The Most Common Protocols

Short Name	Full Name	Port	Purpose	How to work
HTTP	Hypertext Transfer Protocol	80	Web page transfer	HTTP is a protocol used for transmitting hypertext via the internet. It operates on a request-response model where a client sends a request to a server and receives a response.
HTTPS	Hypertext Transfer Protocol Secure	443	Secure web page transfer	HTTPS is HTTP over SSL/TLS, providing a secure communication channel. It encrypts data between the client and server for confidentiality.
FTP	File Transfer Protocol	21	File transfer	FTP enables the transfer of files between a client and a server using a control connection and a data connection. It can operate in active or passive mode.
SFTP	Secure File Transfer Protocol	22	Secure file transfer	SFTP is a secure version of FTP that uses SSH to encrypt the data during transfer, ensuring confidentiality and integrity.
SMTP	Simple Mail Transfer Protocol	25	Sending emails	SMTP is used to send emails from a client to a mail server or between servers. It operates using a command-response mechanism to facilitate message transmission.
POP3	Post Office Protocol version 3	110	Receiving emails	POP3 allows clients to retrieve emails from a mail server. It downloads emails to the client and typically deletes them from the server.
IMAP	Internet Message Access Protocol	143	Receiving emails	IMAP enables clients to access and manage emails stored on a mail server without downloading them. It allows for multiple device access and server-side management.
DNS	Domain Name System	53	Resolving domain names to IP addresses	DNS translates human-readable domain names into IP addresses, allowing users to access websites using URLs instead of numerical addresses.
DHCP	Dynamic Host Configuration Protocol	67/68	Assigning IP addresses	DHCP automatically assigns IP addresses and other network configuration parameters to devices on a network, streamlining network setup.
SNMP	Simple Network Management Protocol	161	Network management	SNMP is used for monitoring and managing network devices. It allows administrators to collect information and manage devices through a management station.
TCP	Transmission Control Protocol	Various (e.g., 80, 443)	Reliable data transmission	TCP ensures reliable delivery of data by using acknowledgments, retransmissions, and sequencing of packets. It establishes a connection between sender and receiver before transmitting data.
IP	Internet Protocol	N/A	Addressing and routing data packets	IP is responsible for addressing and routing packets of data between devices on a network. It determines the best path for data to travel across interconnected networks.

URL	Uniform Resource Locator	N/A	Addressing resources on the web	A URL specifies the location of a resource on the internet and the protocol used to access it. It includes the protocol (e.g., HTTP), domain name, and path to the resource.
UDP	User Datagram Protocol	53/67/68	Fast, connectionless data transfer	UDP is a connectionless protocol that allows for the fast transmission of data without establishing a connection. It does not guarantee delivery, order, or error correction.
RTP	Real-time Transport Protocol	N/A	Streaming media and real-time data	RTP is used for delivering audio and video over IP networks. It provides time-stamping and sequence numbering to ensure proper delivery and playback of media streams.
RTSP	Real-Time Streaming Protocol	554	Control of streaming media	RTSP is used to control streaming media servers. It allows clients to pause, play, and seek media streams over the network.
NTP	Network Time Protocol	123	Time synchronization	NTP synchronizes the clocks of computers over a network. It ensures that all devices have the same time, which is crucial for logging and data consistency.
LDAP	Lightweight Directory Access Protocol	389	Directory services	LDAP is used for accessing and maintaining distributed directory information services over an IP network. It's commonly used for authentication and user information.
ICMP	Internet Control Message Protocol	N/A	Network diagnostics and error reporting	ICMP is used for sending error messages and operational information. Tools like ping and traceroute use ICMP to check connectivity and route paths.
SCTP	Stream Control Transmission Protocol	N/A	Reliable transport of message-oriented data	SCTP is a transport layer protocol that provides reliable, message-oriented communication. It is used in applications requiring high availability and redundancy.