

# Computer Networks

Spring 2025

CS6.201 – Introduction to Software Systems





184.19.243



184.19.243.1



184.19.243.2



184.19.243.3

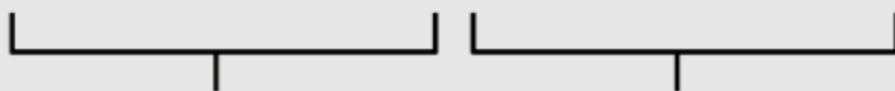


184.19.243.4

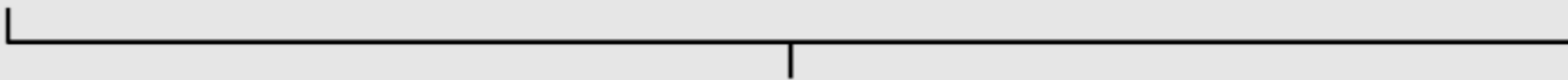
**172 . 16 . 254 . 1**



10101100.00010000.11111110.00000001

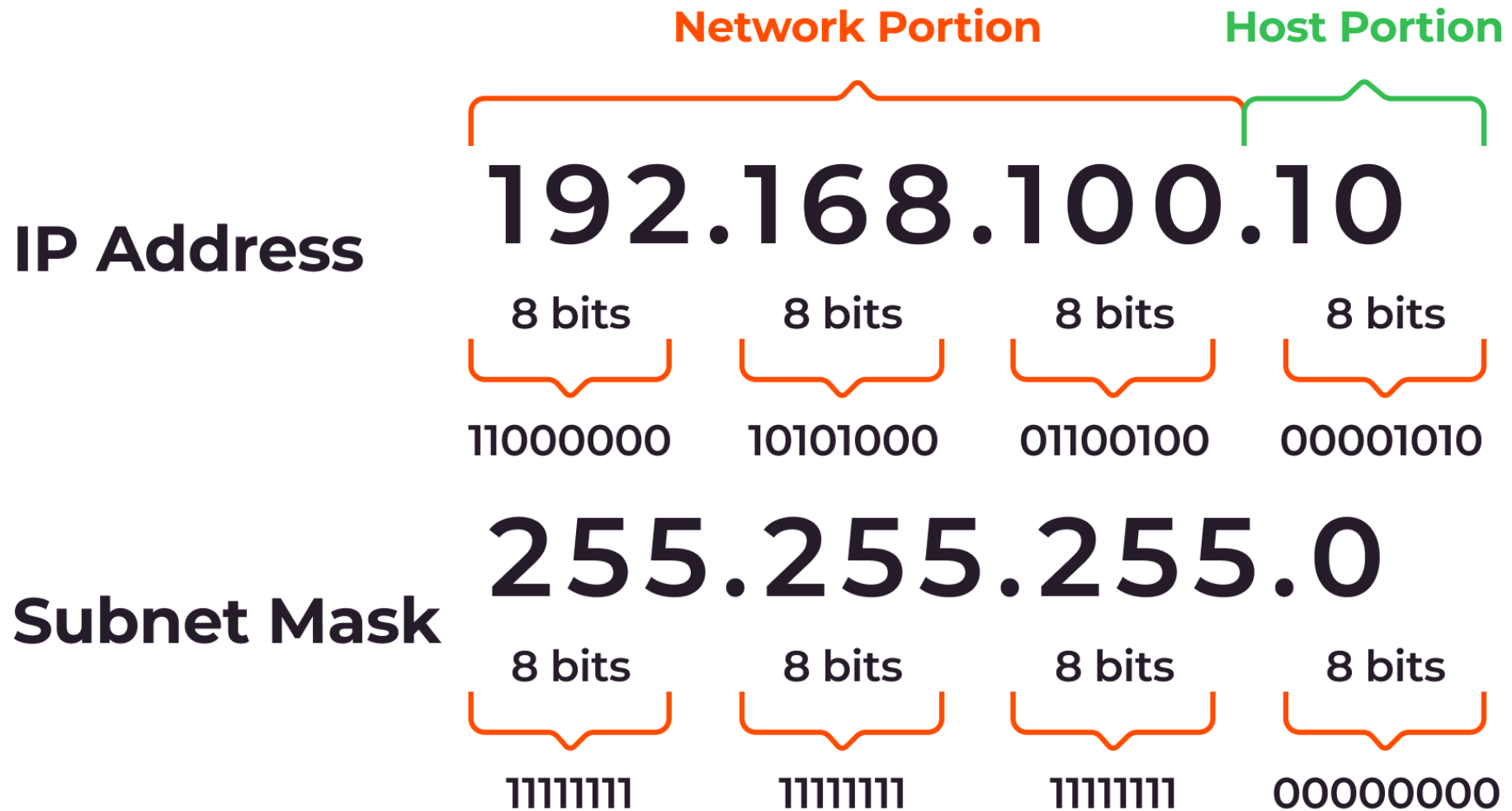


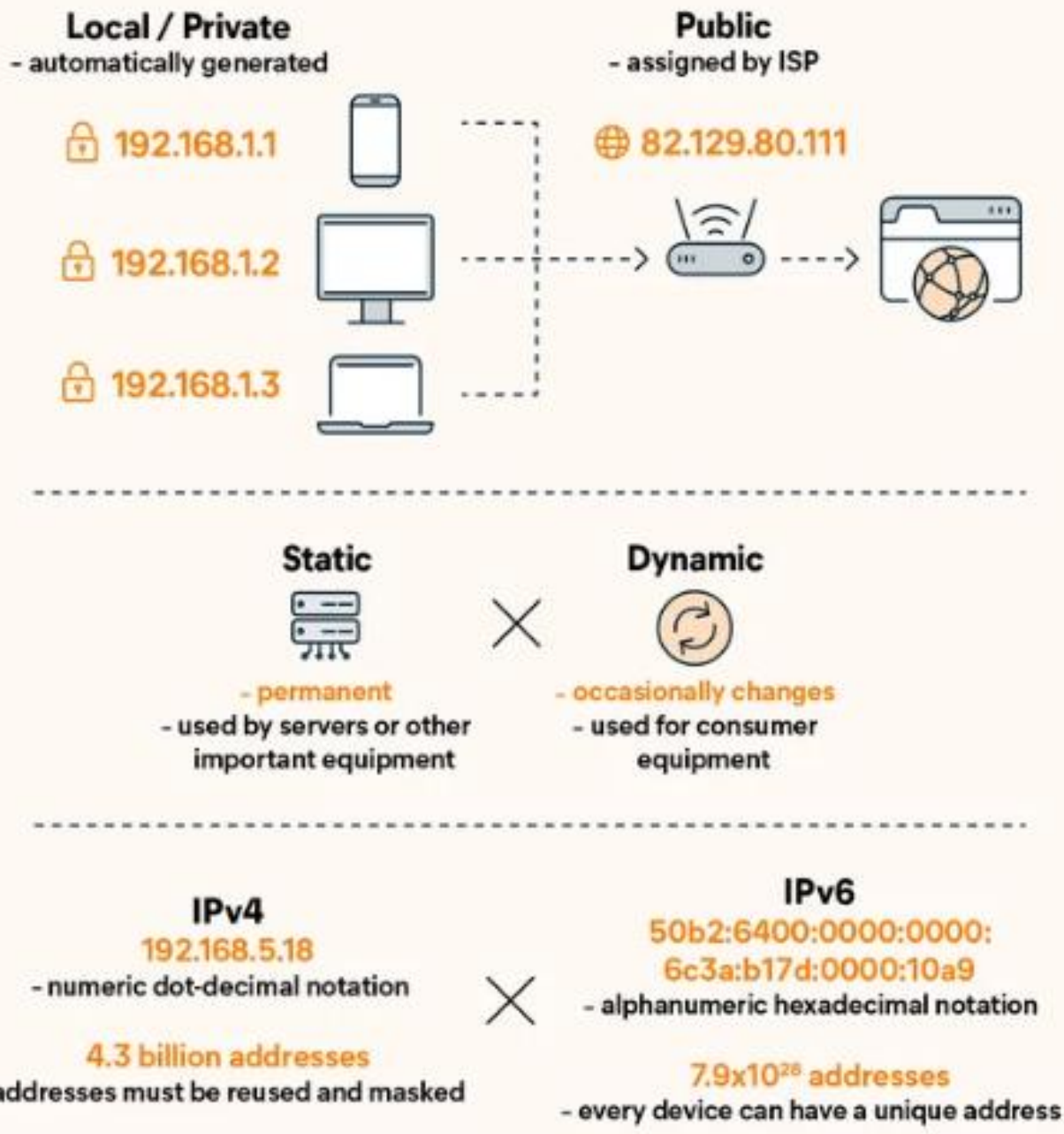
