Guide installation Thingsboard for project Aquabot

This is a guide to locally host Thingsboard on a Windows laptop.
Here we follow the official tutorial, of Thingsboard itself.

You might be wondering, "Why do I want to host this locally? Can't I use ThingsBoard's public hosting?" Well, that's correct. However, those accounts are not free, and there's a limit on how often data can be sent. If you do it locally, these are not issues. So, the choice between local and online depends on the use-case and scope of the project.

Step 1: Java

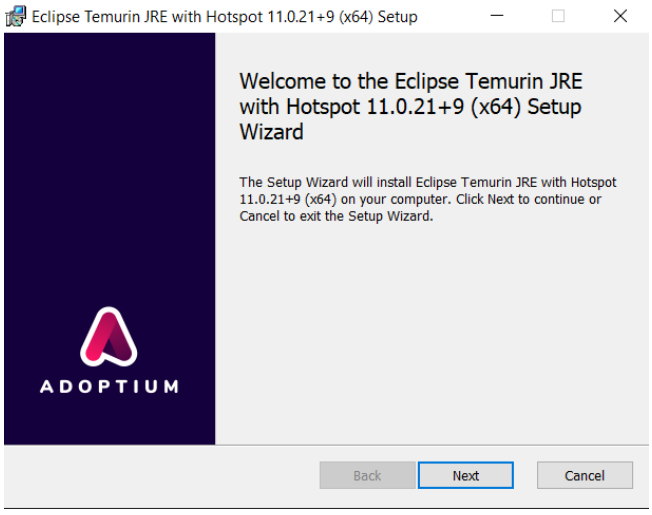
Step 1 is the installation of Java 11. En this needs to be specifically **Java 11** Other, (including more recent) versions unfortunately don't work.

Java 11 can be found on this page:

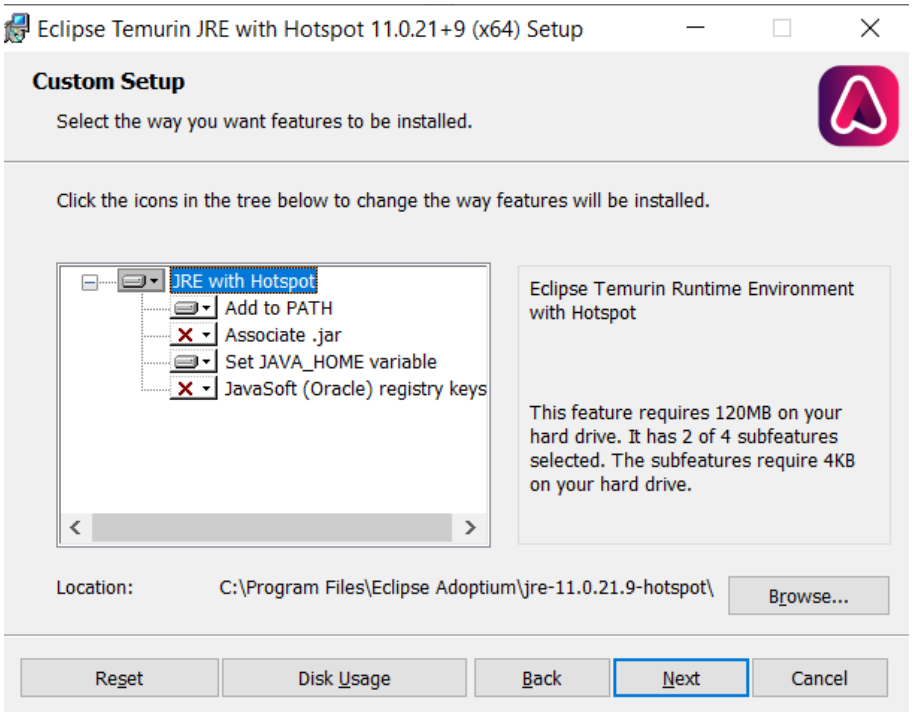
https://adoptium.net/temurin/releases/?version=11

Figuur 1.1.1: Installation website of Java

Dubbel click on the downloaded file, and click on '*Next*'

