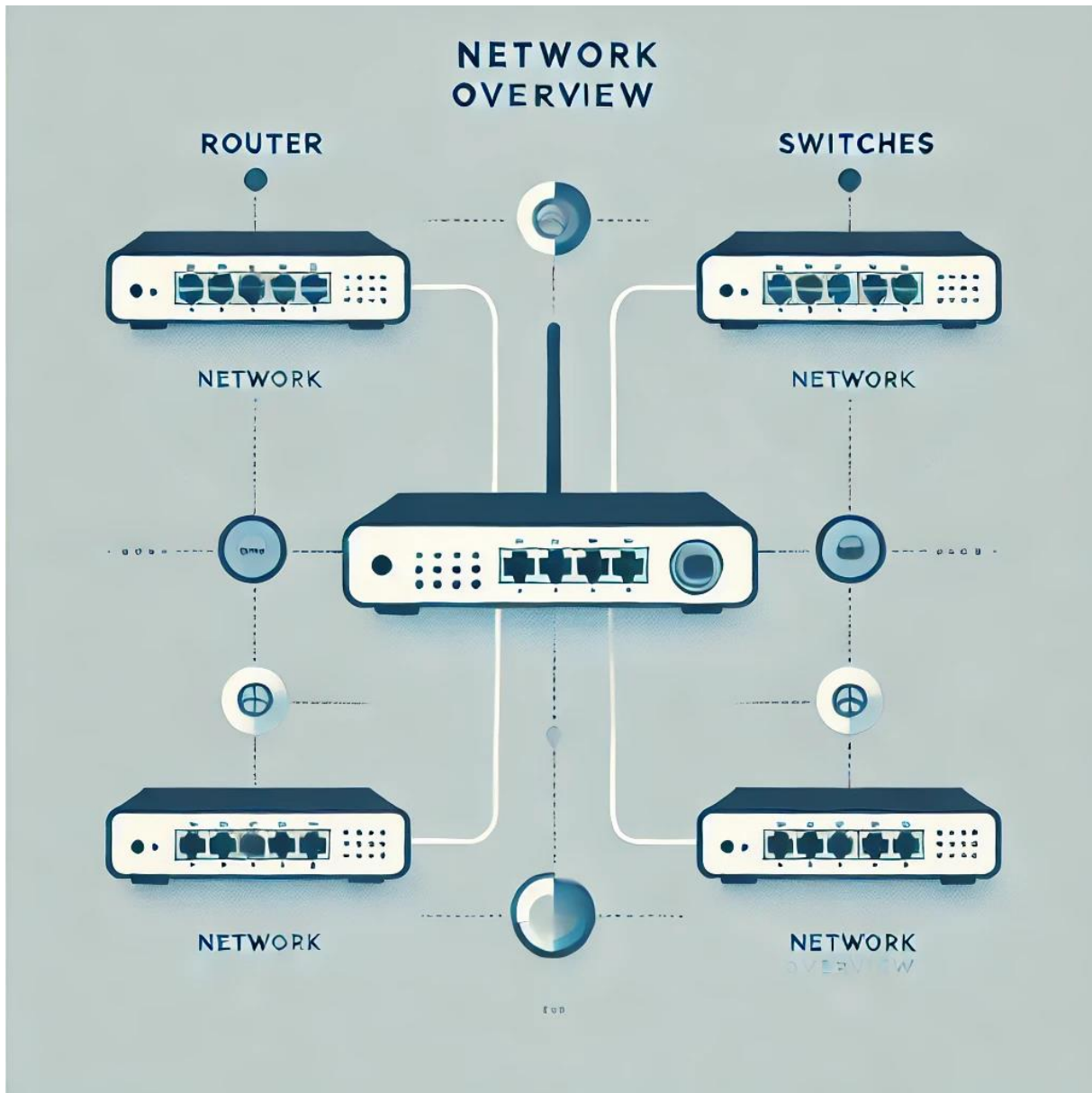


Network Infrastructure Overview and Configuration



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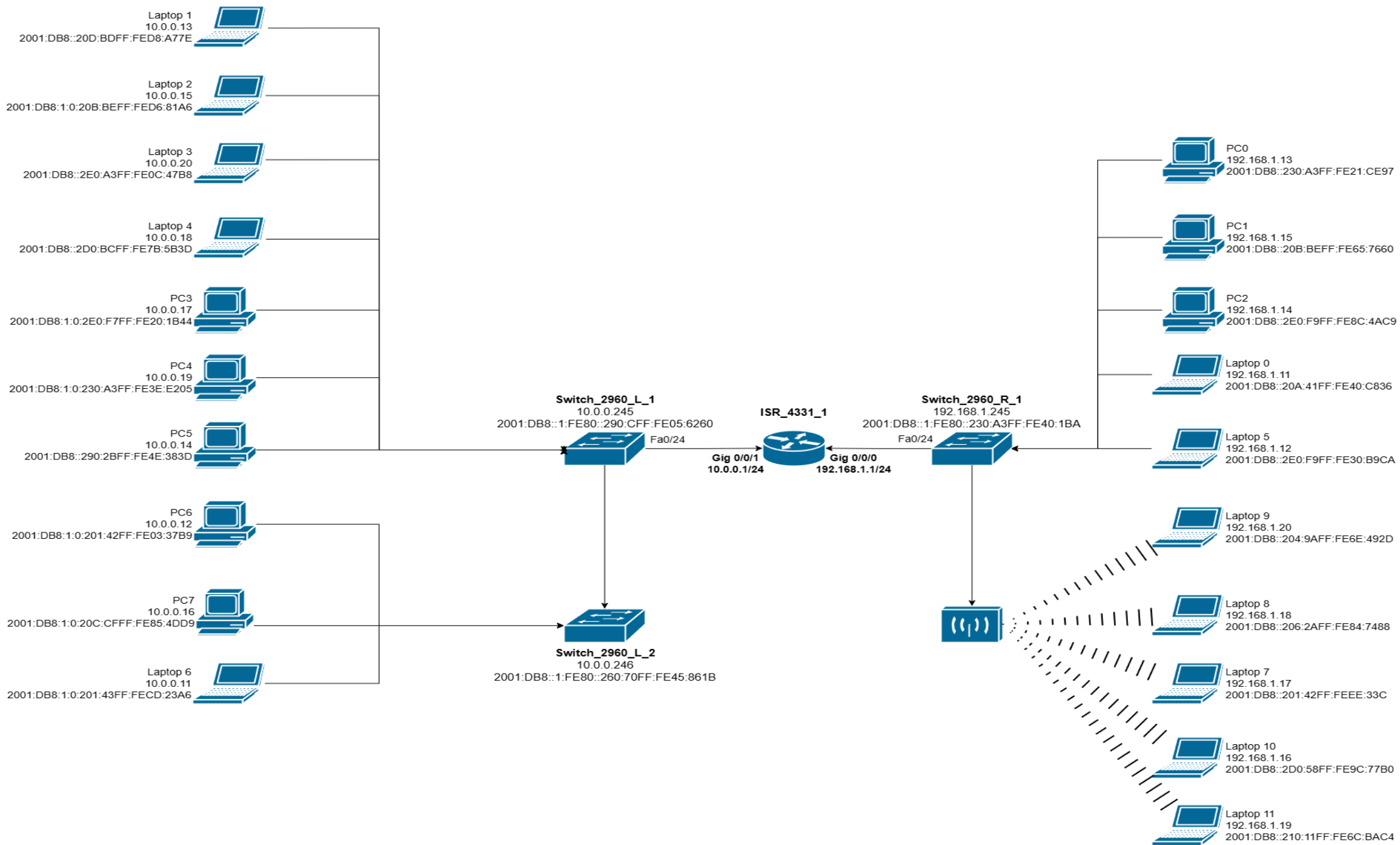
Network Overview

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 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

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

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

```