

How to check Number of Mac Address:

- **Mac:** networksetup -listallhardwareports
- Windows: getmac /v /fo list

Range of Port Numbers

- Port numbers are represented as 16-bit unsigned integers, which means they can range from 0 to 65535.
- They are typically divided into three ranges:
 - **Well-Known Ports (0-1023):** These are reserved for specific services and protocols, such as:
 - Port 80: HTTP
 - Port 443: HTTPS
 - Port 22: SSH (Secure Shell)
 - Port 25: SMTP (Simple Mail Transfer Protocol)
 - **Registered Ports (1024-49151):** These are assigned by the Internet Assigned Numbers Authority (IANA) for specific services that are not considered standard. Applications can use these ports for their services.
 - **Dynamic or Private Ports (49152-65535):** These are typically used for client-side applications or dynamically assigned ports by the operating system

Comparison Table: TCP vs. UDP

Feature	TCP	UDP
Connection	Connection-oriented (three-way handshake)	Connectionless (no handshake)
Reliability	Reliable (guaranteed delivery, retransmission)	Unreliable (no guarantees on delivery)
Ordering	Ensures packet order	No ordering of packets
Error Checking	Error checking with retransmission	Basic error checking (but no correction)
Flow & Congestion Control	Yes (adjusts based on network conditions)	No flow or congestion control
Speed	Slower due to overhead (error checking, etc.)	Faster due to less overhead
Common Use Cases	Web browsing, email, file transfer	Streaming, gaming, DNS, VoIP
Data Segmentation	Breaks data into segments	Sends data as independent datagrams
Data Size	Supports larger data packets	Typically used for small, quick data packets

Hardware Port: Ethernet Adapter (en4)

Device: en4

Ethernet Address: 7a:cb:f1:3f:db:23

Hardware Port: Ethernet Adapter (en5)

Device: en5

Ethernet Address: 7a:cb:f1:3f:db:24

Hardware Port: Thunderbolt Bridge

Device: bridge0

Ethernet Address: 36:77:f5:36:3a:80

Hardware Port: Wi-Fi

Device: en0

Ethernet Address: 80:a9:97:1c:c5:34

Hardware Port: Thunderbolt 1

Device: en1

Ethernet Address: 36:77:f5:36:3a:80

Hardware Port: Thunderbolt 2

Device: en2

Ethernet Address: 36:77:f5:36:3a:84

Hardware Port: Thunderbolt 3

Device: en3

Ethernet Address: 36:77:f5:36:3a:88