EJEMPLO VTP

REDES DE COMPUTADORAS 1 SECCIÓN N

Realizado por Juan Pablo García Monzón

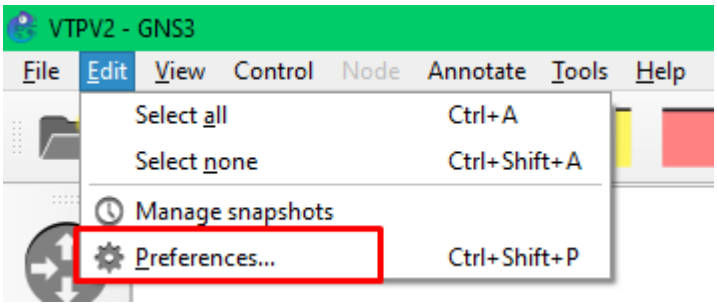
Contenido

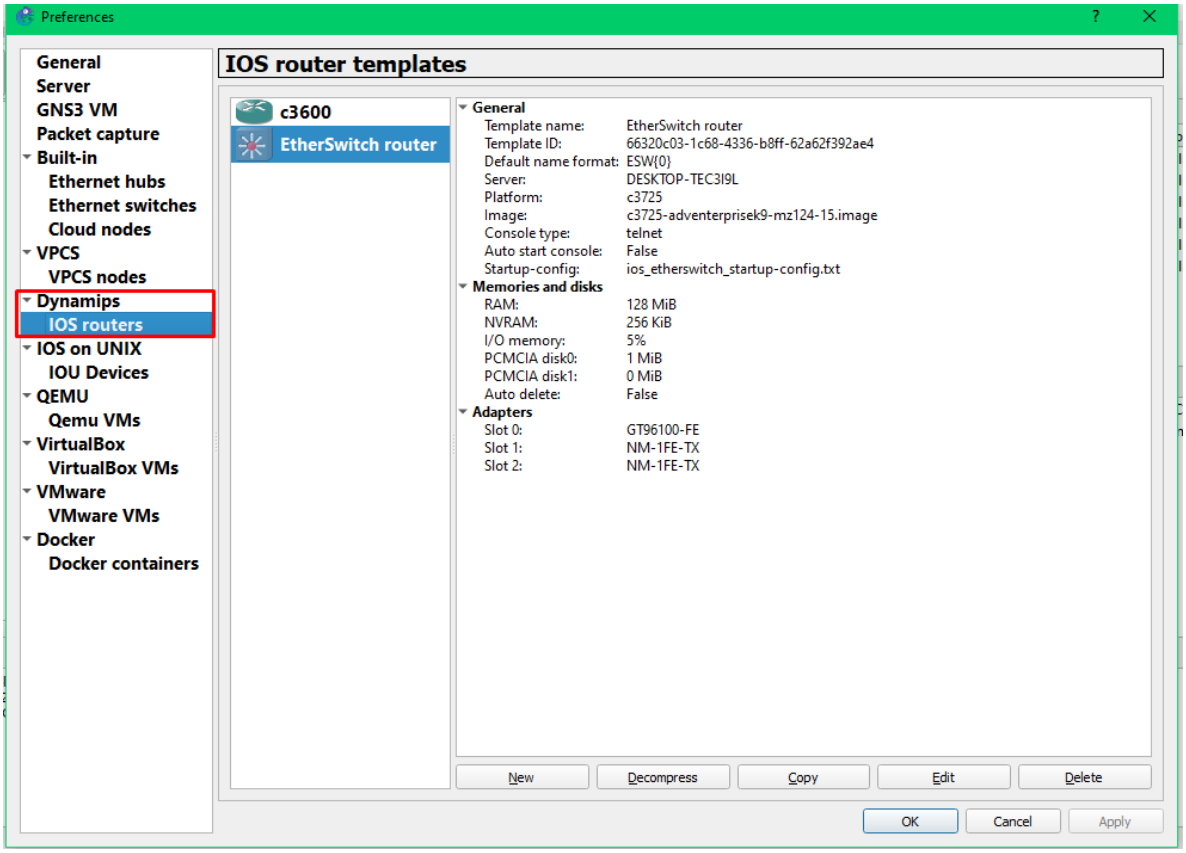
Configuración de topología

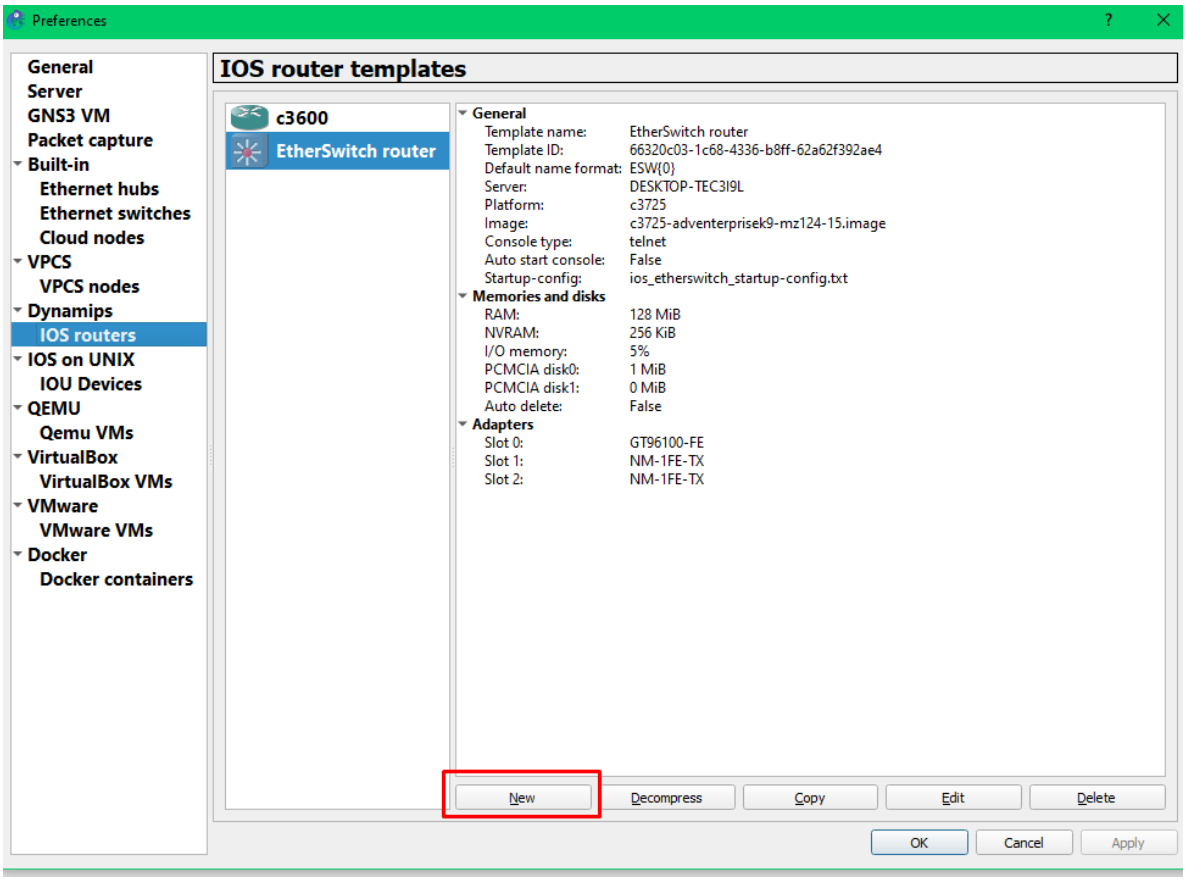
