Network Fundamentals for Week 10 exam

1. Public IP (Internet Protocol) and Private IP address

The IP address that is used in internal network or LAN network is called private IP address. This address can only be accessed directly from within that LAN.

There are 3 IP address range according to IP Class.

Class A: 10.0.0.0 – 10.255.255.255

Class B: 172.16.0.0 – 172. 31.255.255

Class C: 192.168.0.0 – 192.168.255.255

Public IP address is the address that is globally reachable. The address is to be assigned by IANA.

All the address of Class A, B, C except private IP address is public IP address.

1. Classes of IP address.

|  |  |  |
| --- | --- | --- |
| Class | Ip range | Subnet mask |
| Class A | 1.0.0.1 to 126.255.255.254 | 255.0.0.0 |
| Class B | 128.1.0.1 to 191.255.255.254 | 255.255.0.0 |
| Class C | 192.0.1.1 to 223.255.254.254 | 255.255.255.0 |
| Class D | 224.0.0.0 to 239.255.255.255 | - |
| Class E | 240.0.0.0 to 254.255.255.254 | - |

1. Wifi standards

|  |  |  |
| --- | --- | --- |
| Wifi standard | Frequecy band | Bandwidth (Speed) |
| 802.11b | 2.4 GHz | 11 Mbps |
| 802.11a | 5 GHz | 54 Mbps |
| 802.11g | 2.4 GHz | 54 Mbps |
| 802.11n | 2.4/5 GHz | 450 Mbps |
| 802.11ac | 5 GHz | 6.9 Gbps |
| 802.11ax | 2.4 / 5 GHz | 9.6 Gbps |

1. Some common network protocols
2. DHCP (Dynamic Host Configuration Protocol) : Assigns IP automatically to the DHCP client
3. SMTP (Simple Mail Transfer Protocol) : To send email
4. POP (Post Office Protocol): To receive mail
5. IMAP (Internet Message Access Protocol) : To receive mail
6. FTP (File Transfer Protocol): To send or receive files
7. HTTP (Hyper Text Transfer Protocol) : to transfer hyper text (webpage)
8. DNS (Domain Name Service) : to provide consecutive IP according to domain name