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How to give an Open BAT or a WLC an IP address ?

- 2018-02-21 - BAT, WLC (HiLCOS)

This lesson describes how to give an Access Point or a WLC controller an IP address. We'll see 4 different methods:

- Via Hidiscovery
- With a DHCP server
- Via the serial interface, using the Command Line Interface (CLI)
- Via LANconfig

This how to is based on the assumption that the devices have the Hidiscovery protocol enabled (factory settings) and DHCP as well.

Via Hidiscovery

HiDiscovery	1			~									-	
e Edit Options ?														
👌 📝 🙎 Signal Properties WWW	Teinet Pin	Rescan Prefer	ences	192, 168, 1	.29: High:	Speed US	8-Etherr	et Adap	ter	1				
MAC Address	Writable	IP Address A	1	Vet Mask	Default	Gatewa	1	Produ	ct	N	ame			
0:80:63:F7:53:AF	V	192, 168, 1, 101			0.0.0.0		BAT-C	ontrolle	WLC25	WLC_	101			
2C:E5:55:56:AB:84	1	192.168.1.140	255.	Properties									×)	
2 EC:E5:55:8E:53:8C	1	192.168.1.141	255.	MAC Addre	ss: 00:80):63:F7:	3:AF							
				Name: IP Configu	WLC	_101	4							
				IP Addres	s;	192	. 168		•	101	Set D	efault ()		
				Net Mask:		255	. 255	. 25	5.	0	Set D	efault ()		
				Default G	ateway:	0	. 0			0	Set D	efault ()		
							Save	As Def	ault					
							Ok	Ca	ncel					
				-										

It's probably the easiest way.

You can download Hidiscovery from the Hirschmann Website :

http://www.hirschmann.com/en/Hirschmann_Produkte/Industrial_Ethernet/Software/Softwar e_Tools/HiDiscovery/index.phtml

Hidiscovery is also included in the CD delivered with each product.

Connect your laptop with Hidiscovery and the BATs devices to the same L2 network Start Hidiscovery.

Hidiscovery may find automatically the Hirschmann devices connected to your L2 network. But if you have several network adapaters it could also occur that Hidiscovery starts using a wrong Network adapter. In this case, select the relevant network adapter (1) and Rescann the network (2).

From the discovered devices double clic on the one you want to configure an IP address (3) A new window will open wher you can enter Name and IP settings for the device. By clicking OK the settings you entered are automatically applied on the device.

Via DHCP

By default, DHCP is enabled on the WLC and on the Open BAT.

It's then possible t dynamically assign an IP address to the device.

An Hirschmann switch can be used as DHCP server or you can download free DHCP servers on Internet.

One of the easiest and widely used id TFTPD32 which can be downloaded here :

http://tftpd32.jounin.net/tftpd32_download.html

The following example was done with tftpd64 v4.50 on windows 7

Start Tftpd64 and select relevant network interface

🏘 Tftpd64 by Ph.	Jounin		
Current Directory	C:\NET\LOGICIELS	S/utilities/DHCP SERV	▼ Browse
Server interfaces	192.168.1.29	HighSpeed USI	Show Dir
Tftp Server Tftp peer	127.0.0.1 192.168.1.29 192.168.199.2 192.168.205.1 192.168.6.1	Software Loopt HighSpeed USE ASIX AX88772E VMware Virtual VMware Virtual	- butc
•			4
About	s	ettings	Help

Configure the DHCP settings

Current Directory CNNETAL CONCILEUS With early OH CPSERV Browse Server interfaces 192.168.1.29 HighSpeed USI Show Dir Thp Server Thtp Client: DHCP server Systog server Log viewer peer Rie start time progress byte	GLOBAL TFTP DHCP SYSL0G DHCP Pool definition IP Pool start address 192 168.1.100 Size of pool 100 Lease (minutes) 2880 Boot File DHCP Options DHCP Options DHCP 0ptions DHCP 0ptions Def. router (0pt 3) 192 168.1.1 Mark (0pt 1) 255 255.255.0
About 1 Settings Help	DNS Servers (Dpt 6) WINS server (Dpt 44) NTP server (Dpt 42) SIP server (Dpt 120) Domain Name (15) Additional Option
	DHCP Settings Ping address before assignation Provisiant leases Double answere it relay detected Bind DHCP to this address 10.115.35.100

Clic on settings

Go in the DHCP Tab

Enter your DHCP pool, subnet mask, Gateway if necessary

Then OK. The configuration of your DHCP server is finished.