Primero descargamos la imagen de Ethernetswitch o Switch de Capa 3 que se les proporcionó.

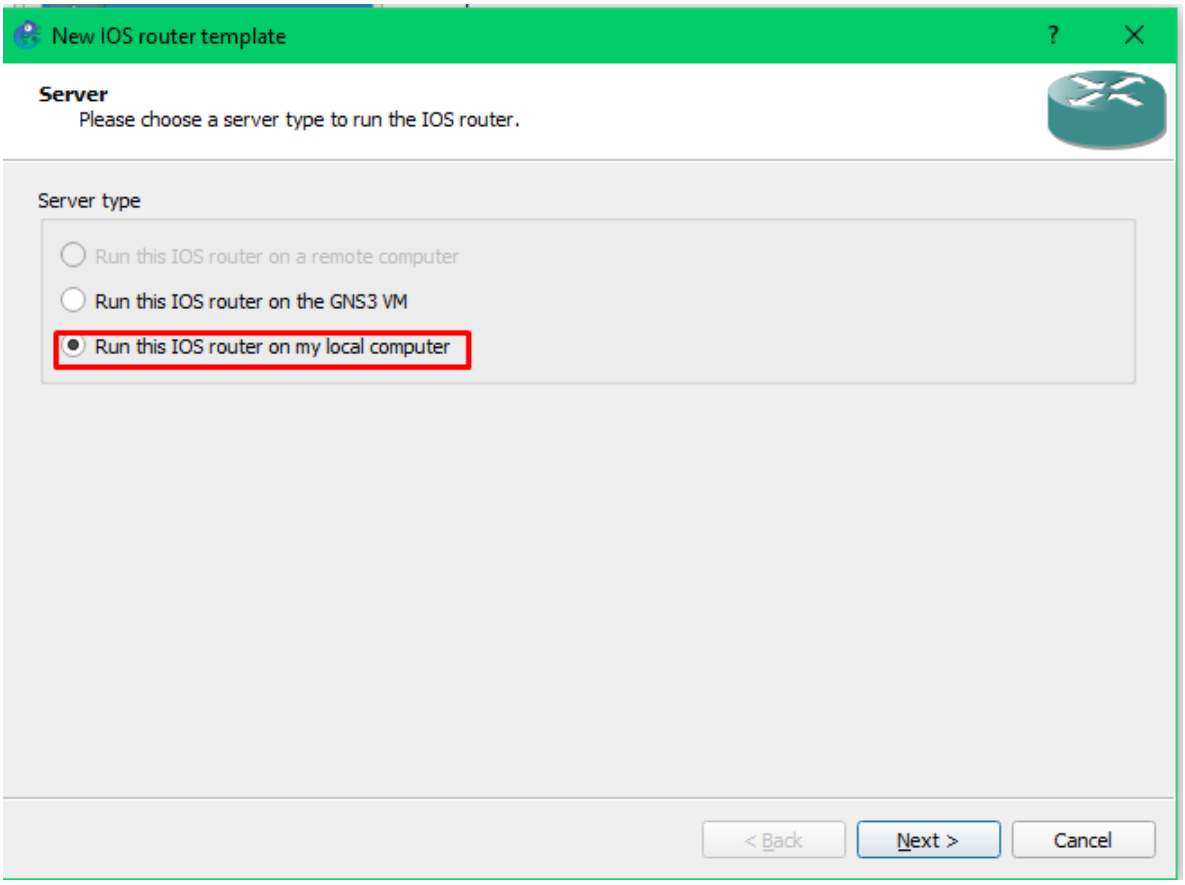
https://drive.google.com/file/d/10810USuKu7M6s-_u6cIxek-6czPIt7XH/view?usp=sharing

