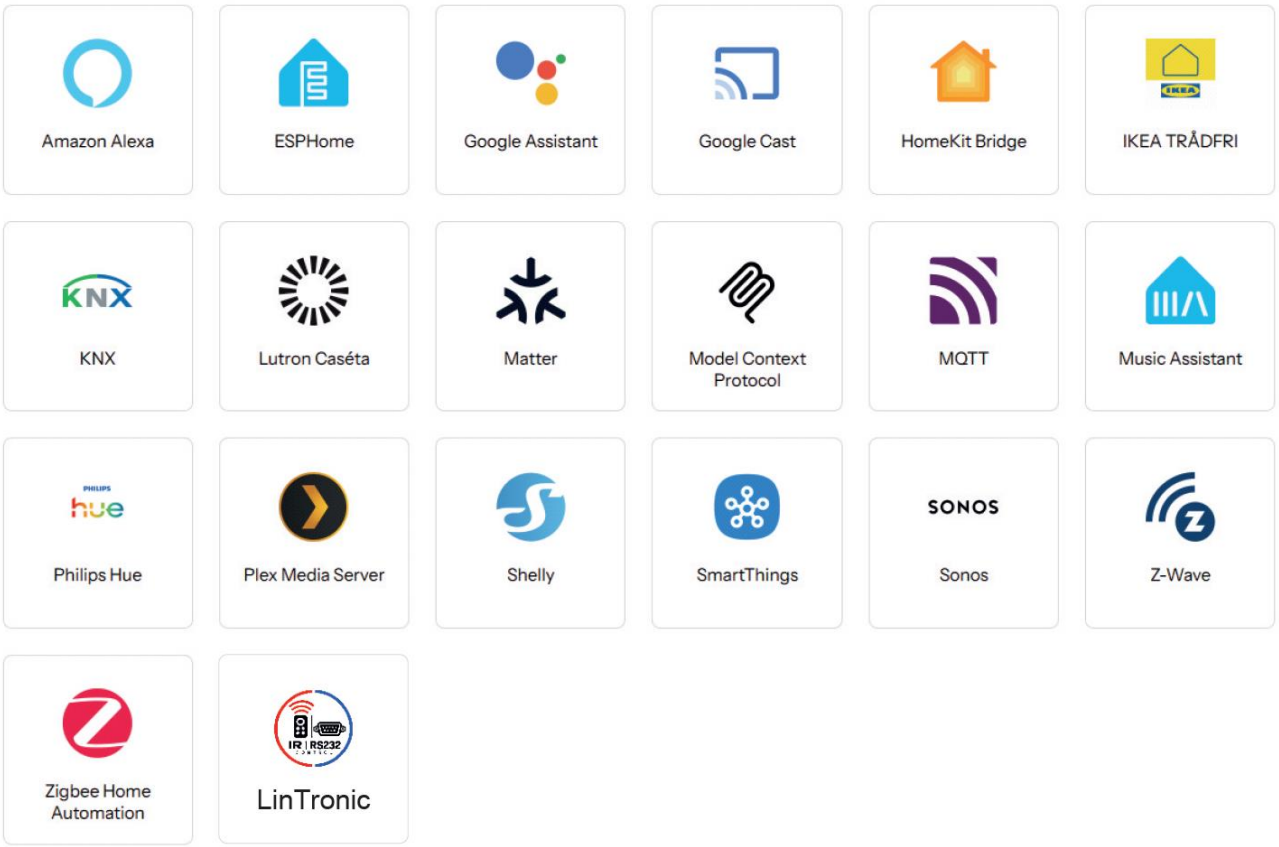
HomeAssistant

This document describes some of the many thousand's products and triggers/actions you can read or control in Home Assistant (HA).

AI & voice, Appliances & cleaning, Blinds & curtains, Buttons & remotes, Climate, Computers & network, DIY & makers, Energy, Finance, Garden & plants, Health & wellbeing, Helpers, Hubs & protocols, Lighting, Local services, Media & entertainment, Messaging & notifications, News & social media, Other ecosystems, Pets, Plugs & switches, Presence & location, Productivity & information, Security & safety, Sensors, Vehicles & transport, Water, Weather & alerts



Welcome to HomeAssistant

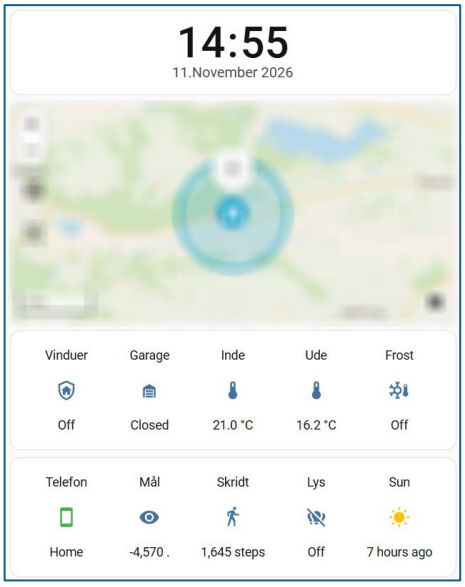
We focus on features that work with LinTronic products, like:

- LinTronic HeartRateVariability Monitor (HRV, pulse and RR-values)
- LinTronic BluetoothBridge (reading Bluetooth products)
- LinTronic Configurator for the TT455-RT-238 Signal Converter

Examples below:

A Polar H9 chest belt sends your heart rhythm to LinTronic BluetoothBridge, which sends the data out on your local network as an MQTT telegram. The MQTT telegram is received by the HA's "MQTT broker" which distributes to all devices subscribing for topics with "BluetoothBridge/HRV-pulse" or "BluetoothBridge/HR-RR".

An IKEA remote-control sends through the IKEA DIRIGERA hub which is detected by HA's MATTER integration. The remote-controls 5 buttons signals can be converted to commands that activates play or pause on a Google speaker or group of speakers and/or at the same time sends an MQTT telegram to the local network. The LinTronic Configurator is setup to react to incoming MQTT telegrams with topic "configurator/trigger". This means you can control both your Google speakers and your TT455-RT-238 with the IKEA remote – at the same time or individually.



The TT455-RT-238 can for example be controlled by your Bang&Olufsen remote-control and send API telegrams to HA asking for control of lights, scenes og scripts. We have not yet integrated outgoing MQTT in the Configurator, but will most likely soon add it.

When you learn how easy it is to create your own dashboards and that you can control it all from the HA app on your smartphone, then the fun will never stop.

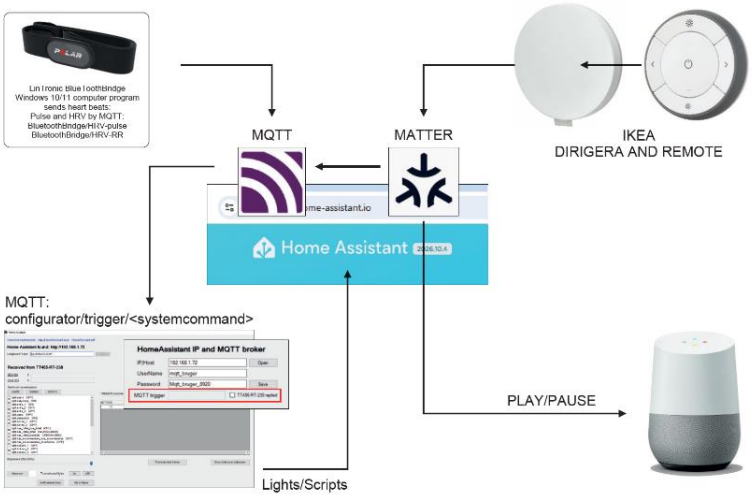


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HomeAssistant (HA)



HA controls a wide range of products: https://www.home-assistant.io/integrations/

This document explains how you easily can control HomeAssistant (HA).

HA can for example be controlled by

- local calls from the https://www.lintronic.online/Configurator (option 1)
- or by LinTronic SystemCommands from the TT455-RT-238's MemoryMap (option 2)

The TT455-RT-238's MemoryMap and the Configurator's control of HA are two independent "channels". If the Configurator or the HA program is not running or computer is turned off, then your TT455-RT-238's MemoryMap configuration still works as normal, but HA is not doing anything.

In other words:
You can have your normal MemoryMap configuration sitting in the TT455-RT-238 controlling your products as usual and optionally expand with HA control by connecting the TT455-RT-238 to the computer where the HA program is running.

Option 1 – LinTronic Command 915

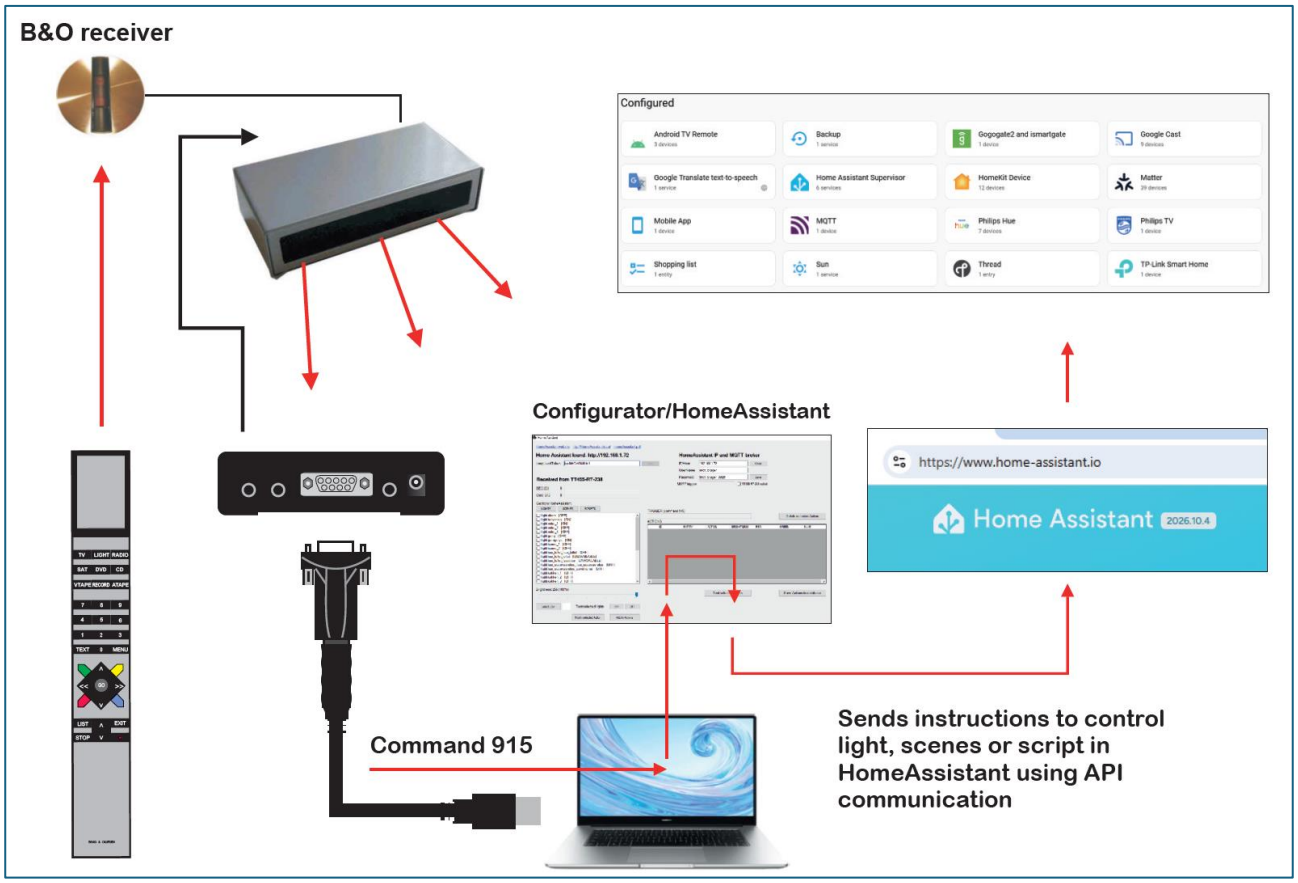
Setup your TT455-RT-238 to automatically send command_915 on comport 2, when the remote is operated. No MemoryMap configuration is needed, but if you have a MemoryMap configuration then the MemoryMap and command 915 will coexist and cooperate in parallel.

1. Start up the HomeAssistant
2. Connect the TT455-RT-238 to the computer and start up the Configurator and enter the HomeAssistant section.
3. Define how and what you want to control in HA, for example by using the LIGHT section of the BEO4.
4. See Configuration of command 915

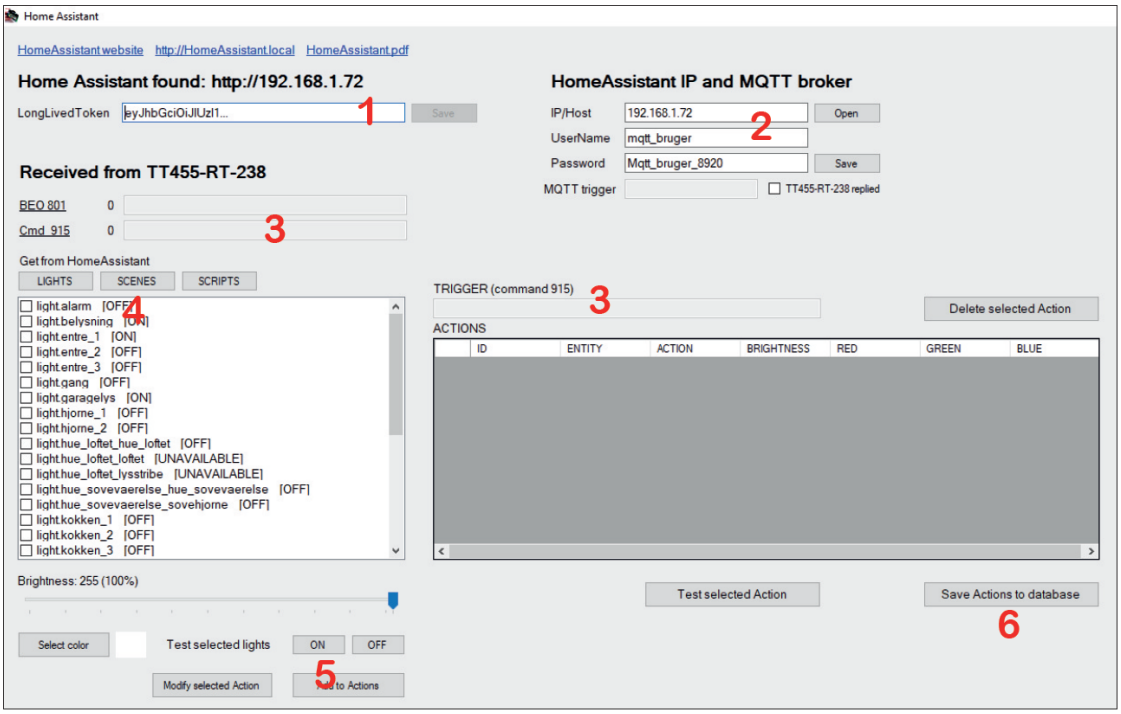
The Configurator receives command 915, and sends commands to the HA program, as instructed in the Configurators HomeAssistant section.

The Configurator currently supports:

- IKEA lights via the IKEA DIRIGERA hub. See this document how to get started.
- If you want us to support more products, then contact LinTronic.



1. Enter and save Token 2. Holds Host IP and MQTT user 3. Command 915 4. Get from HA



5. Modify or Add to Actions 6. Save to database 7. Operate B&O remote to see Actions executed

Option 2 – Command 915 or LinTronic SystemCommands

Setup your TT455-RT-238 MemoryMap to send out LinTronic SystemCommands on comport 2, when specific triggers are activated on the remote.

1. Connect the TT455-RT-238 to the computer and start up the HomeAssistant. HA must be configured to react to LinTronic SystemCommands instructions by reading from an RS232/USB comport.

The HomeAssistant receives LinTronic SystemCommands on a serial comport and must be setup to react to these commands.

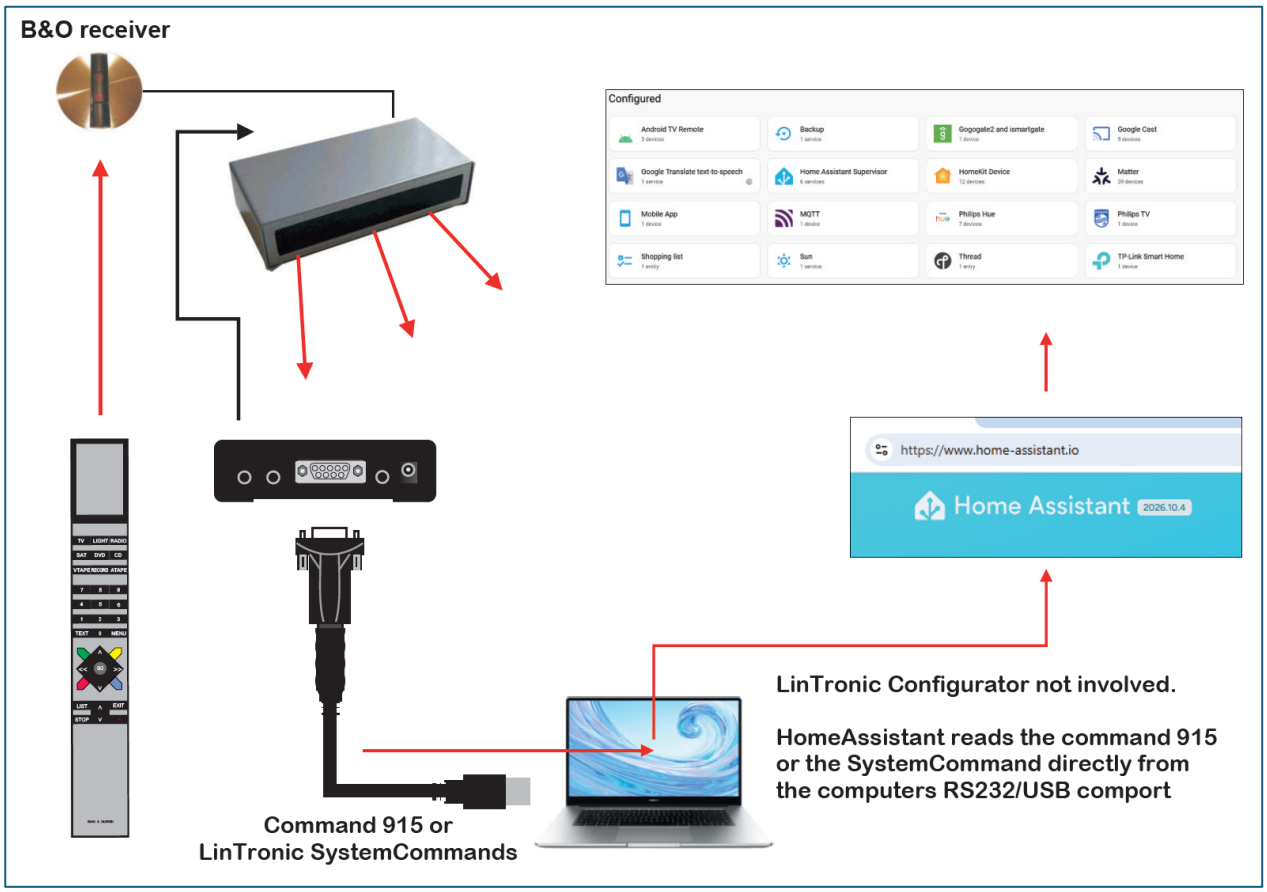
SystemCommands are only send out when the MemoryMap's Triggers match, so you get limited traffic on the HA' comport. Command 915 is send out on every keystroke, causing much more communication.

You are totally free to control anything the HA support, but pls expect that we cannot help with that.

However, we are eager to learn more, so do not hesitate to ask for support.

LinTronic might request a small support fee, depending on the type and amount of support.

Alternatively consider option 1, allowing LinTronic to embed the control into the Configurator.



Getting started

First of all you must have HomeAssistant installed on the computer. The HA runs under a virtual box as a Linux solution, so both Oracle VirtualBox and Ha must be installed.

OH NO !!! – I know absolute NOTNING about Linux and I hardly know what a virtual box is, so I was scared frem the very start.

I used AI to get through it

I "communicated" with Copilot all the way – se guide lines below - and it went very well.

