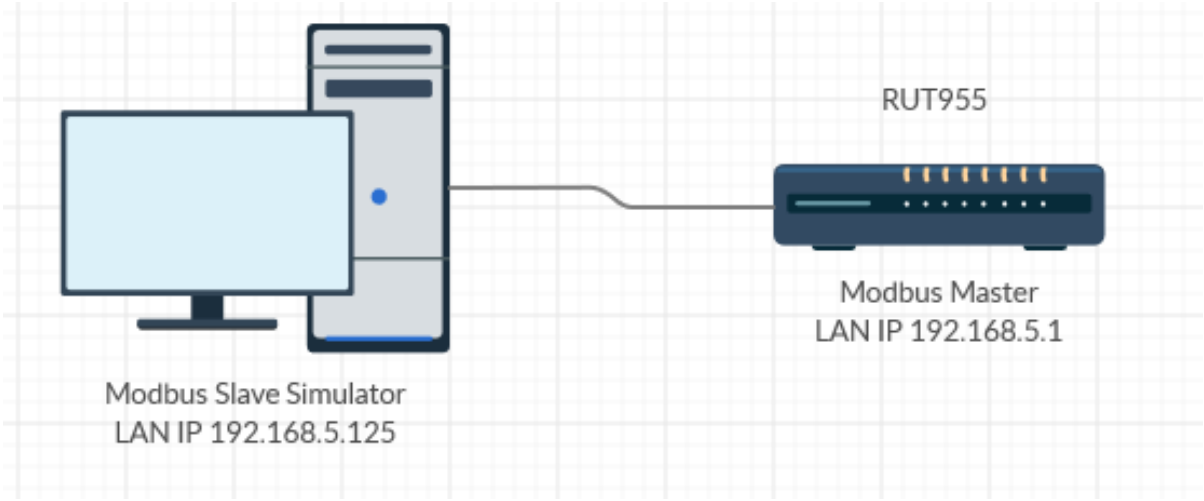
Modbus Serial Master



A Modbus **master** device can request data from Modbus slaves.

RUT955 will be used throughout this guide

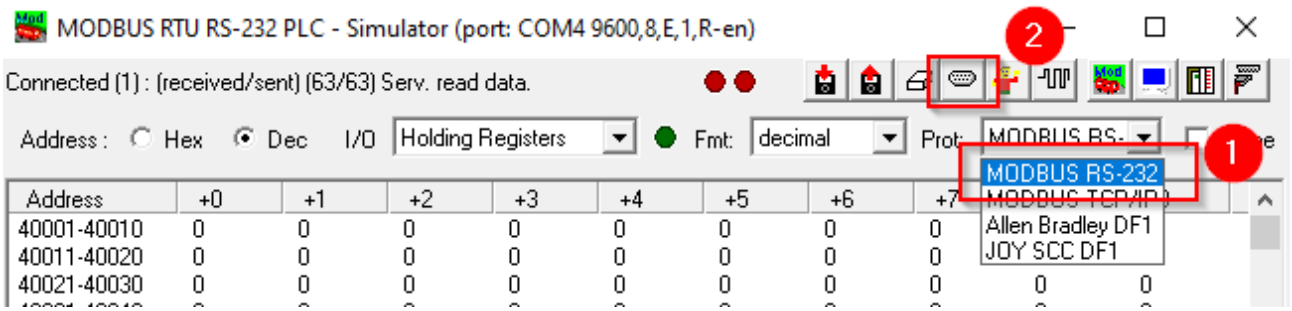
Prerequisites:

- ModRSsim (https://sourceforge.net/projects/modrssim/)

