

# SNMP





## Description

This article describes installing, setting up and monitoring SNMP with WCC Lite.

## Install

To install SNMP to the WCC Lite you need to download .ZIP archive that has all the files necessary ->[SNMP tutorial.zip](#)

Now you need to extract the .ZIP file. You will get a folder called *SNMP tutorial*. Go inside it and you will find these files:

Pavadinimas	Modifikavimo data	Tipas	Dydis
 <b>copy.bat</b>	2022-07-14 11:06	„Windows“ koma...	1 KB
 <b>mini_snmpd_1.5-1_ar71xx.ipk</b>	2022-06-29 15:34	IPK failas	24 KB
 <b>plink.exe</b>	2021-07-10 11:49	Programa	715 KB
 <b>pscp.exe</b>	2021-07-10 11:49	Programa	717 KB

The next step is to ensure that the WCC Lite is reachable by your computer, you can do it in many ways. One of them is to connect it to your PC via ethernet cable to the WCC Lite ETH0.

After making sure there is a connection you can test it by opening your internet browser and entering the IP of the WCC Lite. If you have the default settings and WCC Lite is connected to your PC via an ethernet cable, then the IP is **192.168.1.1**

Now you can open the **copy.bat** file. It will ask for the IP of the WCC Lite at first, enter the IP. Next is the username and password. If the defaults are left, the username will be **root** and password - **wcclite**.

Your command window should look like this:

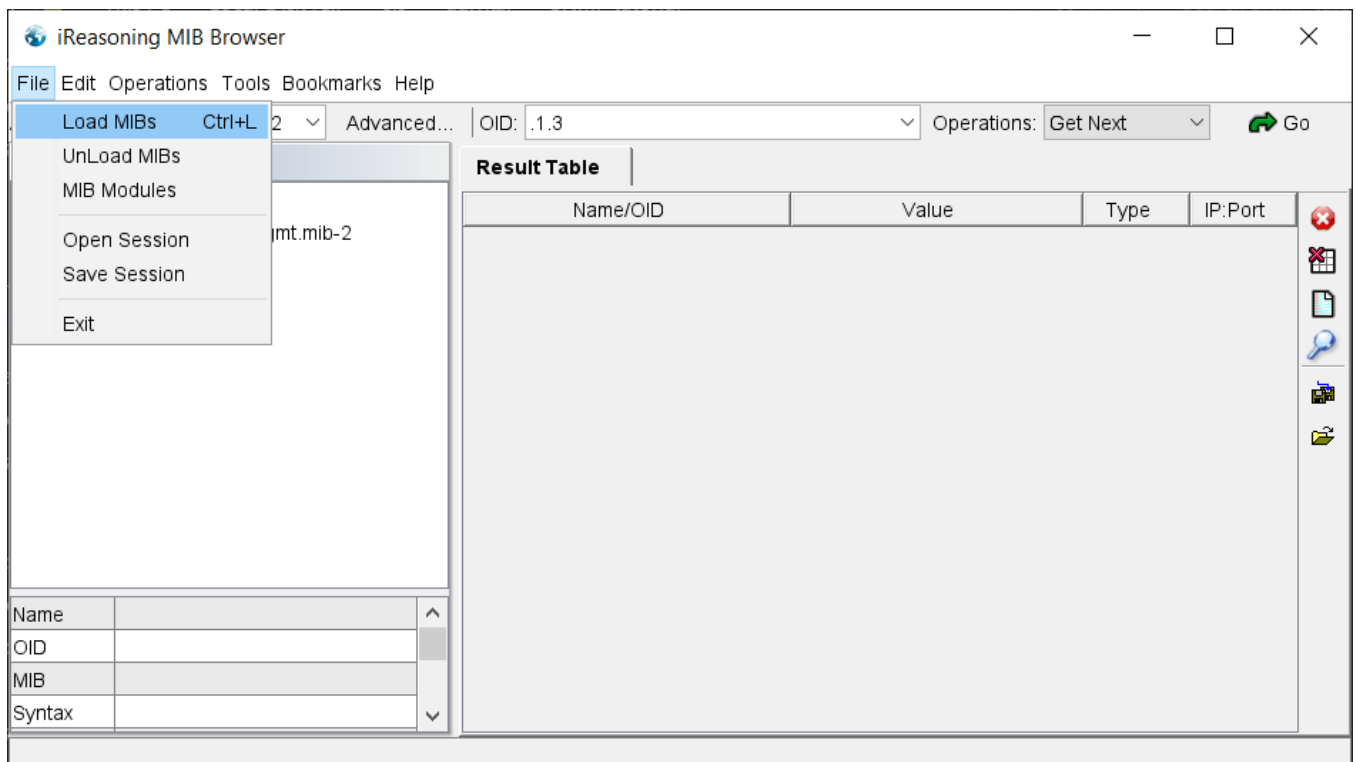
```
C:\Windows\system32\cmd.exe
Enter IP: 192.168.1.1
Enter user: root
Enter password: wcclite
The server's host key is not cached. You have no guarantee
that the server is the computer you think it is.
The server's rsa2 key fingerprint is:
ssh-rsa 2048 SHA256:cY9F/G+BmcusB2XAB7BvMygzXyf4HrFEMxf13diGi6c
If you trust this host, enter "y" to add the key to
PuTTY's cache and carry on connecting.
If you want to carry on connecting just once, without
adding the key to the cache, enter "n".
If you do not trust this host, press Return to abandon the
connection.
mini_snmpd_1.5-1_ar71xx.i | 23 kB | 23.1 kB/s | ETA: 00:00:00 | 100%
Package mini_snmpd (1.5-1) installed in root is up to date.
Installed SNMP on wcclite
Press any key to continue . . .
```