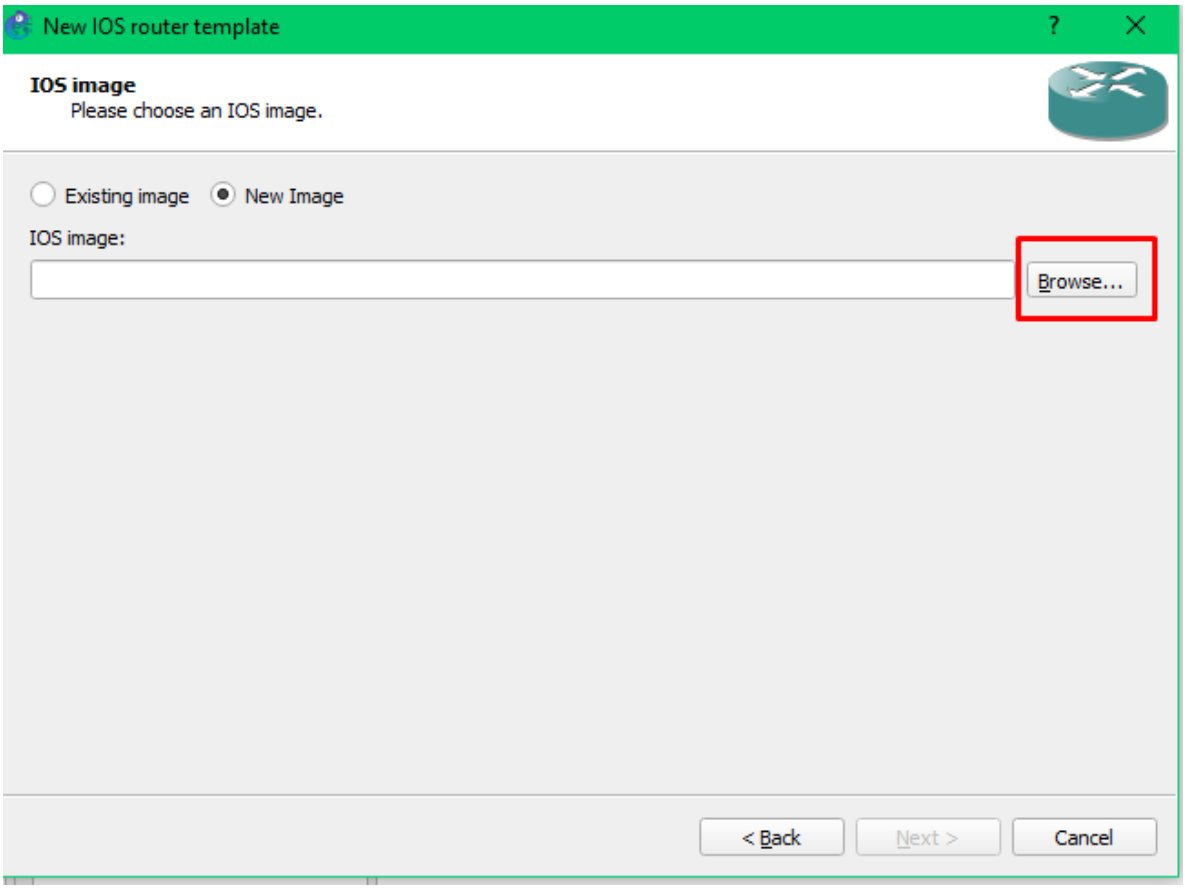
Luego lo incorporamos como una imagen IOS en GNS3