I started out on an older portable LEONOVO Windows 10 computer and I am currently testing a low-power NUC Windows 10 computer to get more experience.

Later I will move to a portable LEONOVO Windows 11 computer that runs 24/7.

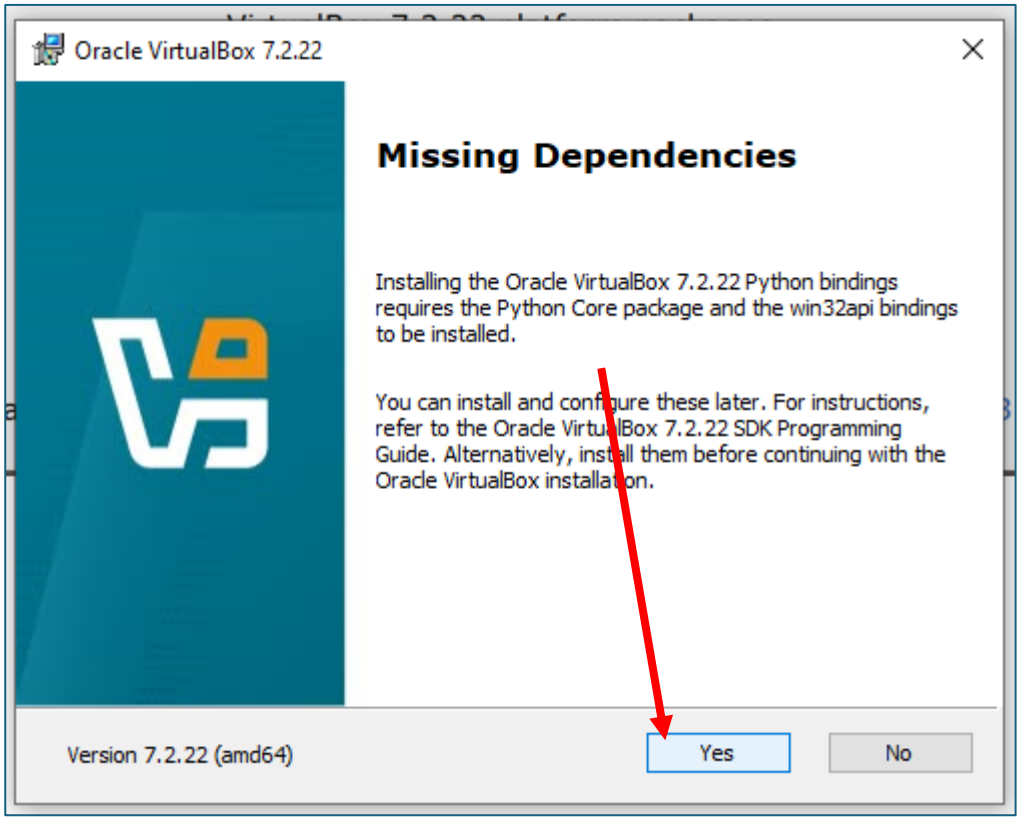
VIRTUALBOX

https://www.virtualbox.org/wiki/Downloads

Download and install **VirtualBox-7.2.22-175245-Win.exe** on a Windows computer.



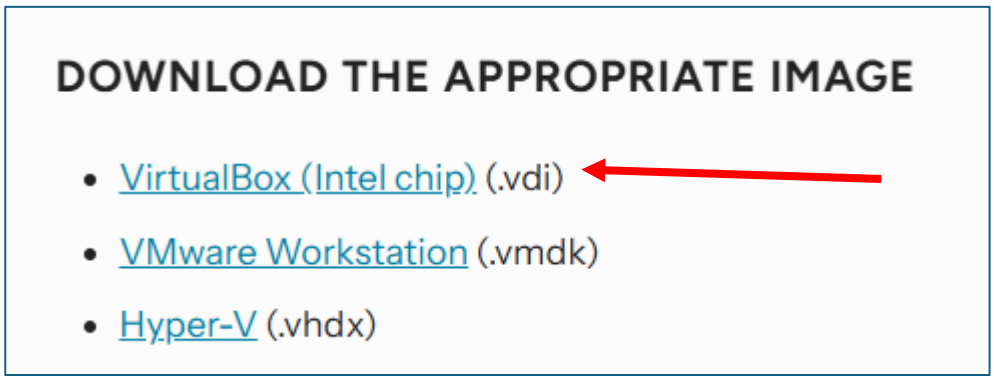
Bindings are not required.



HomeAssistant

Download and save for later:

https://www.home-assistant.io/installation/windows

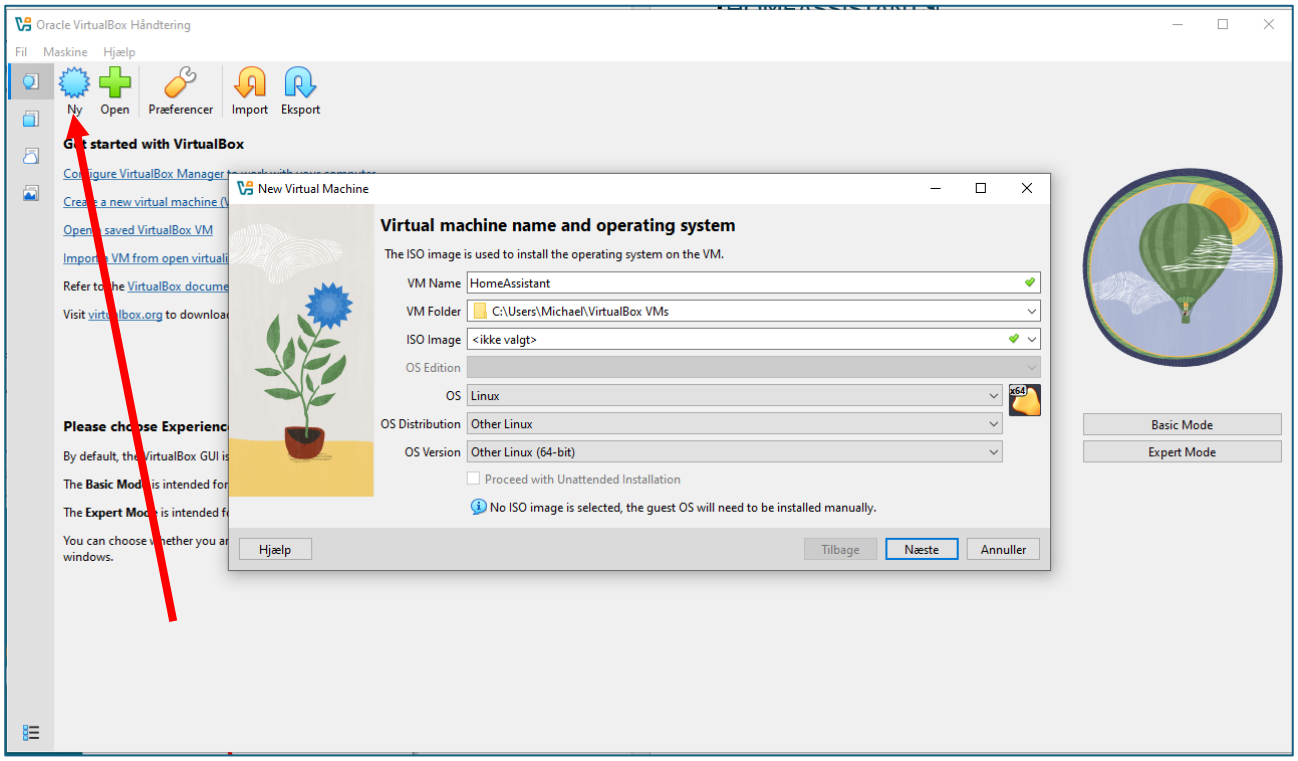


Setting up VM

Ask Copilot to assist you ?

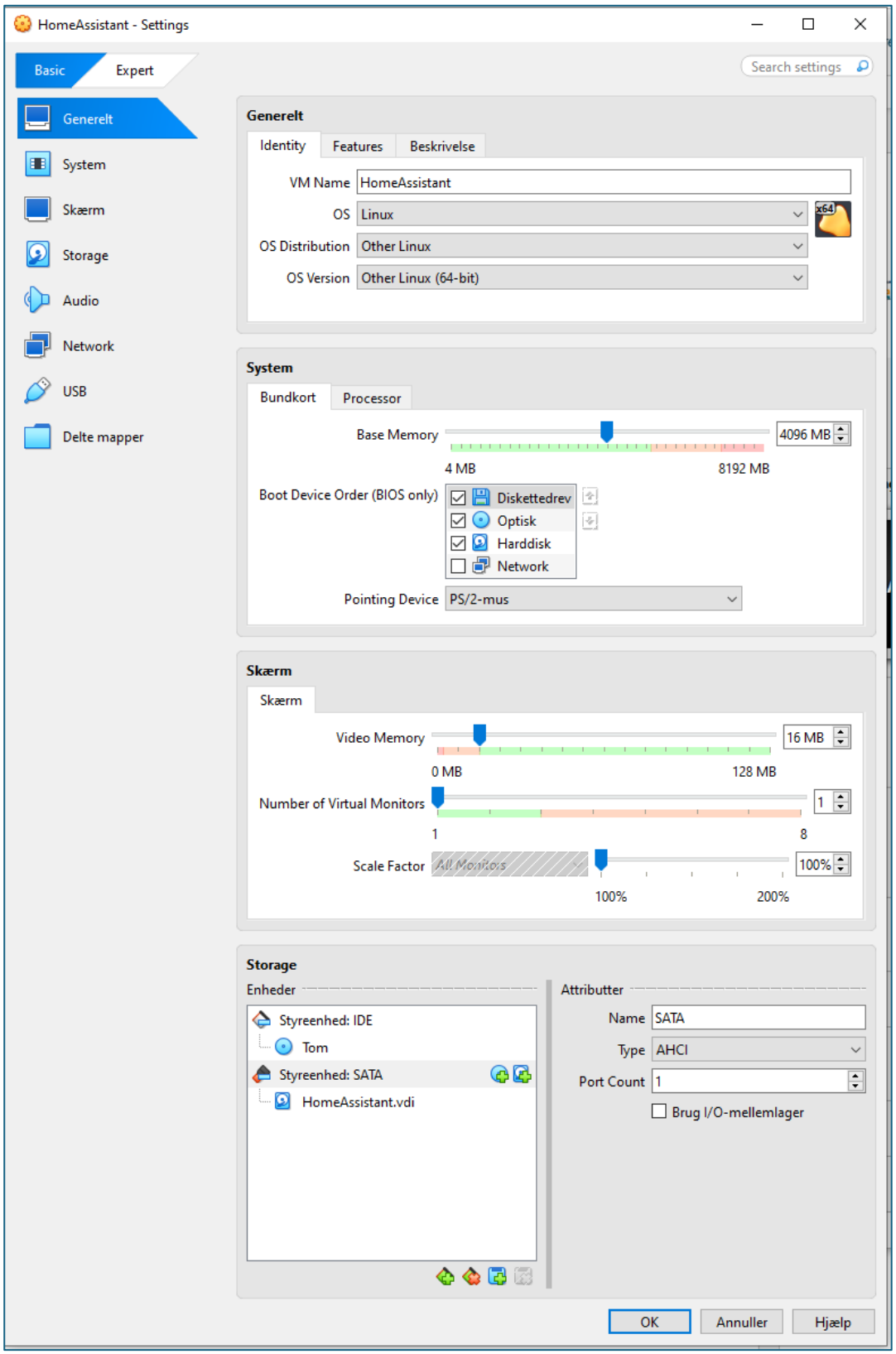
Click NEW and give it a name

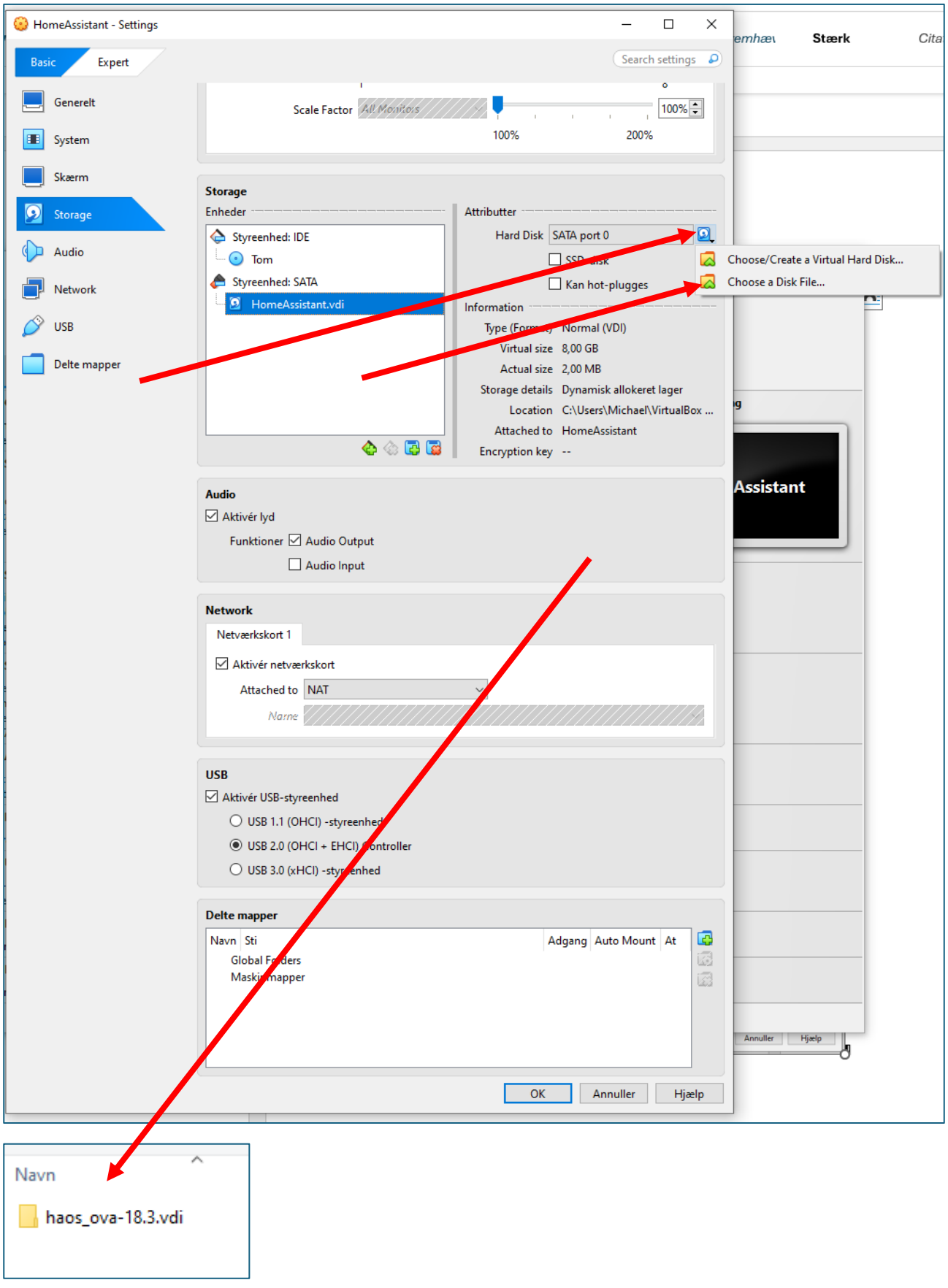
Set OS = LINUX and other Linux

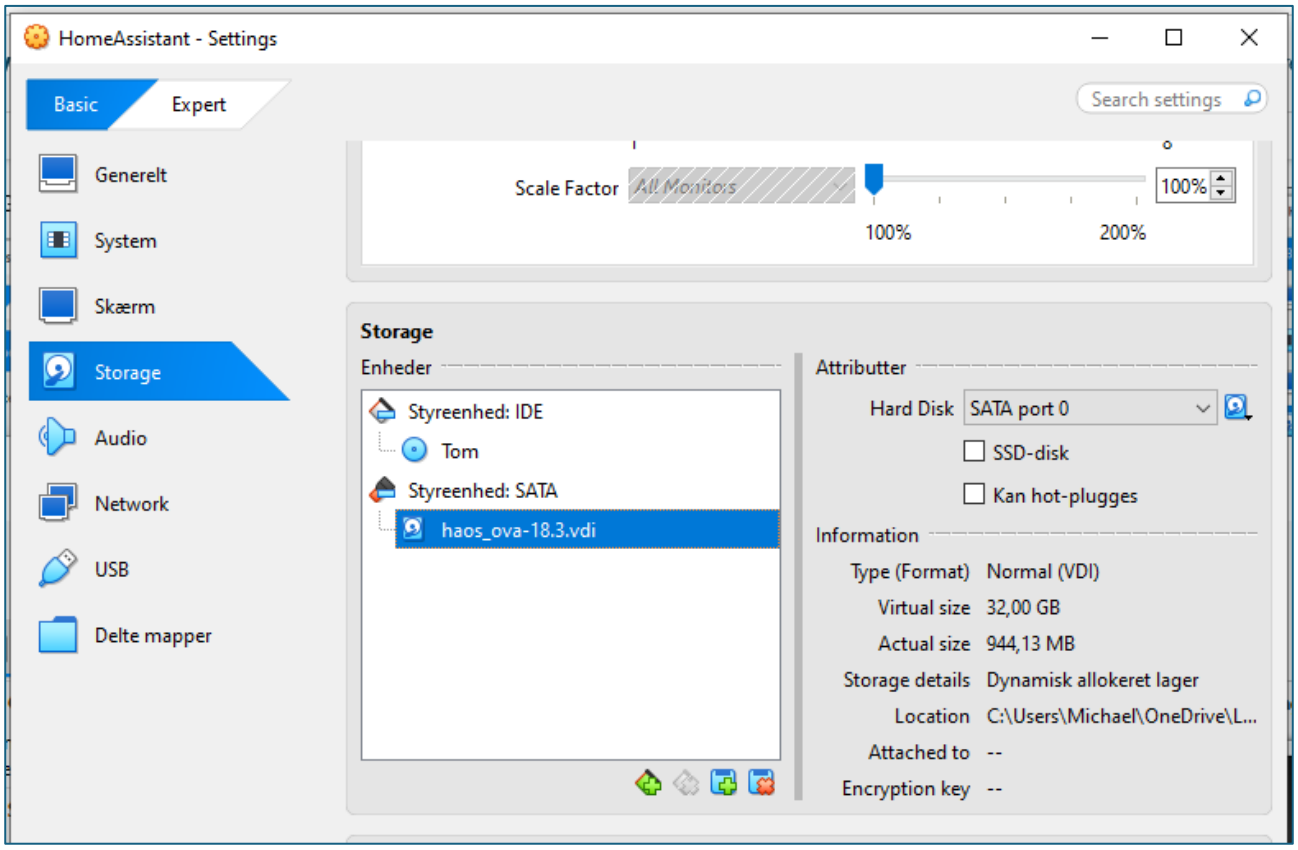


Storage

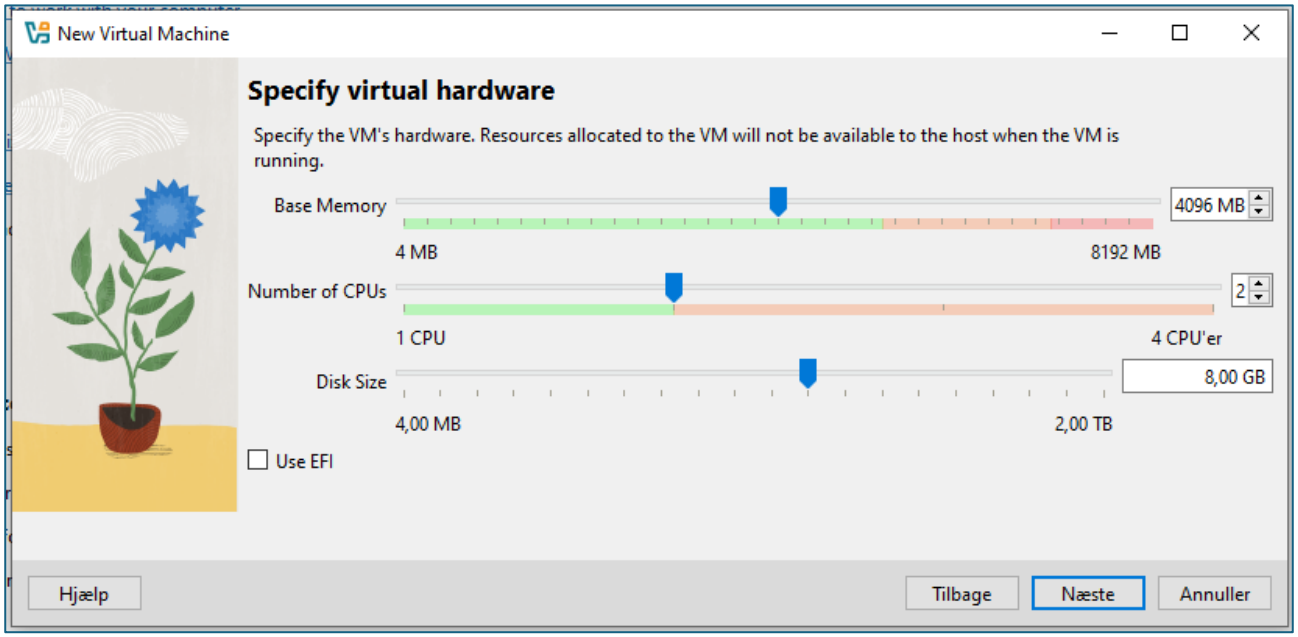
HomeAssistant.vdi should be replaced with the downloaded .vdi.




