

# INTRODUZIONE

In questa breve relazione sono descritti i passaggi effettuati per creare tre stanze in cui lavorare o rilassarsi in un ufficio connessi ad un unico router.

In questo ufficio troviamo una stanza principale per i cablaggi denominata Main Wiring Room, nella quale ho posizionato il router, due switch, un access point, un server e un cloud.

La configurazione è molto basilare ed è puramente per motivi di studio, tutti gli IP sono statici e i devices comunicano tra di loro.

# DESCRIZIONE

Inizialmente ho creato tre ambienti diversi: "OFFICE 1" nel quale troviamo 3 computer fissi con IP dal 192.168.1.2 al 192.168.1.4 e gateway 192.168.1.1, collegati allo switch0; a quest'ultimo ho collegato un access point per creare una rete wifi per la seconda stanza, ovvero la "RELAX ROOM" nella quale ho inserito e collegato un televisore, un laptop e due smartphones - con IP 192.168.1.11, 192.168.1.12 e 192.168.1.14 - i quali hanno lo stesso gateway dell'OFFICE 1. Il terzo ambiente "OFFICE 2" è connesso ad un'altra switch (denominata switch1): in questa room ci sono tre PC fissi con IP dal 192.168.2.2 al 192.168.2.4 e gateway 192.168.2.1.

Per collegare i due switch ho configurato un router con i rispettivi gateway assegnati alle reti (192.168.2.1 e 192.168.1.1) e ho successivamente collegato un server allo switch1 con IP 192.168.2.10 e gateway 192.168.2.1.

I devices presenti nelle tre reti possono comunicare tra di loro grazie al router0, il quale si occupa di instradare i pacchetti verso le corrette destinazioni.

Ho verificato la connettività utilizzando il comando *ping* da ogni dispositivo verso gli altri e il server, confermando la corretta e funzionale configurazione, tutti i test hanno dato esito positivo come da esempi in screen del PC0.

Prendiamo appunto in esempio PC0: per comunicare con il PC3 che è in una rete diversa nell'OFFICE 2, manda il pacchetto allo switch0 che instraderà il messaggio direttamente al router0 che a sua volta invierà il pacchetto a switch1 che lo propone alla rete. Una volta nelle rete i dispositivi non interessati lo scarteranno mentre il PC3 invierà un pacchetto di risposta indietro per la stessa route.

Cisco Packet Tracer - /Users/eleonoraviola/Desktop/EPICODE PROGETTI/S1:L4.pkt

Logical Physical x: 339, y: 170

At Device: Switch1  
Source: PC0  
Destination: PC3

In Layers  
Layer7  
Layer6  
Layer5  
Layer4  
Layer3  
Layer2: Ethernet II Header  
0090.2B0C.C1E5 >>  
0002.1656.0802  
Layer 1: Port FastEthernet0/4

Out Layers  
Layer7  
Layer6  
Layer5  
Layer4  
Layer3  
Layer2: Ethernet II Header  
0090.2B0C.C1E5 >>  
0002.1656.0802  
Layer 1: Port(s): FastEthernet0/1

1. FastEthernet0/4 receives the frame.

Challenge Me << Previous Layer Next Layer >>

gateway di questi 3 pc  
192.168.2.1  
192.168.2.2  
192.168.2.3  
192.168.2.4

OFFICE 1

OFFICE 2

Time: 00:02:54.613 PLAY CONTROLS

Scenario 0

Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete  
Successful PC0 PC3 IC... 0.000 N 0 (... (delete)

Event List

Vis.	Time(sec)	Last Device
0.000	--	
0.001	PC0	
0.002	Switch0	
0.003	Router0	
0.004	Switch1	
0.005	PC3	
0.006	Switch1	

Reset Simulation Constant Delay Captured to: 1.977 s

Play Controls

Event List Filters - Visible Events  
ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, IoT, IoT TCP, LACP, LLDP, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP

Edit Filters Show All/None

Event List Realtime Simulation

Logical Physical x: 997, y: 230

At Device: PC0  
Source: PC0  
Destination: PC3

In Layers  
Layer7  
Layer6  
Layer5  
Layer4  
Layer3  
Layer2: Ethernet II Header  
0002.1656.0801 >>  
0050.0FA0.DA0E  
Layer 1: Port FastEthernet0

Out Layers  
Layer7  
Layer6  
Layer5  
Layer4  
Layer3  
Layer2  
Layer1

1. FastEthernet0 receives the frame.

Challenge Me << Previous Layer Next Layer >>

gateway di questi 3 pc  
192.168.2.1  
192.168.2.2  
192.168.2.3  
192.168.2.4

OFFICE 1

OFFICE 2

Time: 00:02:54.613 PLAY CONTROLS

Scenario 0

Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete  
Successful PC0 PC3 IC... 0.000 N 0 (... (delete)