NB: UDP port 67 is used by the server. Take care that your Firewall don't block it

(allow incoming trafic with port destination 67, outgoing trafic with port destination 68)

Wait the next DHCP request

🏘 Tftpd64 by Ph	Jounin			
Current Directory			•	Browse
Server interfaces	192.168.1.29	HighSpeed U	SB-Ethe 💌	Show Dir
Tftp Server Tftp	Client DHCP server	Syslog server L	og viewer	
allocated at	IP	MAC	renew at	
11/11 10:14:57	192.168.1.100	00:80:63:F7:53:AF	11/11 10:14:5	7
1				
About		Settings		Help

At the next DHCP request from the device, your DHCP server will automatically attribute to teh device an IP address from the defined pool of addresses.

Via the serial interface

WLC and Open BAT have a V24 interface (A coded M12 plug)

A cable is delevered with each device (M12 - RS232) making possible serial connection between a workstation with serial interface (RS232) and the WLC or Open BAT.

If the workstation doesn't have any serial interface, converters USB to serial are needed.

Pins of the M12 socket on the device	Pin	Function	Description of functions
1	1	GND	Ground
8	2	DTR	Data terminal ready
2	3	TxD	Transmit data
	4	RxD	Receive data
0 00 3	5	DCD	Data carrier detect
5	6	DSR	Dataset ready
~ 4	7	RTS	Request to send
	8	CTS	Clear to send

Pin assignment of the V.24 interface, 8-pin, A-coded M12 socket

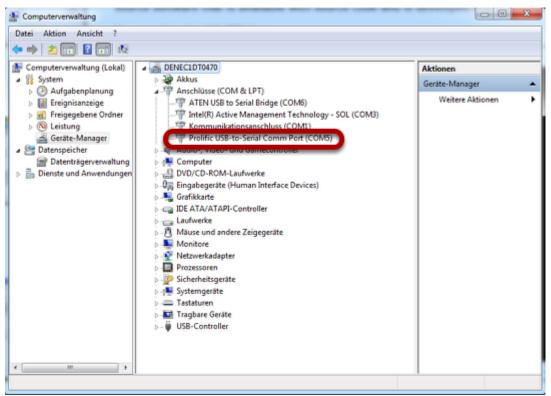
VT 100 terminal settings

VT 100 terminal settings	
Speed	115200 bit/s
Data	8 bit
Stopbit	1 bit
Handshake	Hardware
Parity	none

Download Putty

PuTTY is an SSH and telnet client but it can also be used as VT100 Terminal emulation. You can download Putty here: http://www.putty.org/

Check what Port is used for your serial connection



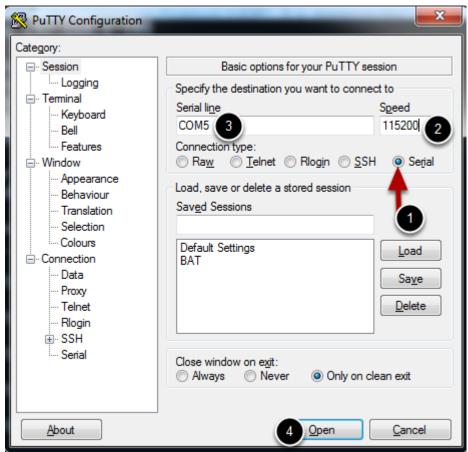
In our example. we use a USB to serial adapter (Prolific).

To check which COM port is in use, go in:

Control Panel > Administrative Tools > Computer Management > Device Manager > Ports (COM & LPT)

In our example it corresponds to COM5

Start Putty and configure the settings



- 1/ Select the connection Type: Serial
- 2/ Enter the VT100 Speed: 115200
- 3/ Enter the serial line in use: in our example COM5
- 4/ Open

Enter the CLI

```
- 0 - X
COM5 - PuTTY
Outband-115200 Bit/s OK
±
| Hirschmann BAT-Controller WLC25
| Ver. 9.00.5085 / 17.10.2014
| SN. 034001001070
| Copyright (c) LANCOM Systems
BAT-WLC_F753AF, Connection No.: 001 (Outband-115200 Bps)
Username:
Password:
admin@BAT-WLC_F753AF:/
> set Setup/TCP-IP/Network-list/intranet 192.168.1.100 255.255.255.0
set ok:
                         IP-Netmask
Network-name
             IP-Address
                                         VLAN-ID Interface
Src-check Type Rtg-tag Comment
  _____
_____
INTRANET 192.168.1.100
loose Intranet 0
             192.168.1.100 255.255.255.0 0
                                                 any
                         local intranet
admin@BAT-WLC F753AF:/
>
```

After a succesfull login (default password: private) only 1 command is enough to set an IP address:

set Setup/TCP-IP/Network-list/intranet IP_ADDRESS MASK

Via LANconfig

LANconfig is a management software for Open BAT devices and controllers.

