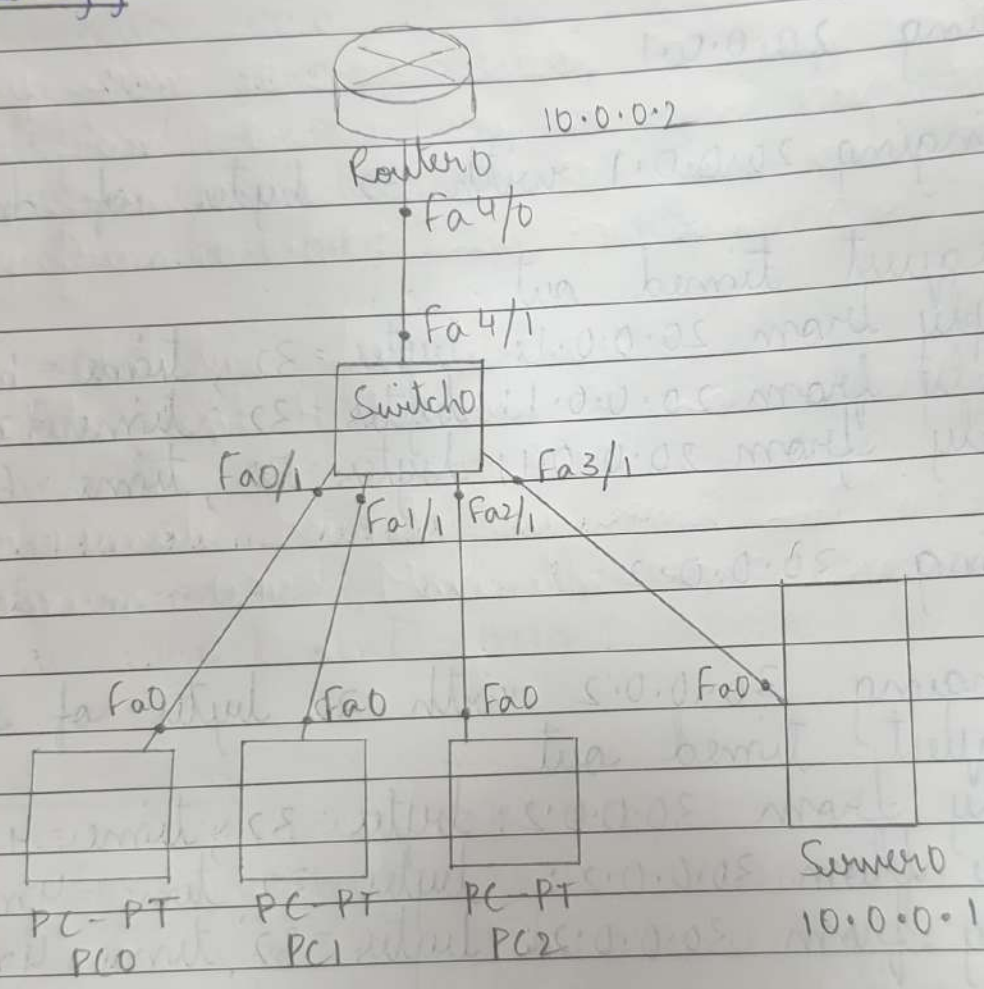


01/12/2022

Sim: Configuring DHCP within a LAN in a packet tracer.

Topology:



Procedure:

- Place a generic router, a generic switch, a generic server and three generic PC's. Connect them with suitable connections among router - switch, switch - server and switch - PC.
- Place the nodes for server and router as 10.0.0.1 and 10.0.0.2.

- Click on the server → go to configuration tab and set IP address and subnet mask as 10.0.0.1 and 255.0.0.0. Set the gateway as 10.0.0.2.
- Click on the router → CLI tab → enable → config t → interface fastethernet4/0 → Set IP address as ip address 10.0.0.2 255.0.0.0 → no shut. The ip address is set as 10.0.0.2
- Click on server → services tab → select DHCP and switch on the service → Set default gateway as 10.0.0.2, DNS server as 10.0.0.1. Start IP address as 10.0.0.3 and TFTP server as 10.0.0.1. After setting everything, the contents are saved.
- Each of the PC is clicked → desktop tab → IP configuration → Set as DHCP. The IP address, subnet mask, default gateway and DNS server are set automatically.
- Click on PC 10.0.0.3 and ping to 10.0.0.5.