Event List

Vis.	Time(sec)	Last Device
0.000	--	
0.001	PC0	
0.002	Switch0	
0.003	Router0	
0.004	Switch1	
0.005	PC3	
0.006	Switch1	
0.007	Router0	
0.008	Switch0	
1.977	--	

Reset Simulation Constant Delay Captured to: 1.977 s

Play Controls

Event List Filters - Visible Events  
ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, IoT, IoT TCP, LACP, LLDP, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP

Edit Filters Show All/None

Event List Realtime Simulation

PhysicalConfigDesktopProgrammingAttributes

Command Prompt

Cisco Packet Tracer PC Command Line 1.0  
C:\>ping 192.168.2.255  
  
Pinging 192.168.2.255 with 32 bytes of data:  
  
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255  
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255  
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255  
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255  
  
Ping statistics for 192.168.2.255:  
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
Approximate round trip times in milli-seconds:  
Minimum = 0ms, Maximum = 0ms, Average = 0ms  
  
C:\>ping 192.168.2.3  
  
Pinging 192.168.2.3 with 32 bytes of data:  
  
Request timed out.  
Reply from 192.168.2.3: bytes=32 time=1ms TTL=127  
Reply from 192.168.2.3: bytes=32 time<1ms TTL=127  
Reply from 192.168.2.3: bytes=32 time<1ms TTL=127  
  
Ping statistics for 192.168.2.3:  
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),  
Approximate round trip times in milli-seconds:  
Minimum = 0ms, Maximum = 1ms, Average = 0ms  
  
C:\>ping 192.168.1.255  
  
Pinging 192.168.1.255 with 32 bytes of data:  
  
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255  
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128  
Reply from 192.168.1.3: bytes=32 time<1ms TTL=128  
Reply from 192.168.1.14: bytes=32 time=20ms TTL=128  
Reply from 192.168.1.12: bytes=32 time=23ms TTL=128  
Reply from 192.168.1.11: bytes=32 time=37ms TTL=128  
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128  
Reply from 192.168.1.3: bytes=32 time<1ms TTL=128  
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255  
Reply from 192.168.1.12: bytes=32 time=5ms TTL=128  
Reply from 192.168.1.11: bytes=32 time=5ms TTL=128

Top

PhysicalConfigDesktopProgrammingAttributes

Command Prompt

Request timed out.  
Reply from 192.168.2.3: bytes=32 time=1ms TTL=127  
Reply from 192.168.2.3: bytes=32 time<1ms TTL=127  
Reply from 192.168.2.3: bytes=32 time<1ms TTL=127  
  
Ping statistics for 192.168.2.3:  
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),  
Approximate round trip times in milli-seconds:  
Minimum = 0ms, Maximum = 1ms, Average = 0ms  
  
C:\>ping 192.168.1.255  
  
Pinging 192.168.1.255 with 32 bytes of data:  
  
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255  
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128  
Reply from 192.168.1.3: bytes=32 time<1ms TTL=128  
Reply from 192.168.1.14: bytes=32 time=20ms TTL=128  
Reply from 192.168.1.12: bytes=32 time=23ms TTL=128  
Reply from 192.168.1.11: bytes=32 time=37ms TTL=128  
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128  
Reply from 192.168.1.3: bytes=32 time<1ms TTL=128  
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255  
Reply from 192.168.1.12: bytes=32 time=5ms TTL=128  
Reply from 192.168.1.11: bytes=32 time=5ms TTL=128  
Reply from 192.168.1.14: bytes=32 time=15ms TTL=128  
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128  
Reply from 192.168.1.3: bytes=32 time<1ms TTL=128  
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255  
Reply from 192.168.1.11: bytes=32 time=4ms TTL=128  
Reply from 192.168.1.12: bytes=32 time=6ms TTL=128  
Reply from 192.168.1.14: bytes=32 time=8ms TTL=128  
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128  
Reply from 192.168.1.3: bytes=32 time<1ms TTL=128  
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255  
Reply from 192.168.1.11: bytes=32 time=10ms TTL=128  
Reply from 192.168.1.14: bytes=32 time=11ms TTL=128  
Reply from 192.168.1.12: bytes=32 time=20ms TTL=128  
  
Ping statistics for 192.168.1.255:  
Packets: Sent = 4, Received = 24, Lost = 0 (0% loss),  
Approximate round trip times in milli-seconds:  
Minimum = 0ms, Maximum = 37ms, Average = 6ms  
  
C:\>

Top