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DEPARTMENT OF

ECE

NAME OF THE LABORATORY : Computer Networks

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Packet Tracer - 13.2.6

Verify IPV4 and IPV6 Addressing

Aim :-

part 1: Complete the addressing table documentation

part 2: Test connectivity using ping

part 3: Discover the path by tracing the route

Tools Required :- A P.C loaded with packet Tracer

Procedure :-

Step 1: Use ipconfig to verify IPV4 addressing

a) click PC1 and open the command prompt

b) Enter ipconfig/all command to collect the IPV4 information. Fill the addressing table with the IPV4 address, subnet mask and default gateway

c) Follow the same steps for PC2 to note down the IPV4 information of PC2.

Step 2: Use ipv6 config to verify IPV6 addressing

a) On PC1, enter ipv6 config/all command to collect the IPV6 information.

b) On PC2, enter ipv6 config/all command to collect IPV6 information and note down the IPV6 address, subnet prefix and default gateway of both PC1 & PC2.

For PC1 :

IPv6 address \rightarrow 2001:DB8:1::A

IPv4 address \rightarrow 10.10.1.100

subnet mask \rightarrow 255.255.255.240

Default gateway \rightarrow FE80::1

For PC2 :

IPv6 address \rightarrow 2001:DB8:1::4::A

IPv4 Address \rightarrow 10.10.1.20

subnet mask \rightarrow 255.255.255.240

Default gateway \rightarrow FE80::3

Part 2: Test connectivity using ping

Step 1: Use ping to verify IPv4 connectivity and IPv6 connectivity

- From PC1, ping IPv4 address for PC2
- From PC1, ping IPv6 address for PC2
- From PC2, ping IPv4 address for PC1 and
- From PC2, ping IPv6 address for PC1

Part 3: Discover the path by tracing the route

Step 1: Use tracert to discover the IPv4 ~~route~~ path

- From PC1, trace to discover route to PC2
PC>tracert 10.10.1.20

- From PC2, trace the route to PC1

Step 2: Use Tracert to discover the IPv6 path

- From PC1, trace the route to the IPv4 address for PC2
PC>tracert 2001::d88:1:4::9

- From PC2, trace the route to the IPv6 address

Result:- Verified IPv4 and IPv6 addressing of the topology and done the troubleshooting.