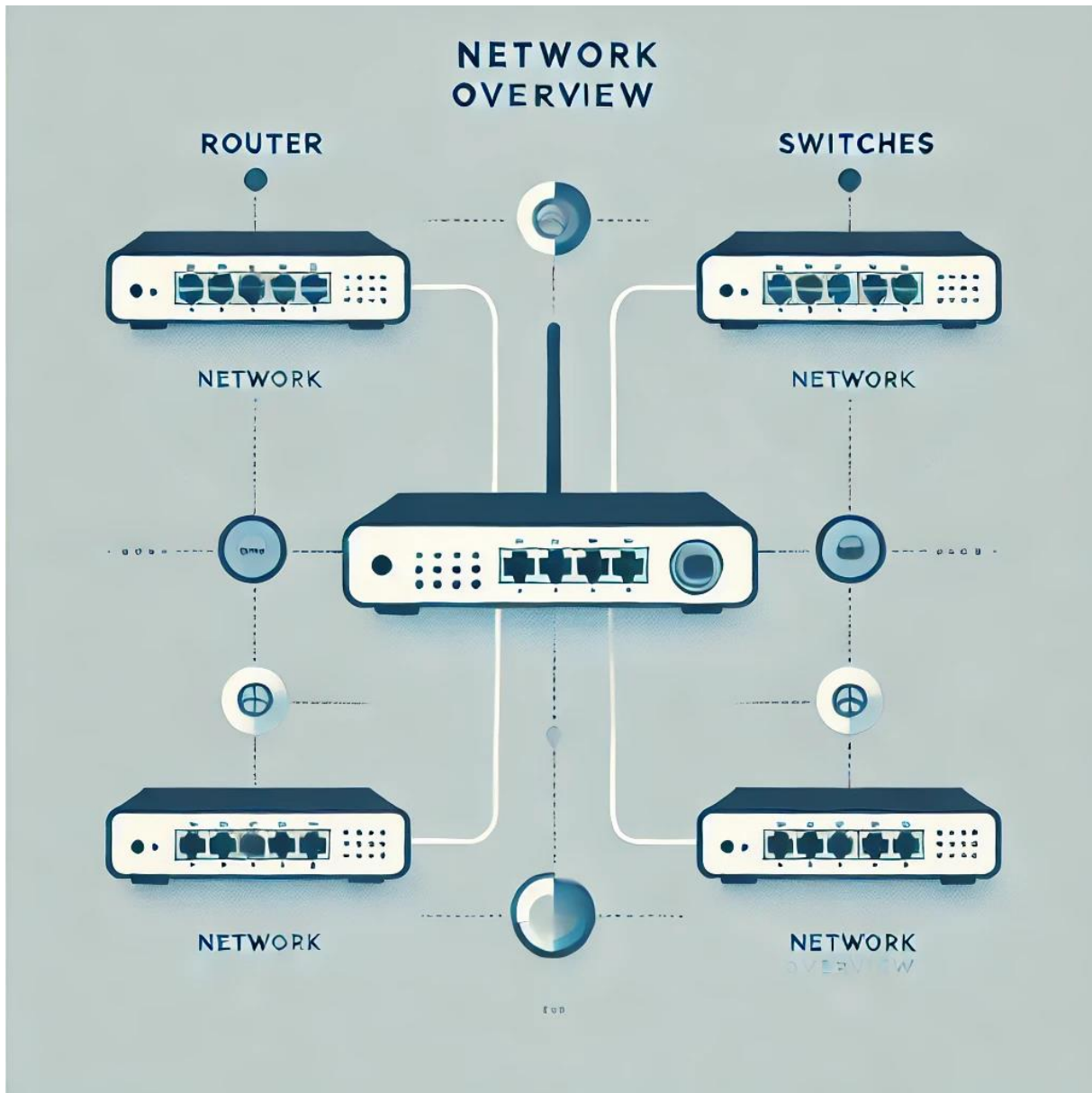


Network Infrastructure Overview and Configuration



Inhoud

| | |
|---|----|
| Network Overview | 3 |
| Networkdiagram - Logical Topology | 3 |
| Router (ISR_4331_1) | 5 |
| DHCP Pools | 5 |
| DHCP Pool configuration | 6 |
| IPv4 DHCP Addressing..... | 7 |
| IPv6-Addressing | 8 |
| Router full configuration (ISR_4331_1)..... | 9 |
| Switches Configuration | 11 |
| Switch IP Addresses | 11 |
| Switch_2960_L_1 | 12 |
| MAC Address Table | 12 |
| Switch_2960_L_1 Full configuration | 13 |
| Switch_2960_L_2 | 15 |
| MAC Address Table | 15 |
| Switch_2960_L_2 Full configuration | 16 |
| Switch_2960_R_1 | 18 |
| MAC Address Table | 18 |
| Switch_2960_R_1 Full configuration..... | 19 |
| Github Repository | 21 |

