

Lab no: 4

Date: 2024/09/23

Title: Creating and configuring simple peer-to-peer network having two pc's and testing the connectivity between them.

Objectives:

- Implement peer-to-peer network using packet tracer
- Examining the connectivity of various computers within the network.

Background Theory:

A peer-to-peer (P2P) network is a decentralized network architecture where each device, or "peer," acts as both a client and a server. This means that every peer can directly share resources, such as files, bandwidth, and processing power, with other peers without relying on a central server. P2P networks are commonly used for file sharing, collaborative applications, and distributed computing, offering advantages like scalability and resilience but may face challenges related to security and data management.

Observation and Findings:

Implement a peer-to-peer network and verify the connectivity between the two PCs.

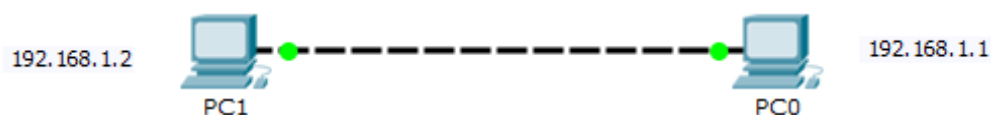


Fig: Peer-to-Peer Network

Output:

```
Packet Tracer PC Command Line 1.0
PC>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:

Reply from 192.168.1.2: bytes=32 time=3ms TTL=128
Reply from 192.168.1.2: bytes=32 time=2ms TTL=128
Reply from 192.168.1.2: bytes=32 time=0ms TTL=128
Reply from 192.168.1.2: bytes=32 time=8ms TTL=128

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 8ms, Average = 3ms
```

Discussions:

The peer-to-peer network setup with two PCs was successful, and connectivity was confirmed via ping tests. The model is simple and cost-effective but may face scalability and security limitations.

Conclusion:

The peer-to-peer network effectively facilitated communication between the PCs. This configuration is practical for small-scale setups, though future improvements could address scalability and security concerns.