Práctica 1

MANUAL TECNICO

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MANUAL TECNICO

subredes resultantes

Subred	N° de Hosts	IP de red	Máscara	Primer Host	Último Host	Broadcast
Subred 1	62	192.168.88.0 /26	255.255.255.192	192.168.88.1	192.168.88.62	192.168.88.63
Subred 2	62	192.168.88.64 /26	255.255.255.192	192.168.88.65	192.168.88.126	192.168.88.127
Subred 3	62	192.168.88.128 /26	255.255.255.192	192.168.88.129	192.168.88.190	192.168.88.191
Subred 4	62	192.168.88.192 /26	255.255.255.192	192.168.88.193	192.168.88.254	192.168.88.255

Configuración:

	Configuración
1	Switch0

- Configuracion de vtp server

enable
config t
vtp domain grupo8
vtp password grupo8
vtp mode server

- VLAN

enable
config t
vlan 18
name Ventas
vlan 28
name Distribucion
exit
vlan 38
name Administracion
exit
vlan 48
name Servidores
exit
vlan 99
name Management&Native
exit

```
vlan 999
name BlackHole
exit
```

- *MODO TRONCAL*

```
enable
config t
interface range fa0/1-2
switchport mode trunk
switchport trunk allowed vlan 1,18,28,38,48,99,999,1002-1005
```

- *InterVLAN*

```
config t
int vlan18
ip address 192.168.88.62 255.255.255.192
exit
int vlan28
ip address 192.168.88.126 255.255.255.192
exit
int vlan38
ip address 192.168.88.190 255.255.255.192
exit
int vlan48
ip address 192.168.88.254 255.255.255.192
ip routing
```

- *STP*

```
enable
configure terminal
spanning-tree mode rapid-pvst
end

configure terminal
spanning-tree mode pvst
end

sh spanning-tree summary
```

	• BLACKHOLE (SEGURIDAD)
	//show interface status
	configure terminal
	interface range fa0/3-24
	switchport mode access
	switchport access vlan 999
	end
	configure terminal
	interface range gig0/1-2
	switchport mode access
	switchport access vlan 999
	exit
	
	       • VLAN NATIVA 99 (SEGURIDAD)
	configure terminal
	interface range fa0/1-2show
	switchport trunk native vlan 99
	
	     • DESACTIVAR DTP (SEGURIDAD)
	configure terminal
	interface range fa0/1-2
	switchport nonegotiate

2	*Switch1*
	• *Configuracion de vtp client* enable config t vtp domain grupo8 vtp password grupo8 vtp mode client • *MODO TRONCAL* enable config t interface fa0/1 switchport mode trunk switchport trunk allowed vlan 1,18,28,38,48,99,999,1002-1005

```
exit
interface fa0/6
switchport mode trunk
switchport trunk allowed vlan 1,18,28,38,48,99,999,1002-1005
exit
```

- *MODO ACCESO*

```
enable
config t
interface fa0/7
switchport mode access
switchport access vlan 18
exit
interface fa0/8
switchport mode access
switchport access vlan 28
```

- *PORT CHANEL*
  */*LACP*/*

```
enable
config t
interface range fa0/2-3
channel-protocol lacp
channel-group 1 mode active
exit
interface range fa0/4-5
channel-protocol lacp
channel-group 3 mode active
exit
interface port-channel 1
switchport mode trunk
switchport trunk allowed vlan 1,18,28,38,48,99,999,1002-1005
exit
interface port-channel 3
switchport mode trunk
switchport trunk allowed vlan 1,18,28,38,48,99,999,1002-1005
```

/*DESACTIVAR LAGP O PAGP*/

```
enable
conf t
interface range fa0/2-3
no channel-protocol
no channel-group
exit
no interface port-channel 1
interface range fa0/4-5
no channel-protocol
no channel-group
exit
no interface port-channel 3
end
```

/*PAGP*/

```
enable
config t
interface range fa0/2-3
channel-protocol pagp
channel-group 1 mode desirable
exit
interface range fa0/4-5
channel-protocol pagp
channel-group 3 mode desirable
```