8 bits



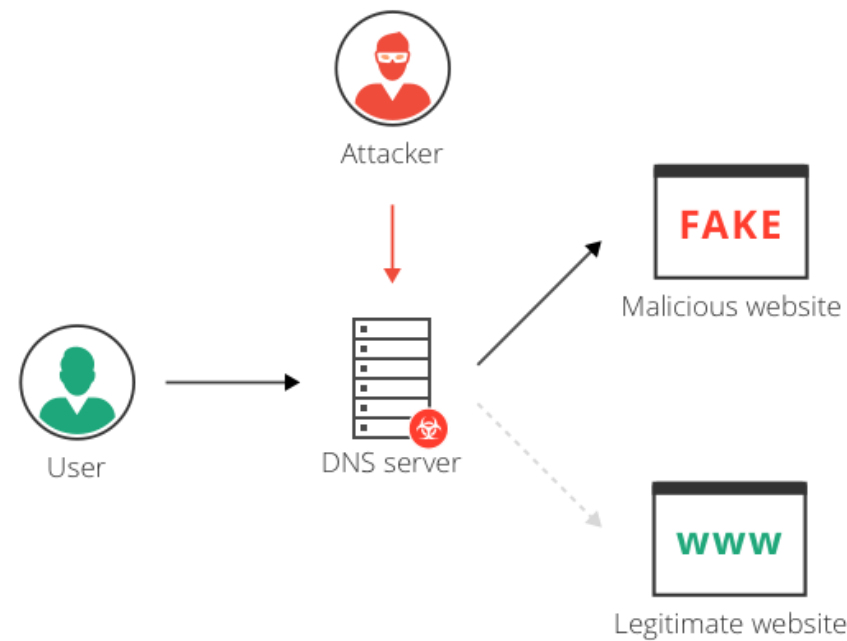
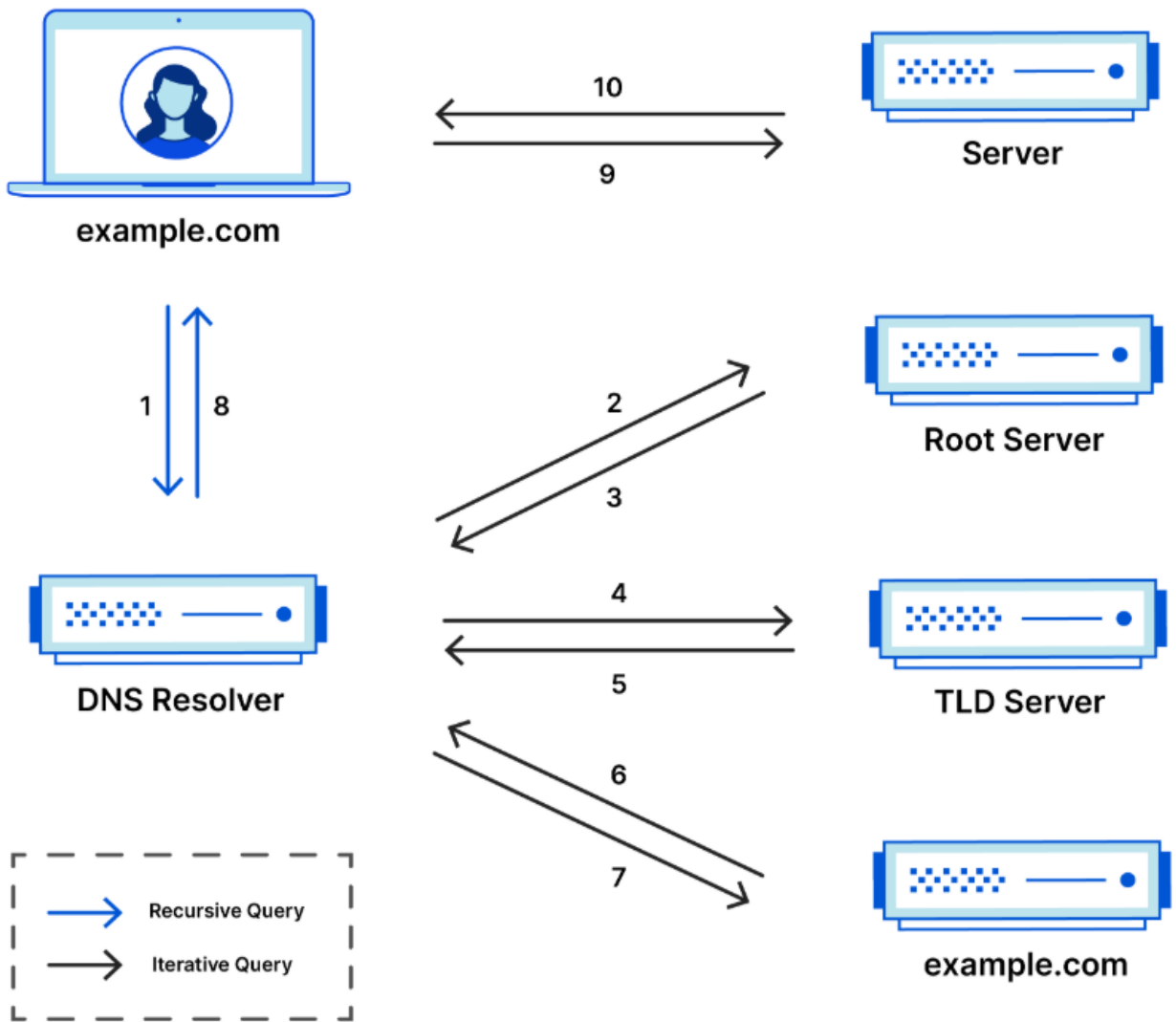
32 bits (4 bytes)