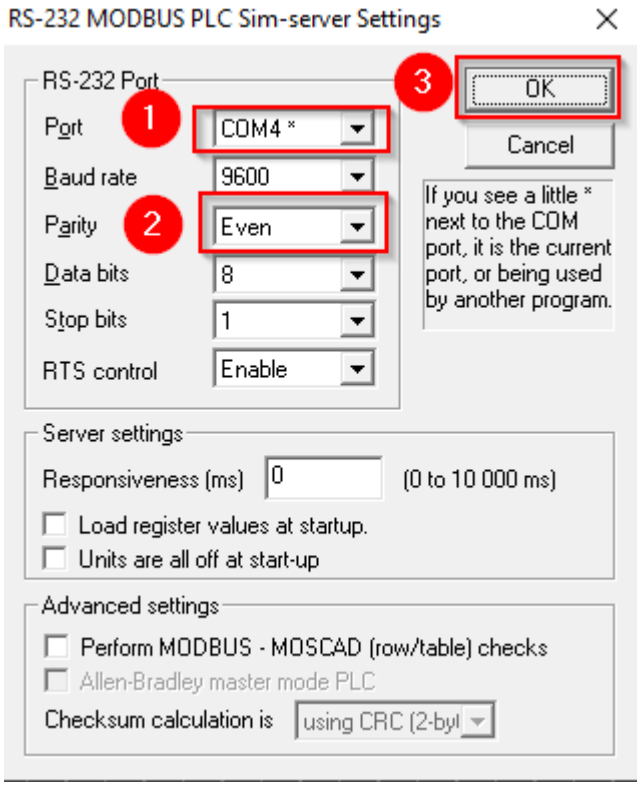
ModRSsim is Slave device simulator software which simulates real Modbus Slave device.

Configuring ModRSsim

1. Select Protocol as **MODBUS RS-232.**
2. Click **Setup the communication Serial or TCP/IP port**.



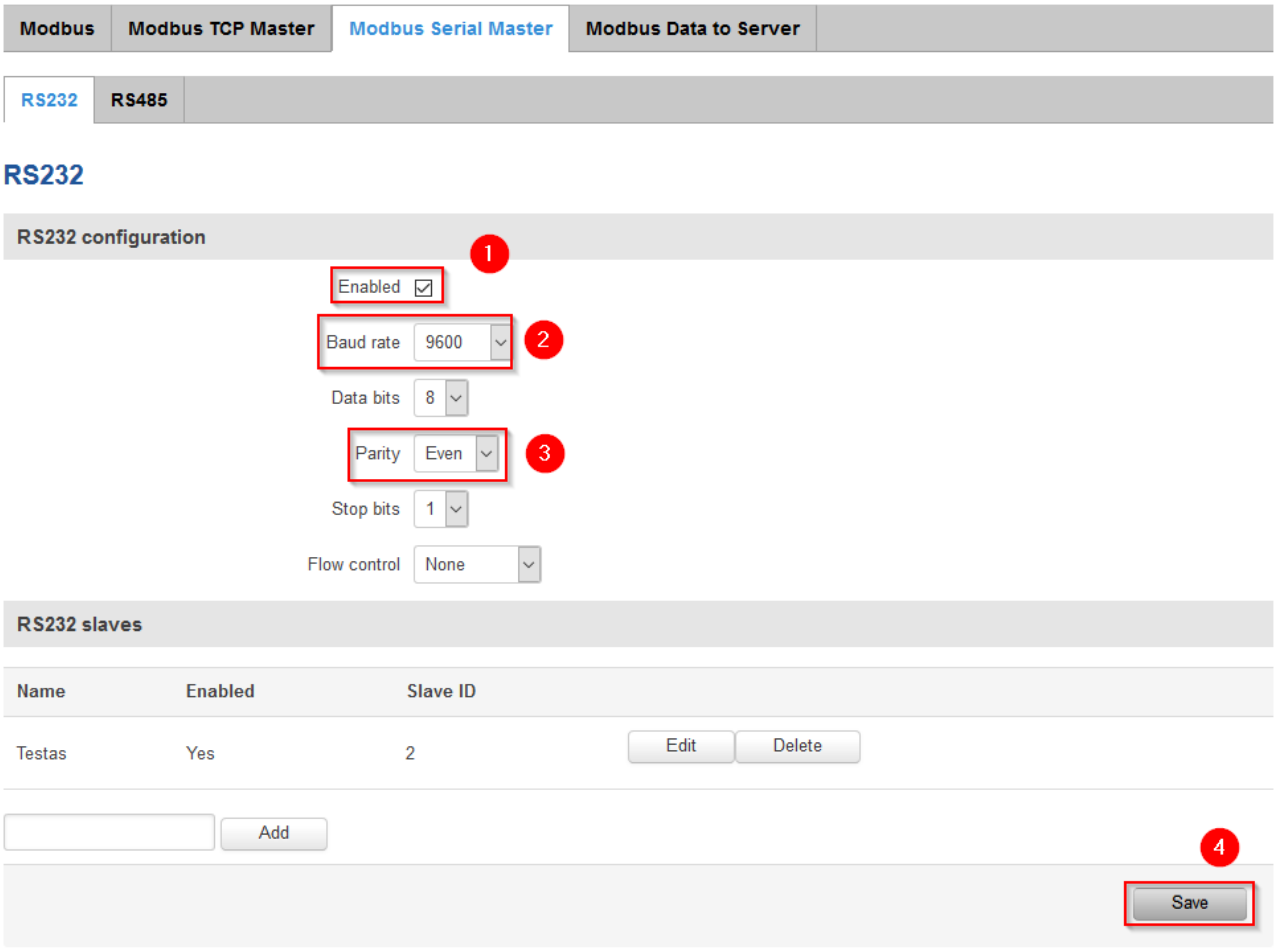
1. Select the port which you used to connect RS232 cable to (to find which port you are using go to Windows search bar and write **Device Manager** then select **Ports** and see which one you are using).
2. Select **Parity** Even.
3. Click **OK**



