Protocol	Acronym	Main Role	Protocol Layer	Port Number	Popular Client Software
DHCP	Dynamic Host Configuration protocol	automatically request and be assigned IP addresses and other network settings.	Application Layer	port number 67 and 68	
NAT	Network Address Translation	provides mapping between the private and public/universal addresses.	Network Layer	XXX	
IPv4	Internet Protocol version 4	responsible for packetizing, logical addressing, forwarding, and delivery of a packet	Network Layer	XXX	
IPv6	Internet Protocol version 6	to replaces IPv4, More efficient header, better security	Network Layer	XXX	
DNS	Domain Name System	finds IP Address corresponding to a textual name of a server.	Application Layer	XXX	
ICMP	Internet Control Message Protocol	ICMP is used to test Internet or network connectivity of host	Network Layer	XXX	
ARP	Address Resolution Protocol	convert an IP address into a physical address	Network Layer	XXX	
www	world wide web	collection of web pages	Application Layer		
http	Hyper Text Markup Language	HTTP is a protocol used mainly to retrieve web pages. It is used to transfer files from server, files are either statically stored in the server, or the server application generates the files dynamically.	Application Layer	80	
ftp	File Transfer Protocol	exchanging files	Application Layer	Control Connection: 21, Data Connection: 20	
smtp	Simple Mail Transfer Protocol	sending e-mail	Application Layer	Normal: 25, Secure: 465	
pop3	Post Office Protocol version 3	Retrieve messages from mail server.	Application Layer	Normal: 110, Secure: 995	
imap4	Internet Mail Access Protocol	log into any internet-connected email client or a webmail site, and view all of the same emails at any time.	Application Layer	Normal: 143 , Secure: 993	
MIME	Multipurpose Internet Mail Extension	Used to carry files of various types; overcomes the shortcoming SMTP protocol of size limitation.	Application Layer		
TELNET	Terminal Network	allows remote user log on.	Application Layer	23	PUTTY , Secure CRT
SSH	Secure Shell	remote logging and file transfer	Application Layer	22	PUTTY
TCP	Transmission Control Protocol	reliable connection Oriented	Transport Layer	XXX	
UDP	User Datagram Protocol	connection-less unreliable	Transport Layer	XXX	
	Real Time Transport Protocol	Used to transfer files or data at a steady speed, allows low-delay transport of data.	Application Layer		