- *STP*

```
enable
configure terminal
spanning-tree mode rapid-pvst
end

sh spanning-tree summary
```

- *BLACKHOLE (SEGURIDAD)*

```
configure terminal
interface range fa0/9-24
switchport mode access
switchport access vlan 999
end
configure terminal
interface range gig0/1-2
switchport mode access
switchport access vlan 999
exit
```

- *VLAN NATIVA 99 (SEGURIDAD)*

```
--show interface trunk
configure terminal
interface fa0/1
switchport trunk native vlan 99
exit
interface fa0/6
switchport trunk native vlan 99
exit
interface port-channel 1
switchport trunk native vlan 99
exit
interface port-channel 3
switchport trunk native vlan 99
exit
```

- *DESACTIVAR DTP (SEGURIDAD)*

```
configure terminal
interface fa0/1-6
switchport nonegotiate
exit
```

- PORT SECURITY (SEGURIDAD)

```
configure terminal
interface range fa0/7
```

	switchport port-security switchport port-security maximum 5 switchport port-security violation shutdown switchport port-security mac-address sticky exit interface range fa0/8 switchport port-security switchport port-security maximum 1 switchport port-security violation shutdown switchport port-security mac-address sticky exit
3	*Switch2*

<div align="center">

● *Configuracion de vtp client*
</div>

enable
config t
vtp domain grupo8
vtp password grupo8
vtp mode client

<div align="center">

● *MODO TRONCAL*
</div>

enable
config t
interface fa0/3
switchport mode trunk
switchport trunk allowed vlan 1,18,28,38,48,99,999,1002-1005
exit
interface fa0/8
switchport mode trunk
switchport trunk allowed vlan 1,18,28,38,48,99,999,1002-1005
exit

<div align="center">

● *PORT CHANEL*
/*LACP*/
</div>

enable
config t
interface range fa0/1-2
channel-protocol lacp
channel-group 1 mode active
exit

```
interface range fa0/6-7
channel-protocol lacp
channel-group 2 mode active
exit
interface range fa0/4-5
channel-protocol lacp
channel-group 5 mode active
exit
interface port-channel 1
switchport mode trunk
switchport trunk allowed vlan 1,18,28,38,48,99,999,1002-1005
exit
interface port-channel 2
switchport mode trunk
switchport trunk allowed vlan 1,18,28,38,48,99,999,1002-1005
exit
interface port-channel 5
switchport mode trunk
switchport trunk allowed vlan 1,18,28,38,48,99,999,1002-1005

                    /*DESACTIVAR LAGP O PAGP*/
enable
conf t
interface range fa0/1-2
no channel-protocol
no channel-group
exit
no interface port-channel 1
interface range fa0/6-7
no channel-protocol
no channel-group
exit
no interface port-channel 2
interface range fa0/4-5
no channel-protocol
no channel-group
exit
no interface port-channel 5
end
```

```
                        /*PAGP*/
enable
config t
interface range fa0/1-2
channel-protocol pagp
channel-group 1 mode desirable
exit
interface range fa0/6-7
channel-protocol pagp
channel-group 2 mode desirable
exit
interface range fa0/4-5
channel-protocol pagp
channel-group 5 mode desirable
```

- *STP*

```
enable
configure terminal
spanning-tree mode rapid-pvst
end

sh spanning-tree summary
```

- *BLACKHOLE (SEGURIDAD)*

```
//show interface status
configure terminal
interface range fa0/9-24
switchport mode access
switchport access vlan 999
end
configure terminal
interface range gig0/1-2
switchport mode access
switchport access vlan 999
exit
```

	• *VLAN NATIVA 99 (SEGURIDAD)* --show interface trunk configure terminal interface fa0/3 switchport trunk native vlan 99 exit interface fa0/8 switchport trunk native vlan 99 exit interface port-channel 1 switchport trunk native vlan 99 exit interface port-channel 2 switchport trunk native vlan 99 exit interface port-channel 5 switchport trunk native vlan 99 exit • *DESACTIVAR DTP (SEGURIDAD)* configure terminal interface range fa0/1-8 switchport nonegotiate exit