HomeAssistant - Settings
Basic
Expert
Search settings
Generelt
System
Skærm
Storage
Audio
Network
USB
Delte mapper
Scale Factor
All Monitors
100%
100%
200%
Storage
Enheder
Styreenhed: IDE
Tom
Styreenhed: SATA
HomeAssistant.vdi
Attributter
Hard Disk
SATA port 0
Kan hot-plugges
Choose/Create a Virtual Hard Disk...
Choose a Disk File...
Information
Type (Format) Normal (VDI)
Virtual size 8,00 GB
Actual size 2,00 MB
Storage details Dynamisk allokeret lager
Location C:\Users\Michael\VirtualBox ...
Attached to HomeAssistant
Encryption key --
Audio
Aktivér lyd
Funktioner
Audio Output
Audio Input
Network
Netværkskort 1
Aktivér netværkskort
Attached to
NAT
Name
USB
Aktivér USB-styreenhed
USB 1.1 (OHCI) -styreenhed
USB 2.0 (OHCI + EHCI) controller
USB 3.0 (xHCI) -styreenhed
Delte mapper
Navn
Sti
Adgang
Auto Mount
At
Global Folders
Maskinmapper
OK
Annuller
Hjælp
Stærk
Assistant
Annuller
Hjælp
Navn
haos_ova-18.3.vdi

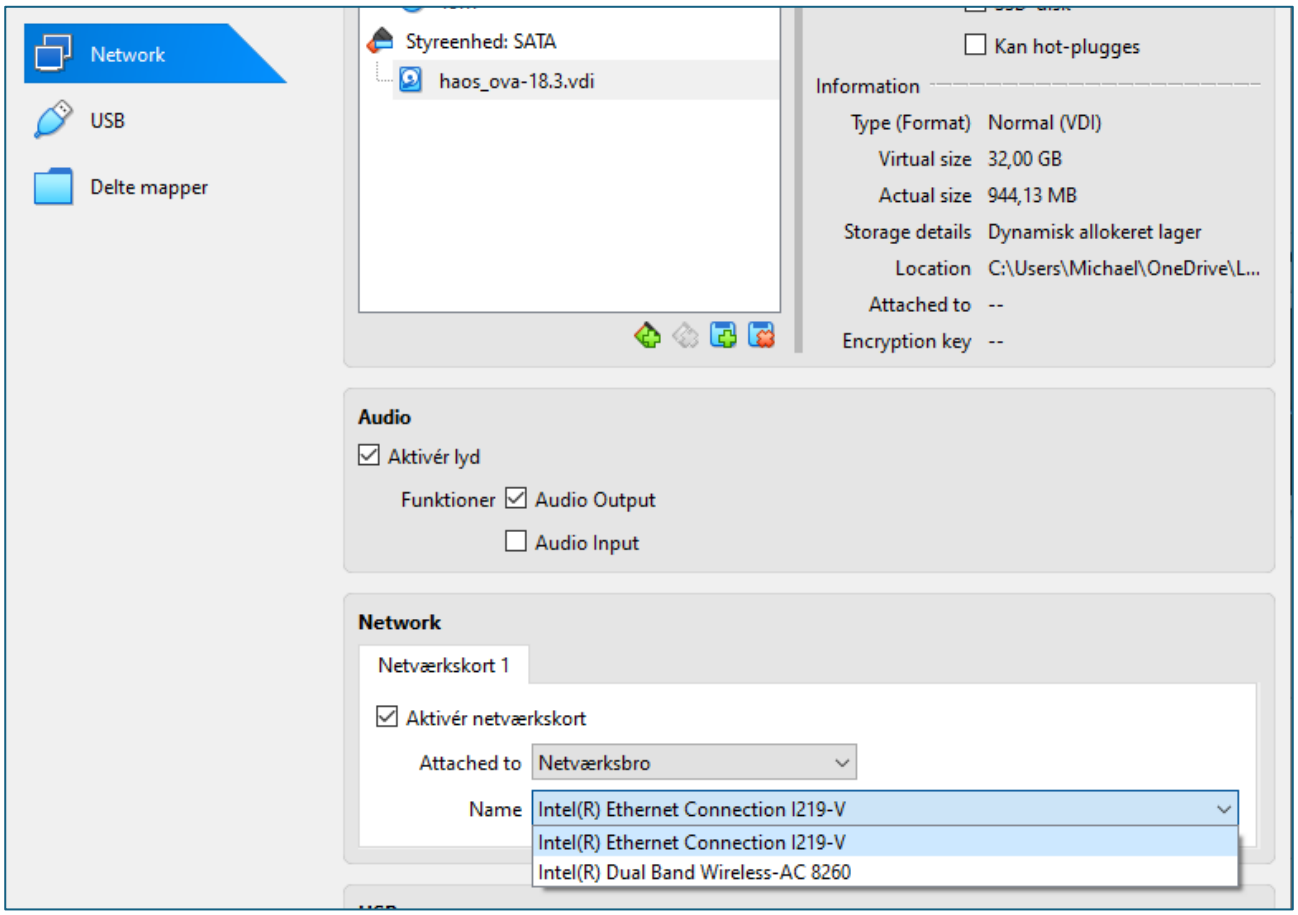


Copilot instructed me to select Memory = 4069 MB and 2 CPU's.

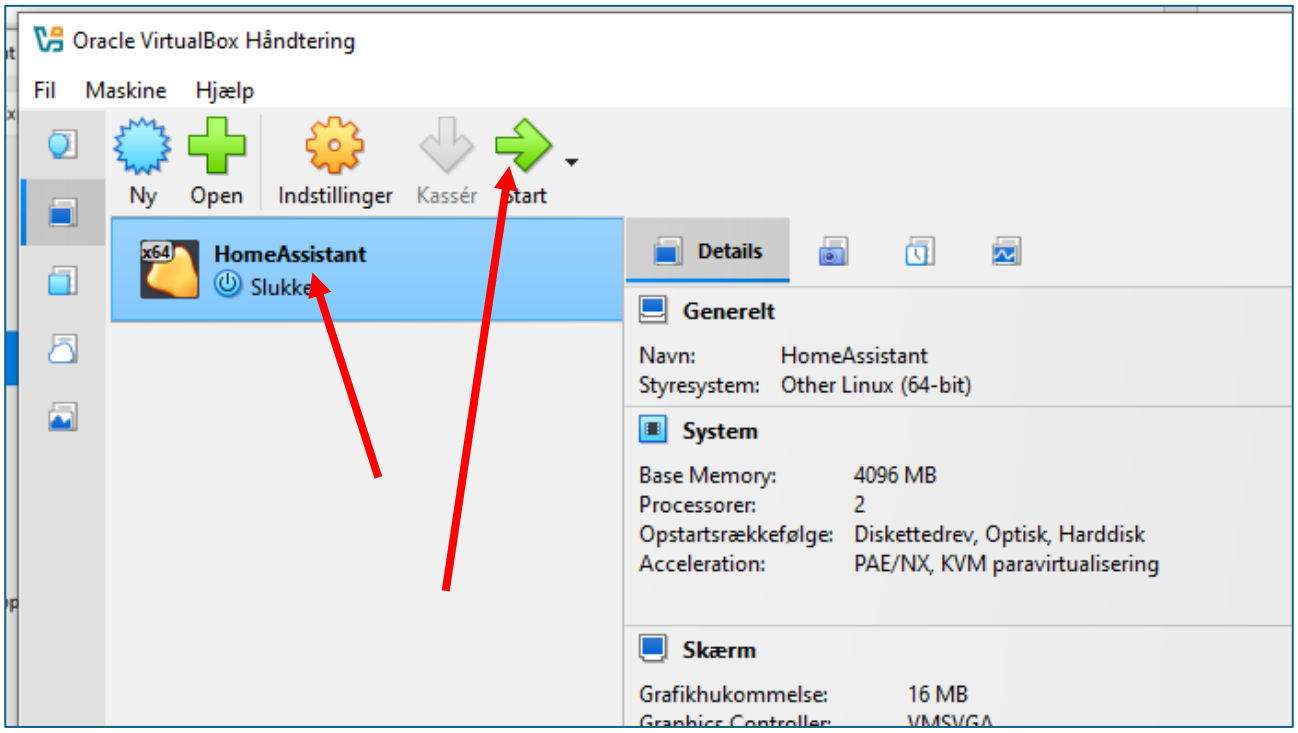


Select network card

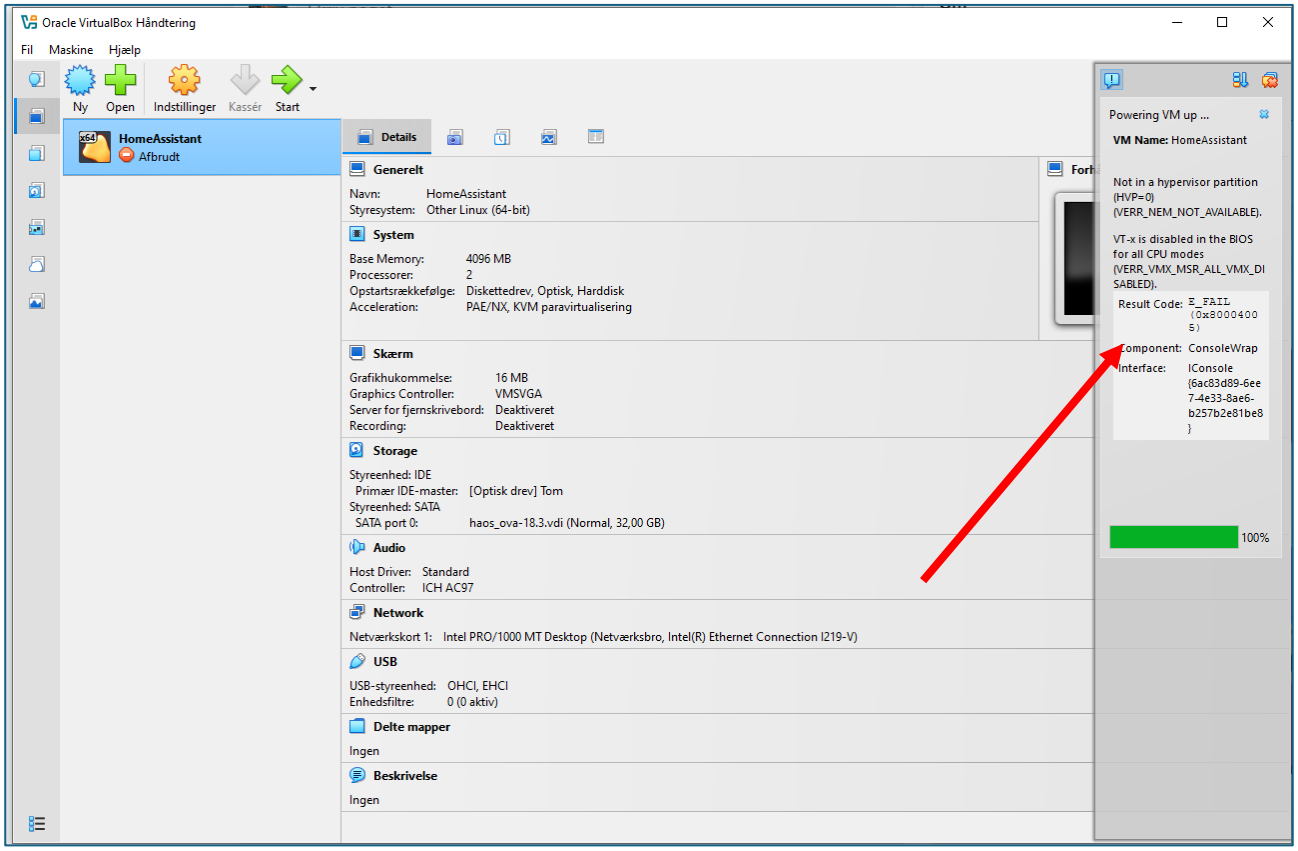
If computer is ethernet -cable wired to router, select 12-19-V, else select wireless.



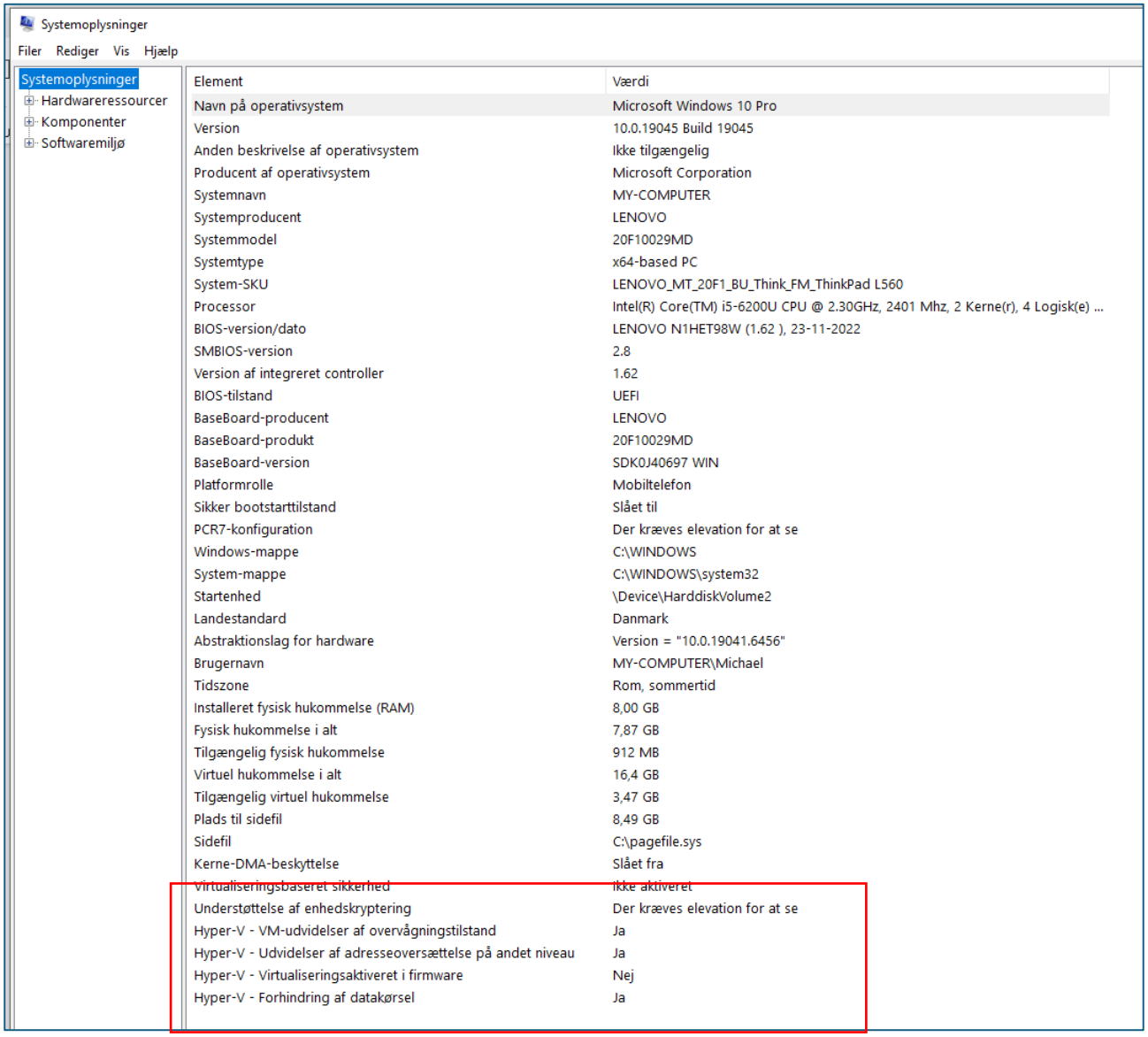
START the VM


Oracle VirtualBox Håndtering
Fil
Maskine
Hjælp
Ny
Open
Indstillinger
Kassér
HomeAssistant
Details
Generelt
Navn: HomeAssistant
Styresystem: Other Linux (64-bit)
System
Base Memory: 4096 MB
Processorer: 2
Opstartsrækkefølge: Diskettedrev, Optisk, Harddisk
Acceleration: PAE/NX, KVM paravirtualisering
Skærm
Grafikhukommelse: 16 MB

My BIOS was not setup to allow Virtual box/machine



WINDOWS SYSTEM INFORMATION



Element	Værdi
Navn på operativsystem	Microsoft Windows 10 Pro
Version	10.0.19045 Build 19045
Anden beskrivelse af operativsystem	Ikke tilgængelig
Producent af operativsystem	Microsoft Corporation
Systemnavn	MY-COMPUTER
Systemproducent	LENOVO
Systemmodel	20F10029MD
Systemtype	x64-based PC
System-SKU	LENOVO_MT_20F1_BU_Think_FM_ThinkPad L560
Processor	Intel(R) Core(TM) i5-6200U CPU @ 2.30GHz, 2401 Mhz, 2 Kerne(r), 4 Logisk(e) ...
BIOS-version/dato	LENOVO N1HET98W (1.62), 23-11-2022
SMBIOS-version	2.8
Version af integreret controller	1.62
BIOS-tilstand	UEFI
BaseBoard-producent	LENOVO
BaseBoard-produkt	20F10029MD
BaseBoard-version	SDK0J40697 WIN
Platformrolle	Mobiltelefon
Sikker bootstarttilstand	Slået til
PCR7-konfiguration	Der kræves elevation for at se
Windows-mappe	C:\WINDOWS
System-mappe	C:\WINDOWS\system32
Startenhed	\Device\HarddiskVolume2
Landestandard	Danmark
Abstraktionslag for hardware	Version = "10.0.19041.6456"
Brugernavn	MY-COMPUTER\Michael
Tidszone	Rom, sommertid
Installeret fysisk hukommelse (RAM)	8,00 GB
Fysisk hukommelse i alt	7,87 GB
Tilgængelig fysisk hukommelse	912 MB
Virtuel hukommelse i alt	16,4 GB
Tilgængelig virtuel hukommelse	3,47 GB
Plads til sidefil	8,49 GB
Sidefil	C:\pagefile.sys
Kerne-DMA-beskyttelse	Slået fra
Virtualiseringsbaseret sikkerhed	Ikke aktiveret
Understøttelse af enhedskryptering	Der kræves elevation for at se
Hyper-V - VM-udvidelser af overvågningstilstand	Ja
Hyper-V - Udvidelser af adresseoversættelse på andet niveau	Ja
Hyper-V - Virtualiseringsaktiveret i firmware	Nej
Hyper-V - Forhindring af datakørsel	Ja

Changing BIOS

Hyper-V - Virtualization enabled in firmware: No

This means:

👉 The CPU supports virtualization.
👉 Windows can detect that the CPU supports virtualization.
👉 But virtualization is **disabled in the BIOS**.

And you have:

- Lenovo ThinkPad L560
- Intel i5-6200U

So the next step is:

- Restart the PC.
- Repeatedly press **F1** while the Lenovo logo is displayed.

