



Accessing your Solo from outside your local network

Step 1 – determining which IP address to use

First of all is knowing what address to assign – because we need a fixed (static) address to later configure our router.

This question can be hard to answer, depending on your network configuration. For most home networks, you will have a router supplied by your telco that will assign addresses to PCs using a protocol called DHCP (the Solo gets its address using DHCP by default). This protocol is not useful if you want to access it from remote, however, as we need it to have a fixed address.

There's plenty of information in the web about IP addresses. For a quick fix, follow this steps:

- open a command prompt (yes, like the old DOS window) - start menu, accessories, command prompt, or start menu, run, cmd...
- at the command prompt, type "ipconfig" followed by the return key.
- now look for a few rows with meaningful information, such as these:

```

Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . . . . . : 

Ethernet adapter Local Area Connection:
  Connection-specific DNS Suffix . . . . . :
  Link-local IPv6 Address . . . . . : fe80::18c5:4c10:6193:5123%12
  IPv4 Address . . . . . : 192.168.3.20
  Subnet Mask . . . . . : 255.255.255.0
  Default Gateway . . . . . : 192.168.3.1

Tunnel adapter Local Area Connection* 3:
  Media State . . . . . : Media disconnected
  Connection-specific DNS Suffix . . . . . : 

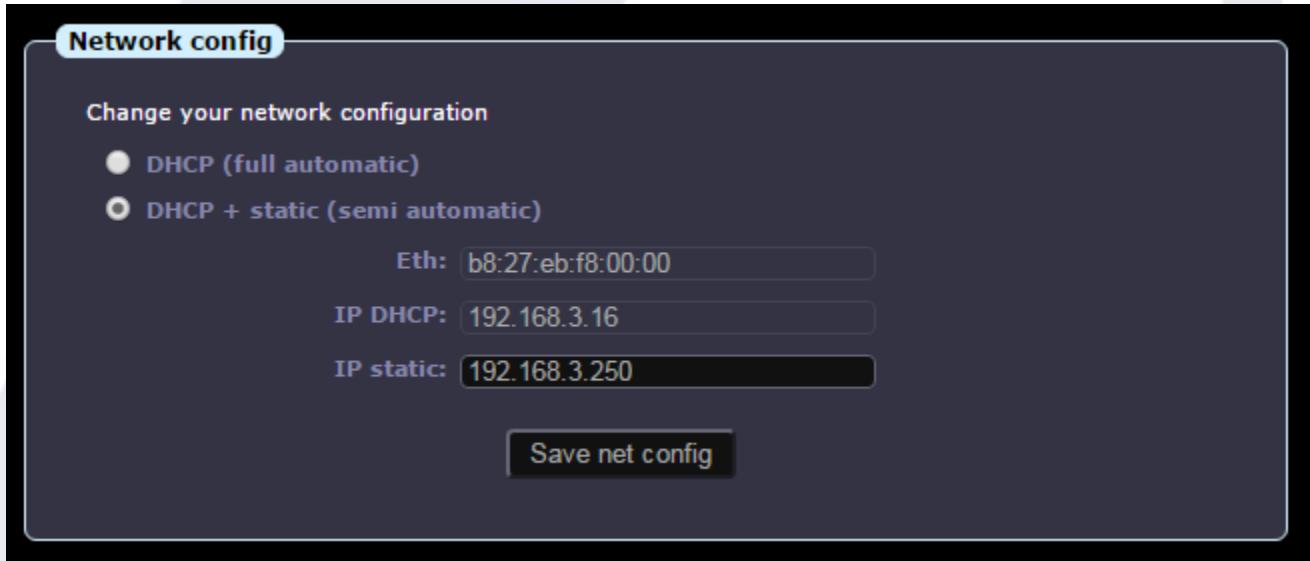
Tunnel adapter Local Area Connection* 4:
  
```

- your local router, will be, most probably, the device with address ending in "1" ("192.168.3.1" in this example, the default gateway)

- your PC has an address of "192.168.3.20" and your network mask is "255.255.255.0"
- if your network is the typical home one, you'll be safe selecting an address a bit above the one of your PC – "192.168.3.100", for instance, will do in this case
- if you have tweaked your network configuration, then go ahead and find what's the range of DHCP addresses of your router, and select one that's out that range (and does not match any currently used one!)

Step 2 – changing the Solo configuration

Since Solo v. 1.3 this is a snap, just go to your Solo configuration page, System, and fill the fields:



... and that's it.

Technical note for those interested: the DHCP protocol (the one used to get an automatic address) is kept active as it will provide a nice time synchronization (very important given the Raspberry does not have a real time clock, and the card is mounted read only), and also acts as a safeguard, getting a valid internal IP address every time.

Step 3 – modifying your router to enable remote access

Again this is specific to each router; it consists in adding a rule, so connections from the Internet at a given port get redirected to the Solo. In my case:

Device Info
Advanced Setup
Layer2 Interface
WAN Service
LAN
NAT
Virtual Servers
Port Triggering
DMZ Host
SIP ALG
Security
Parental Control
Quality of Service
Routing
DNS
UPnP
DNS Proxy/Relay
IP Tunnel
IPSec
Certificate

NAT -- Virtual Servers Setup

Virtual Server allows you to direct incoming traffic from WAN side (identified by Protocol and External port) to the Internal server with private IP address on the LAN side. The Internal port is required only if the external port needs to be converted to a different port number used by the server on the LAN side. A maximum 32 entries can be configured.

[Add](#) [Remove](#)

Server Name	External Port Start	External Port End	Protocol	Internal Port Start	Internal Port End	Server IP Address	RemoteHost IP Address	WAN Interface	Remove
Secure Shell									
Server (SSH)									
Web Server (HTTP)	10800	10800	TCP	80	80	192.168.3.250		ppp0.1	

Notice in my router it is called “virtual servers”, under the “Nat” menu. I have added a rule, so incoming connections from the port 10800, protocol TCP, get redirected to port 80 of the Solo (in my case, its address is 192.168.3.250).

So, to connect to my Solo from the outside, I type: <http://aagsolo.lunatico.es:10800>

You can choose whatever port, I chose 10800 because it was easy to remember and not the standard one. The name of the host is out of the scope of this document, if you need help with that, check the “dynamic DNS” providers in the internet (noip.com, dyndns.com, etc...)