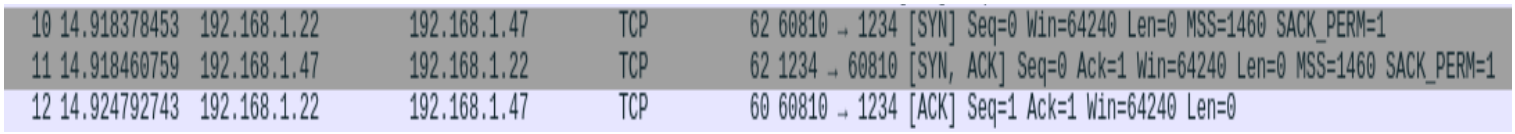
On the picture below we can see a 3-way handshake that establishes a TCP connection.



We will call the host with address192.168.1.22 **A** and will call the host with address 192.168.1.47 **B**.

First **A** sends an empty package (we can see this because it says Len = 0) with its header with the SYN flag set (thus we see SYN in brackets). The header of that package also includes the source port, which is chosen at random, and the destination port which **A** has picked manually.

This flag tells **B** that **A** wants to start a new TCP connection. **B** may decide to decline or accept.
In this case **B** accepts. It does so by sending a TCP segment of its own to **A**. The header that is sent has the source and destination port switched, and the SYN and ACK flags set.

Finally **A** replies with a header with the ACK flag set and the sequence number (seq) increased by one.

A and **B** have successfuly established a connection and may begin sending packages to each other.