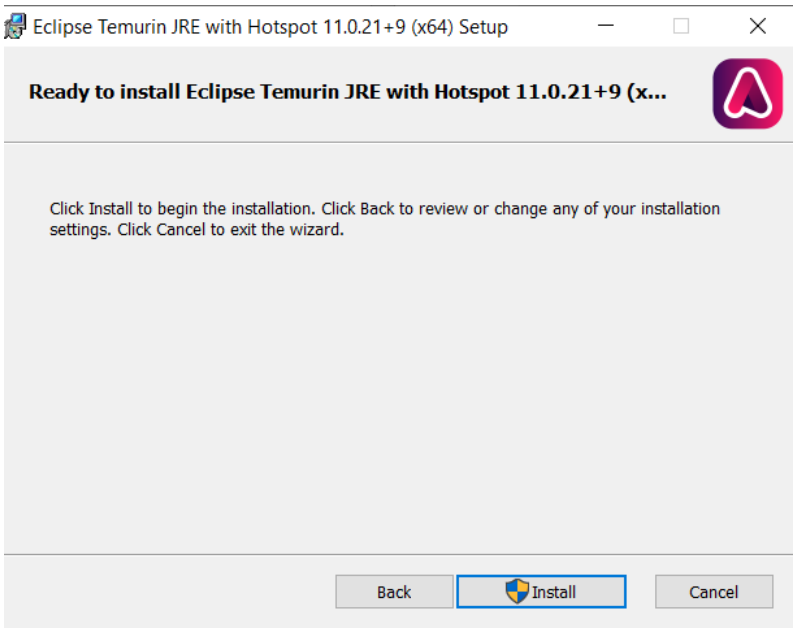


Figuur 1.2.1: Start download wizard



Figuur 1.2.2 Setup java

These 2 features ("Add to PATH" and "Set JAVA_HOME variable") need to be set to "*Will be installed on local drive.*". The icons should match figure 1.2.2. Then you can press '*Next*'



Figuur 1.2.3 Installation java

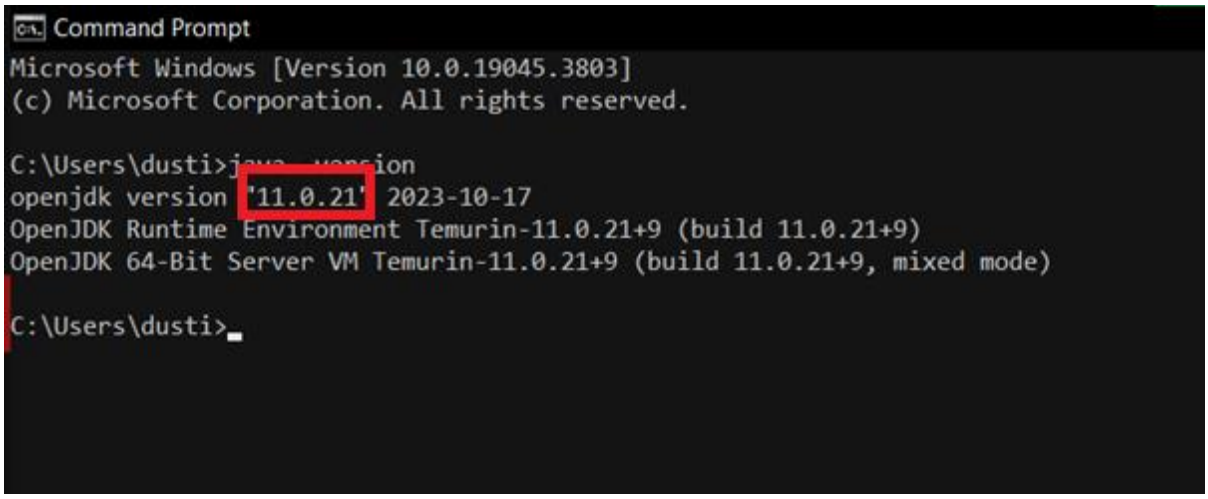
Press "*Install*". You'll be asked to give permission as an admin. Give this permission. Then press on "*Finish*" when it's done.

To check whether the installation was successful, you can open a **command prompt**. You do this by searching on windows to "**commandprompt**" ("cmd" would also work).

In here you type the following:

```
java -version
```

If the installation was successful, you'll get an output similar to figure 1.3.1. Make sure that especially the **version number** starts with an 11.