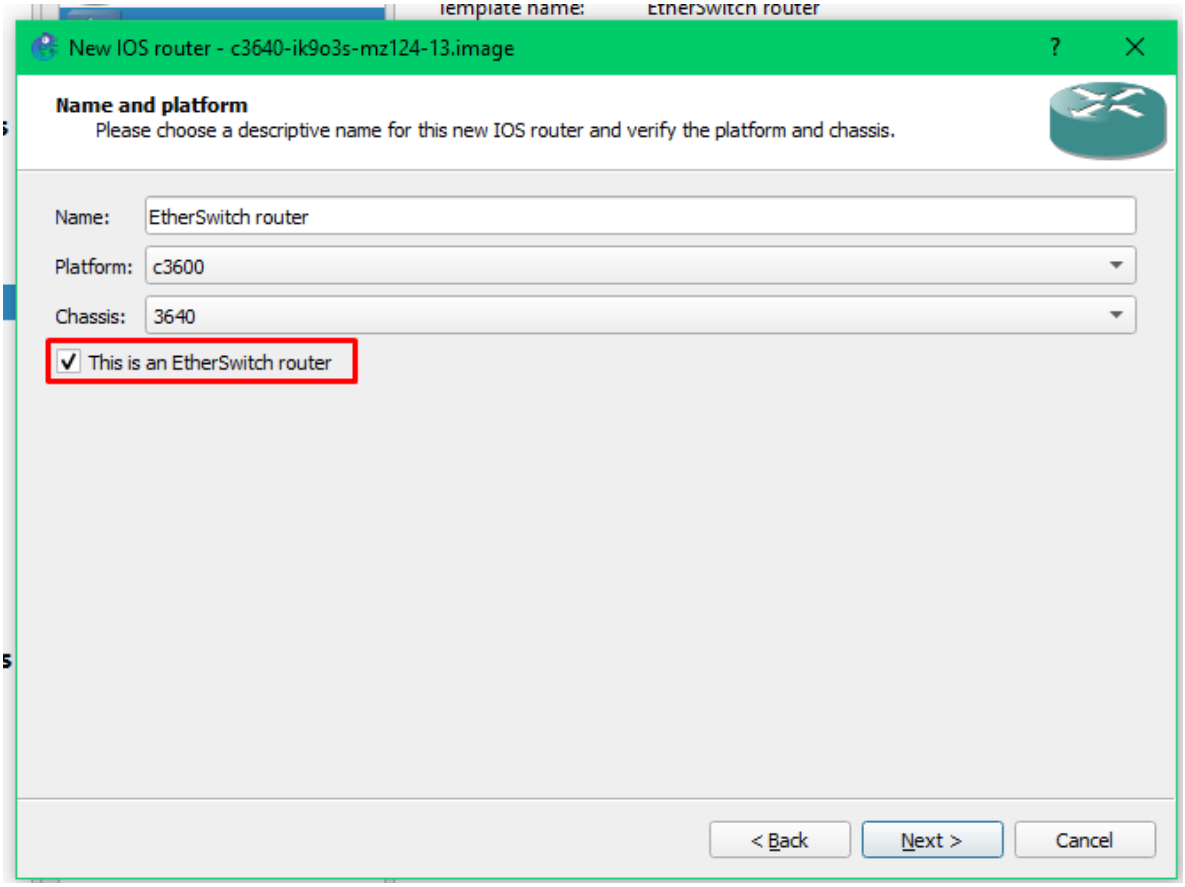


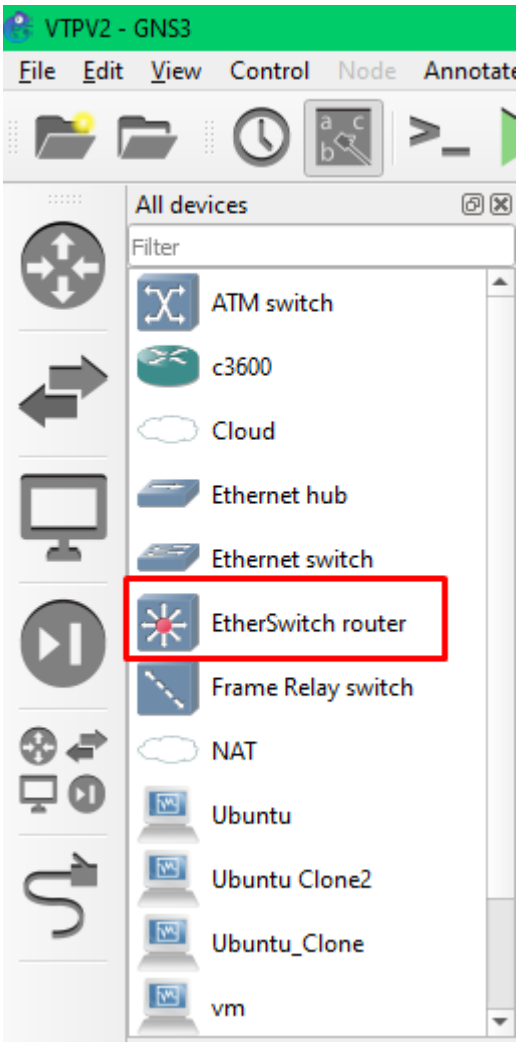



Preferences
General
Server
GNS3 VM
Packet capture
Built-in
Ethernet hubs
Ethernet switches
Cloud nodes
VPCS
VPCS nodes
Dynamips
IOS routers
IOS on UNIX
IOU Devices
QEMU
Qemu VMs
VirtualBox
VirtualBox VMs
VMware
VMware VMs
Docker
Docker containers
IOS router templates
c3600
EtherSwitch router
General
Template name: EtherSwitch router
Template ID: 66320c03-1c68-4336-b8ff-62a62f392ae4
Default name format: ESW{0}
Server: DESKTOP-TEC3I9L
Platform: c3725
Image: c3725-adventerprisek9-mz124-15.image
Console type: telnet
Auto start console: False
Startup-config: ios_etherswitch_startup-config.txt
Memories and disks
RAM: 128 MiB
NVRAM: 256 KiB
I/O memory: 5%
PCMCIA disk0: 1 MiB
PCMCIA disk1: 0 MiB
Auto delete: False
Adapters
Slot 0: GT96100-FE
Slot 1: NM-1FE-TX
Slot 2: NM-1FE-TX
New
Decompress
Copy
Edit
Delete
OK
Cancel
Apply

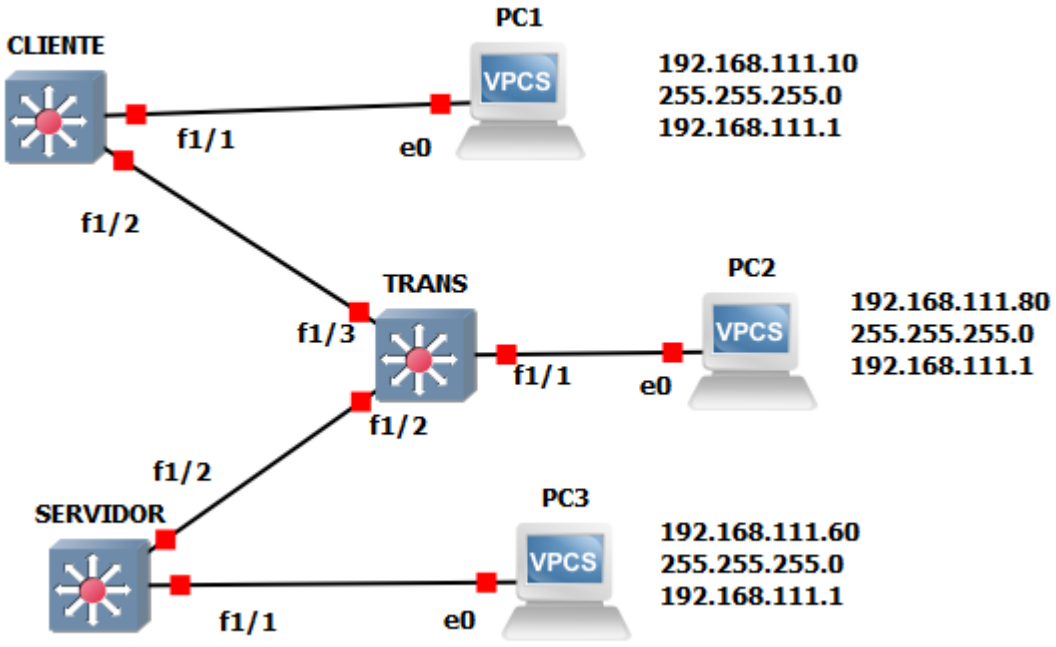

New IOS router template
Server
Please choose a server type to run the IOS router.
Server type
Run this IOS router on a remote computer
Run this IOS router on the GNS3 VM
Run this IOS router on my local computer
< Back
Next >
Cancel


New IOS router template
IOS image
Please choose an IOS image.
Existing image
New Image
IOS image:
Browse...
< Back
