

Three-way Handshake

Introduction

- TCP is a connection oriented protocol, a connection needs to be established before two devices can communicate each other. TCP uses three-way handshake method to establish the connection and start the session.
- A three-way handshake is a three-step method that requires both the client and server to exchange SYN and ACK (acknowledgment) packets before actual data communication begins.
- This mechanism is designed so that two devices attempting to communicate each other can negotiate the parameters of the network TCP socket connection.

Three-way Handshake

Step 1 (SYN) : In the first step, client wants to establish a connection with server, so it sends a segment with SYN(Synchronize Sequence Number) which informs server that client is likely to start communication and with what sequence number it starts segments with

Step 2 (SYN + ACK): Server responds to the client request with SYN-ACK signal bits set. Acknowledgement(ACK) signifies the response of segment it received and SYN signifies with what sequence number it is likely to start the segments with

Step 3 (ACK) : In the final part client acknowledges the response of server and they both establish a reliable connection with which they will start the actual data transfer.

Example