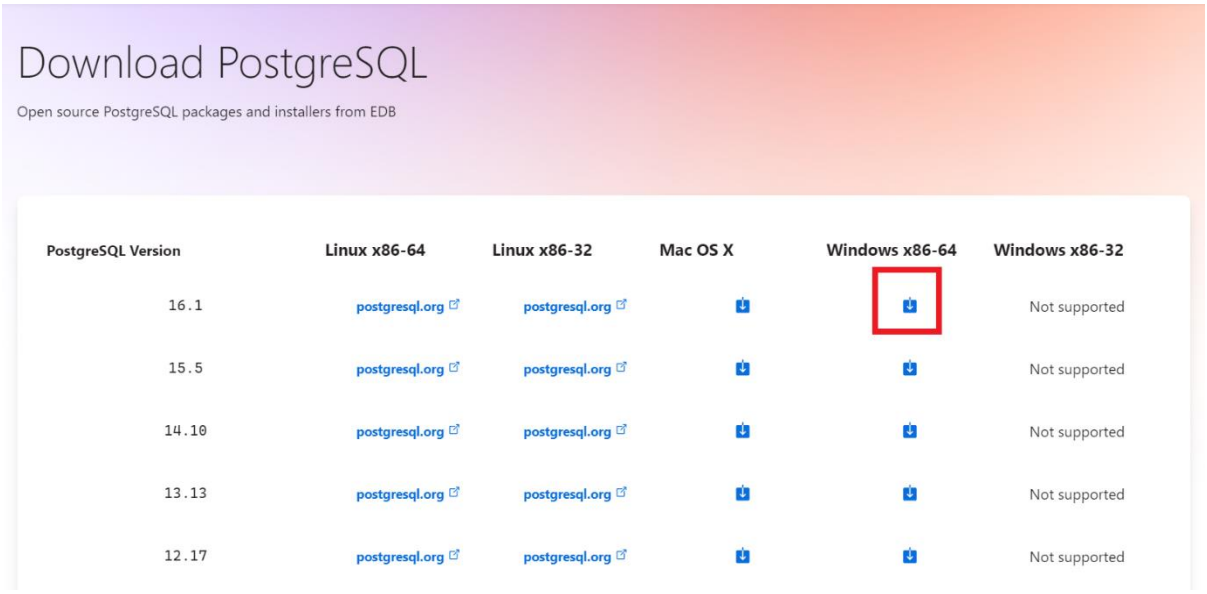


Figuur 1.3.1: Java version

Step 2: PostgreSQL

PostgreSQL is the database behind Thingsboard. PostgreSQL will store all pertinent data.

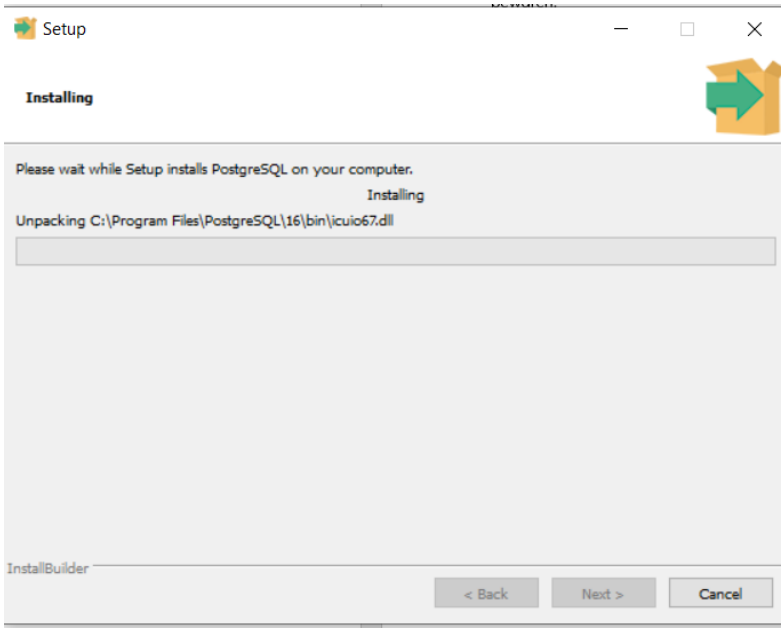
We begin with this site: https://www.enterprisedb.com/downloads/postgres-postgresql-downloads#windows



Figuur 2.1: PostgreSQL Installation website

Press the button, displayed in Figure 2.1. This is the button in the top row, under column "*Windows x86-64*". Execute the downloaded file.