4	*Switch3*
	• *Configuracion de vtp client* enable config t vtp domain grupo8 vtp password grupo8 vtp mode client • *MODO TRONCAL* enable config t interface range fa0/1-2

```
switchport mode trunk
switchport trunk allowed vlan 1,18,28,38,48,99,999,1002-1005
exit
```

- *MODO ACCESO*

```
enable
config t
interface fa0/8
switchport mode access
switchport access vlan 28
exit
interface fa0/7
switchport mode access
switchport access vlan 38
```

- *PORT CHANEL*
  */*LACP*/*

```
enable
config t
interface range fa0/3-4
channel-protocol lacp
channel-group 2 mode active
exit
interface range fa0/5-6
channel-protocol lacp
channel-group 4 mode active
exit
interface port-channel 2
switchport mode trunk
switchport trunk allowed vlan 1,18,28,38,48,99,999,1002-1005
exit
interface port-channel 4
switchport mode trunk
switchport trunk allowed vlan 1,18,28,38,48,99,999,1002-1005
exit
```

/*DESACTIVAR LAGP O PAGP*/

```
enable
conf t
interface range fa0/3-4
no channel-protocol
no channel-group
exit
no interface port-channel 2
interface range fa0/5-6
no channel-protocol
no channel-group
exit
no interface port-channel 4
end
```

/*PAGP*/

```
enable
config t
interface range fa0/3-4
channel-protocol pagp
channel-group 2 mode desirable
exit
interface range fa0/5-6
channel-protocol pagp
channel-group 4 mode desirable
```

- *STP*

```
enable
configure terminal
spanning-tree mode rapid-pvst
end

sh spanning-tree summary
```

- *BLACKHOLE (SEGURIDAD)*

```
//show interface status
configure terminal
interface range fa0/9-24
switchport mode access
switchport access vlan 999
end
configure terminal
interface range gig0/1-2
switchport mode access
switchport access vlan 999
exit
```

- *VLAN NATIVA 99 (SEGURIDAD)*

```
configure terminal
interface range fa0/1-2
switchport trunk native vlan 99
interface port-channel 2
switchport trunk native vlan 99
exit
interface port-channel 4
switchport trunk native vlan 99
exit
```

- *DESACTIVAR DTP (SEGURIDAD)*

```
configure terminal
interface range fa0/1-6
switchport nonegotiate
exit
```

- *PORT SUCURITY (SEGURIDAD)*

```
configure terminal
interface range fa0/7
switchport port-security
switchport port-security maximum 1
switchport port-security violation shutdown
switchport port-security mac-address 0009.7C28.DDC8
exit
interface range fa0/8
```

	switchport port-security switchport port-security maximum 1 switchport port-security violation shutdown switchport port-security mac-address sticky exit switchport port-security

5	*Switch4*
	• *Configuracion de vtp client* enable config t vtp domain grupo8 vtp password grupo8 vtp mode client • *MODO TRONCAL* enable config t interface range fa0/1-3 switchport mode trunk switchport trunk allowed vlan 1,18,28,38,48,99,999,1002-1005 • *MODO ACCESO* enable config t interface fa0/4 switchport mode access switchport access vlan 48 exit interface fa0/5 switchport mode access switchport access vlan 18

- *STP*

```
enable
configure terminal
spanning-tree mode rapid-pvst
end

sh spanning-tree summary
```

- *MANDAR AL HOYO NEGRO (SEGURIDAD)*

```
//show interface status
configure terminal
interface range fa0/6-24
switchport mode access
switchport access vlan 999
end
configure terminal
interface range gig0/1-2
switchport mode access
switchport access vlan 999
exit
```

- *DESACTIVAR DTP (SEGURIDAD)*

```
configure terminal
interface range fa0/1-3
switchport nonegotiate
exit
```