After installing you exit the command line and the SNMP is installed on your device.

The WCC Lite .MIB file can be downloaded from here ->[ELSETA-WCCLITE-MIB.mib](#)

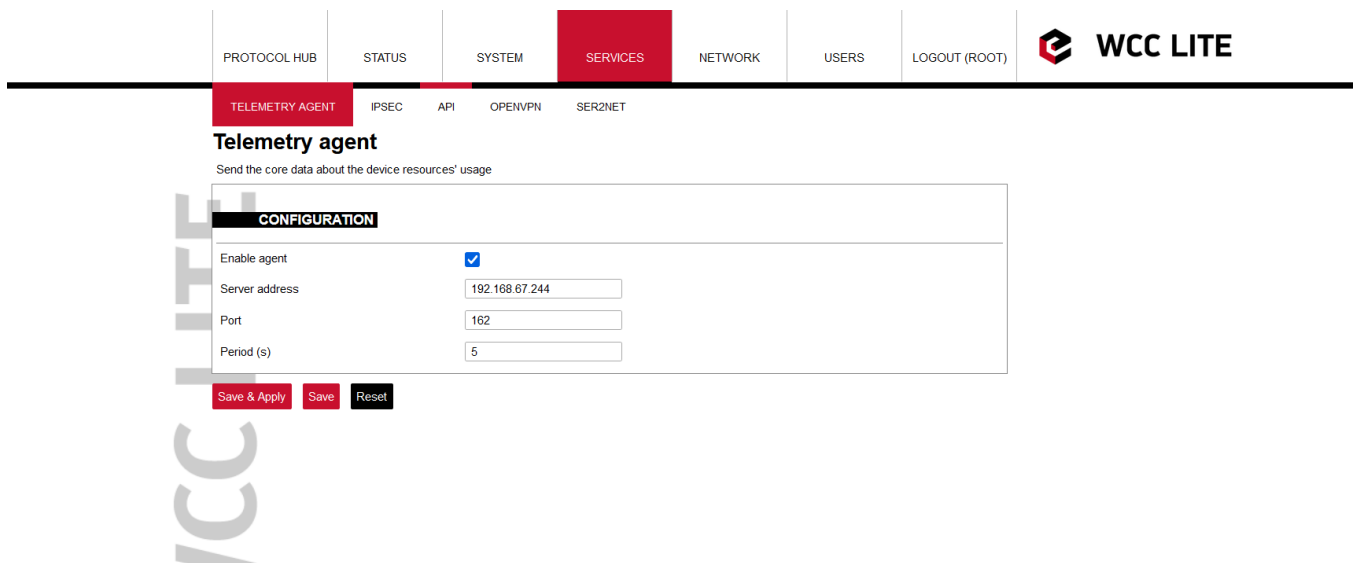
The next step is to download a SNMP trap watcher program. For this example we are going to use MIB Browser, which can be downloaded from here -> [MIB browser setup.exe](#)