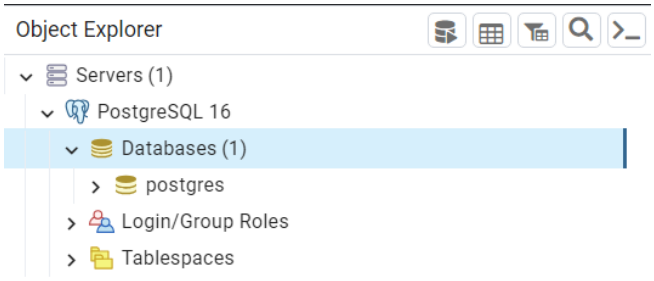
All screens can stay on default values, so keep on pressing "*Next*" until the screen in figure 2.2 is reached. Afterwards, wait until the installation is done.



Figuur 2.2: Installation

In these steps, you'll also be asked about a **password**. It's recommended to use the **default password, "postgres".** This helps you because within Thingsboard no specific configurations need to be made. For this guide, it's assumed you used the default password. If that's not the case, you can find what you need to do in the [tutorial.]

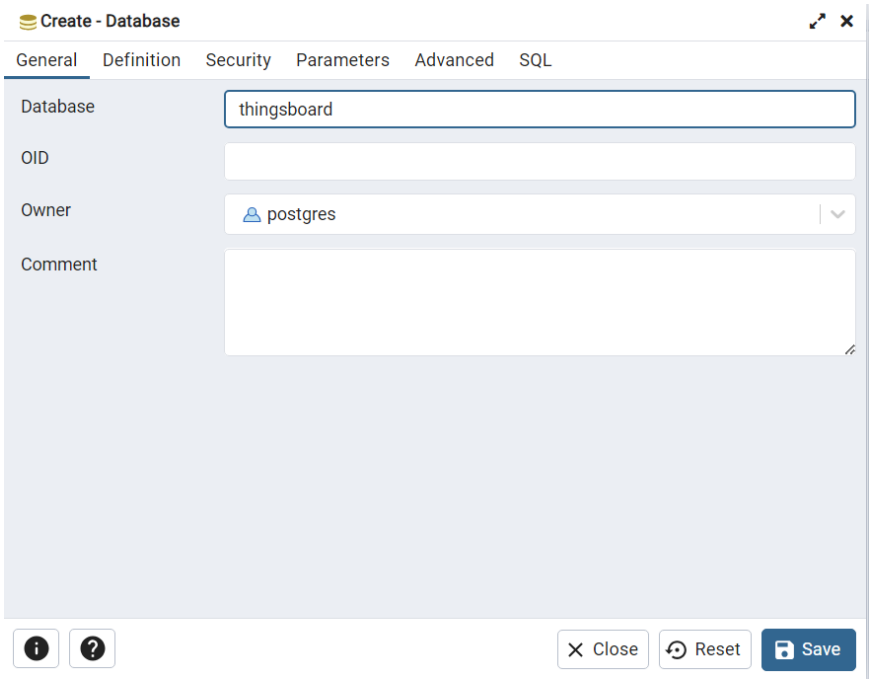
This installation may take a while. It's possible to do Step 3 already while you wait.



Figuur 2.3: pgAdmin

After the installation of PostgreSQL, open the new program "***pgAdmin***" and open Servers, PostgreSQL and then Databases (figure 2.3)

Then right click on Databases, and press Create and Database. Use the name "thingsboard". This name **needs** to be thingsboard. Press save. Afterwards, pgAdmin can be closed.