- *VLAN NATIVA 99 (SEGURIDAD)*

```
configure terminal
interface range fa0/1-3
switchport trunk native vlan 99
```

	• _PORT SUCURITY (SEGURIDAD)_ conf t interface range fa0/5 switchport port-security switchport port-security maximum 5 switchport port-security violation shutdown switchport port-security mac-address sticky exit

6	_Switch5_
	• _Configuracion de vtp client_ enable config t vtp domain grupo8 vtp password grupo8 vtp mode client **• _MODO TRONCAL_** enable config t interface fa0/3 switchport mode trunk switchport trunk allowed vlan 1,18,28,38,48,99,999,1002-1005 exit interface fa0/6 switchport mode trunk switchport trunk allowed vlan 1,18,28,38,48,99,999,1002-1005 exit **• _MODO ACCESO_** enable config t interface fa0/9 switchport mode access switchport access vlan 28 exit interface fa0/10

```
switchport mode access
switchport access vlan 38
```

- *PORT CHANEL*
  */*LACP*/*

```
enable
config t
interface range fa0/4-5
channel-protocol lacp
channel-group 5 mode active
exit
interface range fa0/1-2
channel-protocol lacp
channel-group 3 mode active
exit
interface range fa0/7-8
channel-protocol lacp
channel-group 4 mode active
exit
interface port-channel 3
switchport mode trunk
switchport trunk allowed vlan 1,18,28,38,48,99,999,1002-1005
exit
interface port-channel 4
switchport mode trunk
switchport trunk allowed vlan 1,18,28,38,48,99,999,1002-1005
exit
interface port-channel 5
switchport mode trunk
switchport trunk allowed vlan 1,18,28,38,48,99,999,1002-1005
end
```

*/*DESACTIVAR LAGP O PAGP*/*

```
enable
conf t
interface range fa0/4-5
no channel-protocol
no channel-group
exit
no interface port-channel 5
```

```
interface range fa0/1-2
no channel-protocol
no channel-group
exit
no interface port-channel 3
interface range fa0/7-8
no channel-protocol
no channel-group
exit
no interface port-channel 4
end
```

/*PAGP*/

```
enable
config t
interface range fa0/4-5
channel-protocol pagp
channel-group 5 mode desirable
exit
interface range fa0/1-2
channel-protocol pagp
channel-group 3 mode desirable
exit
interface range fa0/7-8
channel-protocol pagp
channel-group 4 mode desirable
end
```

- *STP*

```
enable
configure terminal
spanning-tree mode rapid-pvst
end
sh spanning-tree summary
```

- *BLACKHOLE (SEGURIDAD)*

```
//show interface status
configure terminal
interface range fa0/11-24
switchport mode access
switchport access vlan 999
end
```

```
configure terminal
interface range gig0/1-2
switchport mode access
switchport access vlan 999
exit
```

- *DESACTIVAR DTP (SEGURIDAD)*

```
configure terminal
interface range fa0/1-8
switchport nonegotiate
exit
```

- *VLAN NATIVA 99 (SEGURIDAD)*

```
configure terminal
interface fa0/3
switchport trunk native vlan 99
exit
interface fa0/6
switchport trunk native vlan 99
exit
interface port-channel 3
switchport trunk native vlan 99
exit
interface port-channel 4
switchport trunk native vlan 99
exit
interface port-channel 5
switchport trunk native vlan 99
exit
```

- *PORT SUCURITY (SEGURIDAD)*

```
conf t
interface range fa0/9
switchport port-security
switchport port-security maximum 1
switchport port-security violation shutdown
switchport port-security mac-address sticky
exit
```

	interface range fa0/10 switchport port-security switchport port-security maximum 1 switchport port-security violation shutdown switchport port-security mac-address 000A.4189.A6A3 exit