In the BIOS, go to:

Security or **Virtualization**

- Find **Intel Virtualization Technology**
- Set it to: **Enabled**
- Save and exit: **F10 Save and Exit**

Once Windows has started again, run:

msinfo32

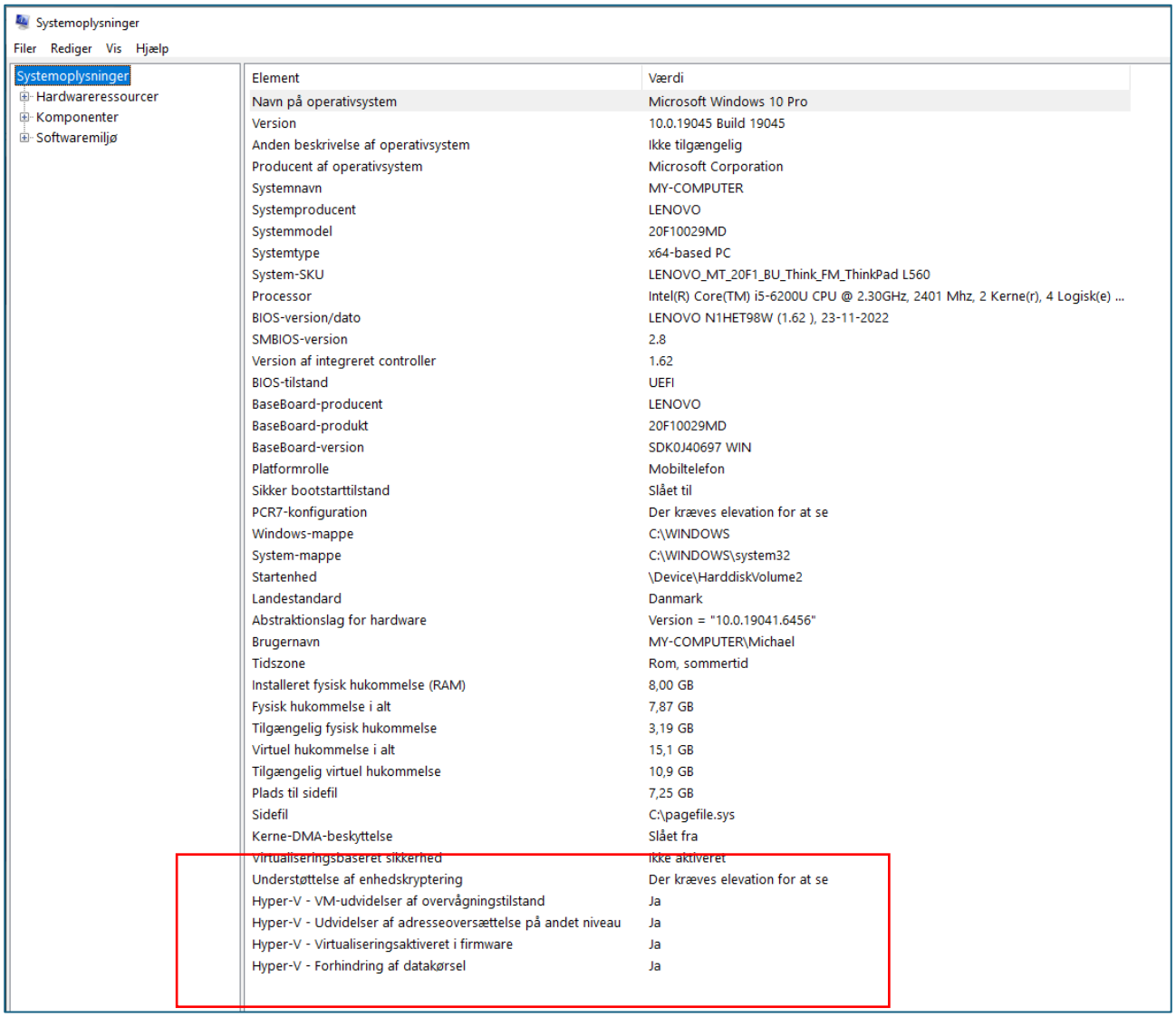
It should show:

Hyper-V - Virtualization enabled in firmware: Yes

After that, the HomeAssistant (HA) VM should start successfully.

Important: This will not affect your VB.NET program, DIRIGERA, RS232, or Windows in normal day-to-day use. It simply enables the CPU's virtualization feature, which VirtualBox requires.

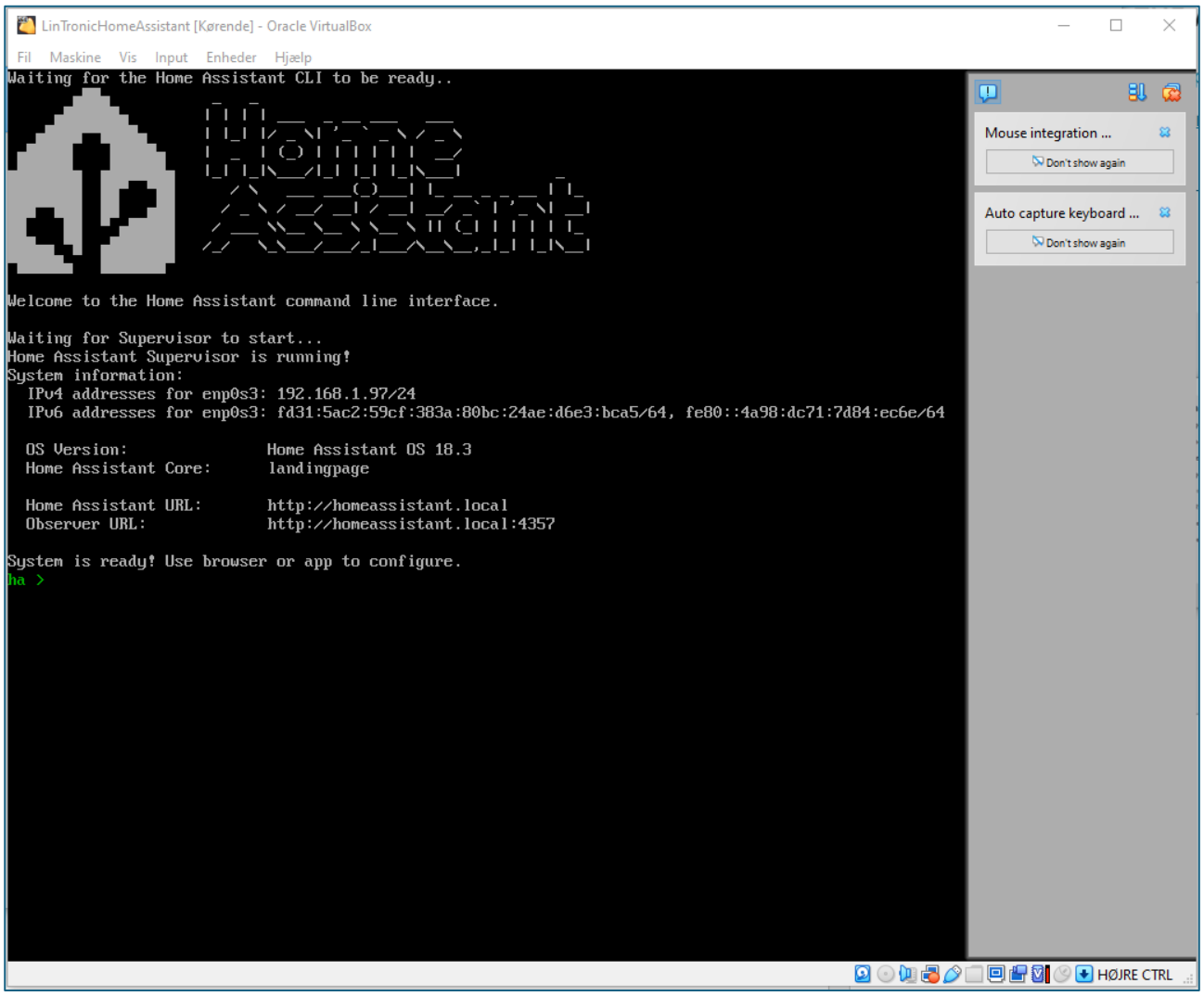
After BIOS change



Element	Værdi
Navn på operativsystem	Microsoft Windows 10 Pro
Version	10.0.19045 Build 19045
Anden beskrivelse af operativsystem	Ikke tilgængelig
Producent af operativsystem	Microsoft Corporation
Systemnavn	MY-COMPUTER
Systemproducent	LENOVO
Systemmodel	20F10029MD
Systemtype	x64-based PC
System-SKU	LENOVO_MT_20F1_BU_Think_FM_ThinkPad L560
Processor	Intel(R) Core(TM) i5-6200U CPU @ 2.30GHz, 2401 Mhz, 2 Kerne(r), 4 Logisk(e) ...
BIOS-version/dato	LENOVO N1HET98W (1.62), 23-11-2022
SMBIOS-version	2.8
Version af integreret controller	1.62
BIOS-tilstand	UEFI
BaseBoard-producent	LENOVO
BaseBoard-produkt	20F10029MD
BaseBoard-version	SDK0J40697 WIN
Platformrolle	Mobiltelefon
Sikker bootstarttilstand	Slået til
PCR7-konfiguration	Der kræves elevation for at se
Windows-mappe	C:\WINDOWS
System-mappe	C:\WINDOWS\system32
Startenhed	\Device\HarddiskVolume2
Landestandard	Danmark
Abstraktionslag for hardware	Version = "10.0.19041.6456"
Brugernavn	MY-COMPUTER\Michael
Tidszone	Rom, sommertid
Installeret fysisk hukommelse (RAM)	8,00 GB
Fysisk hukommelse i alt	7,87 GB
Tilgængelig fysisk hukommelse	3,19 GB
Virtuel hukommelse i alt	15,1 GB
Tilgængelig virtuel hukommelse	10,9 GB
Plads til sidefil	7,25 GB
Sidefil	C:\pagefile.sys
Kerne-DMA-beskyttelse	Slået fra
Virtualiseringsbaseret sikkerhed	Ikke aktiveret
Understøttelse af enhedskryptering	Der kræves elevation for at se
Hyper-V - VM-udvidelser af overvågningstilstand	Ja
Hyper-V - Udvidelser af adresseoversættelse på andet niveau	Ja
Hyper-V - Virtualiseringsaktiveret i firmware	Ja
Hyper-V - Forhindring af datakørsel	Ja

Start the VM called HomeAssistant and wait 5-10 minutes for this window

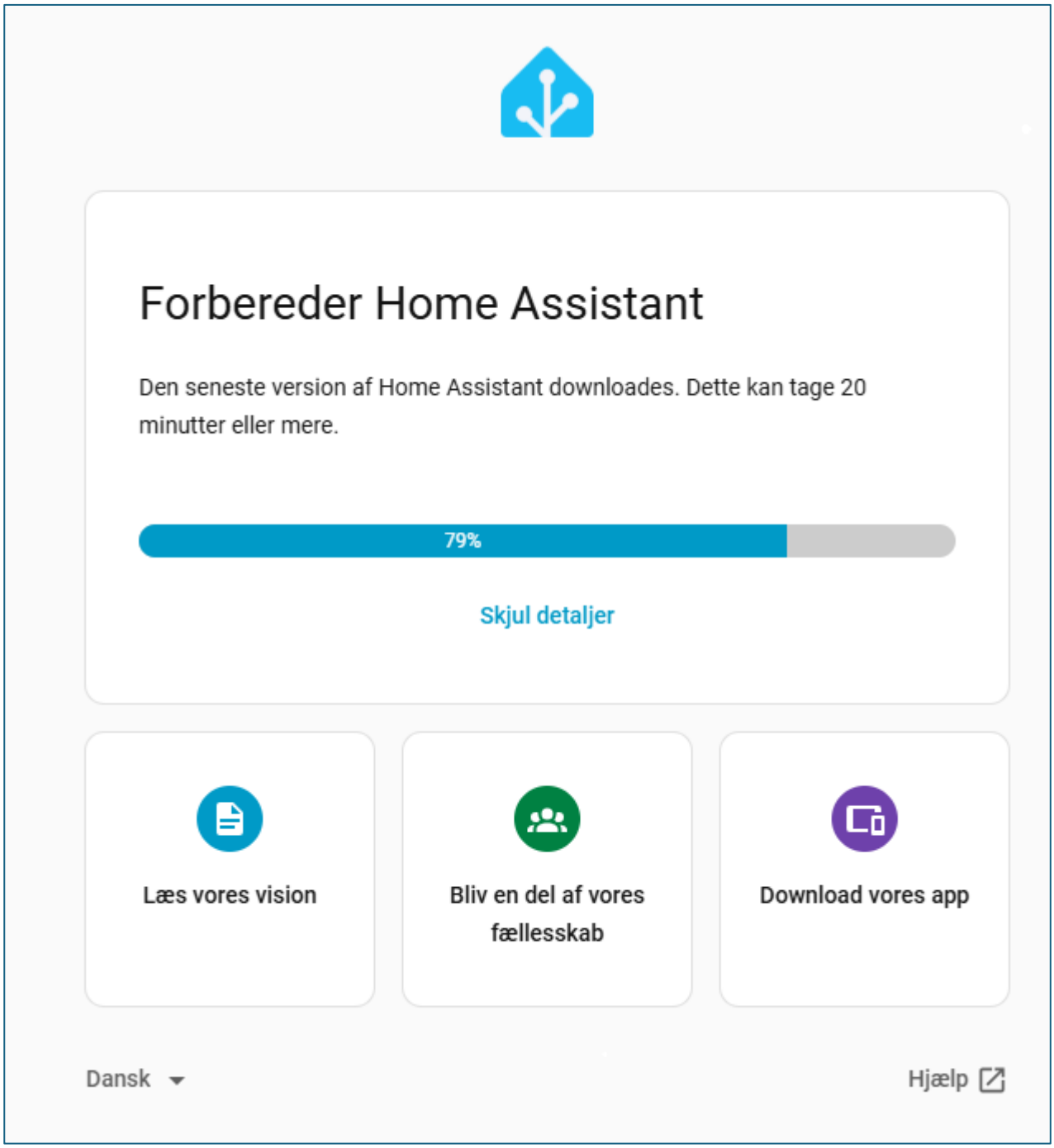
Read the IP address, here: 192.168.1.97

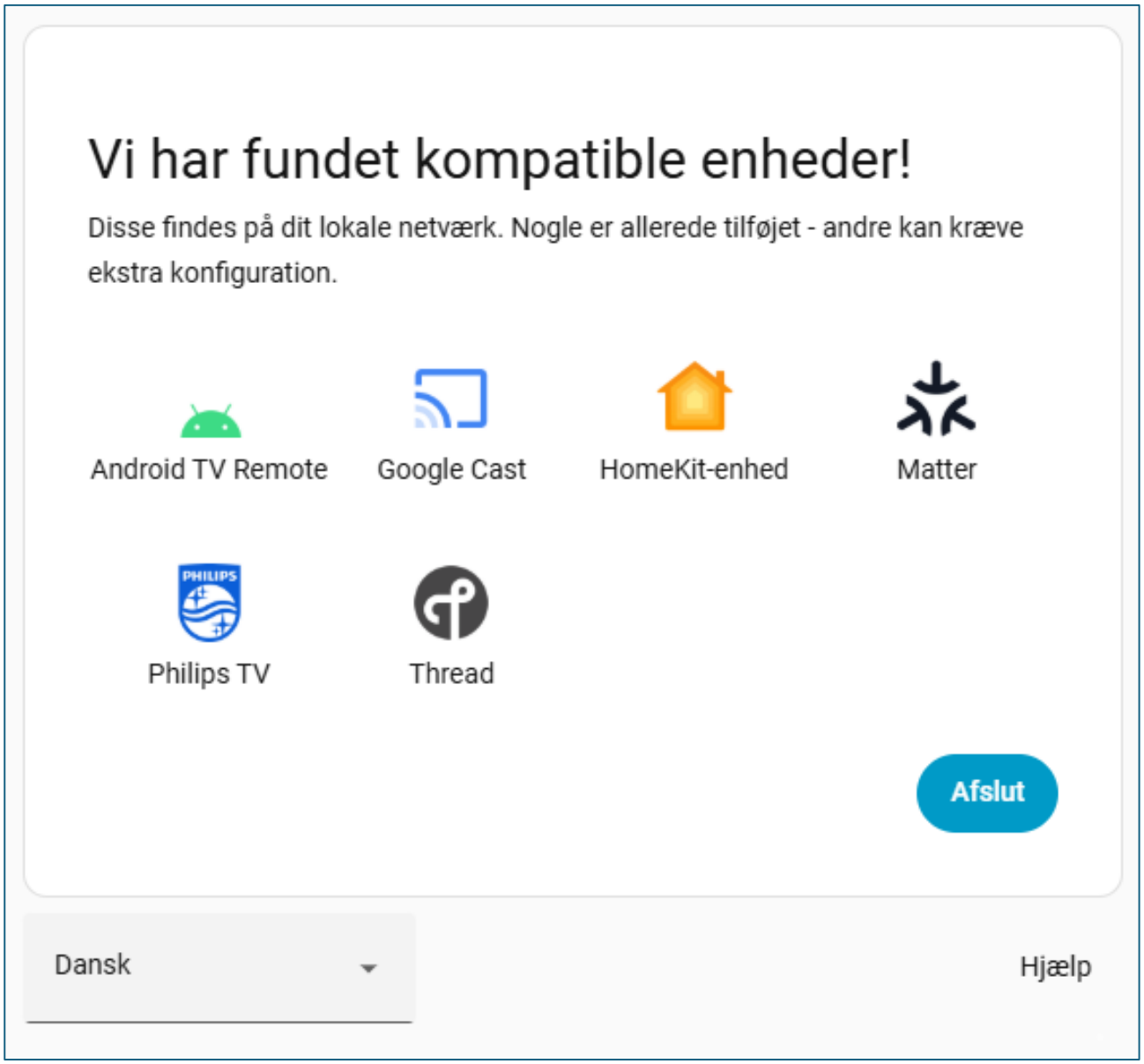


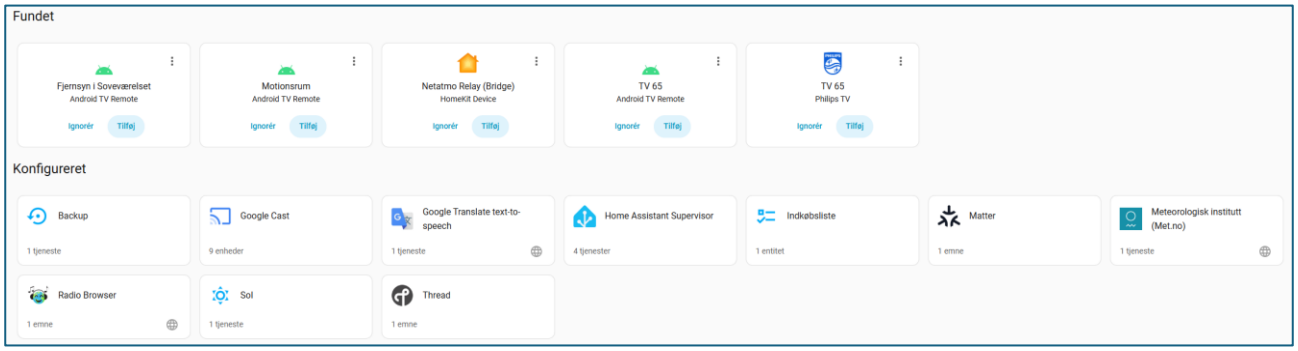
In your browser enter the displayed IP address (here http://192.168.1.97) to see the below page.

