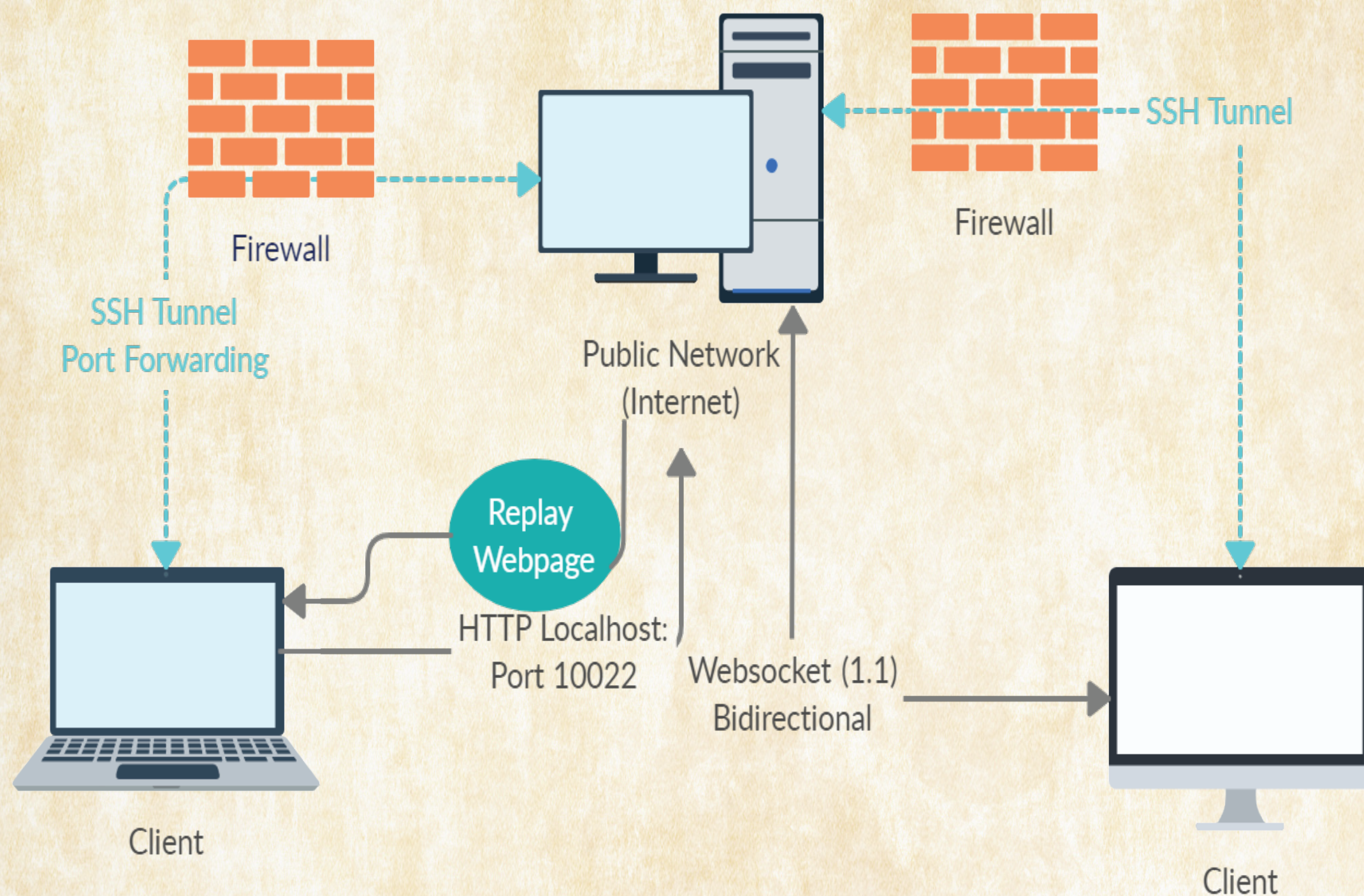# End to end communnication between network devices over the internet


what is End-to-end principal?

End to end communication is process of sending and receiving data or message from one end point to another end point through reliable communication network. The end to end principal is a design framework of computer networking which removes critical component from intermediately communication, improve data delivery (OSI transport) and make sure that connection only fails if the end point fails. End to end protocols makes communication easy and possible with sending message to two true ends or mid-end point which is endpoint host.