7	*Switch6*
	• *Configuracion de vtp client* enable config t vtp domain grupo8 vtp password grupo8 vtp mode client end • *MODO TRONCAL* enable config t interface range fa0/1-3 switchport mode trunk switchport trunk allowed vlan 1,18,28,38,48,99,999,1002-1005 exit • *MODO ACCESO* enable config t interface fa0/4 switchport mode access switchport access vlan 18 exit interface fa0/5 switchport mode access switchport access vlan 48 end • *STP RAPID PVST* enable configure terminal spanning-tree mode rapid-pvst end

- *STP PVST*

```
enable
configure terminal
spanning-tree mode pvst
end

sh spanning-tree summary
```

- *BLACKHOLE (SEGURIDAD)*

```
//show interface status
configure terminal
interface range fa0/6-24
switchport mode access
switchport access vlan 999
end
configure terminal
interface range gig0/1-2
switchport mode access
switchport access vlan 999
exit
```

- *DESACTIVAR DTP (SEGURIDAD)*

```
configure terminal
interface range fa0/1-3
switchport nonegotiate
exit
```

- *VLAN NATIVA 99 (SEGURIDAD)*

```
configure terminal
interface range fa0/1-3
switchport trunk native vlan 99
```

- *PORT SUCURITY (SEGURIDAD)*

```
conf t
interface range fa0/4
switchport port-security
switchport port-security maximum 5
switchport port-security violation shutdown
switchport port-security mac-address sticky
```

	exit • Para limpiar la tabla de mac clear port-security all

| 8	*CONFIGURACION DE IP's*
	• *VENTAS - 192.168.88.0* *PC0* --- ipconfig 192.168.88.1 255.255.255.192 192.168.88.62 *PC2* --- ipconfig 192.168.88.2 255.255.255.192 192.168.88.62 *PC5* --- ipconfig 192.168.88.3 255.255.255.192 192.168.88.62 • *DISTRIBUCION - 192.168.88.64* *PC1* --- ipconfig 192.168.88.65 255.255.255.192 192.168.88.126 *PC3* --- ipconfig 192.168.88.66 255.255.255.192 192.168.88.126 *PC7* --- ipconfig 192.168.88.67 255.255.255.192 192.168.88.126 • *ADMINISTRACION - 192.168.88.128* *PC4* --- ipconfig 192.168.88.129 255.255.255.192 192.168.88.190 *PC6* --- ipconfig 192.168.88.130 255.255.255.192 192.168.88.190