After installing the program you will need to upload the downloaded [ELSETA-WCCLITE-MIB.mib](#) file to the MIB Browser:



## Setting up

Now you will need to allow the telemetry agent service on WCC Lite to send the core data about the device resources' usage. Server address is your computer's IPv4 address. The usual port for SNMP is **162**. Set the sending period as needed and press Save & Apply. The screen should look something like this:



After setting up the Telemetry agent tab navigate to Network -> Firewall -> Traffic rules. Enable the Allow-SNMP packet and edit the destination port to match the one in Telemetry agent screen (for this example it is 162):

## Firewall - Traffic Rules

Traffic rules define policies for packets traveling between different zones, for example to reject traffic between certain hosts or to open WAN ports on the router.

TRAFFIC RULES					
Name	Match	Action	Enable	Sort	
Allow-DHCP-Renew	IPv4-udp From any host in wan To any router IP at port 68 on this device	Accept input	<input checked="" type="checkbox"/>	▲ ▼	<a href="#">Edit</a> <a href="#">Delete</a>
Allow-Ping	IPv4-icmp with type echo-request From any host in wan To any router IP on this device	Accept input	<input checked="" type="checkbox"/>	▲ ▼	<a href="#">Edit</a> <a href="#">Delete</a>
Allow-IGMP	IPv4-igmp From any host in wan To any router IP on this device	Accept input	<input checked="" type="checkbox"/>	▲ ▼	<a href="#">Edit</a> <a href="#">Delete</a>
Allow-DHCPv6	IPv6-udp From IP range fc00::/6 in wan To IP range fc00::/6 at port 546 on this device	Accept input	<input checked="" type="checkbox"/>	▲ ▼	<a href="#">Edit</a> <a href="#">Delete</a>
Allow-MLD	IPv6-icmp with types 130/0, 131/0, 132/0, 143/0 From IP range fe80::/10 in wan To any router IP on this device	Accept input	<input checked="" type="checkbox"/>	▲ ▼	<a href="#">Edit</a> <a href="#">Delete</a>
Allow-ICMPv6-Input	IPv6-icmp with types echo-request, echo-reply, destination-unreachable, packet-too-big, time-exceeded, bad-header, unknown-header-type, router-solicitation, neighbour-solicitation, router-advertisement, neighbour-advertisement From any host in wan To any router IP on this device	Accept input and limit to 1000 pkts. per second	<input checked="" type="checkbox"/>	▲ ▼	<a href="#">Edit</a> <a href="#">Delete</a>
Allow-ICMPv6-Forward	IPv6-icmp with types echo-request, echo-reply, destination-unreachable, packet-too-big, time-exceeded, bad-header, unknown-header-type From any host in wan To any host in any zone	Accept forward and limit to 1000 pkts. per second	<input checked="" type="checkbox"/>	▲ ▼	<a href="#">Edit</a> <a href="#">Delete</a>
Allow-SNMP	Any udp From any host in wan To any router IP at port 162 on this device	Accept input	<input checked="" type="checkbox"/>	▲ ▼	<a href="#">Edit</a> <a href="#">Delete</a>