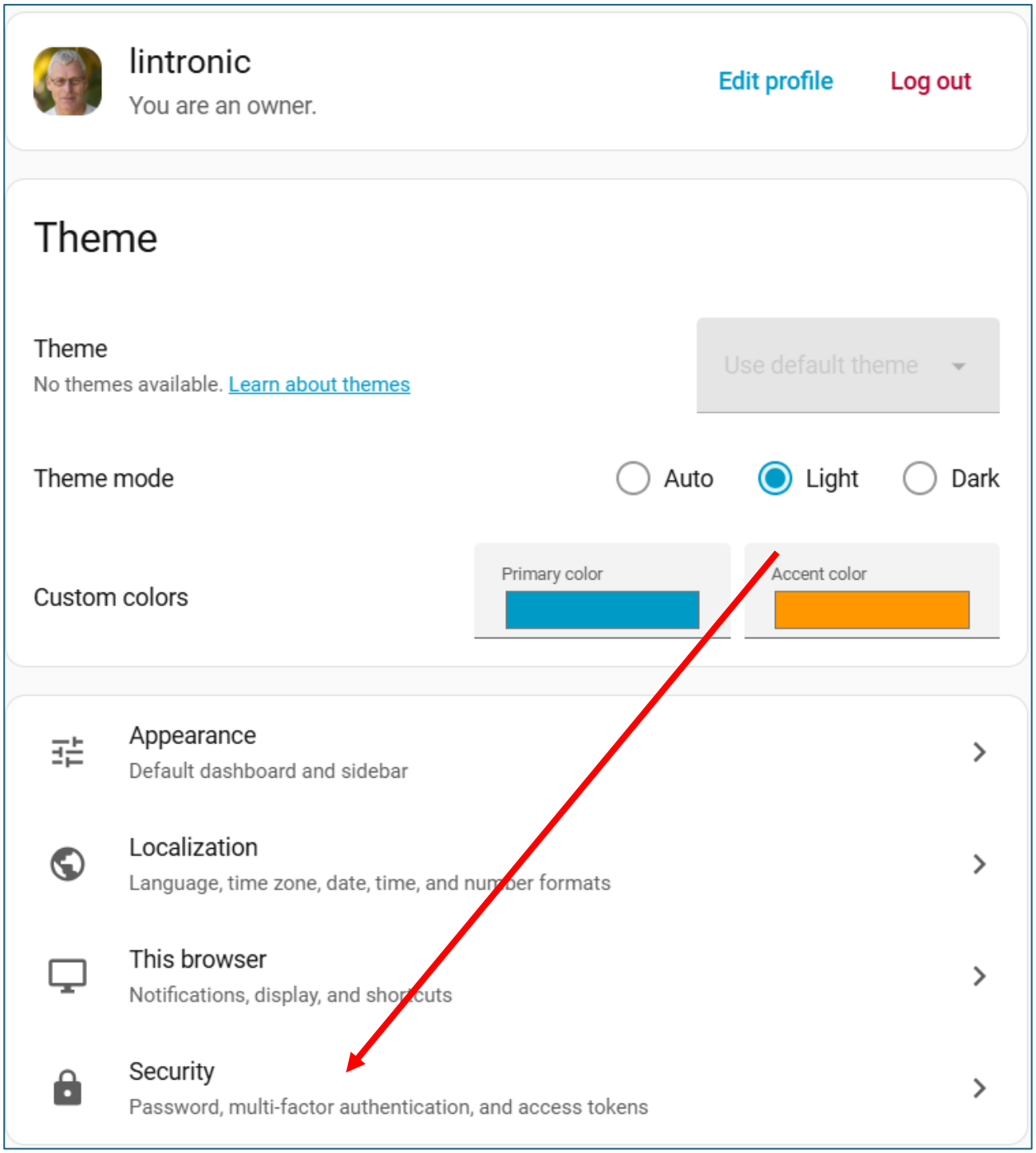
HA is now updating and will create you a user account.

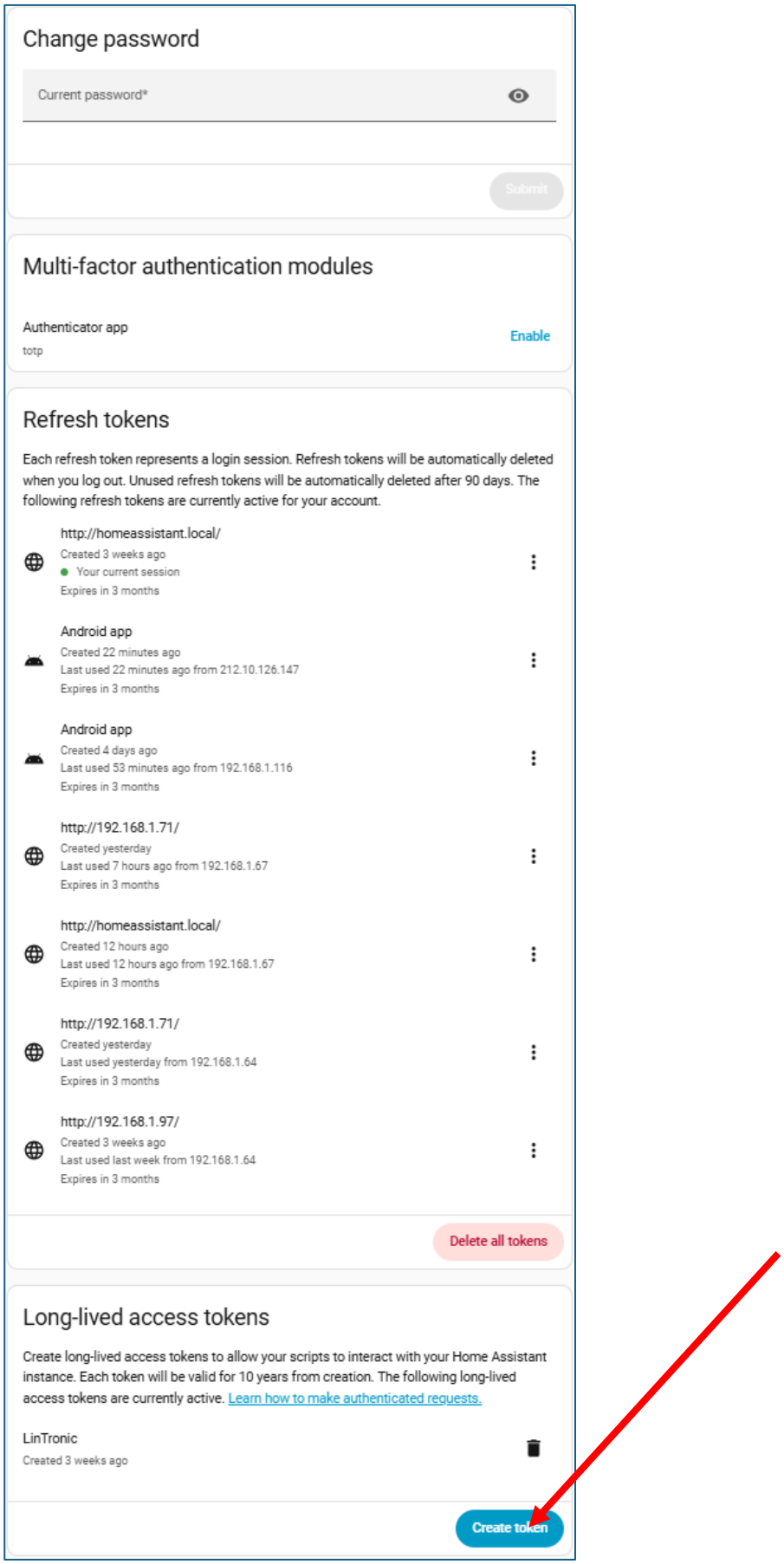
You may also start the HA by: http://homeassistant.local/

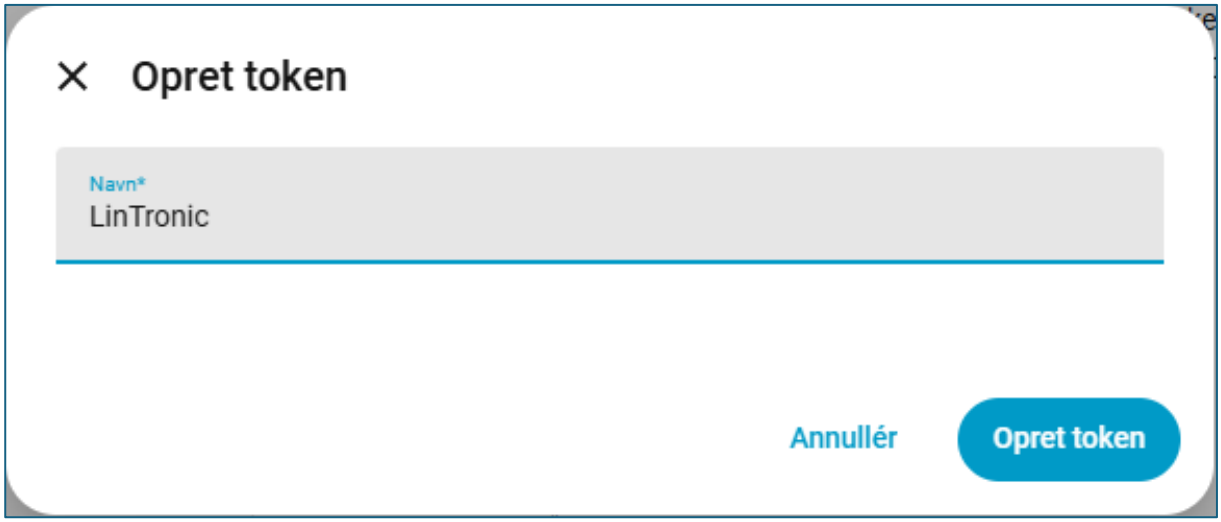


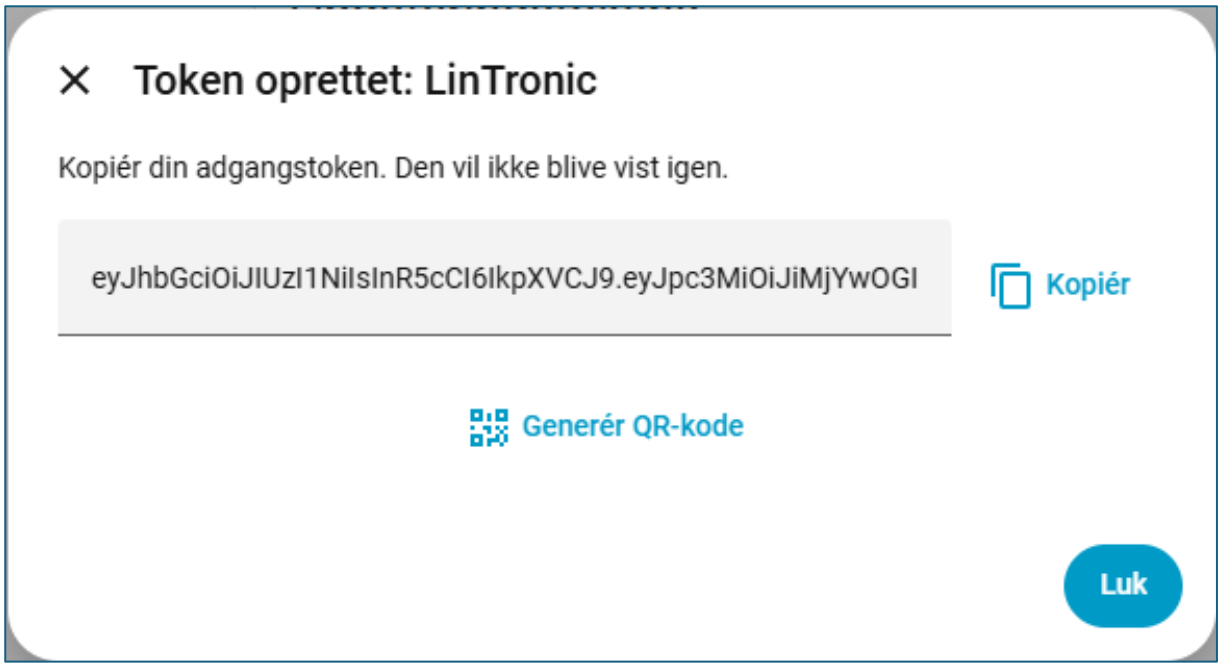

Vi har fundet kompatible enheder!
Disse findes på dit lokale netværk. Nogle er allerede tilføjet - andre kan kræve ekstra konfiguration.
Android TV Remote
Google Cast
HomeKit-enhed
Matter
Philips TV
Thread
Afslut
Dansk
Hjælp


Fundet
Fjernsyn i Soveværelset
Android TV Remote
Ignorér
Tilføj
Motionsrum
Android TV Remote
Ignorér
Tilføj
Netatmo Relay (Bridge)
HomeKit Device
Ignorér
Tilføj
TV 65
Android TV Remote
Ignorér
Tilføj
TV 65
Philips TV
Ignorér
Tilføj
Konfigureret
Backup
1 tjeneste
Google Cast
9 enheder
Google Translate text-to-speech
1 tjeneste
Home Assistant Supervisor
4 tjenester
Indkøbsliste
1 entitet
Matter
1 emne
Meteorologisk institutt (Met.no)
1 tjeneste
Radio Browser
1 emne
Sol
1 tjeneste
Thread
1 emne


lintronic
You are an owner.
Edit profile
Log out
Theme
Theme
No themes available. Learn about themes
Use default theme
Theme mode
Auto
Light
Dark
Custom colors
Primary color
Accent color
Appearance
Default dashboard and sidebar
Localization
Language, time zone, date, time, and number formats
This browser
Notifications, display, and shortcuts
Security
Password, multi-factor authentication, and access tokens


Change password
Current password*
Submit
Multi-factor authentication modules
Authenticator app
totp
Enable
Refresh tokens
Each refresh token represents a login session. Refresh tokens will be automatically deleted when you log out. Unused refresh tokens will be automatically deleted after 90 days. The following refresh tokens are currently active for your account.
http://homeassistant.local/
Created 3 weeks ago
Your current session
Expires in 3 months
Android app
Created 22 minutes ago
Last used 22 minutes ago from 212.10.126.147
Expires in 3 months
Android app
Created 4 days ago
Last used 53 minutes ago from 192.168.1.116
Expires in 3 months
http://192.168.1.71/
Created yesterday
Last used 7 hours ago from 192.168.1.67
Expires in 3 months
http://homeassistant.local/
Created 12 hours ago
Last used 12 hours ago from 192.168.1.67
Expires in 3 months
http://192.168.1.71/
Created yesterday
Last used yesterday from 192.168.1.64
Expires in 3 months
http://192.168.1.97/
Created 3 weeks ago
Last used last week from 192.168.1.64
Expires in 3 months
Delete all tokens
Long-lived access tokens
Create long-lived access tokens to allow your scripts to interact with your Home Assistant instance. Each token will be valid for 10 years from creation. The following long-lived access tokens are currently active. Learn how to make authenticated requests.
LinTronic
Created 3 weeks ago
Create token





Save your token, you might need it later:

eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9 ..... xcELXQzgTXem4pFUqW6kAus37boU16QKIutHr7s3Hg

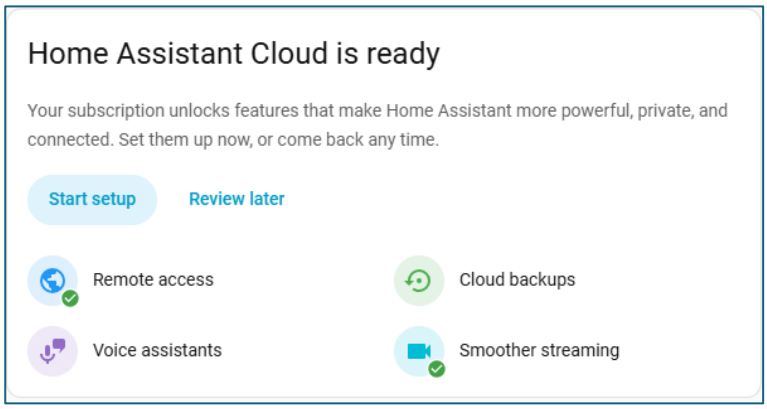
- Open up the LinTronic Configurator
- Goto HomeAssistant section
- Enter and save the token key – it will be stored in a local database on your computer
- C:\LinTronic\Configurator SQL\homeassistant.mdb

HA smartphone app

I also decided to subscribe on the HomeAssistant Cloud so I can use my phone when outside the house. Settings - HomeAssistant Cloud

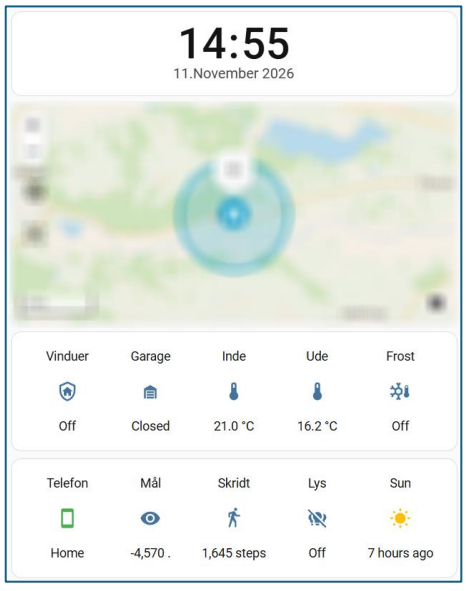


You can get a test trial period of 30 days at Nabu Casa.



The app to use on your smartphone is called HomeAssistant Companion.

Goto Settings – select Companion and ADD SERVER to enter your Nabu Casa account url like: https://nbpfd0.....z3i1iwjj.ui.nabu.casa



As a test I turned off the smartphones wifi to see if it would connect to HomeAssistant using mobile data.

I a dashboard, I am now able to use the HomeAssistant when away from home.

Also when I leave the zone, lights turn off and garage door closes (if not closed).

When I enter the zone, needed lights turn on is it is dark.

I strongly recommend you use scripts to control your home, and not scenes.

Are you at home or away ?

The HomeAssistant Companion app, can detect whether you are at home or away, by your GPS location and/or the wifi connection.

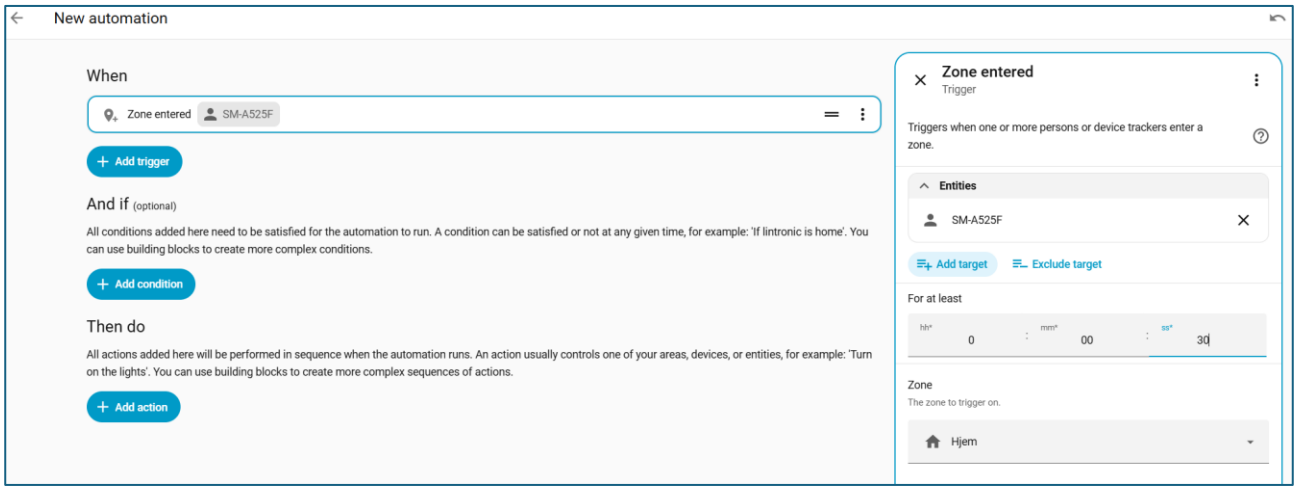
Settings – Companion – Manage sensors

- Scroll through the sensors and set GEOLOCATION SENSORS and LOCATION SENSORS.
- I chose to enable sensor for both my servers called HOME and SMARTPHONE.

Settings – Area, labels and Zones - Zones

- I created a zone with a radius of 400 meters from my home. When within this zone I am considered at home.
- I want to use this zone to turn on the light in the carport and at home when I arrive home. I want to use this zone to turn off the light when I leave home.

Settings – Automations & scenes – Create automation



Migrating VM/HA from one computer to another

After having tested that everything works when VM, HA and LinTronic Configurator are installed on the same computer, I decided to move VM/HA to a low-power-consumption 4GB NUC computer, to see whether my development computer could access VM/HA over the network.