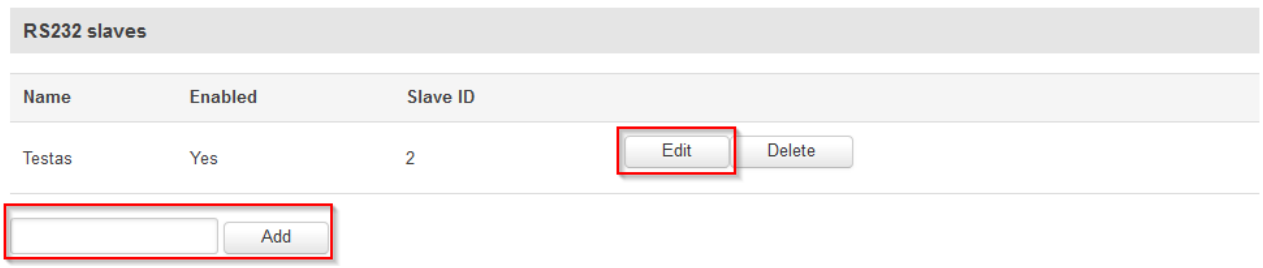
Configuring Modbus Serial Master

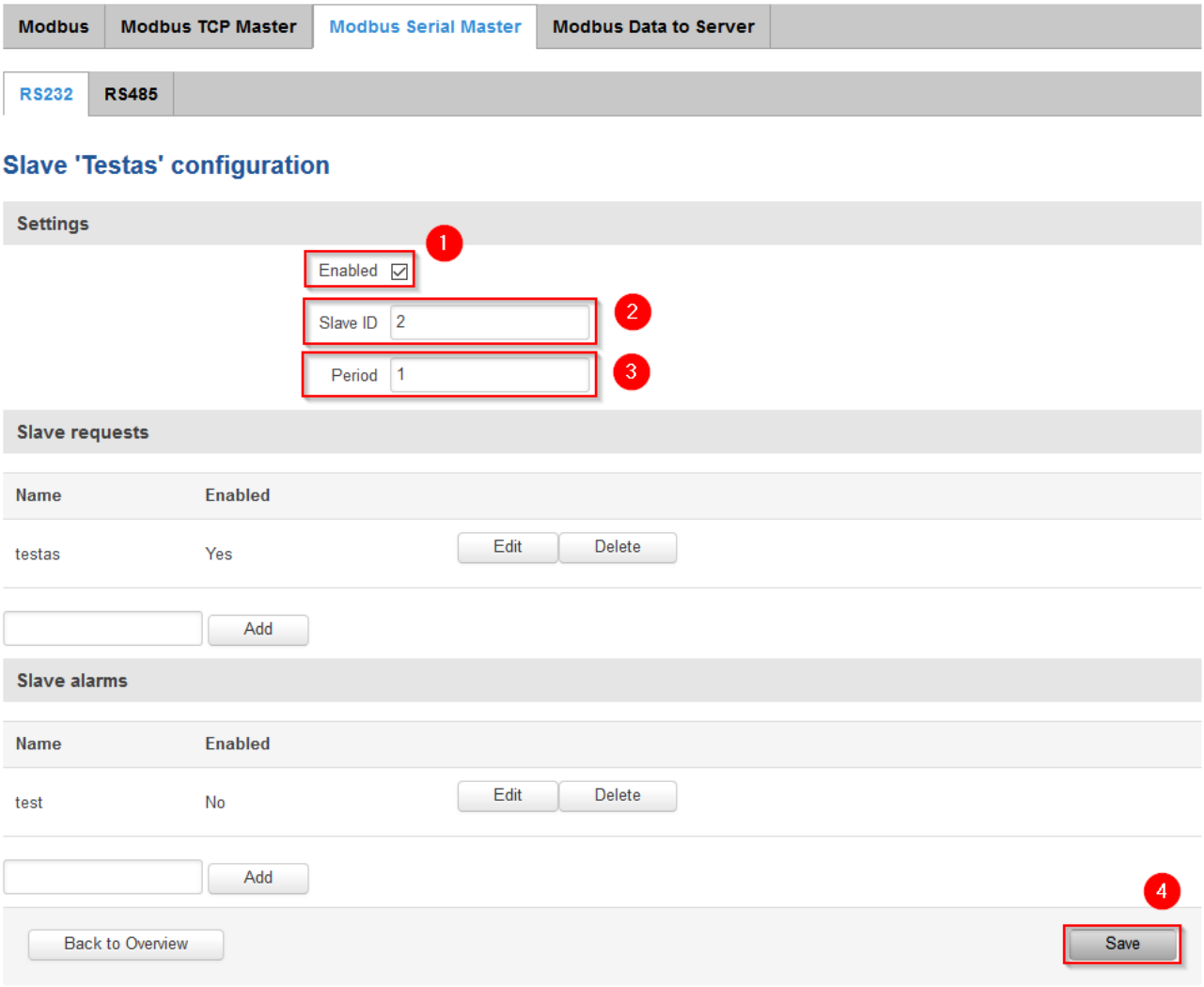
Open router's WebUI and navigate to **Services > Modbus > Modbus Serial Master.**

1. Press **Enable**.
2. Select **Baud rate** (9600, it must match slave's Baud rate).
