

# Dynamic Host Configuration Protocol

Dynamic Host Configuration Protocol or in short, DHCP, is a protocol or service, used to automatically assign IP addresses to a computer requesting one. It is one of the three most used means of assigning IPs in private networks. The other two would be [Zero Conf](#) or manual configuration on the [clients](#). It is the most used form of IP assignment. The corresponding DHCP service/server listens on Port 67 or 68 UDP. Clients use the IP 0.0.0.0 as theirs temporarily, to contact the service. They do not have to know it's IP but instead send the request to the broadcast address 255.255.255.255. This request is not routed anywhere outside the [subnet](#). If there is at least one DHCP server running, it will answer the request, either by handing out a so-called lease (an IP is occupied for a defined time, after which it will have to be requested again (lease extension) or a new IP is assigned (lease expired)), which the client in turn will use as its IP.

Or they decline the assignment (which is rather unusual). If there are more than one DHCP servers running in the network (which also is unusual, at least in private set ups), then the positive DHCP answer arriving first will be used. Usually the router of a private network runs the DHCP service. In these routers very often you can also set assignments of IP addresses to be used for defined MAC addresses. If a computer requests an IP with a network card with such a MAC address, the DHCP will always hand out the very same IP address to it. This can be important if you are using [port forwarding](#) in order to run a game server. DHCP servers can also provide other information, such as the default gateway, time servers and other technical information, that the client should have. So in the best of cases, the configuration of your client is done automatically, hence the name.

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