Next >
Cancel


Template name: EtherSwitch router
New IOS router - c3640-ik9o3s-mz124-13.image
Name and platform
Please choose a descriptive name for this new IOS router and verify the platform and chassis.
Name: EtherSwitch router
Platform: c3600
Chassis: 3640
This is an EtherSwitch router
< Back
Next >
Cancel


VTPV2 - GNS3
File
Edit
View
Control
Node
Annotate
All devices
Filter
ATM switch
c3600
Cloud
Ethernet hub
Ethernet switch
EtherSwitch router
Frame Relay switch
NAT
Ubuntu
Ubuntu Clone2
Ubuntu_Clone
vm

Construimos la topología de esta forma



Configuración de IPs de VPCs

Configuramos las IPs a las VPCs según la imagen de la topología anterior

```
PC1> ip 192.168.111.10 255.255.255.0 192.168.111.1
Checking for duplicate address...
PC1 : 192.168.111.10 255.255.255.0 gateway 192.168.111.1

PC1> save
Saving startup configuration to startup.vpc
.  done
```

```
PC2> ip 192.168.111.80 255.255.255.0 192.168.111.1
Checking for duplicate address...
PC1 : 192.168.111.80 255.255.255.0 gateway 192.168.111.1

PC2> save
Saving startup configuration to startup.vpc
.  done
```

```
PC3> ip 192.168.111.60 255.255.255.0 192.168.111.1
Checking for duplicate address...
PC1 : 192.168.111.60 255.255.255.0 gateway 192.168.111.1

PC3> save
Saving startup configuration to startup.vpc
.  done
```