SOCKET

A sockets are end points of communication between two devices built for sending and receiving data, sockets are combination of an IP address and Port numbers. A single device can have n number of sockets based on port number that is being used. In socket lots of methods are available such as socket. socket () to create sockets, socket. accept () used to accept incoming connection, socket. bind () used to bind address that specified as parameter and socket. connect () used to connect to remote server.
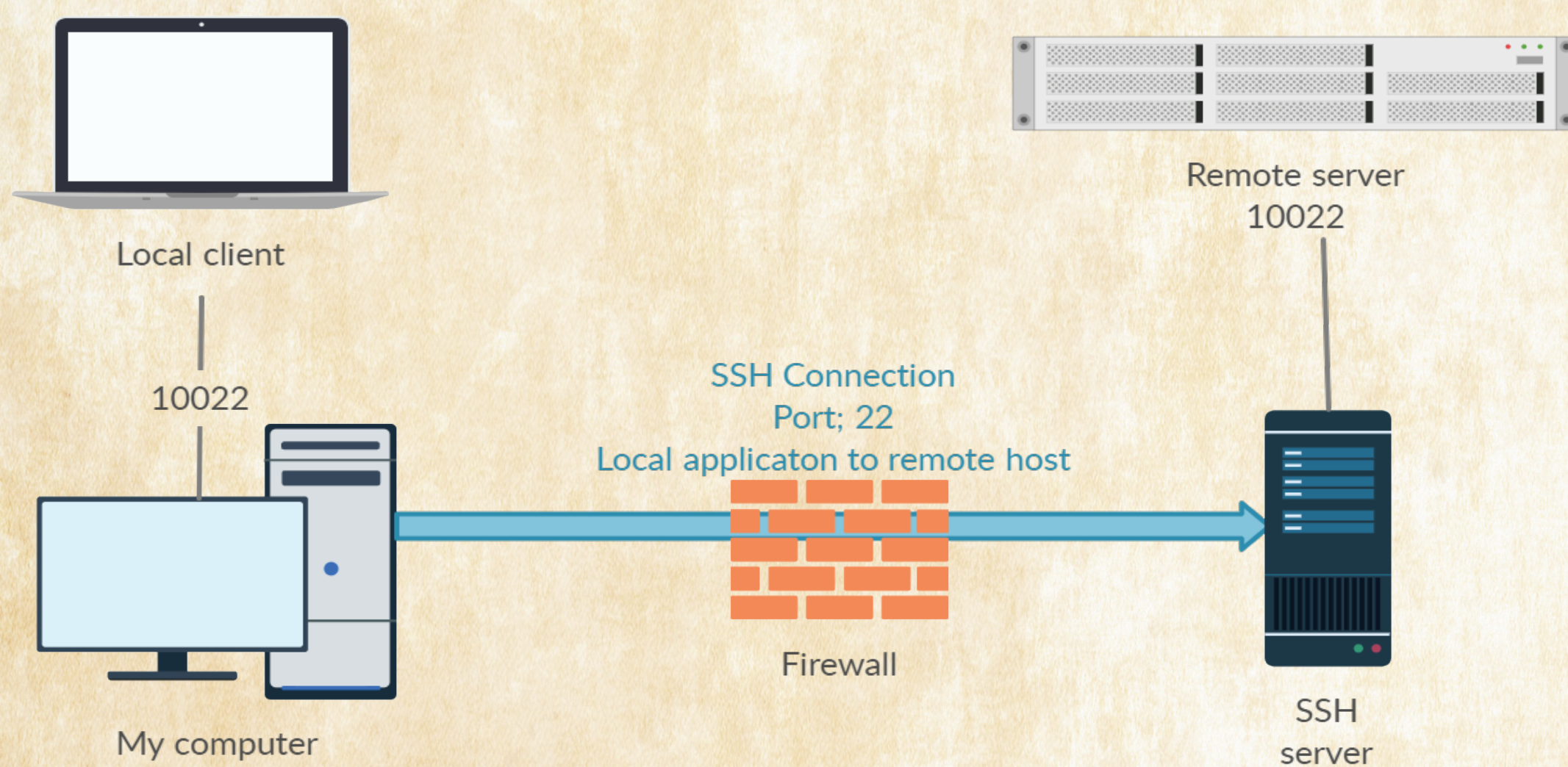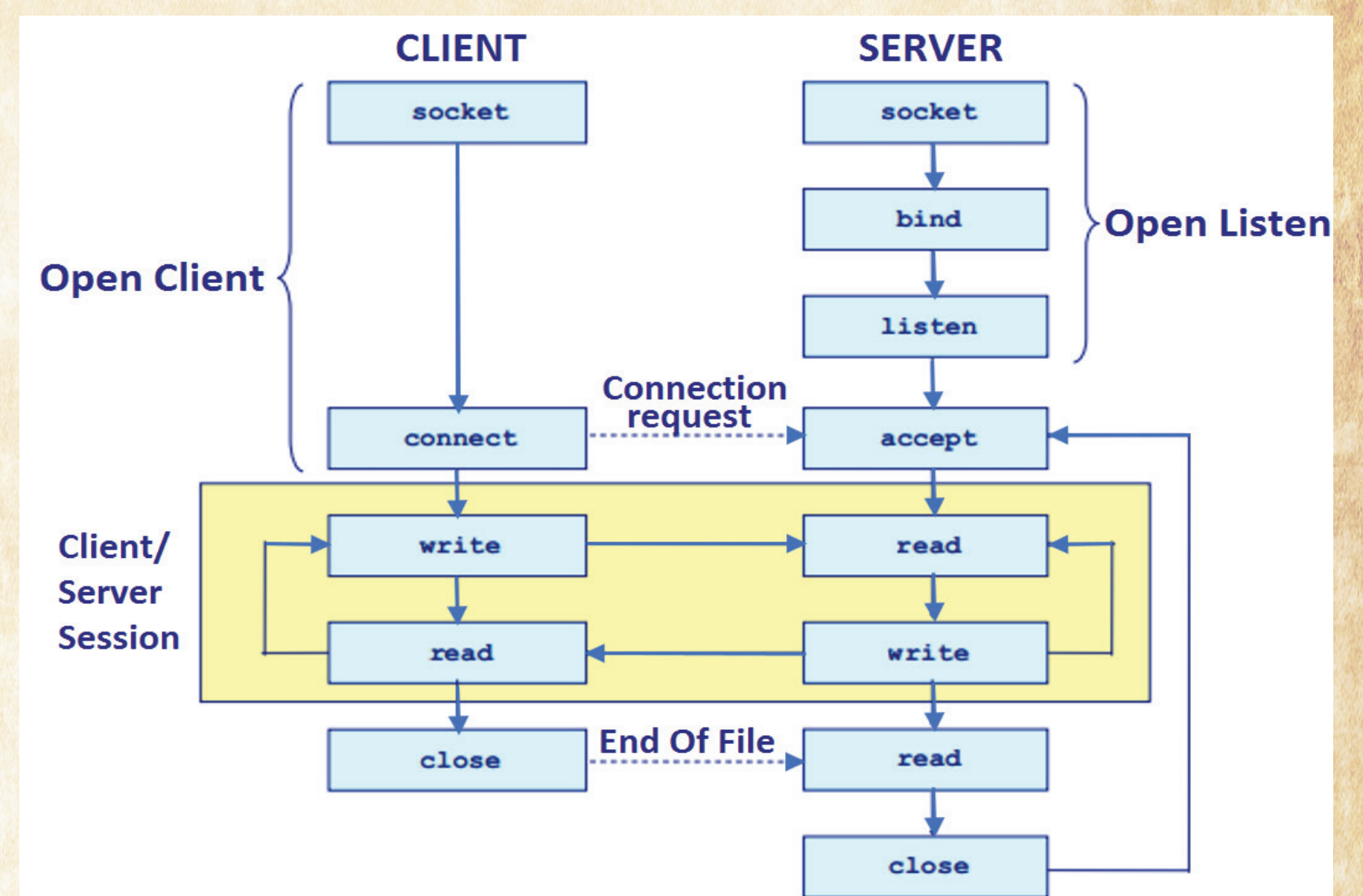