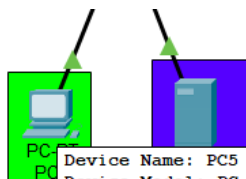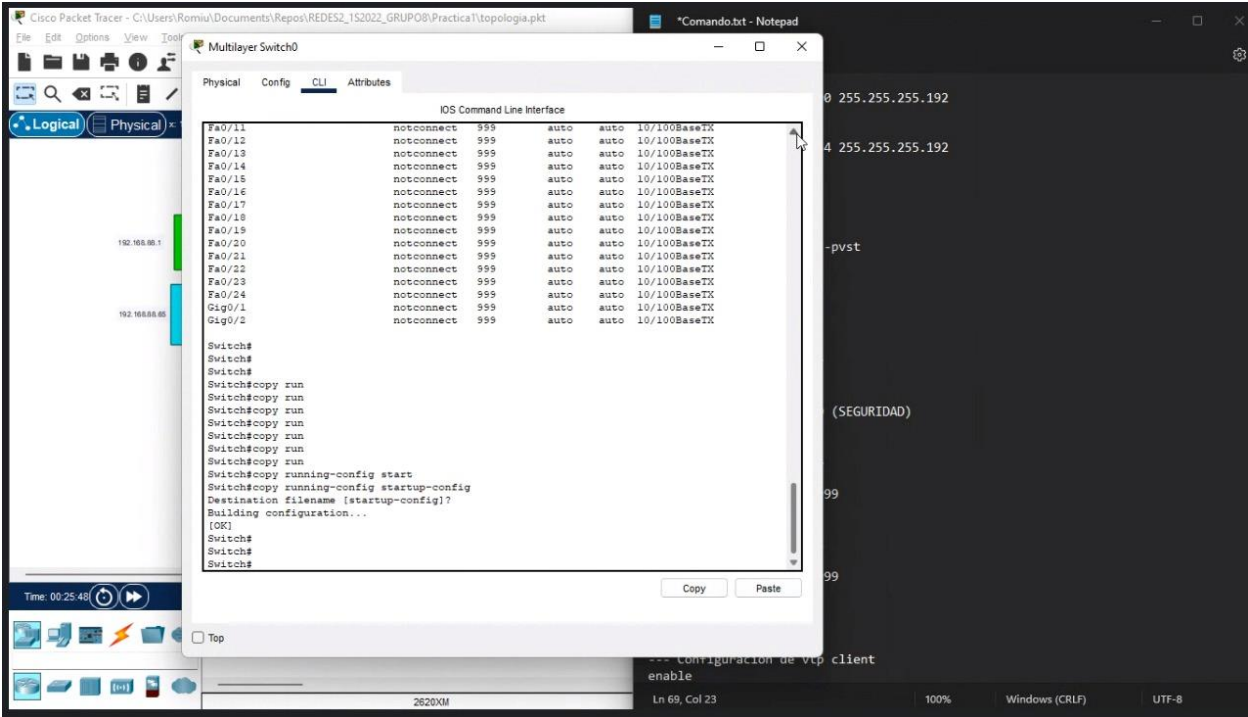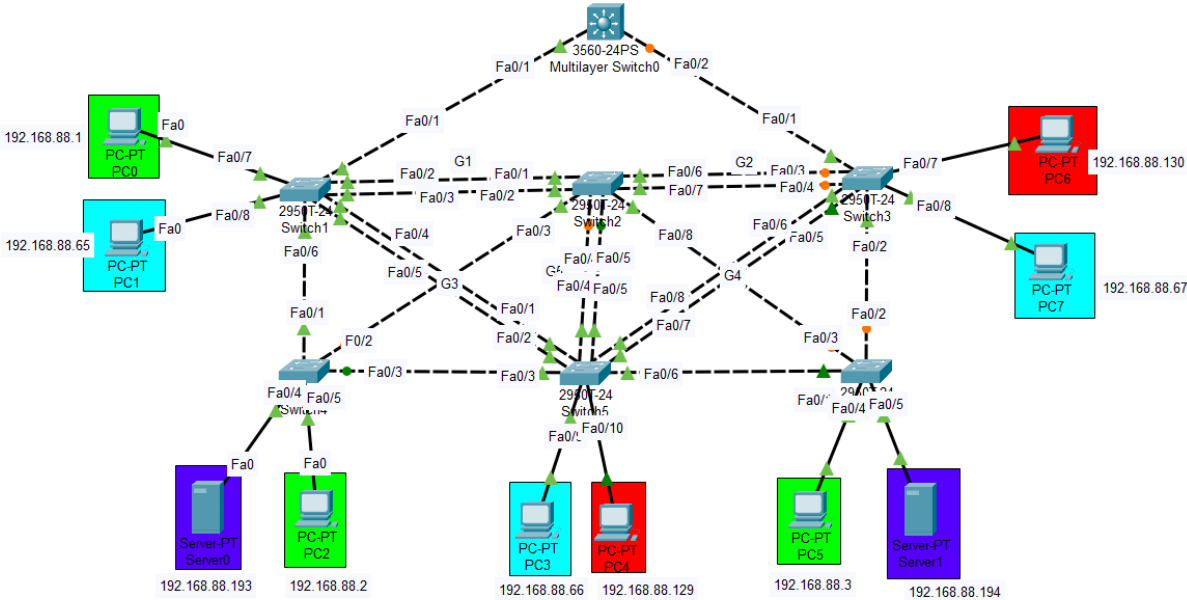|	• *SERVIDOR - 192.168.88.192* *SERVER1* --- ipconfig 192.168.88.193 255.255.255.192 192.168.88.254 *SERVER2* --- ipconfig 192.168.88.194 255.255.255.192 192.168.88.254