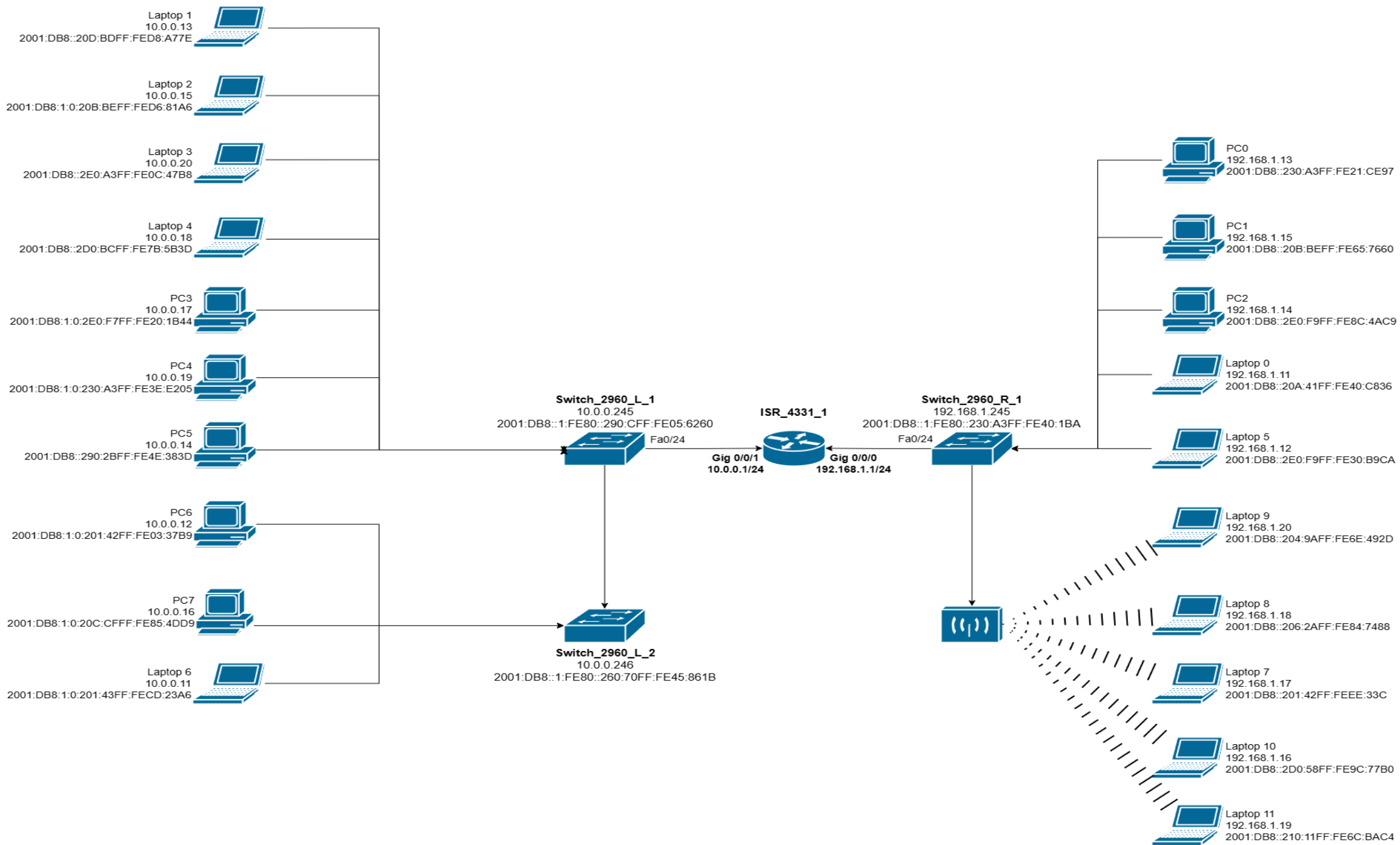
Network Overview

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 WiFi-Connection
- 8 PC's connected with UTP-Connection
- 1 PT-REPEATER-NM-1CE

Networkdiagram - Logical Topology

➔ Next page



Router (ISR_4331_1)

| Interface | IP Address | Subnet Mask |
|----------------------|-------------|---------------|
| GigabitEthernet0/0/0 | 192.168.1.1 | 255.255.255.0 |
| GigabitEthernet0/0/1 | 10.0.0.1 | 255.255.255.0 |

Login password: PXL

Privilege password: PXL

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

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

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

| IP address | Hardware address | Lease | Type |
|--------------|------------------|-------|-----------|
| 10.0.0.11 | 00D0.BC7B.5B3D | -- | Automatic |
| 10.0.0.17 | 00E0.F720.1B44 | -- | Automatic |