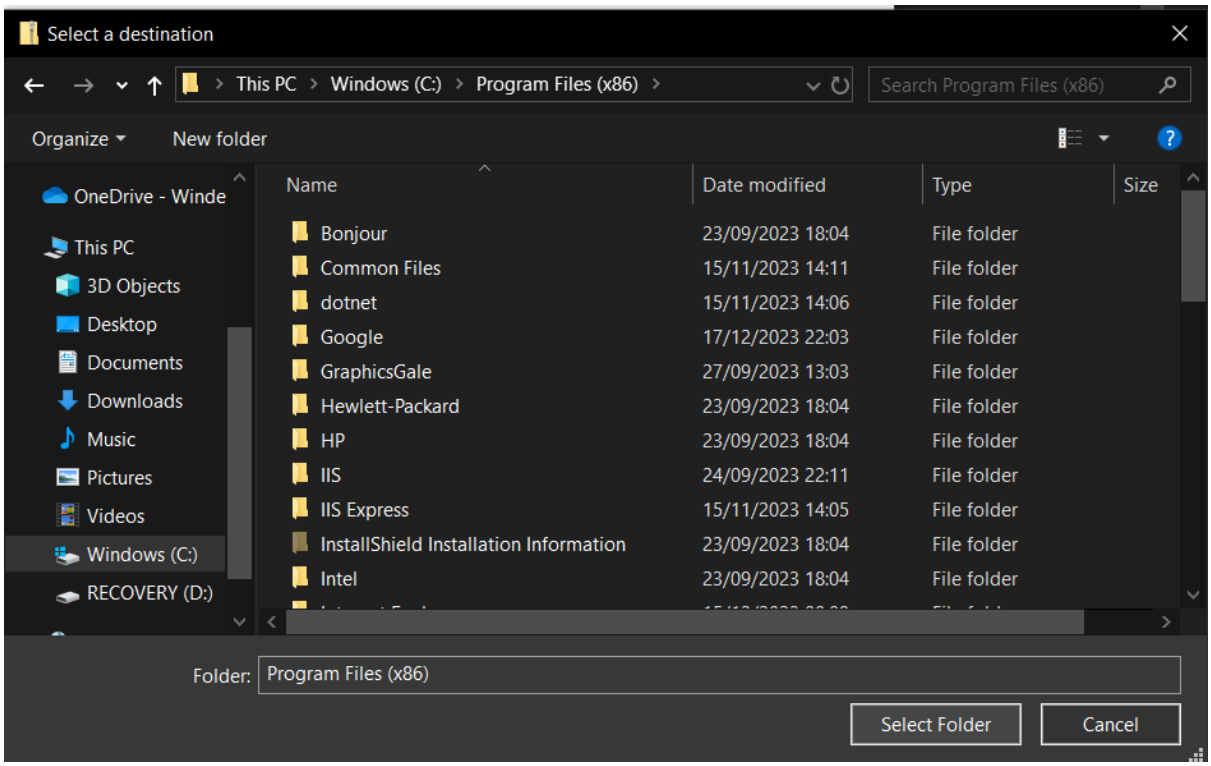


Figuur 2.4: pgAdmin database creation

Step 3: Downloading Thingsboard

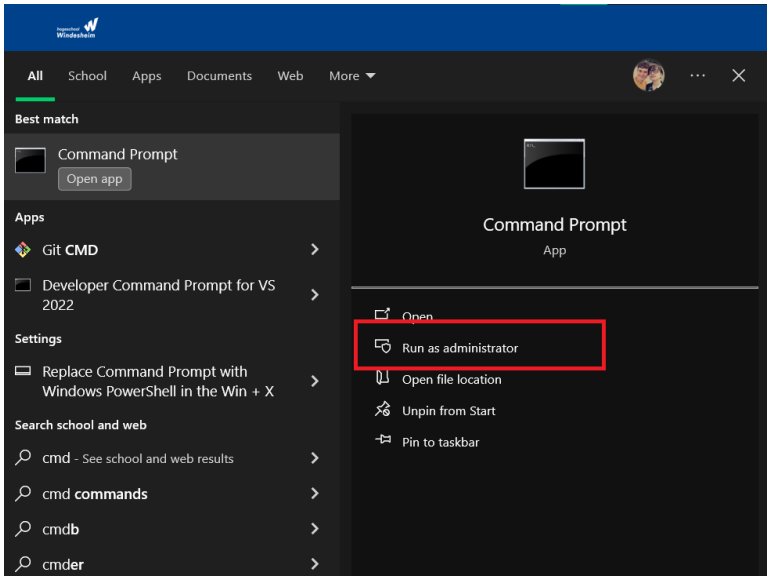
Open this link, and download the file. (Most recent browsers will automatically download the file, upon opening the website).

Right click the file and select **extract all**. Choose the **windows file root (**Windows C:**),** In Program Files (x86).



Figuur 3.1 Extract Thingsboard

Now we need a commandprompt again. You do this by searching on windows to "**commandprompt**" ("cmd" would also work). This time you need to open it as an **administrator** though because additional permissions are required.



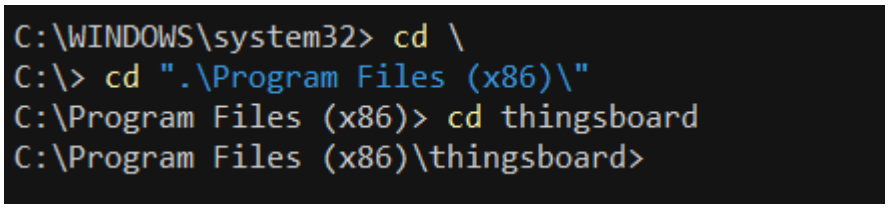
Figuur 3.2: Open command prompt as administrator

In there, you have to **navigate** to the location of thingsboard. You do this using the following commands (assuming you saved it in the location previously described).

```
cd \
```

```
cd ".\Program Files (x86)\"
```

```
cd thingsboard
```



Figuur 3.3: Navigate to thingsboard.

