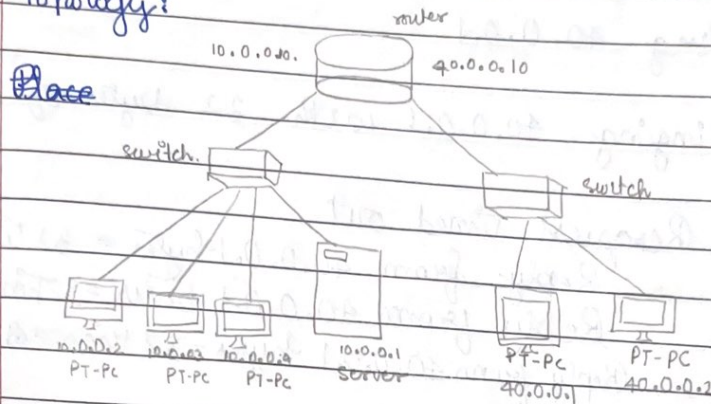


DYNAMIC HOST CONFIGURATION PROTOCOL

aim: To configure DHCP within a LAN and outside LAN

Topology:



Procedure :

- Place 3 PT-PC's and a server under a switch onto the logical interface.
- Place 2 PT-PC's under another switch
- Place a router and connect the switches to it.
- configure IP address for the router.
- In the server when the services tab and DHCP services, then add two server pools with respective gateways and starting IP address
- Open CLI of the router to which the server is not connected and type as mentioned below:

```
> ip helper-address 10.0.0.10
```

- Use ~~wire~~ ^{copper straight through} wire to connect the devices
- configure gateways on end devices
- Ping message from PC0 to PC1

Output:

Ping 40.0.0.1

Pinging 40.0.0.1 with 32 bytes of data:

Request timed out.

Reply from 40.0.0.1: bytes = 32 time = 20 ms

Reply from 40.0.0.1: bytes = 32 time = 9 ms

Reply from 40.0.0.1: bytes = 32 time = 21 ms TTL=125

Ping statistics for 40.0.0.1:

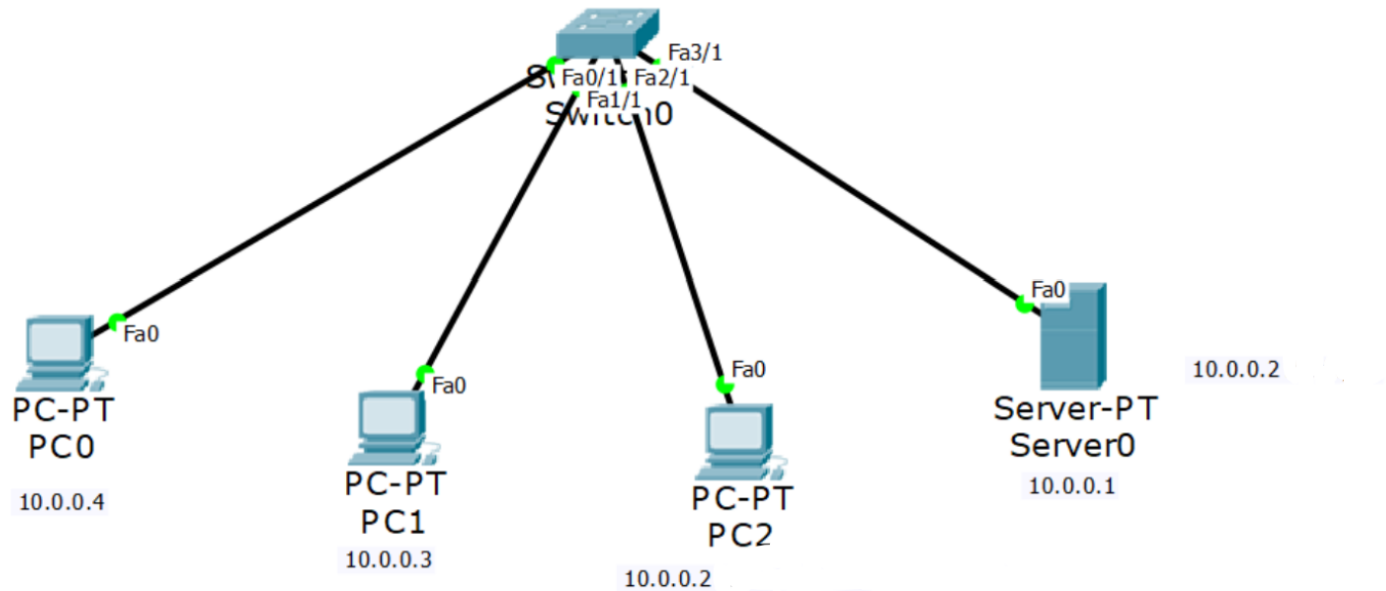
Packets sent = 4, Received = 3, Lost = 1 (25%)

Approximate round trip times in milliseconds:

min = 9 ms, Max = 21, Avg = 16 ms

9/10

18/7/22





Physical

Config

Services

Desktop

Custom Interface

SERVICES ▲

HTTP

DHCP

DHCPv6

TFTP

DNS

SYSLOG

AAA

NTP

EMAIL

FTP

DHCP

Interface

FastEthernet0 ▼

Service



On



Off

Pool Name

serverPool

Default Gateway

10.0.0.20

DNS Server

0.0.0.0

Start IP Address :

10

0

0

2

Subnet Mask:

255

0

0

0

Maximum number of Users :

512

TFTP Server:

0.0.0.0

Add

Save

Remove

Pool Name

Default Gateway

DNS Server

Start IP Address

Subnet Mask

Max User

TFTP Server

serverPool

10.0.0.20

0.0.0.0

10.0.0.2

255.0.0.0

512

0.0.0.0



Command Prompt

Packet Tracer PC Command Line 1.0

PC>ping 10.0.0.2

Pinging 10.0.0.2 with 32 bytes of data:

Reply from 10.0.0.2: bytes=32 time=1ms TTL=128

Reply from 10.0.0.2: bytes=32 time=1ms TTL=128

Reply from 10.0.0.2: bytes=32 time=0ms TTL=128

Reply from 10.0.0.2: bytes=32 time=0ms TTL=128

Ping statistics for 10.0.0.2:

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

Approximate round trip times in milli-seconds:

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

PC>ping 10.0.0.3

Pinging 10.0.0.3 with 32 bytes of data:

Reply from 10.0.0.3: bytes=32 time=1ms TTL=128

Reply from 10.0.0.3: bytes=32 time=12ms TTL=128

Reply from 10.0.0.3: bytes=32 time=0ms TTL=128

Reply from 10.0.0.3: bytes=32 time=0ms TTL=128

Ping statistics for 10.0.0.3:

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

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 12ms, Average = 3ms