Learn 193.168.0.1: IP address of broadband router

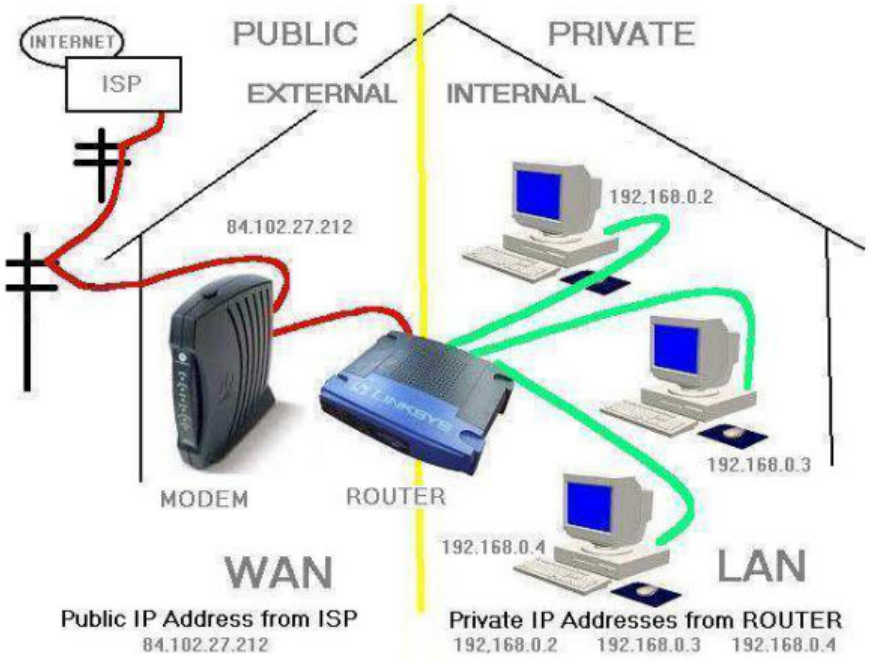
Every device connected to the internet has an IP address or Internet Protocol address. There are 2 types of Public and Private IP addresses. The 192.168.0.1 IP address is a Private IP address and is the default for some home broadband routers, mainly D-Link and Netgear models.

Every device connected to the internet has an IP address or Internet Protocol address. There are 2 types of Public and Private IP addresses. The 192.168.0.1 IP address is a Private IP address and is the default for some home broadband routers, mainly D-Link and Netgear models.

The difference between Public and Private IP addresses

Your computer has a Public IP address assigned by an Internet Service Provider (ISP). This address must be unique across the Internet. In addition, your router has a Private IP address, only allowed to appear on private networks. This IP does not need to be unique globally, because this is not a direct access address and no one can access 192.168.0.1 IP address outside the private network.

Internet Assigned Numbers Authority (IANA) is a global organization that manages IP addresses. It originally defined a type of IP address called IP version 4 (IPv4). This type is a 32-bit number, usually denoted by four numbers separated by a decimal point - for example, 192.168.0.1. Each decimal number must have a value between 0 and 255, meaning that the IPv4 system can contain about 4 billion unique IP addresses. This number seems very large in the early days when the Internet was new but the reality is now much larger.



Private IP

Among these addresses, IANA has set a certain number of IP addresses to set as Private IP. That is:

1. 10.0.0.0 - 10.255.255.255
2. 172.16.0.0 - 172.31.255.255
3. 192.168.0.0 - 192.168.255.255

These Private IPs have a total of about 17.9 million different addresses, all dedicated to use on private networks. This is why a router's Private IP does not need to be unique.

The router then assigns a private IP address to each device in the network, whether it is a small home network or an enterprise-level organization. Each device within the network can connect to another device on the network using this Private IP.

However, Private IP addresses cannot access the internet. They need to connect via an internet service provider (ISP) - for example, Comcast, AT&T or Time Warner Cable. In this way, all devices actually connect to the Internet indirectly: First, they connect to the local network (connected to the internet), and then connect to the internet.

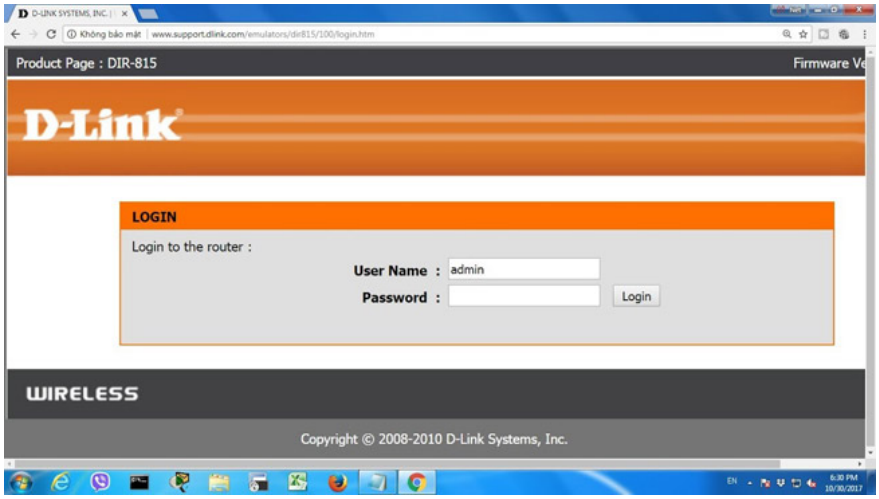
The first network you connect to is the router. Netgear and D-Link models have an IP address of 192.168.0.1. The router will then connect to the ISP to connect to the Internet and your messages will be routed to the recipient. The routes will look like this (assuming the presence of a router on each end):

Sender -> Router of sender -> Sender of ISP -> Internet -> Receiver's ISP -> Router of receiver -> Receiver

Public IP and IPv6 standard

Public IP addresses must be unique globally. This poses a problem for the IPv4 standard, as it can only contain 4 billion addresses. Therefore, IANA introduced the IPv6 standard, supporting more combinations. Instead of using binary, it uses hexadecimal systems. Therefore, the IPv6 address consists of eight separate hexadecimal groups, each consisting of four digits. Example: abcd: 9876: 4fr0: d5eb: 35da: 21e9: b7b4: 65o5. Obviously, this system can accommodate almost countless IP addresses, up to 340 undecillion (some with 36 zeros).

Find IP address



There are many ways to find your IP address.

If a computer (or any other connected device) is operating on a private network connected to the Internet (as in most families), each device will have a Private IP assigned by router and a public IP address. You rarely need to know a public IP address, unless you are troubleshooting a remote computer and need to connect to it.

Refer to the article How to determine the IP address on the computer

Change the router's IP address

The router's IP address is set by the manufacturer at the factory, but you can change this address at any time using the router's administrative control panel. For example, if another device on the network has the same IP address, you may encounter IP address conflicts, so you need to make sure there are no duplicates.

Access the router's administrative control panel by entering its IP into the browser address bar:

http://192.168.0.1

Any router brand or any computer on the local network can be set to use this address or the IPv4 Private address is comparable. As with any IP address, only one device on the network can use 192.168.0.1 to avoid conflicts.

See more:

1. How to check geographical location via IP
2. How to access IP address 192.168.100.1
3. Use static IP address in network