# Socket Programming

**Socket**: An Interface between an application process and transport layer.

Every process has a unique Identity associated with it. Socket is similar to FILE handling

**Socket is a kind of pointer between Application layer and Transport layer**

* The application process can send/receive messages to and from another application process (local or remote) via a socket
* In Unix jargon a socket is a file descriptor – an integer associated with an open file
* Socket address contains IP address + Port number
* Stream Socket (SOCK\_STREAM)
* Connection Oriented
* Rely on TCP to provide 2-way communication
* Datagram (SOCK\_DGRAM)
* Connection less
* UDP

Byte Ordering

* Big-Endian (Network Byte Order)
* Little-Endian Lower-Order byte (Host Byte Order)

Network Stack (TCP/IP)

Conversions

* htons() host to network short
* htonl() host to network long
* ntohs() network to host short
* ntohl() network to host long

Server Client

socket()

bind() portnumber socket()

bind()

recvfrom() <---- sendto()

sendto() ----> recvfrom()

close() close()

TCP: Different layers

Application->transport->network->datalink->physical

System calls