Observations:

Learning outcome: The server automatically sets the IP address, subnet mask and gateway to all the PC's and IP address is allocated serially in DHCP protocol.

Result:

ping 10.0.0.5

Pinging 10.0.0.5 with 32 bytes of data:

Reply from 10.0.0.5: bytes=32, time=0ms TTL=128

Reply from 10.0.0.5: bytes=32, time=0ms TTL=128

Reply from 10.0.0.5: bytes=32, time=0ms TTL=128

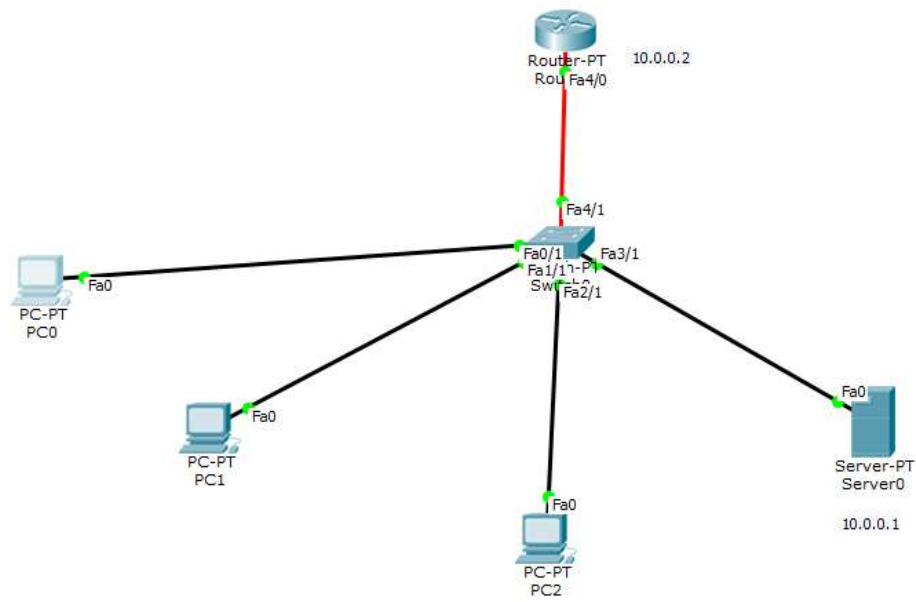
Reply from 10.0.0.5: bytes=32, time=0ms TTL=128

Ping statistics for 10.0.0.5:

Packets: Sent=4, Received=4, Loss=0 (0% loss),

Approximate round trip times ~~in~~ⁱⁿ ms:

Minimum = 0ms, Maximum = 4ms, Average = 1ms.



1BM20CS067

Continue with configuration dialog? [yes/no]: no

Press RETURN to get started!

```
Router>enable
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fastEthernet4/0
Router(config-if)#ip address 10.0.0.2 255.0.0.0
Router(config-if)#no shut
```

1BM20CS067

Server0

PhysicalConfigServicesDesktopCustom Interface

SERVICES

HTTP

DHCP

DHCPv6

TFTP

DNS

SYSLOG

AAA

NTP

EMAIL

FTP

DHCP

InterfaceFastEthernet0ServiceOnOff

Pool NameserverPool

Default Gateway10.0.0.2

DNS Server10.0.0.1

Start IP Address :10003

Subnet Mask:255000

Maximum number of Users :512

TFTP Server:10.0.0.1

AddSaveRemove

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP
server...	10.0.0.2	10.0.0.1	10.0.0.3	255.0.0.0	512	10.0.0.1

```
Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.5

Pinging 10.0.0.5 with 32 bytes of data:

Reply from 10.0.0.5: bytes=32 time=0ms TTL=128
Reply from 10.0.0.5: bytes=32 time=4ms TTL=128
Reply from 10.0.0.5: bytes=32 time=0ms TTL=128
Reply from 10.0.0.5: bytes=32 time=0ms TTL=128

Ping statistics for 10.0.0.5:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 4ms, Average = 1ms

PC>
```

1BM20CS067