Low-powered 4 GB NUC computer

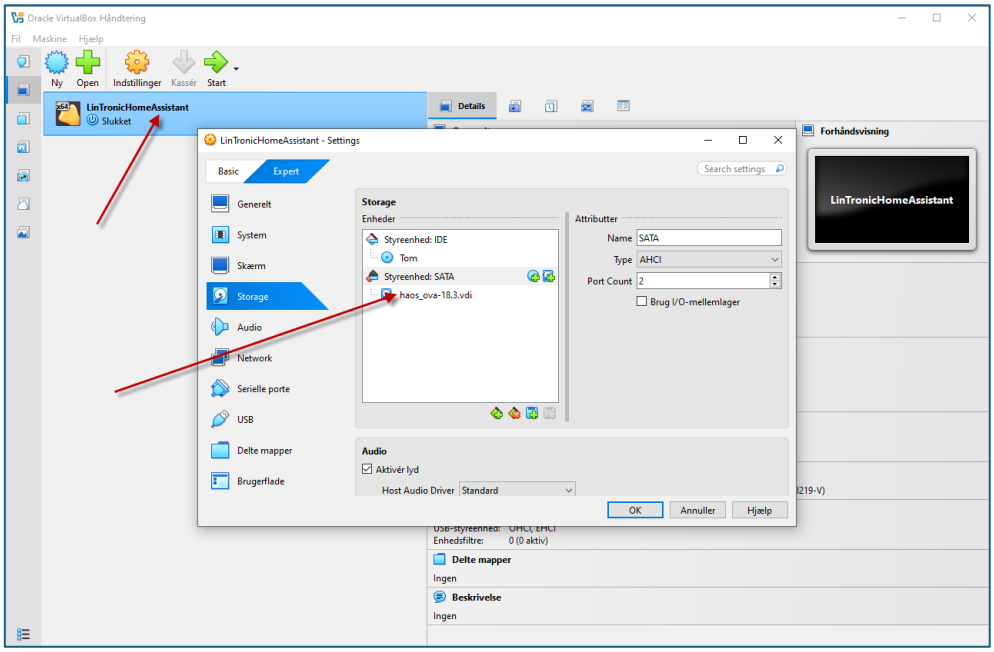
Processor: Intel(R) Core(TM) i3-4010U CPU @ 1.70 GHz
Installed RAM: 4.00 GB
Storage: 56 GB SSD KINGSTON SMS200S360G
Graphics Card: Intel(R) HD Graphics Family (113 MB)
Device ID: CC21EDBF-9B03-43A0-A87D-BE4EF0EA4653
Product ID: 00326-10000-00000-AA075
System Type: 64-bit operating system, x64-based processor
Pen and Touch: This display does not support pen or touch input

It is not a fast computer due to the 4GB RAM – but for a test it works, and now I know how to migrate successfully to a larger and faster Windows 11 machine later.

Long story short:
Yes, it works. I can now sit at my development computer and manage HomeAssistant. The HA got a new IP address, so the Configurator just had to updated and save the new IP address. I could still operate my IKEA remote and get the remotes button trigger into the Configurator.

If/when you migrate, be sure to copy and use the existing .vdi file in which HA saves everything. When I was in doubt, I got the help I needed from Copilot.

It is not a 5-minutes job, but simply install VirtualBox on the new computer. Right-click the exe file and install it as administrator. When VM is started up, replace the .vdi file with the one used in the “old machine” – if you migrated.



Automatic VM/HA startup when computer is started

I decided to turn off the need for user's login/password and create a shortcut in the START section.

I got Copilots help to make this work.

Automatic Login and HomeAssistant Startup

To ensure that HomeAssistant starts automatically after a power outage or Windows update, I configured the NUC as follows:

Disable Login Requirement

Press: Windows + R, type: netplwiz

Remove the checkmark: Users must enter a username and password to use this computer

Enter the account password when prompted.

This allows Windows to log in automatically after a restart.

Additional Improvement

A network shared folder was created on the NUC and mapped as drive: N: on my development computer, allowing files to be transferred directly to/from the NUC without physically using a USB key, etc. to transfer files.

When computer is started or restarted, everything happens automatically and HA is up and running in a couple of minutes.

Automatic startup of HomeAssistant in VirtualBox on the NUC

- Press **Windows + R** and type shell:startup, Press **Enter**.
- The Windows Startup folder will open.
- Create a shortcut in this folder.

Shortcut target:
"C:\Program Files\Oracle\VirtualBox\VBoxManage.exe" startvm "HomeAssistant 2026"

"HomeAssistant 2026" is the name of your HomeAssistant

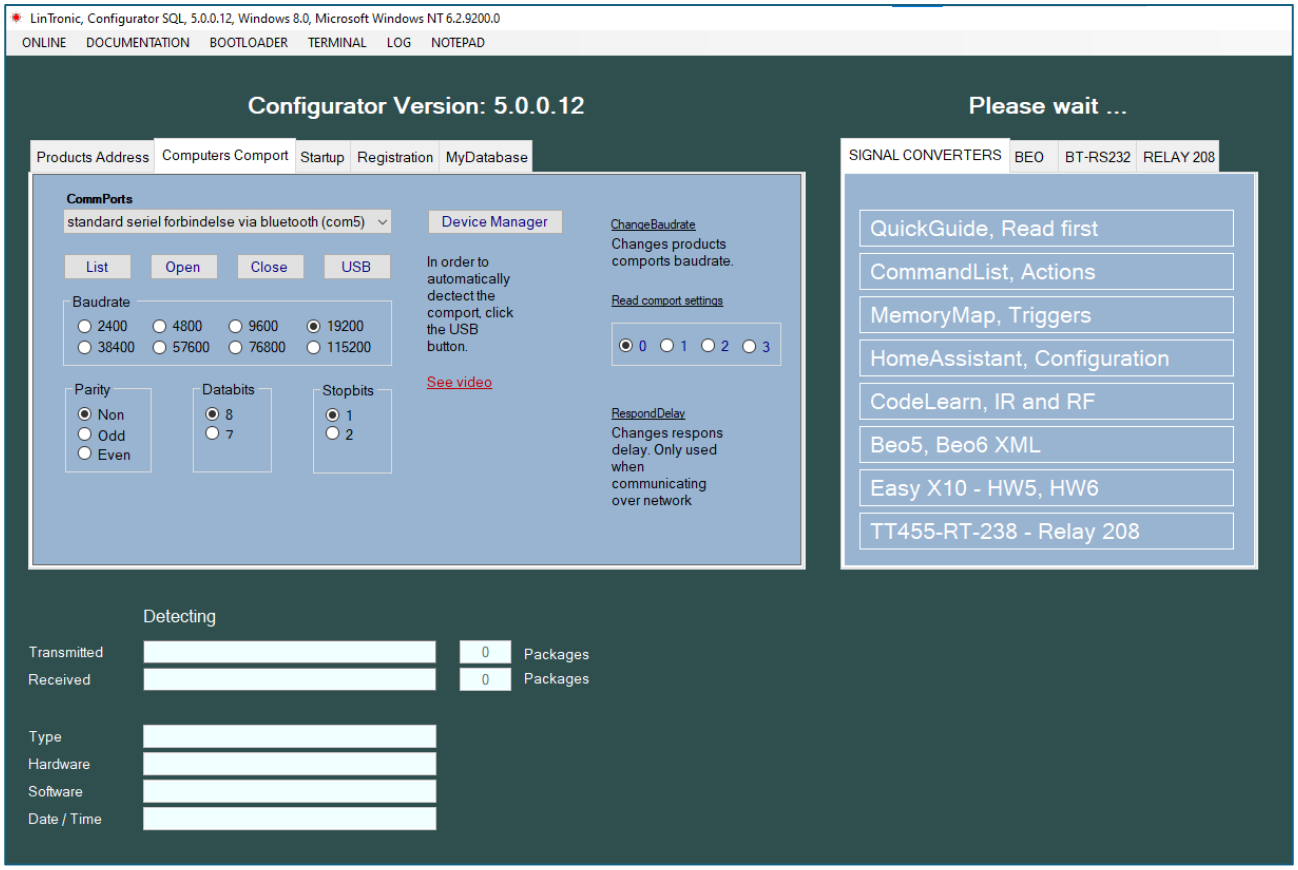
If you want to use server-like background startup (headless mode):
"C:\Program Files\Oracle\VirtualBox\VBoxManage.exe" startvm "HomeAssistant 2026" --type headless

I decided to not use "--type headless" as I want to see what goes on.

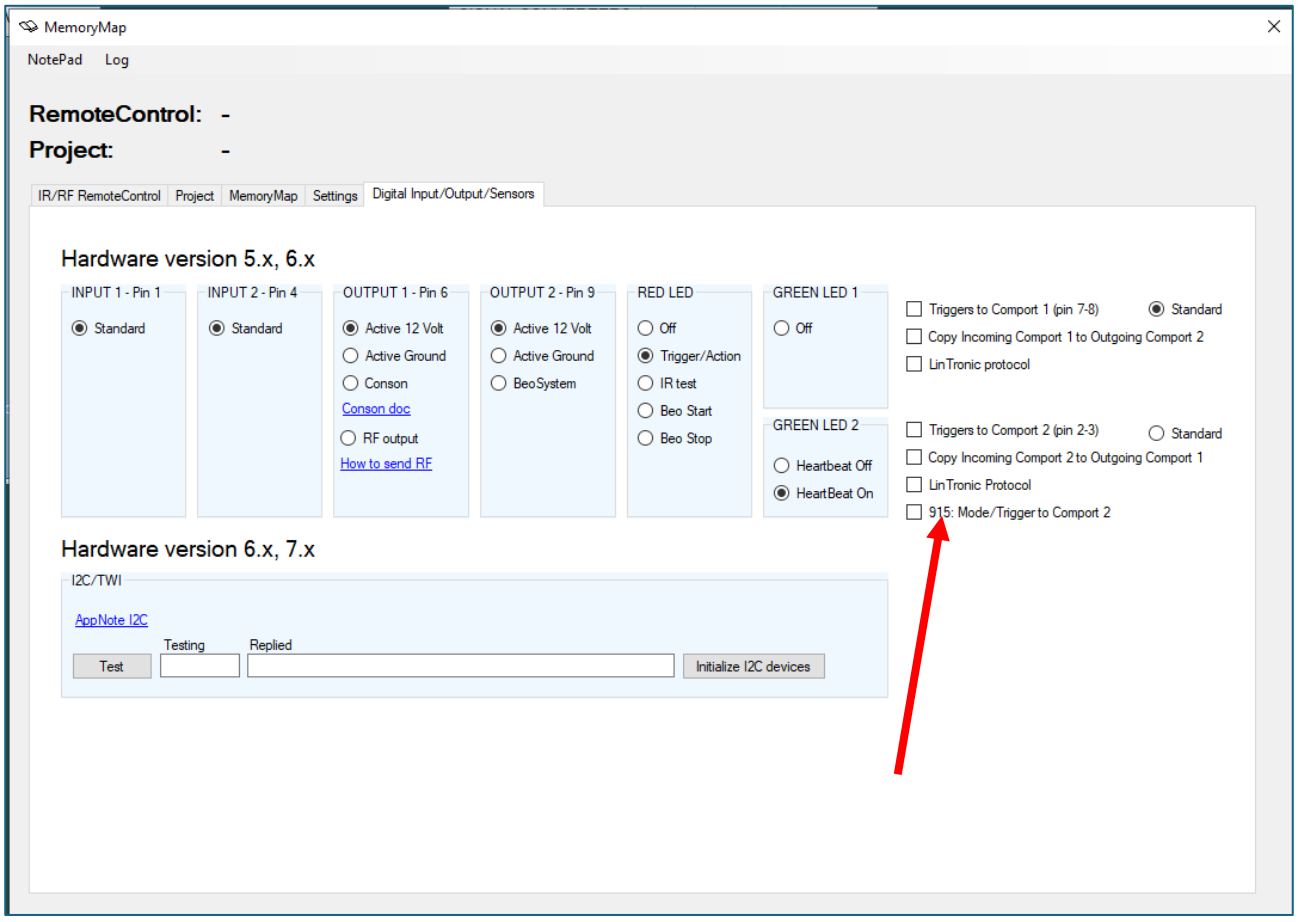
If you use "--type headless" then the computers screen is more or less "dead with normal background picture" and you will be confused whether it works.

LinTronic Configurator - command 915 trigger for HA

- Connect the TT455-RT-238 to the computer
- Enter MemoryMap to set command 915
- Enter HomeAssistant to configure HA



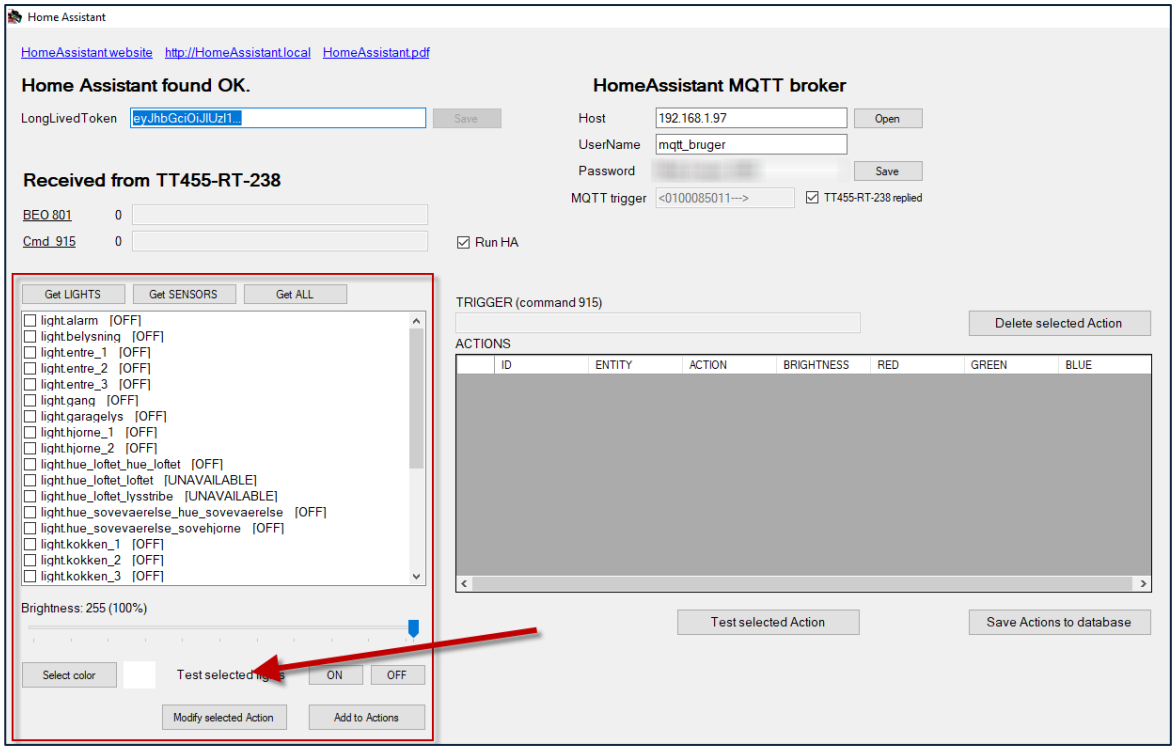
Configurators MemoryMap – Command 915



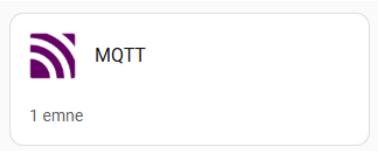
The LinTronic Configurators HomeAssistant form

Program automatically searches for HA on http://homeassistant.local/

- Save Token (only one time)
- Operate the B&O remote to see command 915 coming in as TRIGGER
  (for example LIGHT 0 (Trigger for Lights Off) or LIGHT 5 (Trigger for wanted scene)
- GET LIGHTS, SCENES, SCRIPTS to see your supported lights (IKEA and PHILIPS HUE)
- Select a number of lights for the scene and test brightness and color (ON or OFF)
- “Add to Actions” for the wanted trigger/scene/script
- Save to database for each Trigger/Scene/Script
- Modify selected Action or delete from Actions to adjust Light



MQTT



MQTT stands for **Message Queuing Telemetry Transport**, and is a reliable and structured way of sharing data over unstable connections.

It is a lightweight messaging protocol commonly used in IoT (Internet of Things) applications to allow devices to exchange data over a network or for programs on the same computer to share data/commands.

How MQTT Works

MQTT follows a publish/subscribe model:

- A device publishes data with a headline/topic. A topic could be “weather/today”.
- Other devices interested in this topic, subscribe to that topic. Subscribing to a topic means that the device gets all the telegrams holding this topic.
- An MQTT broker acts as the central hub/distributor that receives and forwards messages to all subscribing devices/programs.

An example:

A temperature sensor can send out the topic “home/livingroom/temperature”. The data is called the payload and could be for example be “22.5C”. Any device/client subscribing to “home/livingroom/temperature” receives the date/value/payload “22.5C”.

Common use of MQTT

- Smart home automation (could be HomeAssistant)
- ESP32 and Arduino projects
- Industrial monitoring systems
- Energy meters and solar installations
- Remote sensors and telemetry
- And many many more

For the LinTronic Configurator and the TT455-RT-238 Signal Converter, it means that a lot of the HomeAssistant’s integrated devices, can send instructions to the Configurator to control the TT455-RT-238 – or anything else we add for support for.

For example:

You are able to activate a low-cost wireless IKEA remote, and the HomeAssistant MQTT broker will receive and distribute an MQTT telegram to the Configurator with a trigger instruction, and the TT455-RT-238 will receive your instruction, and can control your InfraRed or RS232 devices.

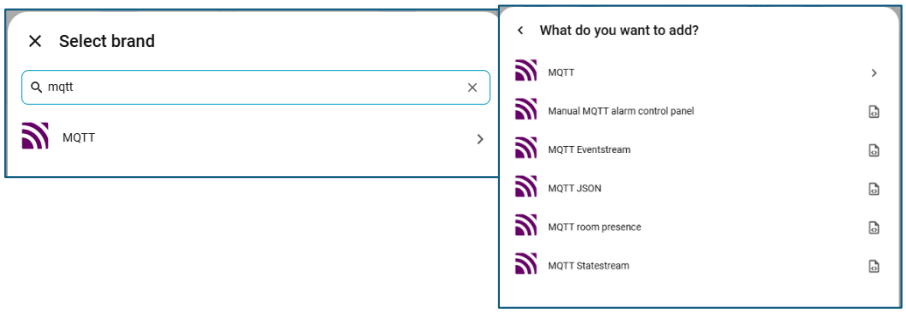
In the LinTronic Configurator, we have developed a HomeAssistant form that subscribe for triggers called “configurator/trigger” and sends the payload/command to the TT455-RT-238.
See LinTronic SystemCommands.

Adding an MQTT broker integration

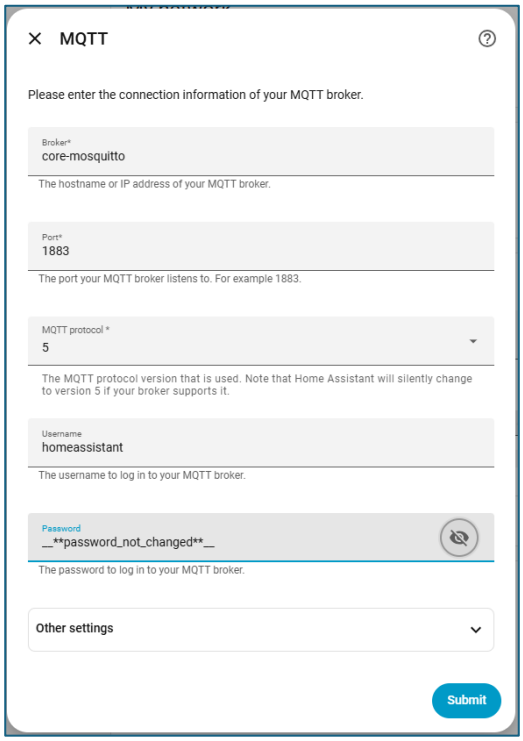
An MQTT broker is needed for distribution of MQTT telegrams, so why not use the one already embedded in HA.