ANEXO:
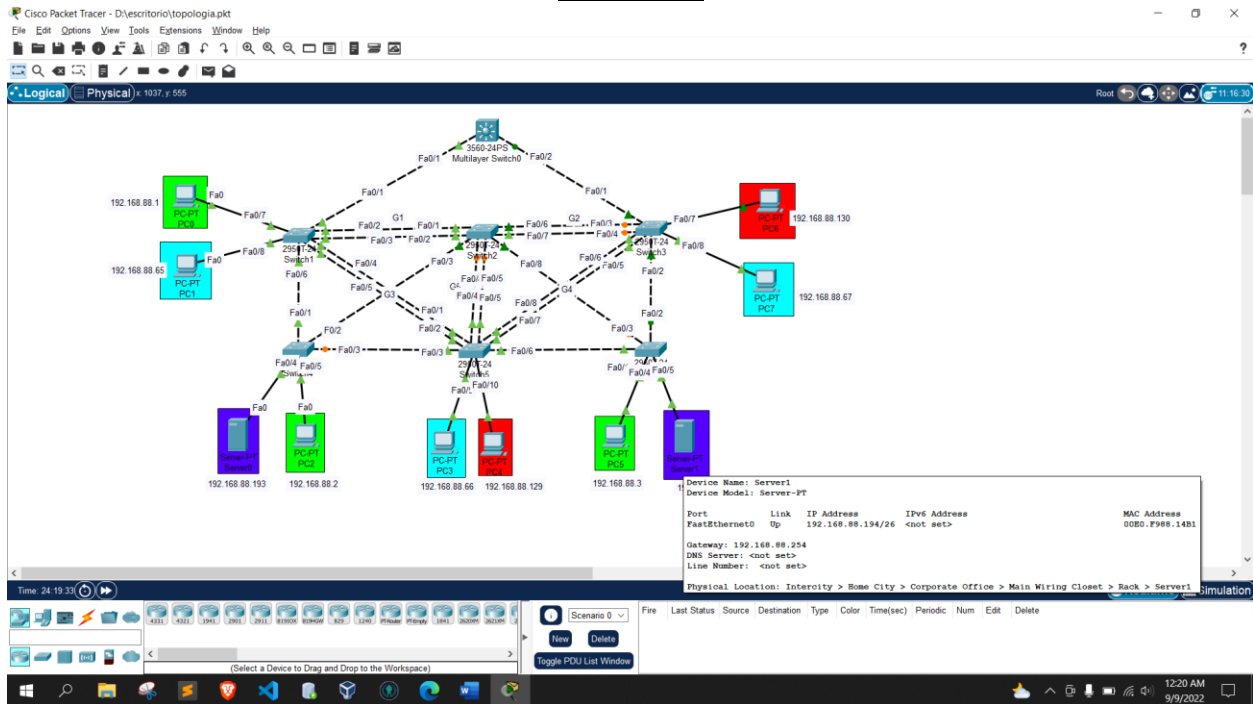
DIAGRAMA DE TOPOLOGIA:

IP's


```
Device Name: PC5
Device Model: PC-PT

Port           Link    IP Address        IPv6 Address                 MAC Address
FastEthernet0  Up      192.168.88.3/26   <not set>                    000B.BEB8.D000
Bluetooth      Down    <not set>         <not set>                    000C.CF9C.5C5D

Gateway: 192.168.88.62
DNS Server: <not set>
Line Number:   <not set>

Physical Location: Intercity > Home City > Corporate Office > PC5
```
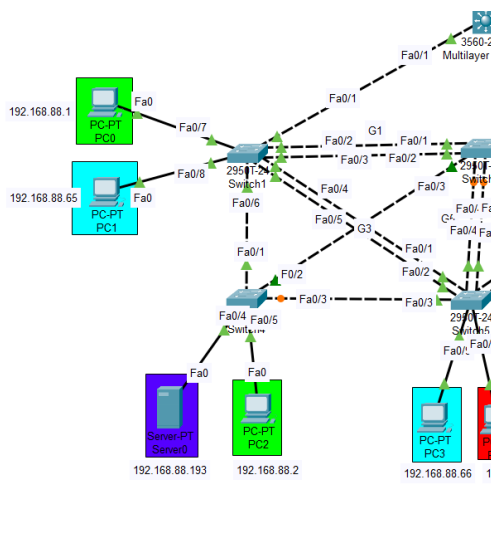
Vlan's

```
Vlan1          Down    1     <not set>          <not set>                0002.17E1.8AD5
Vlan18         Up      18    192.168.88.62/26   <not set>                0002.17E1.8A01
Vlan28         Up      28    192.168.88.126/26  <not set>                0002.17E1.8A02
Vlan38         Up      38    192.168.88.190/26  <not set>                0002.17E1.8A03
Vlan48         Up      48    192.168.88.254/26  <not set>                0002.17E1.8A04

Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > Multilayer Switch0
```