Configuración de VLANs en el Switch Servidor

Configuramos la VLAN 10 en el Switch que será el Servidor VTP

```
SERVIDOR#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
SERVIDOR(config)#vlan 10
SERVIDOR(config-vlan)#name ADMIN
SERVIDOR(config-vlan)#exit
SERVIDOR(config)#do sh vlan-sw
```

```
VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
--
1    default                          active    Fa1/0, Fa1/1, Fa1/2, Fa1/3
                                                Fa1/4, Fa1/5, Fa1/6, Fa1/7
                                                Fa1/8, Fa1/9, Fa1/10, Fa1/11
                                                Fa1/12, Fa1/13, Fa1/14, Fa1/1
5
10   ADMIN                            active
1002 fddi-default                     act/unsup
1003 token-ring-default               act/unsup
1004 fddinet-default                  act/unsup
1005 trnet-default                    act/unsup
```

Configuración de VTP en el Switch Servidor

Configuramos el Switch en modo servidor VTP

```
SERVIDOR#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
SERVIDOR(config)#vtp domain REDES1
Changing VTP domain name from NULL to REDES1
SERVIDOR(config)#vtp pass
SERVIDOR(config)#vtp password redes
Setting device VLAN database password to redes
SERVIDOR(config)#vtp mo
SERVIDOR(config)#vtp mode s
SERVIDOR(config)#vtp mode server
Device mode already VTP SERVER.
SERVIDOR(config)#vtp ver
SERVIDOR(config)#vtp version 2
SERVIDOR(config)#exit
```

```
SERVIDOR#sh vtp st
VTP Version                     : 2
Configuration Revision          : 2
Maximum VLANs supported locally : 36
Number of existing VLANs        : 6
VTP Operating Mode              : Server
VTP Domain Name                 : REDES1
VTP Pruning Mode                : Disabled
VTP V2 Mode                     : Enabled
VTP Traps Generation            : Disabled
MD5 digest                      : 0xE9 0x44 0xE2 0x7E 0xEE 0xCD 0xDB 0x4B
Configuration last modified by 0.0.0.0 at 3-1-02 00:05:32
Local updater ID is 0.0.0.0 (no valid interface found)
```

Configuración de interfaces en el Switch Servidor

SERVIDOR - F1/1 (ACCESO)

```
SERVIDOR(config)#int f1/1
SERVIDOR(config-if)#swit
SERVIDOR(config-if)#switchport m
SERVIDOR(config-if)#switchport mode acc
SERVIDOR(config-if)#switchport mode access
SERVIDOR(config-if)#swi
SERVIDOR(config-if)#switchport acc
SERVIDOR(config-if)#switchport access vl
SERVIDOR(config-if)#switchport access vlan 10
```

```
SERVIDOR(config-if)#do sh vlan-sw

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
--
1    default                          active    Fa1/0, Fa1/2, Fa1/3, Fa1/4
                                                Fa1/5, Fa1/6, Fa1/7, Fa1/8
                                                Fa1/9, Fa1/10, Fa1/11, Fa1/12
                                                Fa1/13, Fa1/14, Fa1/15
10   ADMIN                            active    Fa1/1
```

SERVIDOR – F1/2 (TRUNCAL)

```
SERVIDOR#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
SERVIDOR(config)#int f1/2
SERVIDOR(config-if)#swi
SERVIDOR(config-if)#switchport mo
SERVIDOR(config-if)#switchport mode tr
SERVIDOR(config-if)#switchport mode trunk
SERVIDOR(config-if)#swi
SERVIDOR(config-if)#switchport tr
SERVIDOR(config-if)#switchport trunk
*Mar  1 00:16:44.507: %DTP-5-TRUNKPORTON: Port Fa1/2 has become dot1q trunk
SERVIDOR(config-if)#switchport trunk all
SERVIDOR(config-if)#switchport trunk allowed vl
SERVIDOR(config-if)#switchport trunk allowed vlan 1,10,1002-1005
```

```
SERVIDOR#sh int tr

Port        Mode         Encapsulation  Status        Native vlan
Fa1/2       on           802.1q         trunking      1

Port        Vlans allowed on trunk
Fa1/2       1,10,1002-1005

Port        Vlans allowed and active in management domain
Fa1/2       1,10

Port        Vlans in spanning tree forwarding state and not pruned
Fa1/2       none
```

```
SERVIDOR#write
Building configuration...
[OK]
```