Click Add integration, enter mgtt in search field and click on the MQTT logo

Then click on the top MQTT logo



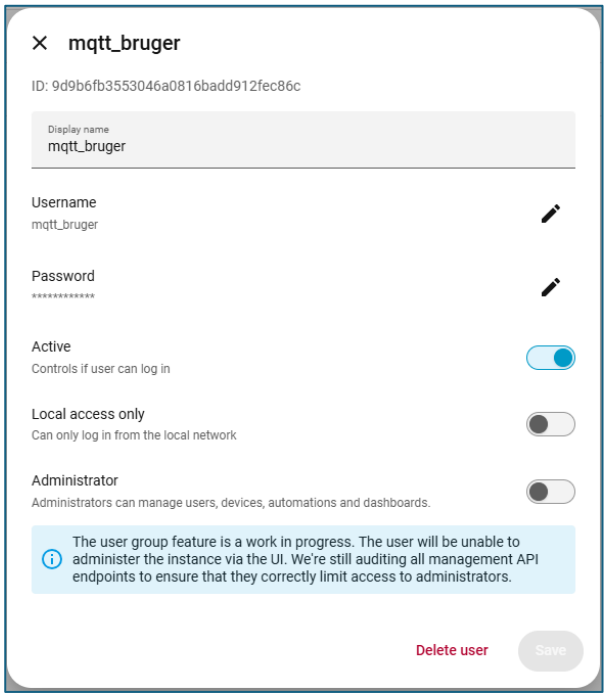
Check broker settings



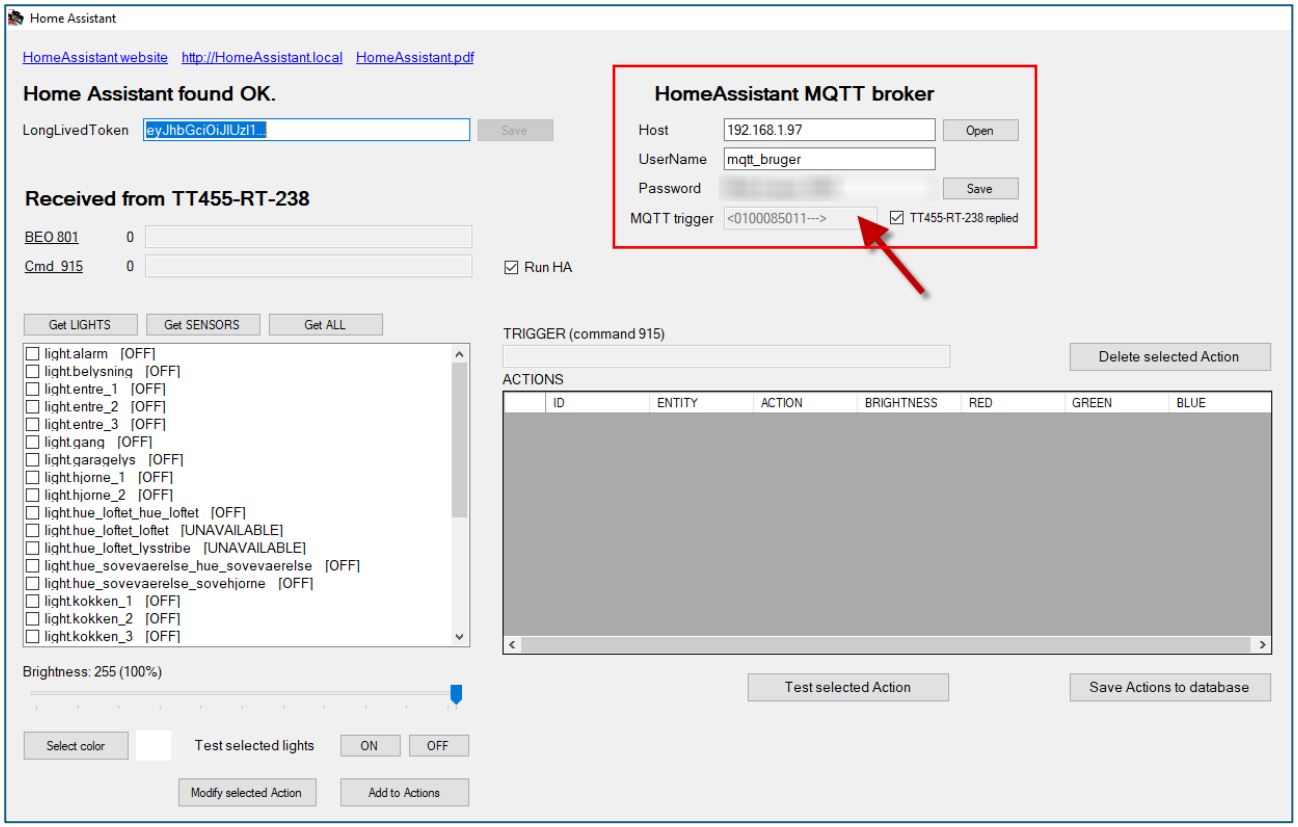
Create an MQTT user

Goto Settings - People click on Add user

Display name and password must be filled out



In the LinTronic Configurator, save the MQTT IP address and user data:



Receiving an MQTT telegram

The HomeAssistant can receive MQTT messages from external applications.

Prerequisites

Before testing, ensure that:

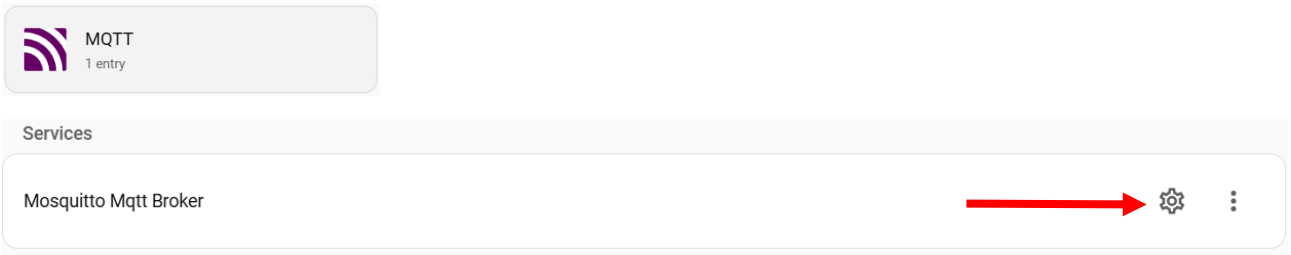
- The Mosquitto MQTT Broker is running in Home Assistant.
- The application publishing the MQTT data is running (LinTronic BluetoothBridge, etc.)
- The application is connecting by using a registered MQTT users credentials.
  See Adding an MQTT broker integration
- The application reports a successful MQTT connection:
  - MQTT started...
  - MQTT connected.

An MQTT telegram could look like: “Name/Trigger/Value”

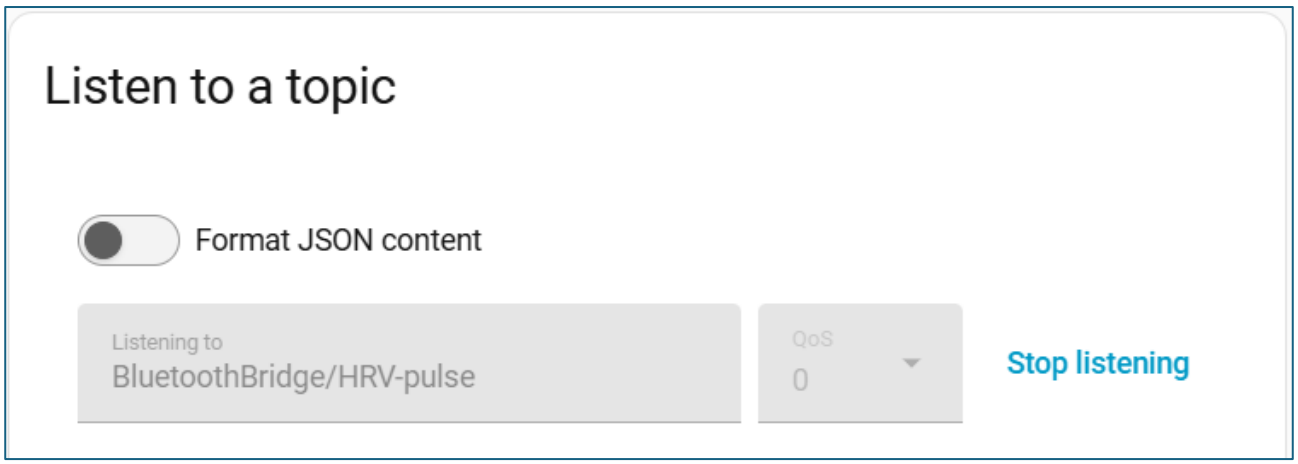
Example: “BluetoothBridge/HRV-pulse/82”

To test it from the LinTronic Configurator or the LinTronic BluetoothBridge, goto:

Settings – Devices & services – click MQTT - and then click the MOSQUITTO MQTT BROKER:



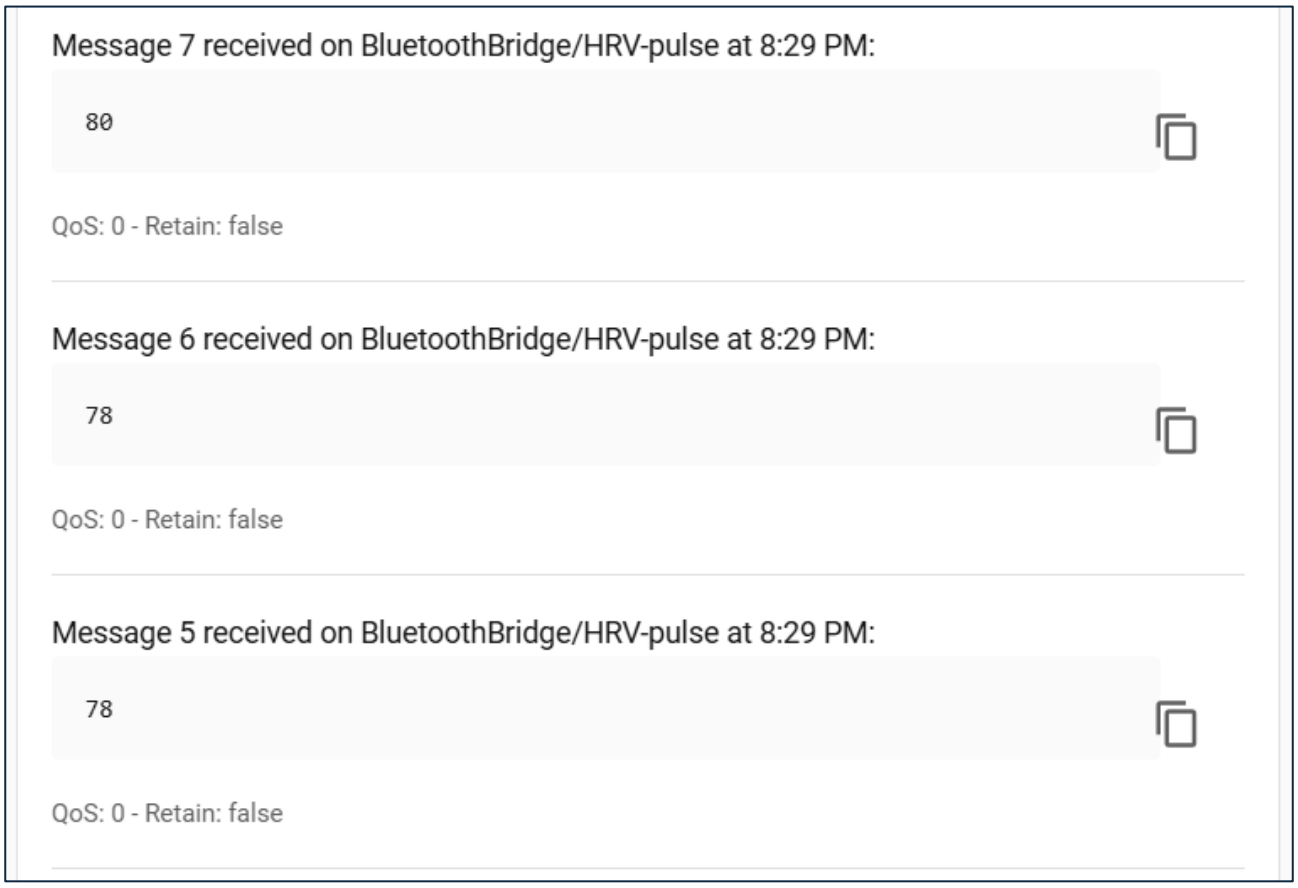
Scroll to the bottom and enter the telegram you are waiting for. In this case a telegram from the LinTronic BluetoothBridge program sending out the users pulse (beats pr minute) from a Polar H9 chestbelt. Note: The telegram name is case-sensitive (lower- and upper-case).



You will see messages arriving. The numbers are the telegrams value/payload (the pulse).

The MQTT listener in HomeAssistant displayed continuously changing pulse values, proving end-to-end MQTT communication between the publishing application, the MQTT broker, and HomeAssistant.

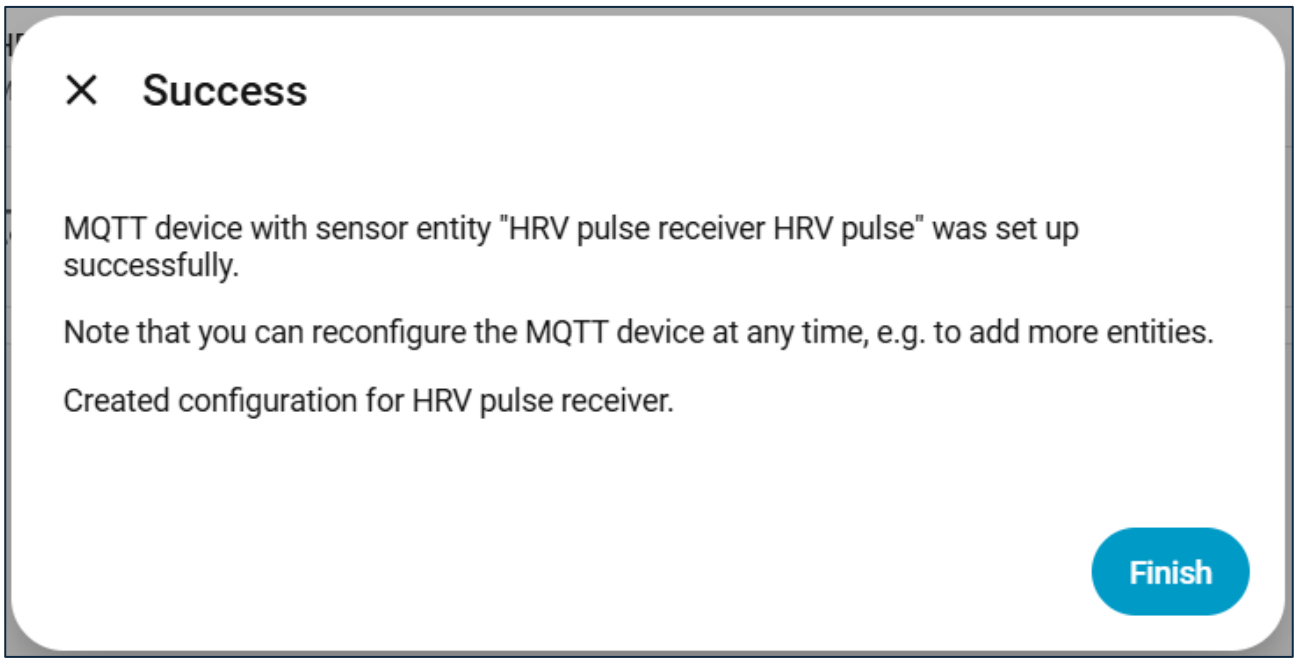
Now that know that data are received, it is time to create an MQTT RECEIVER entity.





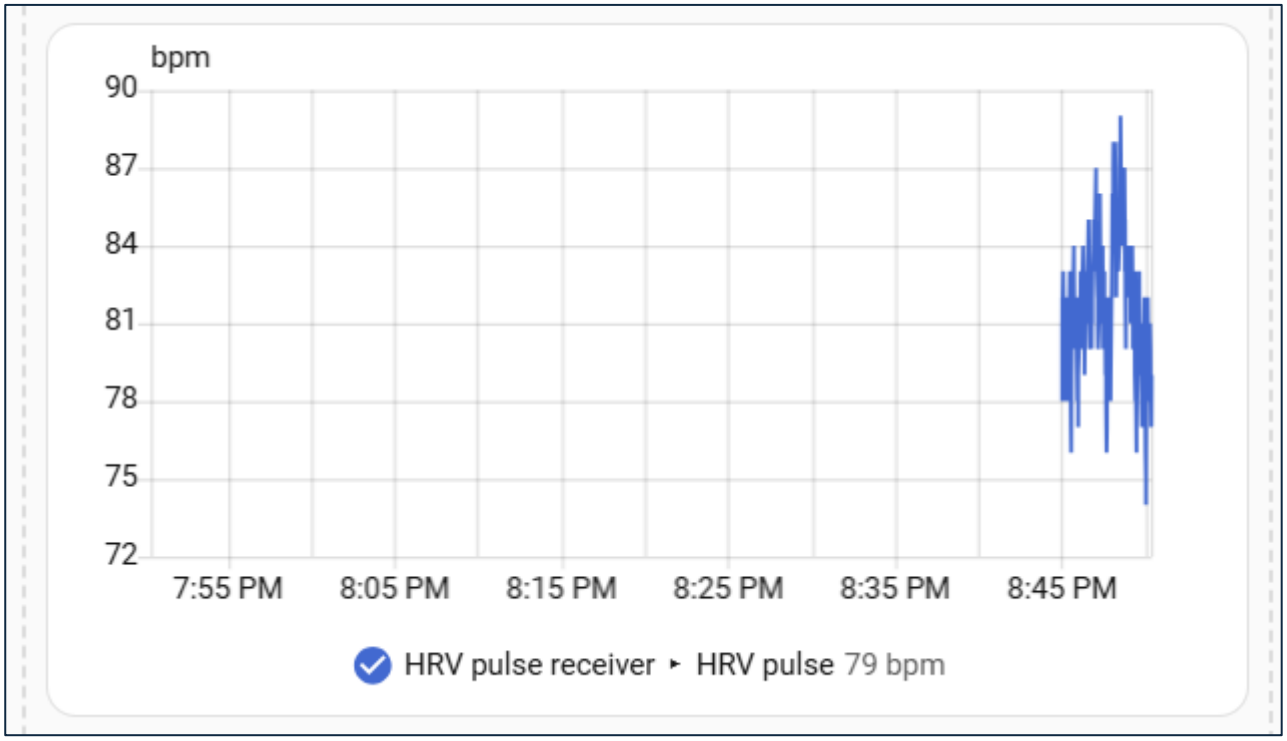
If you want help to set it up, I strongly suggest you ask Copilot/AI to only fill in the absolutely required.

You will end up with this window.





I can now show the pulse on a tile or use it as a trigger if getting too high.