# Binary Notation of IP Address and Subnet





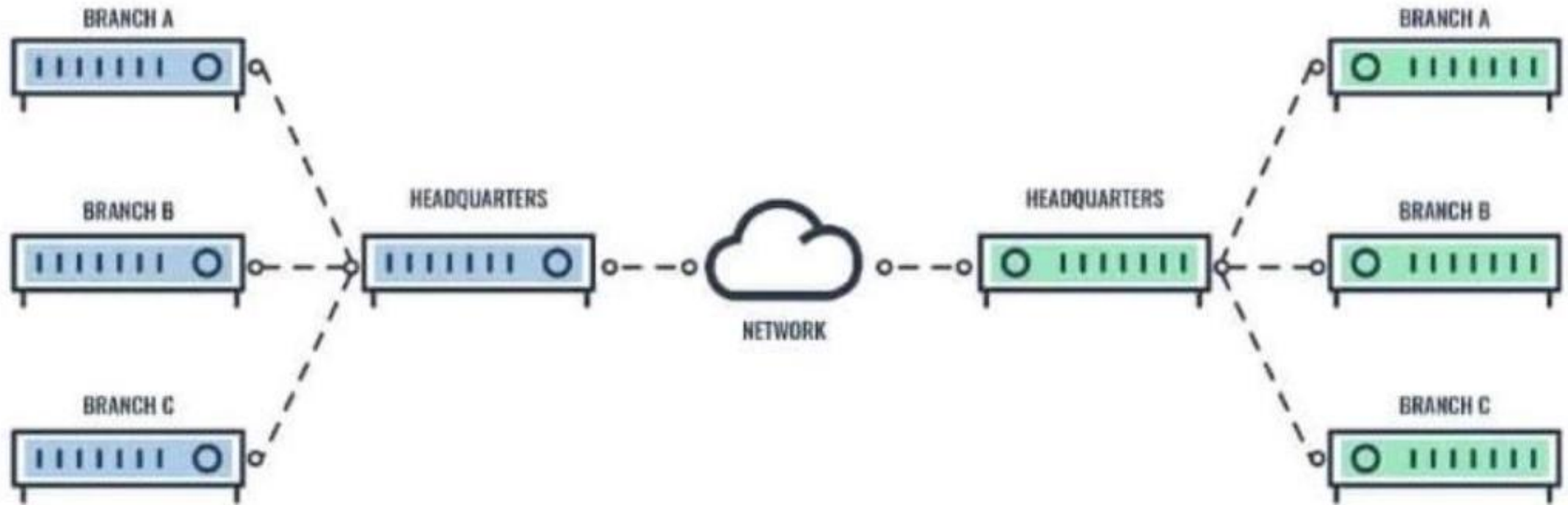
# Complete DNS Lookup and Webpage Query



### Five Different Classes of IPv4 Addresses

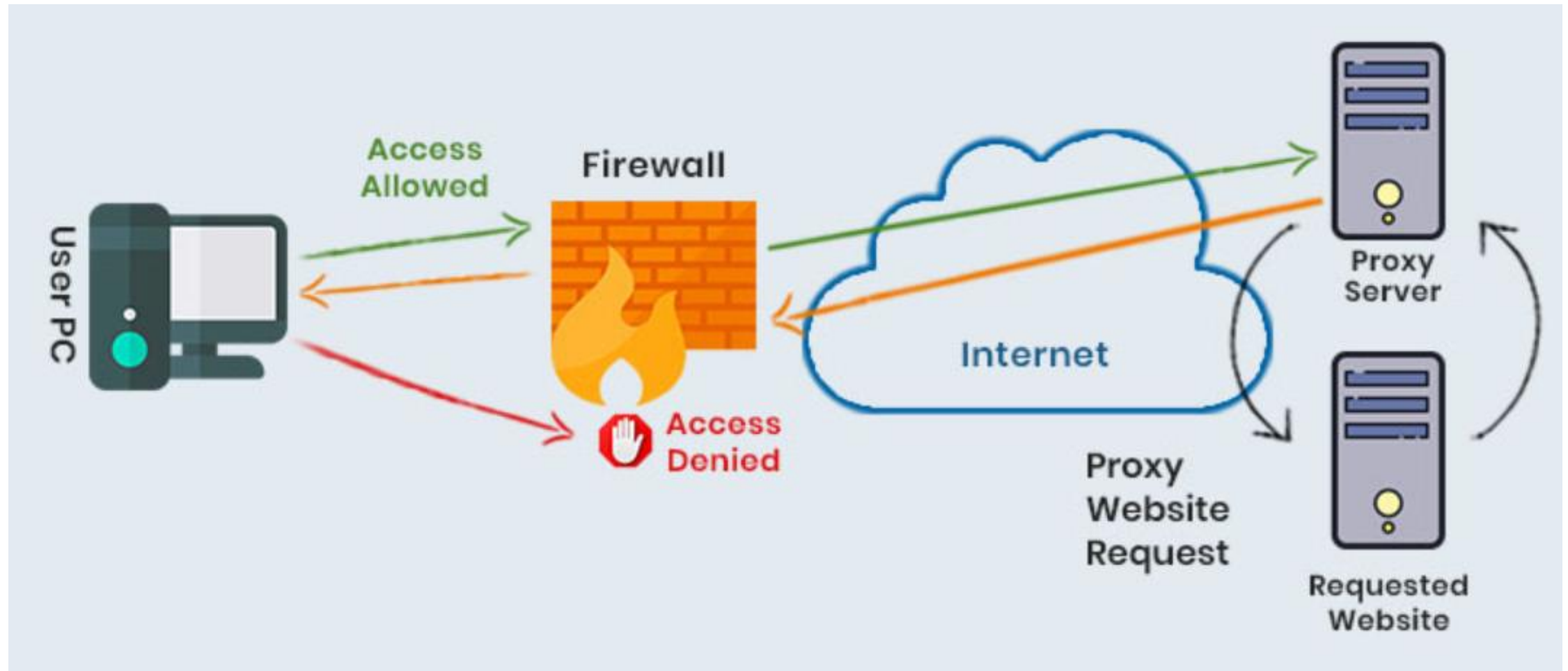
Class	First Octet decimal (range)	First Octet binary (range)	IP range	Subnet Mask	Hosts per Network ID	# of networks
Class A	0 — 127	0XXXXXXXX	0.0.0.0-127.255.255.255	255.0.0.0	$2^{24}-2$	$2^7$
Class B	128 — 191	10XXXXXXXX	128.0.0.0-191.255.255.255	255.255.0.0	$2^{16}-2$	$2^{14}$
Class C	192 — 223	110XXXXXX	192.0.0.0-223.255.255.255	255.255.255.0	$2^8-2$	$2^{21}$
Class D (Multicast)	224 — 239	1110XXXXX	224.0.0.0-239.255.255.255			
Class E (Experimental)	240 — 255	1111XXXXX	240.0.0.0-255.255.255.255			

