Networking

Date: 29/09/22

Section 7: IP Addressing

Outline:-

Ip Addresses overview

Address Classes

- Class A - Class D
- Class B - Class E
- Class C - CIDR

Special address

- Loopback address
- Local broadcast address

Network masks

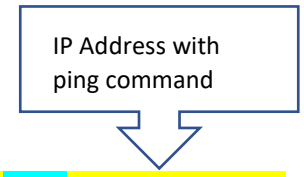
What is an IP Address?

- Layer 3 logical address assigned by an administrator
- Resides at layer 3 of OSI Model
- Used to identify specific devices on a network
- Every device on the internet has a unique IP address

RFC1918 Addresses

- 10.1.1.1
- 12.1.1.1 // Network Address Translation
- Needs to be unique

PS C:\Users\Prade> ping www.yahoo.com



Pinging new-fp-shed.wg1.b.yahoo.com [202.165.107.50] with 32 bytes of data:

Reply from 202.165.107.50: bytes=32 time=66ms TTL=50

Reply from 202.165.107.50: bytes=32 time=66ms TTL=50

Reply from 202.165.107.50: bytes=32 time=66ms TTL=50

Reply from 202.165.107.50: bytes=32 time=66ms TTL=50

Ping statistics for 202.165.107.50:

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

Approximate round trip times in milli-seconds:

Minimum = 66ms, Maximum = 66ms, Average = 66ms

Command = nslookup

<u>IP Characteristics</u>:

IPv4

- Layer 3 or network Layer Protocol
- Connectionless Protocol
  - TCP is connection Oriented
- Packets treated independently
  - May take different paths
- Hierarchial addressing structure
  - Network and Host portion
- Best effort delivery
- No data recovery features

- No built in session
- No retransmission

TCP

- Handle dropped, corrupted and misdirected packets