Then, to install:

```
.\install.bat
```

This *should* end with an output of "Thingsboard installed successfully!"

Step 4: Turn Thingsboard on

Thingsboard needs to be turned on first. This will probably only need to be done only once.

The first step to turn Thingsboard on is to open it using a **commandprompt** with **administrator-rights.** This is described in step 4. (You don't need to navigate to thingsboard)

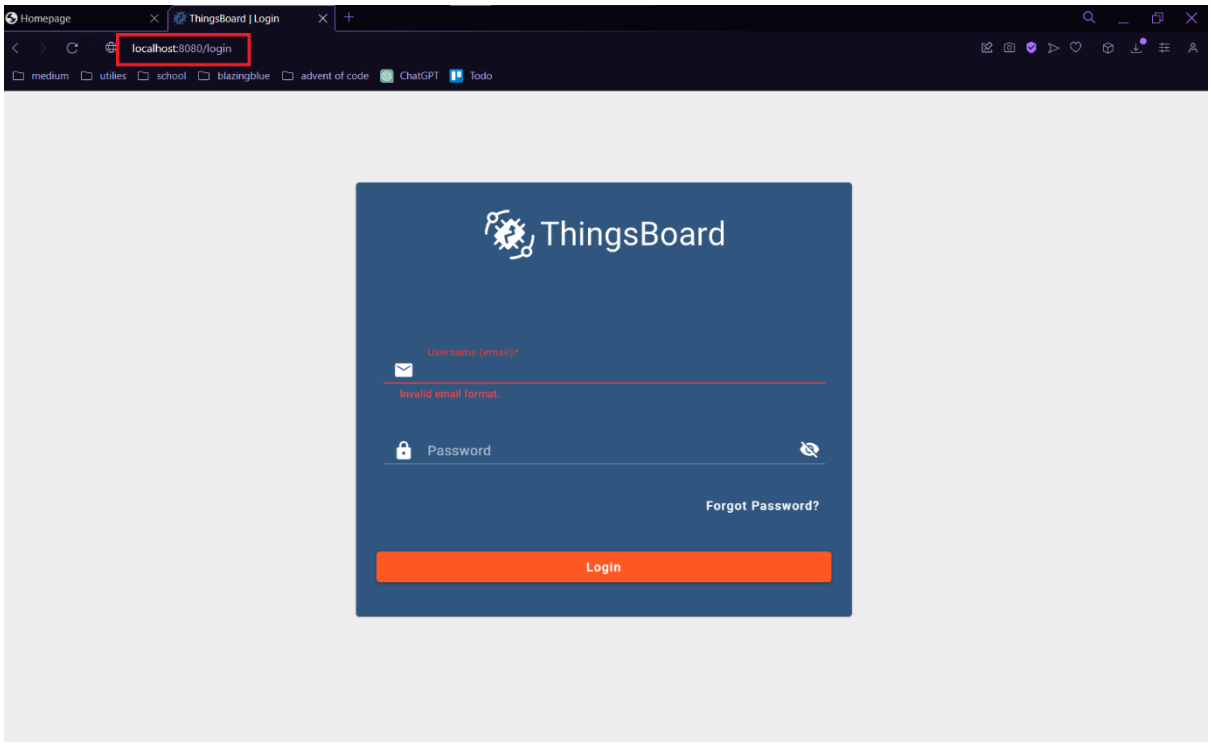
To turn it **on**, you execute the following command:

```
net start thingsboard
```

Afterwards, wait ~40 seconds (maximum of 90 seconds). Then open a browser and visit the following url:

```
http://localhost:8080
```

Here you will find the thingsboard site.