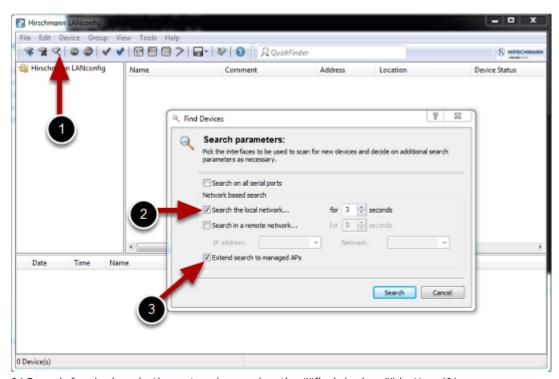
You can install it directly from the CD delivered with each device or download it from the Hirschmann Website.

Pre-requisite for the first steps:

The workstation with LANconfig and the device to configure must be in the same L2 network.

This example is based on the assumption that the device to configure has factory settings.

Start LANconfig and run a scan



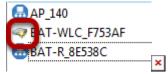
1/ Search for devices in the network pressing the ""find devices"" button (1)
2/ In the ""Find Devices"" menu, select ""Search the local network". It will search for the BAT and WLC connected in the same L2 network as all your network interfaces (if you have 2 network interfaces in 2 different L2 networks, the discovery will be done in the 2 L2 networks)

3/ Don't forget to tick ""Extended search to managed APs"", otherwise Open BAT with default config won't be find.

Select the devices to configure

Name	Device Type	Address	Serial Number
AP_140	BAT-R	192.168.1.140	94207099901010
BAT-WLC_F753AF	BAT-Controller WLC25	192.168.1.100	40003400100010
BAT-R_8E538C	BAT-R	50.50.24.15	94207099903050
•	III.		•
•	m		•

Devices present will be find, new ones (without IP address) or already configured ones. Select the ""new"" devices and select ""Add selected devices""



In the main Window the devices without configuration appear with this icon..

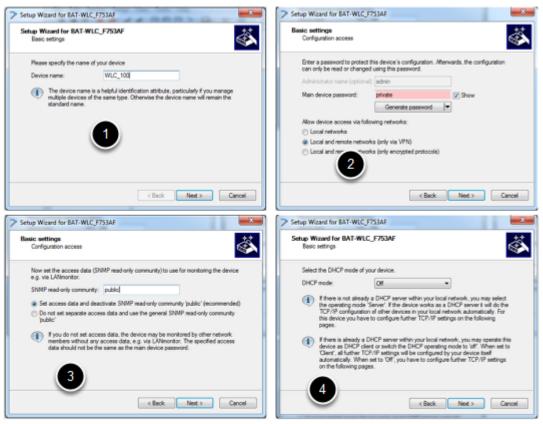
Automatically a Wizard is launched. Follow the Wizard.

Accept the warning and log to the BAT

Hirschmann LANconfig	Login Data for BAT-WLC_F753AF
This action is performed using the HTTPS protocol to transmit data. Even though the data transmission is encrypted, the connection will not yet be secured by certificates. Do you want to continue?	No login information is stored for this device. Please enter valid login information below in order access the device. Administrator: Password:
Yes No	Save login information OK Cancel

Default password : private

Follow the Wizard (1)



- 1/ Give the Device a Name
- 2/ Give the device a password
- 3/ Configure the SNMP read only community
- 4/ Configure the DHCP Mode (on our example off)

Follow the Wizard (2)

> Setup Wizard for BAT-WI	LC_F753AF	Setup Wizard for BAT-WLC_F753AF
Setup Wizard for BAT-W Basic settings	NIC_F753AF	Basic settings System Time Settings
Please assign a local ne netnisäk. IP address: Netnisäk: Gateway address: DNS server:	twok IP address to this device, along with the relevant 192,168,1.100 255,255,255,0 0,0,0 0,0,0 0,0,0	Please select the appropriate time zone and daylight saving time of your location. Time zone:
Setup Wizard for BAT-W		Cancel Setup Wizard for BAT-WLC_F753AF
Setup Wizard for BAT-1 Basic settings These fields are options one device. Location: Administrator: Commenta:	I but recommended to fill if you have to manage more than only Neckastendingen Idio le plus besul Creat mon WLC a moi !!	Setup Wizard for BAT-WLC_F753AF You have configured all necessary basic settings required for a proper device statup. Please select. Think' to apply the new settings. The process may take about 60 seconds. After that the setup wizard restarts and further settings may be done.
3	< Back Next > Cancel	(Back Freich Cancel

- 1/ Give the device an IP address
- 2/ Give the device Time settings
- 3/ Optionnal settings (Location ...)
- 4/ Finish