SSH Tunnel

SSH is a standard for secure remote logins and file transfers over untrusted networks. It also provides a way to secure the data traffic of any given application using port forwarding, basically tunnelling any TCP/IP port over SSH. SSH allows to talk with another ssh connection and smuggle or forward data from one port to another by passing firewall and can use same port after reaching destination.
("SSH –L 8181:192.168.10.1:3389, user name & location of ssh server").

Websocket

Websocket is bidirectional message driven computer communication protocol which used to establish communication channel over a single TCP connection. Websocket starts with handshake with webserver and start with requesting server and get response with requested data after doing process on request which is called open and persistent message communication. The entire websocket handshake communication has to be work on websocket ("WS:// and WSS:// 1.1").
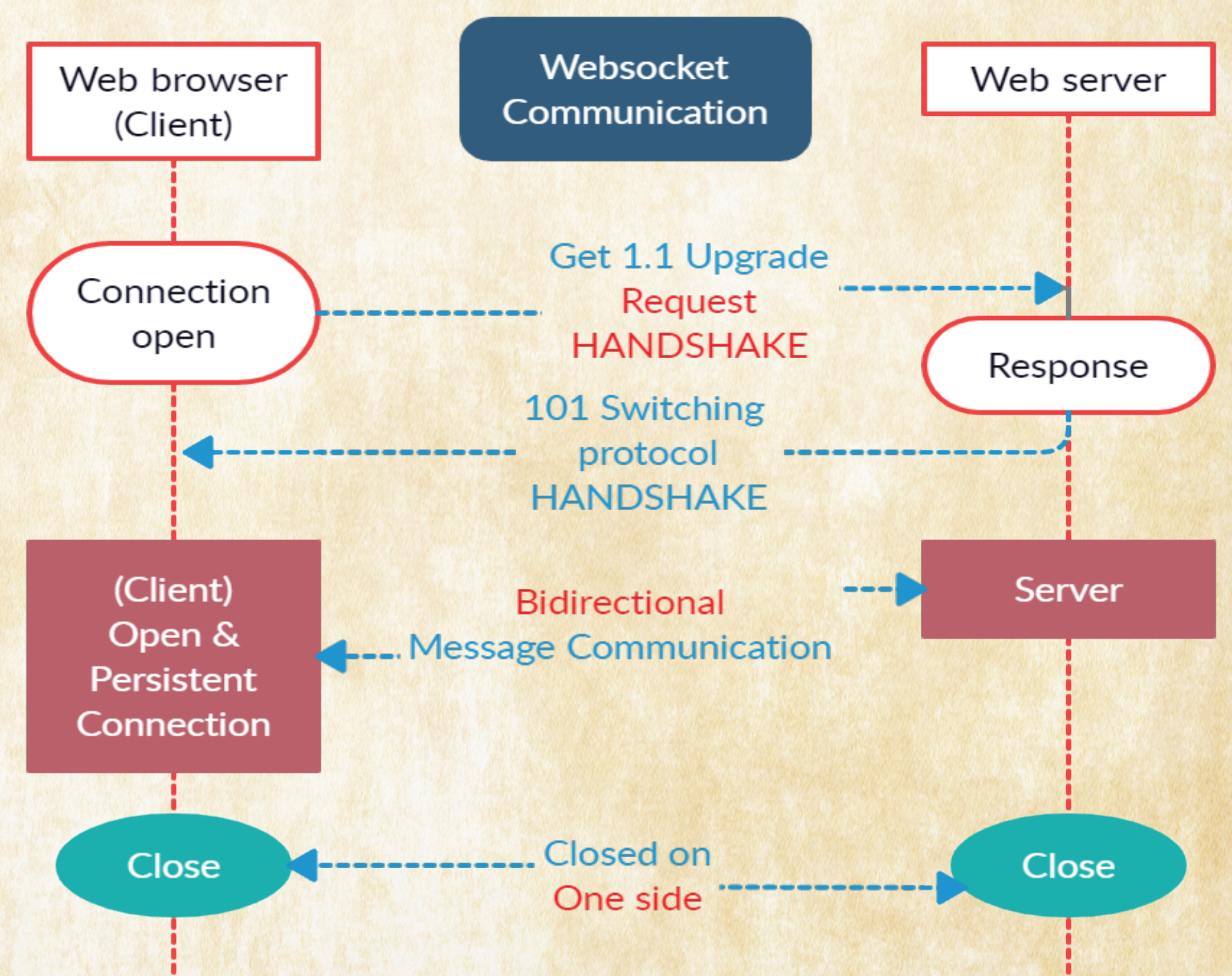
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