Configuración de VTP en el Switch Transparente

```
TRANS#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
TRANS(config)#vtp domain REDES1
Changing VTP domain name from NULL to REDES1
TRANS(config)#vtp pas
TRANS(config)#vtp password redes
Setting device VLAN database password to redes
TRANS(config)#vtp mo
TRANS(config)#vtp mode tr
TRANS(config)#vtp mode transparent
Setting device to VTP TRANSPARENT mode.
```

```
TRANS#sh vtp st
VTP Version                     : 2
Configuration Revision          : 0
Maximum VLANs supported locally : 36
Number of existing VLANs        : 5
VTP Operating Mode              : Transparent
VTP Domain Name                 : REDES1
VTP Pruning Mode                : Disabled
VTP V2 Mode                     : Disabled
VTP Traps Generation            : Disabled
MD5 digest                      : 0x94 0x51 0x97 0x7B 0x32 0xC5 0x58
0xC3
Configuration last modified by 0.0.0.0 at 0-0-00 00:00:00
```

Configuración de interfaces en el Switch Transparente

TRANSPARENTE - F1/2 (TRUNCAL)

```
TRANS#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
TRANS(config)#int f1/2
TRANS(config-if)#swi
TRANS(config-if)#switchport mo
TRANS(config-if)#switchport mode tr
TRANS(config-if)#switchport mode trunk
TRANS(config-if)#swi
TRANS(config-if)#switchport
*Mar  1 00:02:09.383: %DTP-5-TRUNKPORTON: Port Fa1/2 has become dot1q
 trunk
TRANS(config-if)#switchport tr
TRANS(config-if)#switchport trunk all
TRANS(config-if)#switchport trunk allowed vl
TRANS(config-if)#switchport trunk allowed vlan 1,10,1002-1005
```

TRANSPARENTE - F1/1 (ACCESO)

```
TRANS#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
TRANS(config)#int f1/1
TRANS(config-if)#swi
TRANS(config-if)#switchport mo
TRANS(config-if)#switchport mode acc
TRANS(config-if)#switchport mode access
TRANS(config-if)#swi
TRANS(config-if)#switchport acc
TRANS(config-if)#switchport access vl
TRANS(config-if)#switchport access vlan 10
% Access VLAN does not exist. Creating vlan 10
```

TRANSPARENTE – F1/3 (TRUNCAL)

```
TRANS#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
TRANS(config)#int f1/3
TRANS(config-if)#swi
TRANS(config-if)#switchport mo
TRANS(config-if)#switchport mode r
TRANS(config-if)#switchport mode tr
TRANS(config-if)#switchport mode trunk
TRANS(config-if)#swi
TRANS(config-if)#switchport
*Mar  1 00:03:31.987: %DTP-5-TRUNKPORTON: Port Fa1/3 has become dot1q
 trunk
TRANS(config-if)#switchport tr
TRANS(config-if)#switchport trunk all
TRANS(config-if)#switchport trunk allowed vl
TRANS(config-if)#switchport trunk allowed vlan 1,10,1002-1005
```

```
TRANS#sh int tr

Port      Mode         Encapsulation  Status        Native vlan
Fa1/2     on           802.1q         trunking      1
Fa1/3     on           802.1q         trunking      1

Port      Vlans allowed on trunk
Fa1/2     1,10,1002-1005
Fa1/3     1,10,1002-1005

Port      Vlans allowed and active in management domain
Fa1/2     1,10
Fa1/3     1,10

Port      Vlans in spanning tree forwarding state and not pruned
Fa1/2     1,10
```

```
TRANS#sh vlan-sw

VLAN Name                              Status    Ports
---- --------------------------------- --------- -------------------
----------
1    default                           active    Fa1/0, Fa1/4, Fa1/5,
Fa1/6
                                                 Fa1/7, Fa1/8, Fa1/9,
Fa1/10
                                                 Fa1/11, Fa1/12, Fa1/1
3, Fa1/14
                                                 Fa1/15
10   VLAN0010                          active    Fa1/1
```

Configuración de VTP en el Switch Cliente

```
CLIENTE#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
CLIENTE(config)#vtp dom
CLIENTE(config)#vtp domain REDES1
Changing VTP domain name from NULL to REDES1
CLIENTE(config)#vtp pas
CLIENTE(config)#vtp password redes
Setting device VLAN database password to redes
CLIENTE(config)#vtp mo
CLIENTE(config)#vtp mode cl
CLIENTE(config)#vtp mode client
Setting device to VTP CLIENT mode.
```

```
CLIENTE#sh vtp st
VTP Version                     : 2
Configuration Revision          : 2
Maximum VLANs supported locally : 36
Number of existing VLANs        : 6
VTP Operating Mode              : Client
VTP Domain Name                 : REDES1
VTP Pruning Mode                : Disabled
VTP V2 Mode                     : Enabled
VTP Traps Generation            : Disabled
MD5 digest                      : 0xE9 0x44 0xE2 0x7E 0xEE 0xCD 0xDB 0x4B
Configuration last modified by 0.0.0.0 at 3-1-02 00:05:32
```