# Super-netting and Subnetting

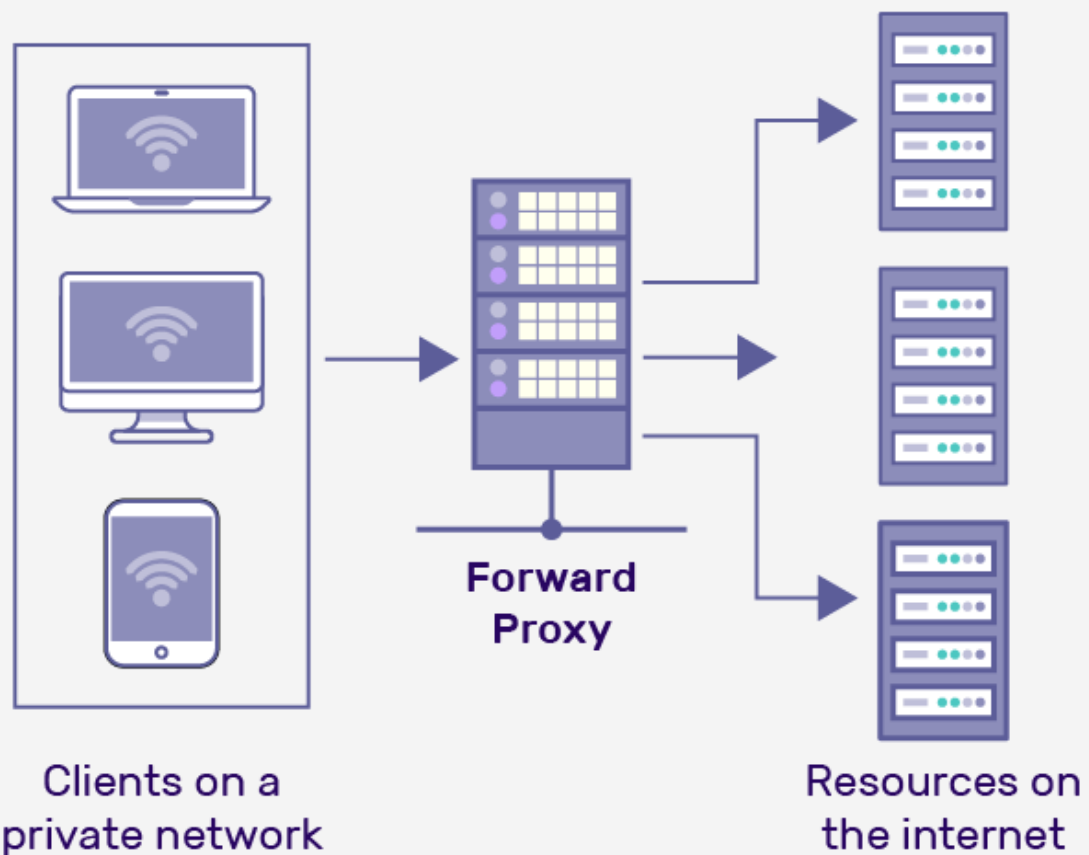




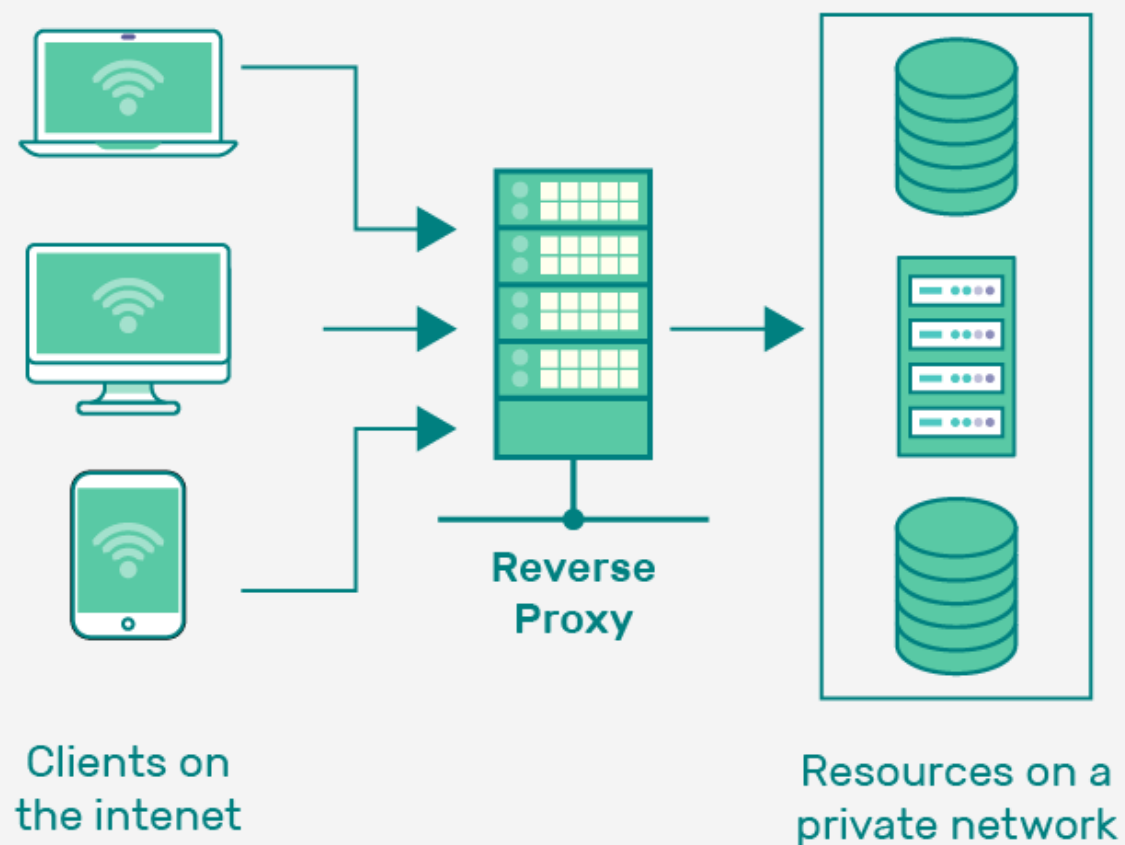
# Proxy Server – Forward and Reverse



## Forward Proxy



## Reverse Proxy



# Network Protocol

