

Topic 0: tcp, packets, data, connection, devices

- TCP is a layer core communication protocol within the internet protocol which ensures reliable ordered and errorchecked delivery of data between devices
- When two devices establish a TCP connection they perform a threeway handshake to confirm each others presence and agree on parameters for data exchange
- TCP breaks information into packets sends them and then ensures all packets arrive in the correct order
- If any packets are lost or damaged during transmission TCP automatically requests them to be resent
- This approach makes TCP ideal for applications where data accuracy is more important than speed receive complete and correctly sequenced informationIt is better than UDP but due to these features it has an additional overhead
- Also application protocols like HTTP and FTP use it
- Unlike TCP it sends data as independent packets called datagrams without first establishing a dedicated connection

Topic 1: layer, udp, perfect, delivery, protocol

- User Datagram Protocol (UDP) is a layer communication protocol used in the internets network layer transport layer and session layer
- This means UDP does not guarantee delivery order or error correction it simply sends data and hopes it arrives
- Because it skips these checks UDP has very low overhead and latency which makes it ideal for applications where speed is more important than perfect reliability
- Examples include live video streaming online gaming and voice calls where a few missed packets are often less noticeable than the delay that comes from waiting for perfect delivery