Adding IKEA integration

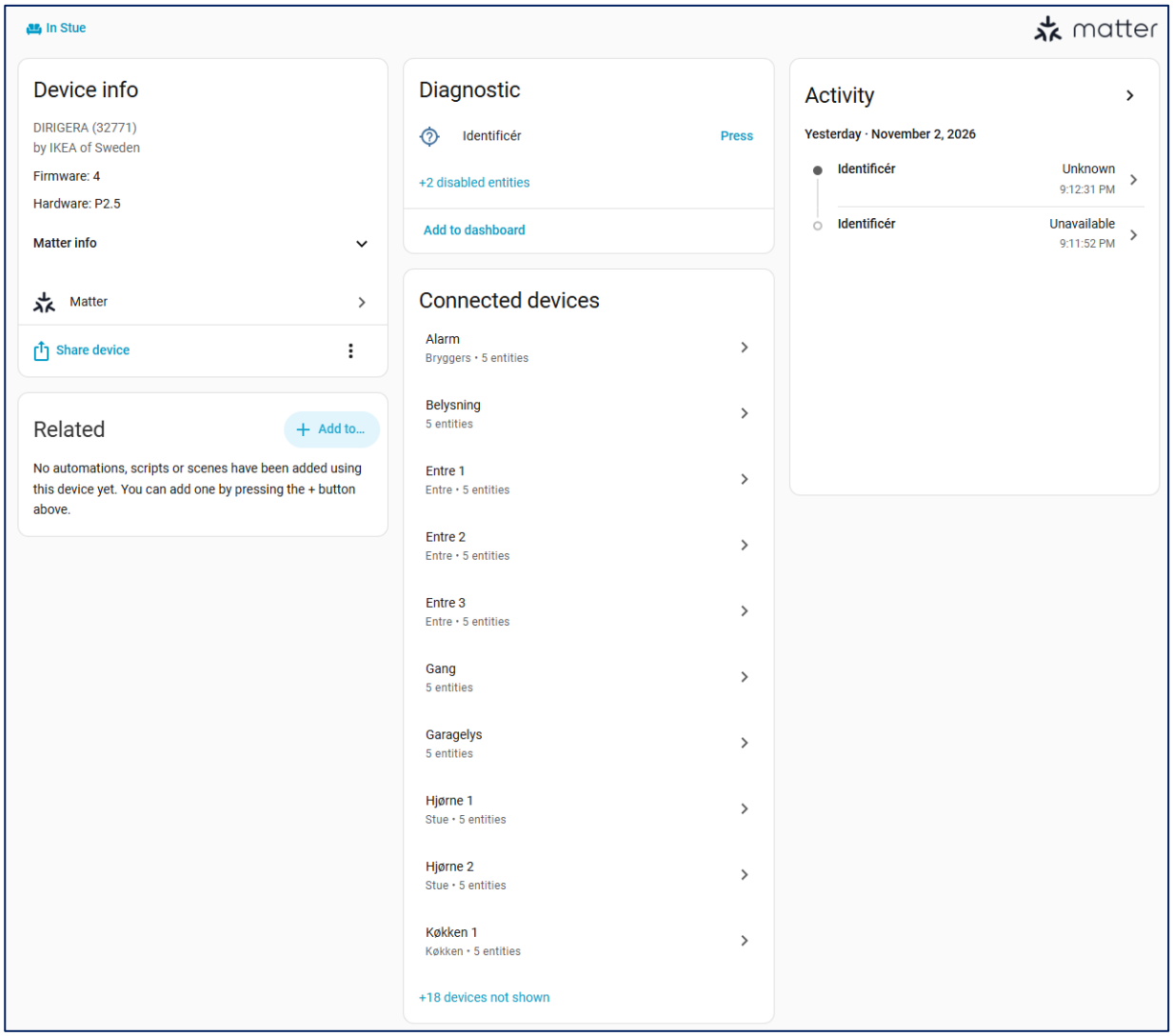
You can add the IKEA Dirigera hub to Home Assistant primarily using the Matter integration or the HomeKit device integration. Home Assistant +1

Method 1: Using Matter (Recommended)

The Dirigera hub acts as a Matter bridge, exposing connected IKEA devices directly to Home Assistant. Home Assistant +1

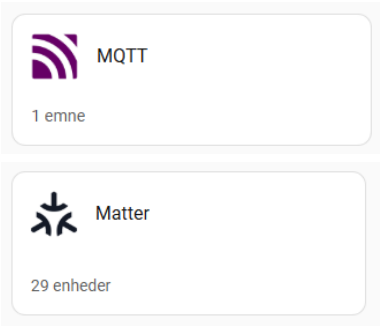
1. **Get the pairing code from IKEA:**
   - Open the IKEA Home smart app on your phone.
   - Go to **Settings** (tap your profile icon or the bottom-right corner) and select your **DIRIGERA Hub** picture for hub settings.
   - Tap **Integrations** -> **Pair using a code** (note that the code expires in 15 minutes). Copy or note down the code. Home Assistant Comm... +2
2. **Add to Home Assistant:**
   - In Home Assistant, go to **Settings** -> **Devices & Services** -> **+ Add Integration** (bottom right).
   - Search for and select **Matter** -> **Add Matter Device** -> **Yes, It's Already in use** -> **Other controllers**.
   - Enter the setup code generated from the IKEA app and finish the prompt. Home Assistant Comm... +1


15.56
75%
Styr i andre apps
Du kan styre IKEA produkter i andre Matter-smartsystemer og -apps.
Scan eller kopiér koden, og angiv den i den app, du vil styre produktet med.
matter
1502-843-9373
Kopiér kode
Koden er gyldig i 15 minutter
Åbn anden app


In Stue
matter
Device info
DIRIGERA (32771)
by IKEA of Sweden
Firmware: 4
Hardware: P2.5
Matter info
Matter
Share device
Related
Add to...
No automations, scripts or scenes have been added using this device yet. You can add one by pressing the + button above.
Diagnostic
Identificér
Press
+2 disabled entities
Add to dashboard
Connected devices
Alarm
Bryggers • 5 entities
Belysning
5 entities
Entre 1
Entre • 5 entities
Entre 2
Entre • 5 entities
Entre 3
Entre • 5 entities
Gang
5 entities
Garagelys
5 entities
Hjørne 1
Stue • 5 entities
Hjørne 2
Stue • 5 entities
Køkken 1
Køkken • 5 entities
+18 devices not shown
Activity
Yesterday · November 2, 2026
Identificér
Unknown
9:12:31 PM
Identificér
Unavailable
9:11:52 PM

HA triggered by an IKEA hub-related remote control

In the below, HomeAssistant = **HA** and LinTronic Configurator = **LC**.



IKEA remote control of the HA requires, that:

- You pair your IKEA remote control with your IKEA hub.
- HA must have the MQTT integration attached.
- HA must have the MATTER integration attached.
- For older IKEA the TRADFRI integration must be attached.

Scope

We want to trigger the Configurator and/or the TT455-RT-238 with an IKEA remote.



We tested the round 5-button remote and the small 2-button remote.

Check the remote is detected by HA

In HA goto: Settings – Devices/Services

You will now see your integrations, like: MQTT, MATTER, etc.



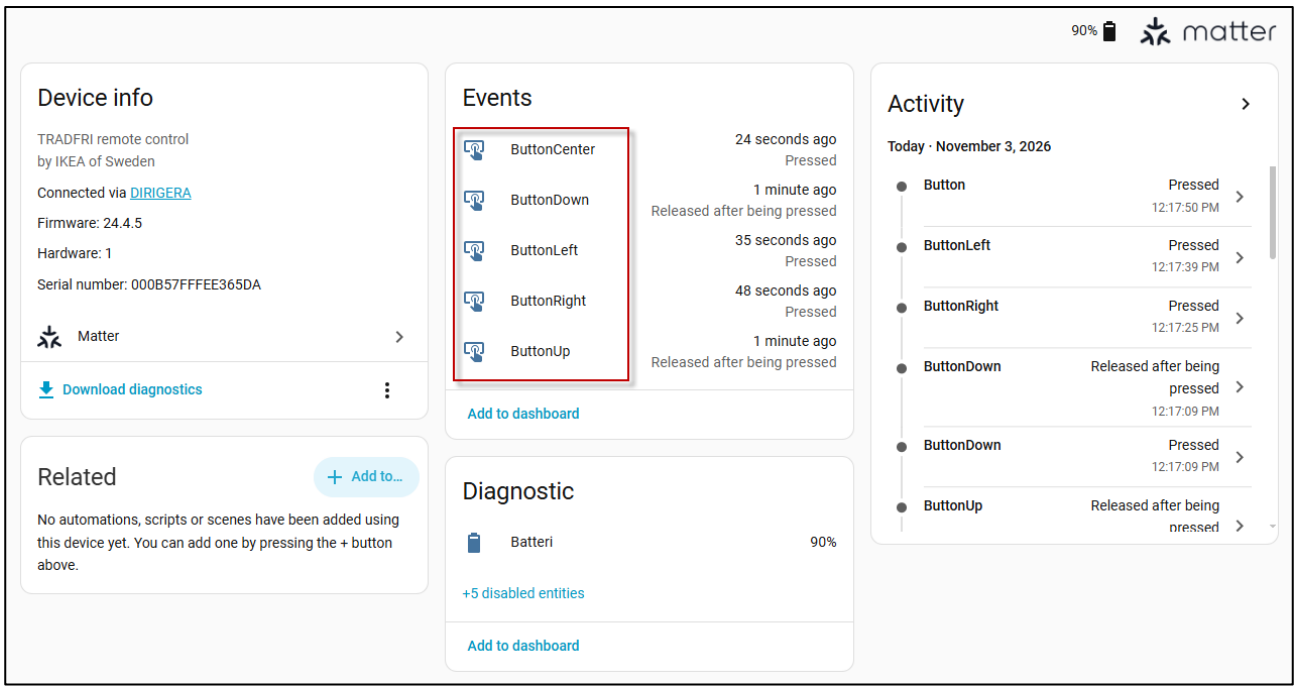
Click/open MATTER or TRADFRI to see entities, here known as Remote 2 and Remote 5:

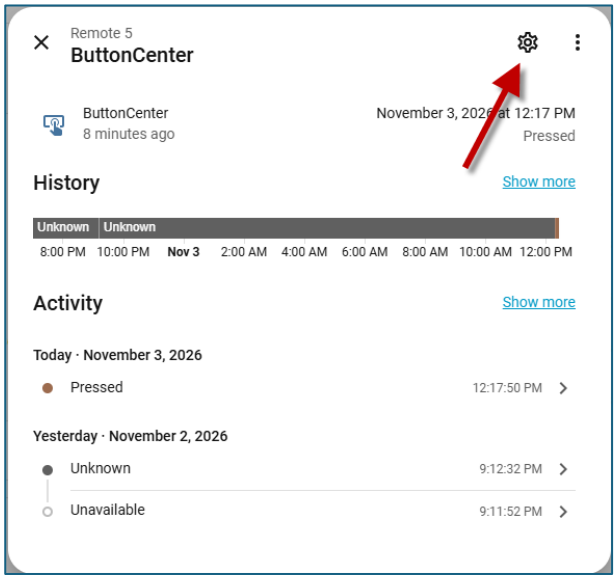


Renaming buttons in HA

- Goto Settings – Devices and services – and click Devices at the top
- Scroll down to locate the remote and click it

When the below window opens, click the remote buttons to see which is which, then click it to rename it.





HA triggered by an IKEA non-hub-related remote control



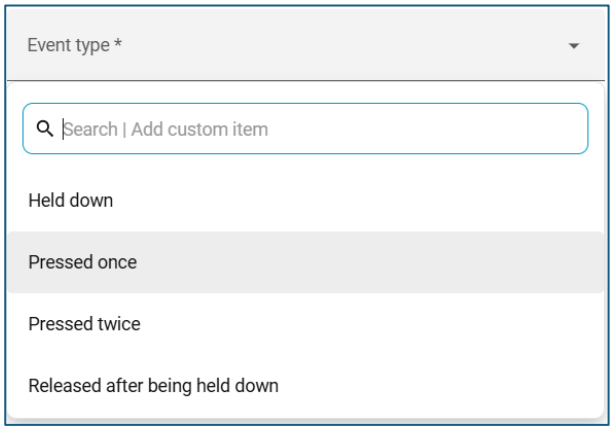
As IKEA work on the MATTER system, you can pair an IKEA remote directly to the HomeAssisant, if the MATTER integration is added.

In the HomeAssistant Companion app:

Settings – Devices & services – MATTER – add new device

When added you can use the remote to control HomeAssistant.

Each of the buttons offer several features:



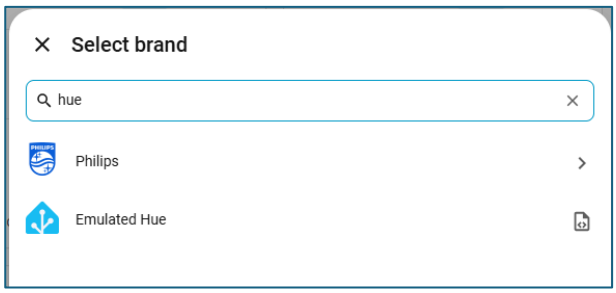
I learned that this remote is very slow and that the RODRET is recommend, and paired to the IKEA DIRIGERA.

However, if you use triggers PRESSED ONE, PRESSED TWICE and HELD, it is not too bad, but expect 3-5 seconds delay from button is pushed till HA reacts.

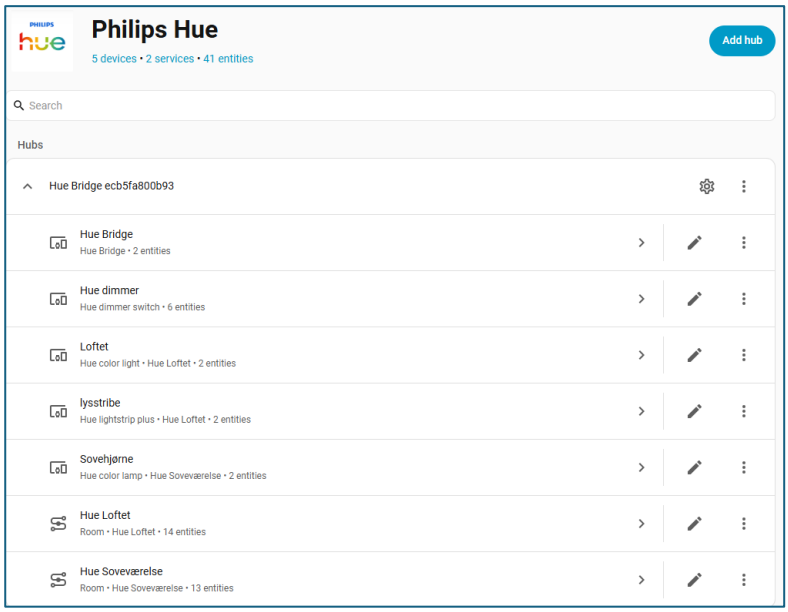
Adding Philips Hue integration

Click Settings – Devices and services – Add integration

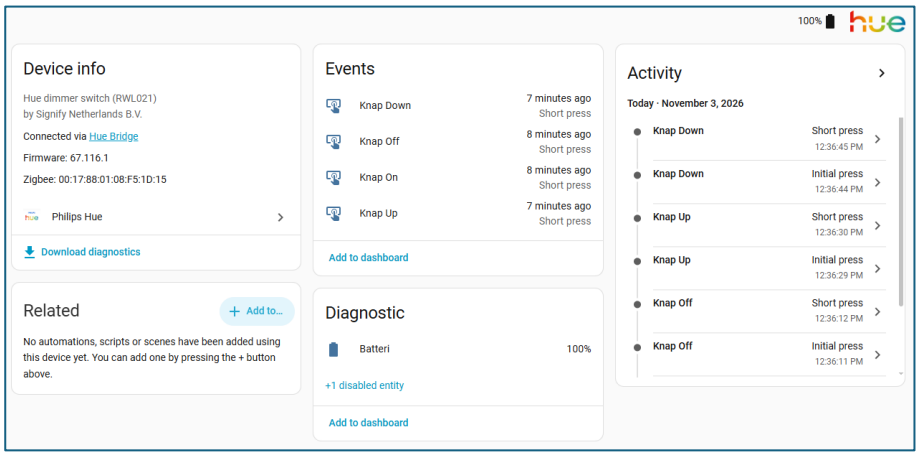
Enter hue and click on Philips



The 4-button remote is called: Hue dimmer



Click it and operate the remote to see buttons react and click a button to rename it.



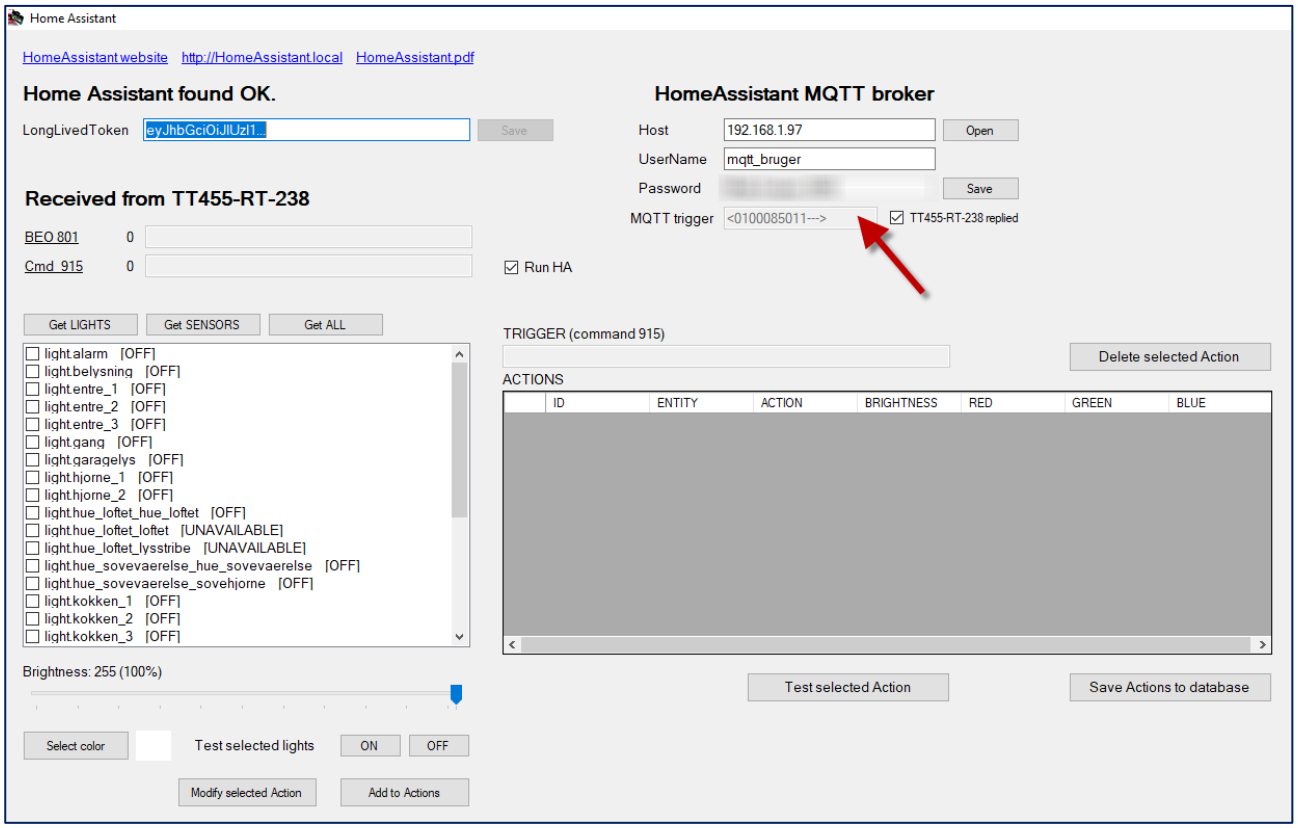
Create automation (read the remote being activated)

- In HA goto: Settings – Automations & scenes – Create automation
- Click Add trigger – goto Devices – scroll down to see your remotes.
- Click the arrow left to the wanted remote to see how many buttons it has.
- Click one of the buttons to select: Event received
- Select event type: Pressed
- Save.



- Click Add action – select By type
- Scroll down to find MQTT
- Select MQTT and then MQTT: publish
- Enter Topic: configurator/trigger (low case) and Payload as a LinTronic SystemCommand.

In the LinTronic Configurator, see the MQTT trigger arrive when remote is activated. It is automatically send to the connected TT455-RT-238 on the USB/comport.



LinTronic SystemCommands

The TT455-RT-238 Signal Converter is designed to be Triggered by specific RS232 commands.

In the Configurators Memory Map, you can instruct the TT455-RT-238 to be triggered by LinTronic System Commands.

If you use a LinTronic SystemCommand as payload in a HA MQTT telegram, then the HA program can use any of its integrated trigger-devices and to any SystemCommand for your optional use as Trigger in the TT455-RT-238 Signal Converter if connected to the Configurator.

You create a SystemCommand in this format:

A SystemCommand follows the open-source LinTronic communication protocol:

<TTFFCCCDD...XXX>

<	Start of command
TT	To-address range 01 - 32, 01 = is default for the TT455-RT-238, but can be changed
FF	From-address range 01 - 32, 00 = computer
CCC	Command number range 001 - 255 (085 = SystemCommands)
FUN	Function Command number to be executed
XXX	Checksum range 000 – 255
>	End of command

Example:

If you want to trigger the TT455-RT-238, normally holding address 1, by a SystemCommand number 15, then you use this: <0100085015--->.

Three minus signs as checksum, means that checksum should be ignored. See our protocol.

Adding cameras to HomeAssistant



I don't recommend it.

I added 8 pcs. TAPO cameras and my NUC crashed. I then migrated HA to a dedicated Windows 11 machine and spend an entire Sunday trying to fix the camera problem – and finally gave up as the smartphone app also crashed and would not connect.

As soon as I removed the cameras from HA, the Windows 11 machine was running perfectly.

Adding Google Health to HomeAssistant

Not an easy task, with a couple of back-ward steps, but absolutely worth it.

Simply ask Copilot/AI to guide you, and you will be happy you took the time to do it.

