

IP - The basics

I know that many who receive this are quite competent in the IP world, however I find myself constantly doing IT tech support. This is due to the fact that a lot of our product now connects to the customers network.

There are a number of basic tools & techniques that you must have prior to doing any job which involves networks.

**** Do NOT ring tech support until you have done the following ****

1/ Decide what IP addresses to use. If the site has an IT person then ask them to allocate you the addresses you need, don't forget one for your laptop for programming / testing.

2/ If your equipment needs internet access also find out from IT what the gateway address is.

If the site does not have a person responsible for IT then you have to ascertain this information for yourself.

The first step is to ascertain the IP addresses. The following explains how to ascertain the IP address of a PC on the clients network.

Open command prompt:

Win 7 click on start & type in CMD into search box

Win 10 Right click on start & select run command prompt

This will give you a black screen with white text

Type in IPCONFIG press return

This will give you a listing of that PCs IP setup. What you want is IPv4 address, subnet mask & gateway. An example from my PC is shown below:-

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Ethernet adapter Local Area Connection:

Connection-specific DNS Suffix . . . : 
Link-local IPv6 Address . . . . . : fe80::54ce:45c1:5170:9fae%11
IPv4 Address. . . . . : 192.168.1.10
Subnet Mask . . . . . : 255.255.255.0
IPv4 Address. . . . . : 193.168.0.180
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.1.254
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On the basis of the clients PCs IP address you can make an educated guess as to what addresses you use. If the last octet of their PC IPv4 address is <130 (mine is 10) then try adding 100 to it, otherwise subtract 100. Remember each octet can have a value of 0 - 255.

As this is, at best, to see if I can use 192.168.1.110 I need to ping the address to see if a device is using that address. This is done using the PING command as below. As you can see 110 is already in use, this is seen by the fact that something is responding to the ping.