| 10.0.0.14 | 000B.BED6.81A6 | -- | Automatic |
| 10.0.0.13 | 0090.2B4E.383D | -- | Automatic |
| 10.0.0.12 | 0030.A33E.E205 | -- | Automatic |
| 10.0.0.18 | 000D.BDD8.A77 | -- | Automatic |
| 10.0.0.20 | 00E0.A30C.47B8 | -- | Automatic |
| 10.0.0.22 | 0001.4203.37B9 | -- | Automatic |
| 10.0.0.23 | 0001.43CD.23A6 | -- | Automatic |
| 10.0.0.21 | 000C.CF85.4DD | -- | Automatic |
| 192.168.1.13 | 000A.4140.C836 | -- | Automatic |
| 192.168.1.12 | 00E0.F98C.4AC9 | -- | Automatic |
| 192.168.1.15 | 00E0.F930.B9CA | -- | Automatic |
| 192.168.1.11 | 000B.BE65.7660 | -- | Automatic |
| 192.168.1.14 | 0030.A321.CE97 | -- | Automatic |
| 192.168.1.16 | 0004.9A6E.492D | -- | Automatic |
| 192.168.1.17 | 0010.116C.BAC4 | -- | Automatic |
| 192.168.1.18 | 0006.2A84.7488 | -- | Automatic |
| 192.168.1.19 | 00D0.589C.77B0 | -- | Automatic |
| 192.168.1.20 | 0001.42EE.033C | -- | Automatic |

