000b.bed6.81a6	DYNAMIC	Fa0/2
1	000c.cf85.4dd9	DYNAMIC	Gig0/1
1	000d.bdd8.a77e	DYNAMIC	Fa0/3
1	000d.bde5.141a	DYNAMIC	Gig0/1
1	0030.a33e.e205	DYNAMIC	Fa0/4
1	0060.7045.861b	DYNAMIC	Gig0/1
1	0090.2b4e.383d	DYNAMIC	Fa0/6
1	00d0.bc7b.5b3d	DYNAMIC	Fa0/7
1	00e0.a30c.47b8	DYNAMIC	Fa0/5
1	00e0.f720.1b44	DYNAMIC	Fa0/1
1	00e0.f971.7b02	DYNAMIC	Fa0/24

## Switch\_2960\_L\_1 Full configuration

```
Switch_2960_L_1#sh run
Building configuration...

Current configuration : 2007 bytes
!
version 15.0
no service timestamps log datetime msec
no service timestamps debug datetime msec
service password-encryption
!
hostname Switch_2960_L_1
!
enable secret 5 $1$mERr$vkYaXnKGfLgWNDfn7gSo9/
!
ip domain-name PXL
!
username cisco privilege 1 password 7 08117462
!
spanning-tree mode pvst
spanning-tree extend system-id
!
interface FastEthernet0/1
!
interface FastEthernet0/2
!
interface FastEthernet0/3
!
interface FastEthernet0/4
!
interface FastEthernet0/5
!
interface FastEthernet0/6
!
interface FastEthernet0/7
!
interface FastEthernet0/8
!
interface FastEthernet0/9
!
interface FastEthernet0/10
!
interface FastEthernet0/11
!
interface FastEthernet0/12
!
interface FastEthernet0/13
!
interface FastEthernet0/14
!
interface FastEthernet0/15
!
interface FastEthernet0/16
!
interface FastEthernet0/17
```

```

!
interface FastEthernet0/18
!
interface FastEthernet0/19
!
interface FastEthernet0/20
!
interface FastEthernet0/21
!
interface FastEthernet0/22
!
interface FastEthernet0/23
!
interface FastEthernet0/24
!
interface GigabitEthernet0/1
!
interface GigabitEthernet0/2
!
interface Vlan1
  ip address 10.0.0.245 255.255.255.0
!
ip default-gateway 10.0.0.1
!
banner motd ^C
*****
*           This Router is managed by           *
*           Mijs Bjorn                         *
*           12402765@student.pxl.be            *
* Legal Notice: Unauthorized access to this    *
* device is prohibited. All activities on this *
* system are monitored and recorded for security *
* reasons. Violations of this policy may result *
* in disciplinary action, and may be reported to *
* law enforcement.                             *
*                                           *
*           "WPL1"                             *
*****
"^C
!
line con 0
  password 7 08117462
  login
!
line vty 0 4
  login local
  transport input ssh
line vty 5 15
  login local
  transport input ssh
!
end

```

## Switch\_2960\_L\_2

### MAC Address Table

<b>Vlan</b>	<b>Mac Address</b>	<b>Type</b>	<b>Port</b>
1	0001.4203.37b9	DYNAMIC	Fa0/1
1	0001.43cd.23a6	DYNAMIC	Fa0/2
1	000b.bed6.81a6	DYNAMIC	Gig0/2
1	000c.cf85.4dd9	DYNAMIC	Fa0/3
1	000d.bdd8.a77e	DYNAMIC	Gig0/2
1	0030.a33e.e205	DYNAMIC	Gig0/2
1	0060.47b4.8419	DYNAMIC	Gig0/2
1	0090.0c05.6260	DYNAMIC	Gig0/2
1	0090.2b4e.383d	DYNAMIC	Gig0/2
1	00d0.bc7b.5b3d	DYNAMIC	Gig0/2
1	00e0.a30c.47b8	DYNAMIC	Gig0/2
1	00e0.f720.1b44	DYNAMIC	Gig0/2
1	00e0.f971.7b02	DYNAMIC	Gig0/2