Next step is to change the port to 162 in the installed `mini_snmpd` on WCC Lite. You can do that via the Ubuntu terminal. Log into WCC Lite by typing in `ssh root@192.168.1.1`. The password is `wcclite`. Now type `/usr/bin/mini_snmpd -h` and after pressing enter you will see this screen:

```
root@wcc-lite:~# /usr/bin/mini_snmpd -h
Mini snmpd v1.5-pre -- Minimal SNMP daemon for UNIX systems

Usage: mini_snmpd [options]

  -4, --use-ipv4          Use IPv4, default
  -6, --use-ipv6          Use IPv6
  -p, --udp-port PORT     UDP port to bind to, default: 161
  -P, --tcp-port PORT     TCP port to bind to, default: 161
  -c, --community STR     Community string, default: public
  -D, --description STR   System description, default: none
  -V, --vendor OID        System vendor, default: none
  -L, --location STR      System location, default: none
  -T, --tcpconnct CNT     Max TCP connections sount to report
  -C, --contact STR       System contact, default: none
  -d, --disks PATH        Disks to monitor, default: /
  -i, --interfaces IFACE  Network interfaces to monitor, default: none
  -I, --listen IFACE      Network interface to listen, default: all
  -t, --timeout SEC       Timeout for MIB updates, default: 1 second
  -a, --auth              Enable authentication, i.e. SNMP version 2c
  -n, --foreground        Run in foreground, do not detach from controlling terminal
  -s, --syslog            Use syslog for logging, even if running in the foreground
  -v, --verbose           Verbose messages
  -h, --help              This help text

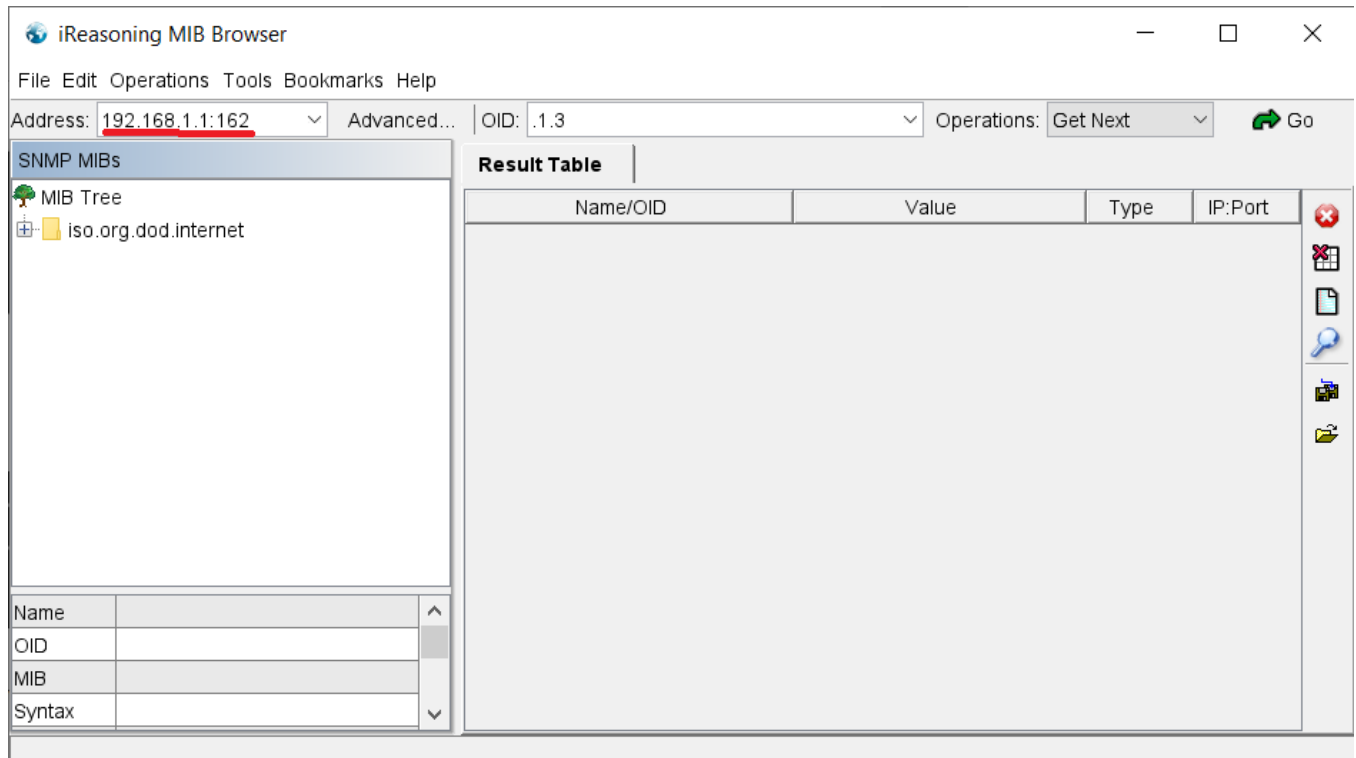
root@wcc-lite:~#
```

Now you will need to type in these commands: `/usr/bin/mini_snmpd -p 162` and `/usr/bin/mini_snmpd -P 162` to

change the port to 162.

```
root@wcc-lite:~# /usr/bin/mini_snmpd -p 162
root@wcc-lite:~# /usr/bin/mini_snmpd -P 162
root@wcc-lite:~# |
```

After these changes you can now go back to the MIB Browser program and change the address to the IP you used while connecting to WCC Lite web. For example:



## Monitoring

If no errors occurred you should be able to monitor the data about WCC Lite resources' usage with SNMP. For example, by pressing right click on the *private* folder and pressing the Walk option, you will see the window bellow, which represents the result table of resource usage.