IPv6-Addressing

| IPv6 Address | Age | Link-layer Addr | State | Interface |
|---------------------------------|-----|-----------------|-------|-----------|
| 2001:DB8::201:42FF:FE03:37B9 | 0 | 0001.4203.37B9 | REACH | Gig0/0/1 |
| 2001:DB8::201:42FF:EEEE:33C | 1 | 0001.42EE.033C | REACH | Gig0/0/0 |
| 2001:DB8::201:43FF:FECD:23A6 | 0 | 0001.43CD.23A6 | REACH | Gig0/0/1 |
| 2001:DB8::204:9AFF:FE6E:492D | 1 | 0004.9A6E.492D | REACH | Gig0/0/0 |
| 2001:DB8::206:2AFF:FE84:7488 | 1 | 0006.2A84.7488 | REACH | Gig0/0/0 |
| 2001:DB8::20B:BEFF:FED6:81A6 | 0 | 000B.BED6.81A6 | REACH | Gig0/0/1 |
| 2001:DB8::20C:CFFF:FE85:4DD9 | 0 | 000C.CF85.4DD9 | REACH | Gig0/0/1 |
| 2001:DB8::20D:BDFF:FED8:A77E | 0 | 000D.BDD8.A77E | REACH | Gig0/0/1 |
| 2001:DB8::210:11FF:FE6C:BAC4 | 1 | 0010.116C.BAC4 | REACH | Gig0/0/0 |
| 2001:DB8::230:A3FF:FE3E:E205 | 0 | 0030.A33E.E205 | REACH | Gig0/0/1 |
| 2001:DB8::290:2BFF:FE4E:383D | 0 | 0090.2B4E.383D | REACH | Gig0/0/1 |
| 2001:DB8::2D0:58FF:FE9C:77B0 | 1 | 00D0.589C.77B0 | REACH | Gig0/0/0 |
| 2001:DB8::2D0:BCFF:FE7B:5B3D | 0 | 00D0.BC7B.5B3D | REACH | Gig0/0/1 |
| 2001:DB8::2E0:A3FF:FE0C:47B8 | 0 | 00E0.A30C.47B8 | REACH | Gig0/0/1 |
| 2001:DB8::2E0:F7FF:FE20:1B44 | 0 | 00E0.F720.1B44 | REACH | Gig0/0/1 |
| 2001:DB8:1:0:201:42FF:FE03:37B9 | 1 | 0001.4203.37B9 | REACH | Gig0/0/1 |
| 2001:DB8:1:0:201:43FF:FECD:23A6 | 1 | 0001.43CD.23A6 | REACH | Gig0/0/1 |
| 2001:DB8:1:0:20B:BEFF:FED6:81A6 | 1 | 000B.BED6.81A6 | REACH | Gig0/0/1 |
| 2001:DB8:1:0:20C:CFFF:FE85:4DD9 | 1 | 000C.CF85.4DD9 | REACH | Gig0/0/1 |
| 2001:DB8:1:0:20D:BDFF:FED8:A77E | 1 | 000D.BDD8.A77E | REACH | Gig0/0/1 |
| 2001:DB8:1:0:230:A3FF:FE3E:E205 | 1 | 0030.A33E.E205 | REACH | Gig0/0/1 |
| 2001:DB8:1:0:290:2BFF:FE4E:383D | 1 | 0090.2B4E.383D | REACH | Gig0/0/1 |
| 2001:DB8:1:0:2D0:BCFF:FE7B:5B3D | 1 | 00D0.BC7B.5B3D | REACH | Gig0/0/1 |
| 2001:DB8:1:0:2E0:A3FF:FE0C:47B8 | 1 | 00E0.A30C.47B8 | REACH | Gig0/0/1 |
| 2001:DB8:1:0:2E0:F7FF:FE20:1B44 | 1 | 00E0.F720.1B44 | REACH | Gig0/0/1 |

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 |
|-----------------|---------------|--------------------------------------|
| Switch_2960_L_1 | 10.0.0.245 | 2001:DB8::1:FE80::290:CFF:FE05:6260 |
| Switch_2960_L_2 | 10.0.0.246 | 2001:DB8::1:FE80::260:70FF:FE45:861B |
| Switch_2960_R_1 | 192.168.1.245 | 2001:DB8::1:FE80::230:A3FF:FE40:1BA |

Login password: PXL

Privilege password: PXL

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

Switch_2960_L_1

MAC Address Table

| Vlan | Mac Address | Type | Port |
|-------------|--------------------|-------------|-------------|
| 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.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_L_2

MAC Address Table

| Vlan | Mac Address | Type | Port |
|-------------|--------------------|-------------|-------------|
| 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

| Vlan | Mac Address | Type | Port |
|-------------|--------------------|-------------|-------------|
| 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