## Switch\_2960\_L\_2 Full configuration

```
Switch_2960_L_2#sh run
Building configuration...

Current configuration : 1977 bytes
!
version 15.0
no service timestamps log datetime msec
no service timestamps debug datetime msec
service password-encryption
!
hostname Switch_2960_L_2
!
enable secret 5 $1$mERr$vkYaXnKGfLgWNDfn7gSo9/
!
ip domain-name PXL
!
username cisco privilege 1 password 7 08117462
!
spanning-tree mode pvst
spanning-tree extend system-id
!
interface FastEthernet0/1
!
interface FastEthernet0/2
!
interface FastEthernet0/3
!
interface FastEthernet0/4
!
interface FastEthernet0/5
!
interface FastEthernet0/6
!
interface FastEthernet0/7
!
interface FastEthernet0/8
!
interface FastEthernet0/9
!
interface FastEthernet0/10
!
interface FastEthernet0/11
!
interface FastEthernet0/12
!
interface FastEthernet0/13
!
interface FastEthernet0/14
!
interface FastEthernet0/15
!
interface FastEthernet0/16
!
interface FastEthernet0/17
```



```

!
interface FastEthernet0/18
!
interface FastEthernet0/19
!
interface FastEthernet0/20
!
interface FastEthernet0/21
!
interface FastEthernet0/22
!
interface FastEthernet0/23
!
interface FastEthernet0/24
!
interface GigabitEthernet0/1
!
interface GigabitEthernet0/2
!
interface Vlan1
  ip address 10.0.0.246 255.255.255.0
!
banner motd ^C
*****
*           This Router is managed by           *
*                Mijs Bjorn                     *
*          12402765@student.px1.be              *
* Legal Notice: Unauthorized access to this     *
* device is prohibited. All activities on this  *
* system are monitored and recorded for security *
* reasons. Violations of this policy may result *
* in disciplinary action, and may be reported to *
* law enforcement.                              *
*                                                *
*                "WPL1"                         *
*****
"^C
!
line con 0
  password 7 08117462
  login
!
line vty 0 4
  login local
  transport input ssh
line vty 5 15
  login local
  transport input ssh
!
end

```

## Switch\_2960\_R\_1

### MAC Address Table

<b>Vlan</b>	<b>Mac Address</b>	<b>Type</b>	<b>Port</b>
1	0001.42ee.033c	DYNAMIC	Fa0/23
1	0004.9a6e.492d	DYNAMIC	Fa0/23
1	0006.2a84.7488	DYNAMIC	Fa0/23
1	000a.4140.c836	DYNAMIC	Fa0/1
1	000b.be65.7660	DYNAMIC	Fa0/3
1	0010.116c.bac4	DYNAMIC	Fa0/23
1	0030.a321.ce97	DYNAMIC	Fa0/2
1	00d0.589c.77b0	DYNAMIC	Fa0/23
1	00e0.f930.b9ca	DYNAMIC	Fa0/5
1	00e0.f971.7b01	DYNAMIC	Fa0/24
1	00e0.f98c.4ac9	DYNAMIC	Fa0/4

## Switch\_2960\_R\_1 Full configuration

```
Switch_2960_R_1#sh run
Building configuration...

Current configuration : 2013 bytes
!
version 15.0
no service timestamps log datetime msec
no service timestamps debug datetime msec
service password-encryption
!
hostname Switch_2960_R_1
!
enable secret 5 $1$mERr$vkYaXnKGfLgWNDfn7gSo9/
!
ip domain-name PXL
!
username cisco privilege 1 password 7 08117462
!
spanning-tree mode pvst
spanning-tree extend system-id
!
interface FastEthernet0/1
!
interface FastEthernet0/2
!
interface FastEthernet0/3
!
interface FastEthernet0/4
!
interface FastEthernet0/5
!
interface FastEthernet0/6
!
interface FastEthernet0/7
!
interface FastEthernet0/8
!
interface FastEthernet0/9
!
interface FastEthernet0/10
!
interface FastEthernet0/11
!
interface FastEthernet0/12
!
interface FastEthernet0/13
!
interface FastEthernet0/14
!
interface FastEthernet0/15
!
interface FastEthernet0/16
!
interface FastEthernet0/17
```

```

!
interface FastEthernet0/18
!
interface FastEthernet0/19
!
interface FastEthernet0/20
!
interface FastEthernet0/21
!
interface FastEthernet0/22
!
interface FastEthernet0/23
!
interface FastEthernet0/24
!
interface GigabitEthernet0/1
!
interface GigabitEthernet0/2
!
interface Vlan1
  ip address 192.168.1.245 255.255.255.0
!
ip default-gateway 192.168.1.1
!
banner motd ^C
*****
*           This Router is managed by           *
*           Mijs Bjorn                         *
*           12402765@student.pxl.be             *
* Legal Notice: Unauthorized access to this    *
* device is prohibited. All activities on this *
* system are monitored and recorded for security *
* reasons. Violations of this policy may result *
* in disciplinary action, and may be reported to *
* law enforcement.                             *
*                                           *
*           "WPL1"                             *
*****
"^C
!
line con 0
  password 7 08117462
  login
!
line vty 0 4
  login local
  transport input ssh
line vty 5 15
  login local
  transport input ssh
!
end

```

## Github Repository

All files (configs, pdf, pkt,..) are located at:

[https://github.com/MijsBjornPXL/WPL1\\_Netwerkdokumentatie](https://github.com/MijsBjornPXL/WPL1_Netwerkdokumentatie)