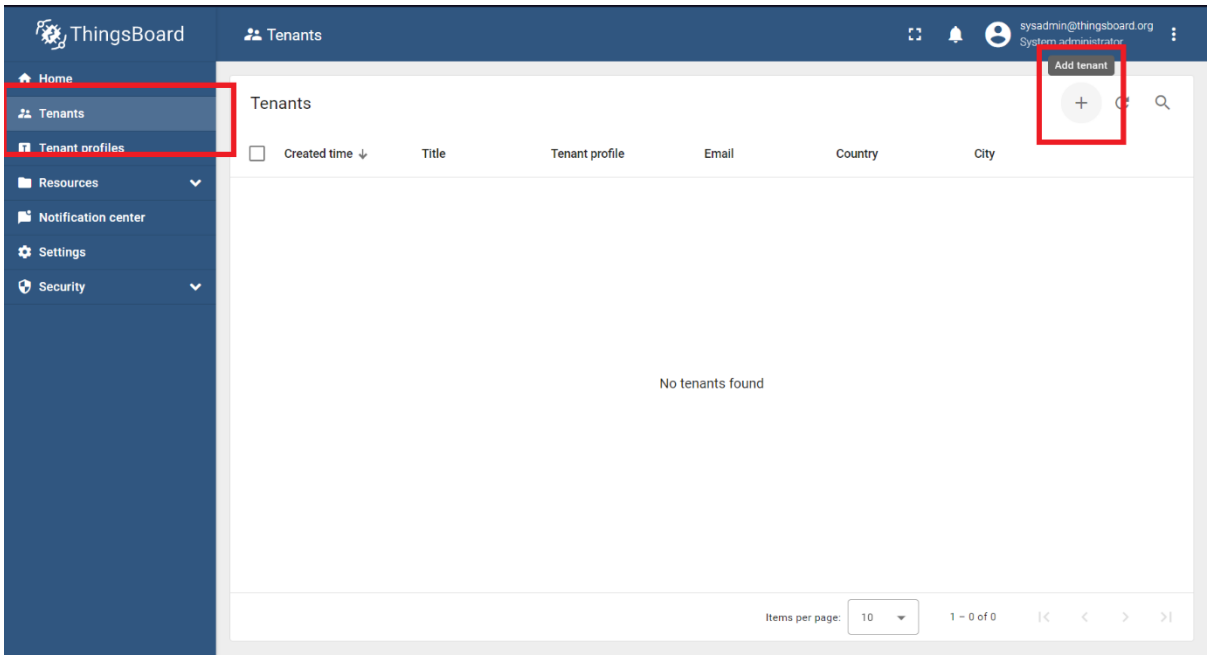
Figuur 4.1: Turn thingsboard on

Default credentials are: **username**: sysadmin@thingsboard.org **password**: sysadmin

Step 5: But this is an admin account? Not a customer account

That's right. The dashboard (the only reason to use thingsboard) is unfortunately limited to **customer accounts**. The admin account that you start with unfortunately doesn't have this. So this step 5 will show you how to make a **customer**.

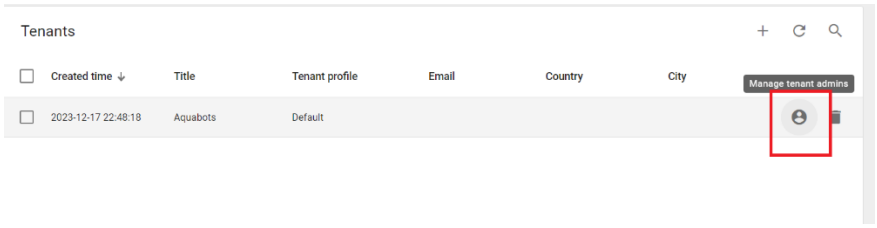
First log in as the admin (credentials can be found in step 4). Then press on "*Tenants*", and the **plus-icon** to add a **Tenant.**



Figuur 5.1: Tentants dashboard

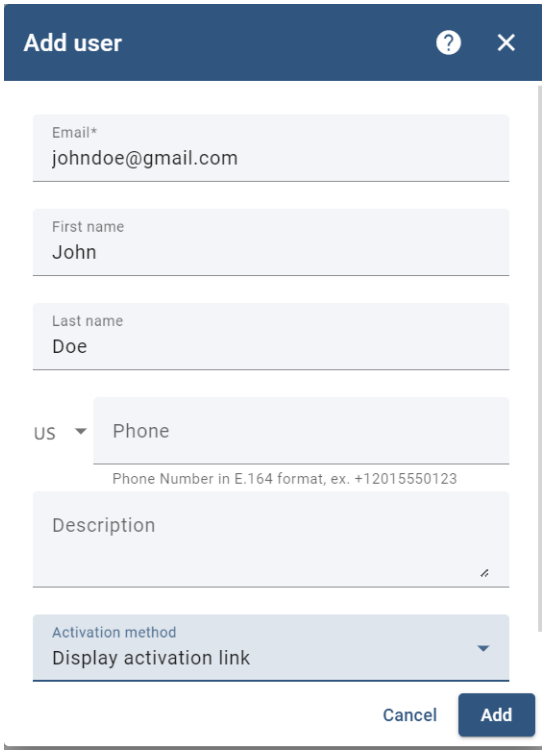
This opens a **form** where you can enter information. The only **required** field is the name.

