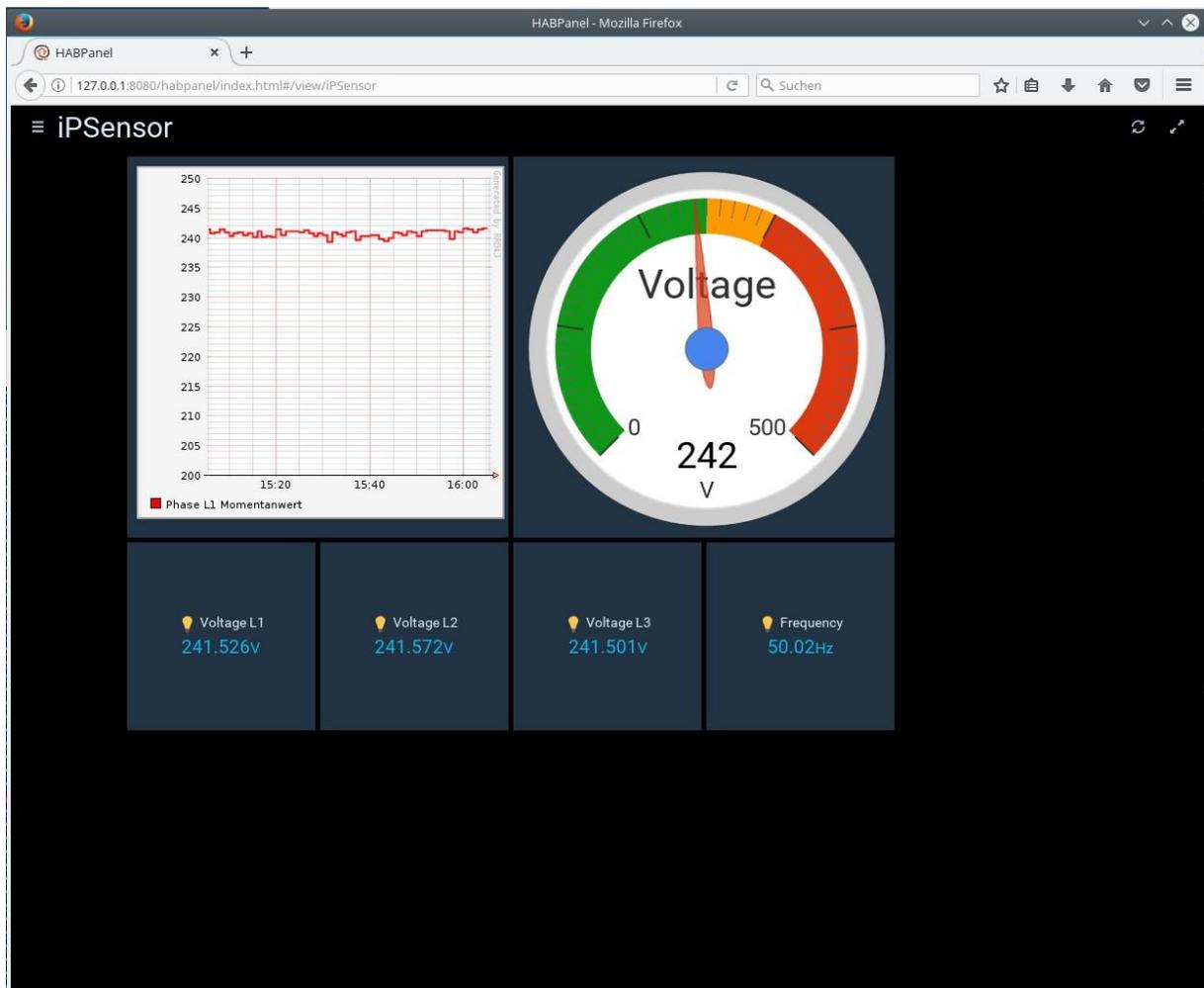


Overview

The virtual machine demonstrates the compatibility between ipsensor and the home automation software openHAB 2 (www.openhab.org)

The virtual machine is based on Linux / Debian

The home automation software openHAB 2 is installed in the machine to read out values from ipsensor via modbus TCP and displays these values in the browser (HABPanel).



Prerequisites

- ipsensor power metering system containing at least one base unit and one sensor
- Local network
- Windows PC to run the ipsensor service tool and the vmware player

Usage

- Install ipsensor in your local network according to the ipsensor user manual and the installation documentation / tutorials
- Create ipsensor register configuration according to the ipsensor user manual. The configuration in the virtual machine was based on the configuration file `Config_1_ipsensor_3.ipsconf`.

The openHAB configuration uses the following registers of ipsensor:

Register	Register Number in the ipsensor configuration tool	Modbus Address
Phase L1 - Instantaneous value	15	49182
Phase L2 - Instantaneous value	16	49184
Phase L3 - Instantaneous value	17	49186
Frequency - Instantaneous value	18	49188

- Download and unzip the virtual machine (VM_openHAB.zip)
- Run virtual machine (Debian 8.x.vmx) in the vmware player

Linux account	Password
root	Root
openHAB	openHAB

- Adjust openHAB configuration files according to your local installation:

File	Path	Function
ipsensor.things	<code>//etc/openhab2/things</code>	Definition of the access to the physical devices (things). Defining the ip address of the ipsensor base unit. Definition of the read registers command to the Modbus registers.
ipsensor.items	<code>//etc/openhab2/items</code>	Definition of the logical values (items) that should be available to be displayed in the openHAB user interface.
rrd4j.persist	<code>//etc/openhab2/persistence</code>	Definition of the items that should be stored in a database. Definition of the kind of storage. This is necessary for items that should be displayed in a chart with historical data.
rrd4j.cfg	<code>//etc/openhab2/services</code>	

See the openHAB 2 documentation for the details of the configuration.

Installation

In case you are interested to run openHAB 2 with ipsensor on your own server device, these steps have to be performed:

- Install the ipsensor power metering system in your local network.
- Install openHAB 2 on your server device.
- Use the paper UI of openHAB 2 to install the following things:
 - Eventually the Eclipse IoT Market Place (Addons->Misc)
 - Modbus Binding and Modbus transport for openHAB 2. This was Beta in Q4/2017 when the VM was set up:
Modbus binding (market.binding-3528471)
Modbus transport (market.binding-3528475)
As long as this project is in beta state, the Eclipse IoT Market Place is necessary to load the binding.
 - If you like the round gauge, it has to be downloaded to usr/share/openhab2/addons.
See <https://community.openhab.org/t/custom-widget-gauge/27406> for details.
- Configure the files described above according to your needs.
- Configure the habpanel according to your needs.

For more information: see the openHAB documentation.