Blackhole


```
Device Name: Multilayer Switch0
Device Model: 3560-24PS
Hostname: Switch

Port               Link    VLAN    IP Address         IPv6 Address       MAC Address
FastEthernet0/1    Up      --      <not set>          <not set>          00D0.FF32.C301
FastEthernet0/2    Up      --      <not set>          <not set>          00D0.FF32.C302
FastEthernet0/3    Down    999     <not set>          <not set>          00D0.FF32.C303
FastEthernet0/4    Down    999     <not set>          <not set>          00D0.FF32.C304
FastEthernet0/5    Down    999     <not set>          <not set>          00D0.FF32.C305
FastEthernet0/6    Down    999     <not set>          <not set>          00D0.FF32.C306
FastEthernet0/7    Down    999     <not set>          <not set>          00D0.FF32.C307
FastEthernet0/8    Down    999     <not set>          <not set>          00D0.FF32.C308
FastEthernet0/9    Down    999     <not set>          <not set>          00D0.FF32.C309
FastEthernet0/10   Down    999     <not set>          <not set>          00D0.FF32.C30A
FastEthernet0/11   Down    999     <not set>          <not set>          00D0.FF32.C30B
FastEthernet0/12   Down    999     <not set>          <not set>          00D0.FF32.C30C
FastEthernet0/13   Down    999     <not set>          <not set>          00D0.FF32.C30D
FastEthernet0/14   Down    999     <not set>          <not set>          00D0.FF32.C30E
FastEthernet0/15   Down    999     <not set>          <not set>          00D0.FF32.C30F
FastEthernet0/16   Down    999     <not set>          <not set>          00D0.FF32.C310
FastEthernet0/17   Down    999     <not set>          <not set>          00D0.FF32.C311
FastEthernet0/18   Down    999     <not set>          <not set>          00D0.FF32.C312
FastEthernet0/19   Down    999     <not set>          <not set>          00D0.FF32.C313
FastEthernet0/20   Down    999     <not set>          <not set>          00D0.FF32.C314
FastEthernet0/21   Down    999     <not set>          <not set>          00D0.FF32.C315
FastEthernet0/22   Down    999     <not set>          <not set>          00D0.FF32.C316
FastEthernet0/23   Down    999     <not set>          <not set>          00D0.FF32.C317
FastEthernet0/24   Down    999     <not set>          <not set>          00D0.FF32.C318
GigabitEthernet0/1 Down    999     <not set>          <not set>          00D0.FF32.C319
GigabitEthernet0/2 Down    999     <not set>          <not set>          00D0.FF32.C31A
Vlan1              Down    1       <not set>          <not set>          0002.17E1.8AD5
Vlan18             Up      18      192.168.88.62/26   <not set>          0002.17E1.8A01
Vlan28             Up      28      192.168.88.126/26  <not set>          0002.17E1.8A02
Vlan38             Up      38      192.168.88.190/26  <not set>          0002.17E1.8A03
Vlan48             Up      48      192.168.88.254/26  <not set>          0002.17E1.8A04

Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > Multilayer Switch0
```