Go to the admins. The plus icon is on the same location as in Figure 5.1. Press the icon to add a new user (can be a simple "Team Aquabot" or something in those lines).



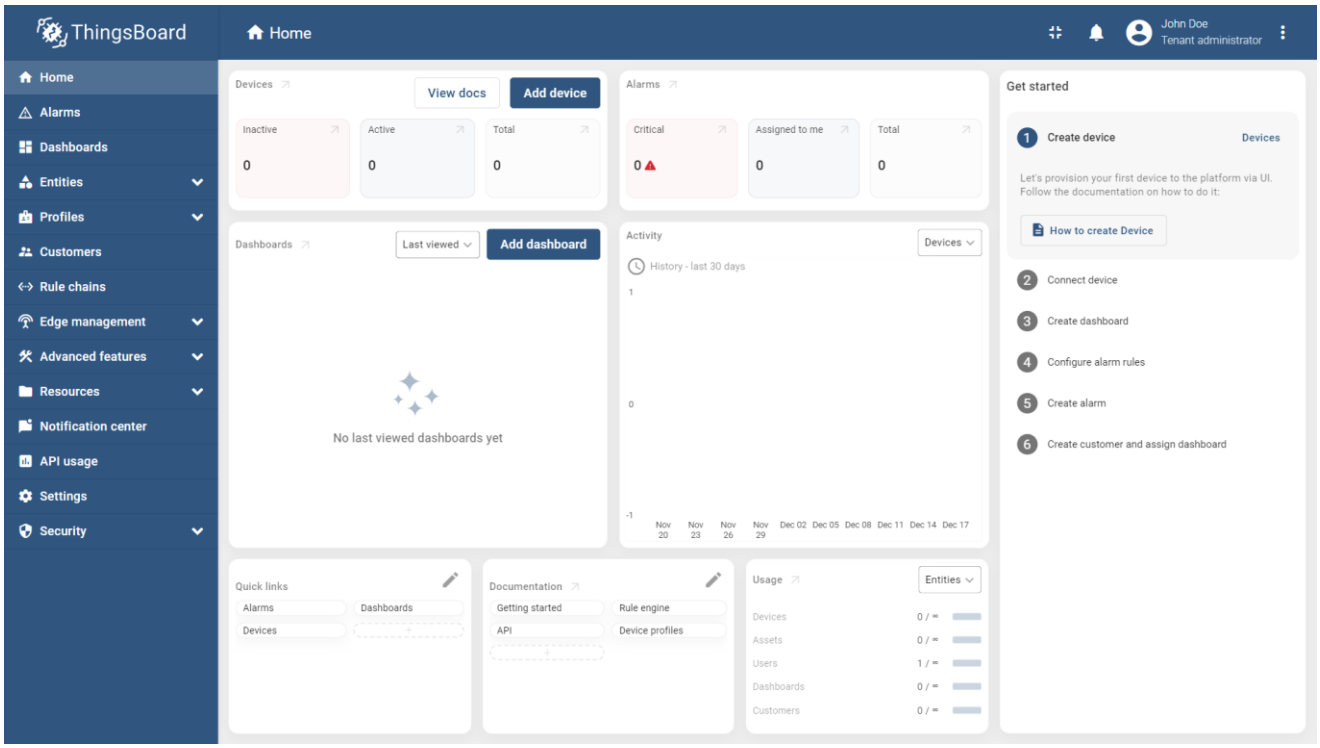
Figuur 5.2: Tenants admins

Here, insert the data of the customer account you intend to use. Make sure that **Activation method** "*Display activation link*" is chosen. If you press "*Add*" you get a popup with an **activation-link**. Copy this link and visit it.



Figuur 5.3: Create user.

On this page you can set a password.
And that's it: You are now a logged in customer in a locally hosted Thingsboard



Figuur 5.4: Working local thingsboard