**Socket Basics**

A socket is an IP address + port number pair. An IP address identifies a host. However, a host can have many different applications running at the same time. How does your operating system (OS) know that an HTTP response is meant for your web browser, and not Call of Duty: Modern Warfare? Port numbers are used to identify the particular application that should receive the data. Call of Duty: Modern Warfare uses the TCP port range 27014–27050, for example.

Thus, any communication between two network devices needs a socket *pair*

Steps

### Creating a Socket

### Accepting Connections

### Sending and Receiving

### Closed Sockets ( when recv() function returns empty string , we close() our side of the connection as well, remove the serverSocket thread from the list of active connections, and end the thread) like closing a file.

### TCP / UDP

### UDP is normally used for time-sensitive transmissions where a dropped packet is preferred to waiting for lost packets to be re-transmitted like voice call . In our chat application, we don’t want to have to deal with lost packets because we always want to receive complete messages without any errors. So we use TCP in our chat app .