Configuración de interfaces en el Switch Cliente

CLIENTE – F1/2 (TRUNCAL)

```
CLIENTE#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
CLIENTE(config)#int f1/2
CLIENTE(config-if)#swi
CLIENTE(config-if)#switchport m
CLIENTE(config-if)#switchport mode tr
CLIENTE(config-if)#switchport mode trunk
CLIENTE(config-if)#swi
CLIENTE(config-if)#switchport tr
CLIENTE(config-if)#switchport trunk a
*Mar  1 00:02:54.391: %DTP-5-TRUNKPORTON: Port Fa1/2 has become dot1q trunk
CLIENTE(config-if)#switchport trunk all
CLIENTE(config-if)#switchport trunk allowed vl
CLIENTE(config-if)#switchport trunk allowed vlan 1,10,1002-1005
```

```
CLIENTE#sh int tr

Port        Mode         Encapsulation  Status        Native vlan
Fa1/2       on           802.1q         trunking      1

Port        Vlans allowed on trunk
Fa1/2       1,10,1002-1005

Port        Vlans allowed and active in management domain
Fa1/2       1,10

Port        Vlans in spanning tree forwarding state and not pruned
Fa1/2       1,10
```

CLIENTE – F1/1 (ACCESO)

```
CLIENTE(config)#int f1/1
CLIENTE(config-if)#swi
CLIENTE(config-if)#switchport m
CLIENTE(config-if)#switchport mode acc
CLIENTE(config-if)#switchport mode access
CLIENTE(config-if)#swi
CLIENTE(config-if)#switchport acc
CLIENTE(config-if)#switchport access vl
CLIENTE(config-if)#switchport access vlan 10
```

```
CLIENTE#sh vlan-sw

VLAN Name                              Status    Ports
---- --------------------------------- --------- -------------------------------
--
1    default                           active    Fa1/0, Fa1/3, Fa1/4, Fa1/5
                                                 Fa1/6, Fa1/7, Fa1/8, Fa1/9
                                                 Fa1/10, Fa1/11, Fa1/12, Fa1/1
3
                                                 Fa1/14, Fa1/15
10   ADMIN                             active    Fa1/1
```

Pings

```
PC3> ping 192.168.111.80
84 bytes from 192.168.111.80 icmp_seq=1 ttl=64 time=2.832 ms
84 bytes from 192.168.111.80 icmp_seq=2 ttl=64 time=6.266 ms
84 bytes from 192.168.111.80 icmp_seq=3 ttl=64 time=3.161 ms
84 bytes from 192.168.111.80 icmp_seq=4 ttl=64 time=2.367 ms
84 bytes from 192.168.111.80 icmp_seq=5 ttl=64 time=1.507 ms
```

```
PC3> ping 192.168.111.10
84 bytes from 192.168.111.10 icmp_seq=1 ttl=64 time=2.081 ms
84 bytes from 192.168.111.10 icmp_seq=2 ttl=64 time=3.007 ms
84 bytes from 192.168.111.10 icmp_seq=3 ttl=64 time=3.468 ms
84 bytes from 192.168.111.10 icmp_seq=4 ttl=64 time=2.348 ms
84 bytes from 192.168.111.10 icmp_seq=5 ttl=64 time=3.326 ms
```

```
PC2> ping 192.168.111.60
84 bytes from 192.168.111.60 icmp_seq=1 ttl=64 time=1.435 ms
84 bytes from 192.168.111.60 icmp_seq=2 ttl=64 time=2.318 ms
84 bytes from 192.168.111.60 icmp_seq=3 ttl=64 time=1.318 ms
84 bytes from 192.168.111.60 icmp_seq=4 ttl=64 time=2.117 ms
84 bytes from 192.168.111.60 icmp_seq=5 ttl=64 time=1.235 ms

PC2> ping 192.168.111.10
84 bytes from 192.168.111.10 icmp_seq=1 ttl=64 time=2.417 ms
84 bytes from 192.168.111.10 icmp_seq=2 ttl=64 time=1.829 ms
84 bytes from 192.168.111.10 icmp_seq=3 ttl=64 time=1.808 ms
84 bytes from 192.168.111.10 icmp_seq=4 ttl=64 time=2.038 ms
84 bytes from 192.168.111.10 icmp_seq=5 ttl=64 time=2.129 ms
```

```
PC1> ping 192.168.111.80
84 bytes from 192.168.111.80 icmp_seq=1 ttl=64 time=1.850 ms
84 bytes from 192.168.111.80 icmp_seq=2 ttl=64 time=1.536 ms
84 bytes from 192.168.111.80 icmp_seq=3 ttl=64 time=1.120 ms
84 bytes from 192.168.111.80 icmp_seq=4 ttl=64 time=3.310 ms
84 bytes from 192.168.111.80 icmp_seq=5 ttl=64 time=3.635 ms

PC1> ping 192.168.111.60
84 bytes from 192.168.111.60 icmp_seq=1 ttl=64 time=2.511 ms
84 bytes from 192.168.111.60 icmp_seq=2 ttl=64 time=1.916 ms
84 bytes from 192.168.111.60 icmp_seq=3 ttl=64 time=1.567 ms
84 bytes from 192.168.111.60 icmp_seq=4 ttl=64 time=3.180 ms
84 bytes from 192.168.111.60 icmp_seq=5 ttl=64 time=2.173 ms
```