The screenshot shows the iReasoning MIB Browser application with the address 192.168.1.1:162. The MIB Tree on the left shows the hierarchy: iso.org.dod.internet, mgmt, private, enterprises, elseta, info, gsm, ip. The Result Table on the right displays the following data:

Name/OID	Value	Type	IP:Port
1.3.6.1.4.1.2021.3.1.1.1	1	Integer	192.168...
1.3.6.1.4.1.2021.3.1.2.1	7	OctetString	192.168...
1.3.6.1.4.1.2021.3.1.6.1	1845920	Integer	192.168...
1.3.6.1.4.1.2021.3.1.7.1	1839516	Integer	192.168...
1.3.6.1.4.1.2021.3.1.8.1	6404	Integer	192.168...
1.3.6.1.4.1.2021.3.1.9.1	1	Integer	192.168...
1.3.6.1.4.1.2021.3.1.10.1	1	Integer	192.168...
1.3.6.1.4.1.2021.10.1.1.1	1	Integer	192.168...
1.3.6.1.4.1.2021.10.1.1.2	2	Integer	192.168...
1.3.6.1.4.1.2021.10.1.1.3	3	Integer	192.168...
1.3.6.1.4.1.2021.10.1.2.1	Load-1	OctetString	192.168...
1.3.6.1.4.1.2021.10.1.2.2	Load-5	OctetString	192.168...
1.3.6.1.4.1.2021.10.1.2.3	Load-15	OctetString	192.168...
1.3.6.1.4.1.2021.10.1.3.1	1.14	OctetString	192.168...
1.3.6.1.4.1.2021.10.1.3.2	1.15	OctetString	192.168...
1.3.6.1.4.1.2021.10.1.3.3	1.19	OctetString	192.168...
1.3.6.1.4.1.2021.10.1.4.1	1	OctetString	192.168...
1.3.6.1.4.1.2021.10.1.4.2	5	OctetString	192.168...
1.3.6.1.4.1.2021.10.1.4.3	15	OctetString	192.168...
1.3.6.1.4.1.2021.10.1.5.1	114	Integer	192.168...
1.3.6.1.4.1.2021.10.1.5.2	115	Integer	192.168...
1.3.6.1.4.1.2021.10.1.5.3	119	Integer	192.168...
1.3.6.1.4.1.2021.11.9.0	6	Integer	192.168...
1.3.6.1.4.1.2021.11.10.0	10	Integer	192.168...
1.3.6.1.4.1.2021.11.11.0	83	Integer	192.168...
1.3.6.1.4.1.2021.11.50.0	211569	Counter32	192.168...
1.3.6.1.4.1.2021.11.51.0	0	Counter32	192.168...
1.3.6.1.4.1.2021.11.52.0	234755	Counter32	192.168...
1.3.6.1.4.1.2021.11.53.0	965909	Counter32	192.168...
1.3.6.1.4.1.2021.11.59.0	220430582	Counter32	192.168...
1.3.6.1.4.1.2021.11.60.0	390955710	Counter32	192.168...
defaultGateway.0		OctetString	192.168...
activeTcpConnSlot.1	10	Integer	192.168...
activeTcpConnLocalAddr.1	192.168.1.122	OctetString	192.168...
activeTcpConnLocalPort.1	443	Gauge	192.168...
activeTcpConnRemAddr.1	192.168.1.1	OctetString	192.168...
activeTcpConnRemPort.1	63386	Gauge	192.168...
activeTcpConnStatus.1	6	Integer	192.168...



The given [ELSETA-WCCLITE-MIB.mib](#) contains an old version, so as of now, the results might not be accurate or they may not show at all. Update of the MIB file is needed.

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🕒Revision #2

★Created 4 September 2023 12:00:43 by Mantas Savickas

✎Updated 4 September 2023 12:03:48 by Mantas Savickas