3. Select **Parity** (Even).
4. Press **Save**.



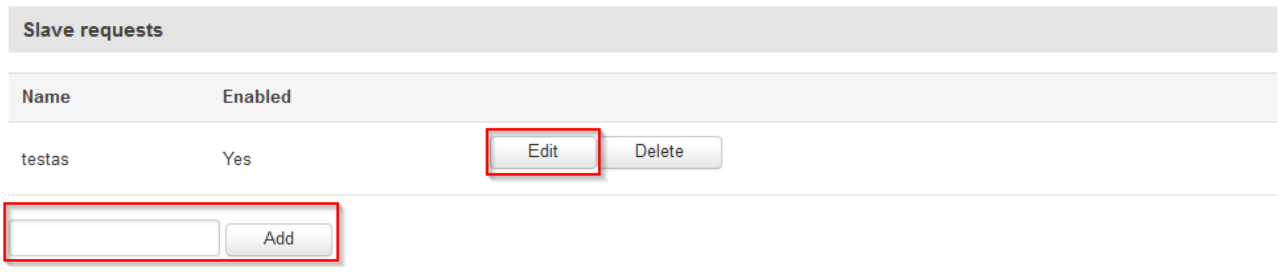
Now create **RS232 slave** by writing a name, pressing **Add** button. It should appear like in the example and then press **Edit**.

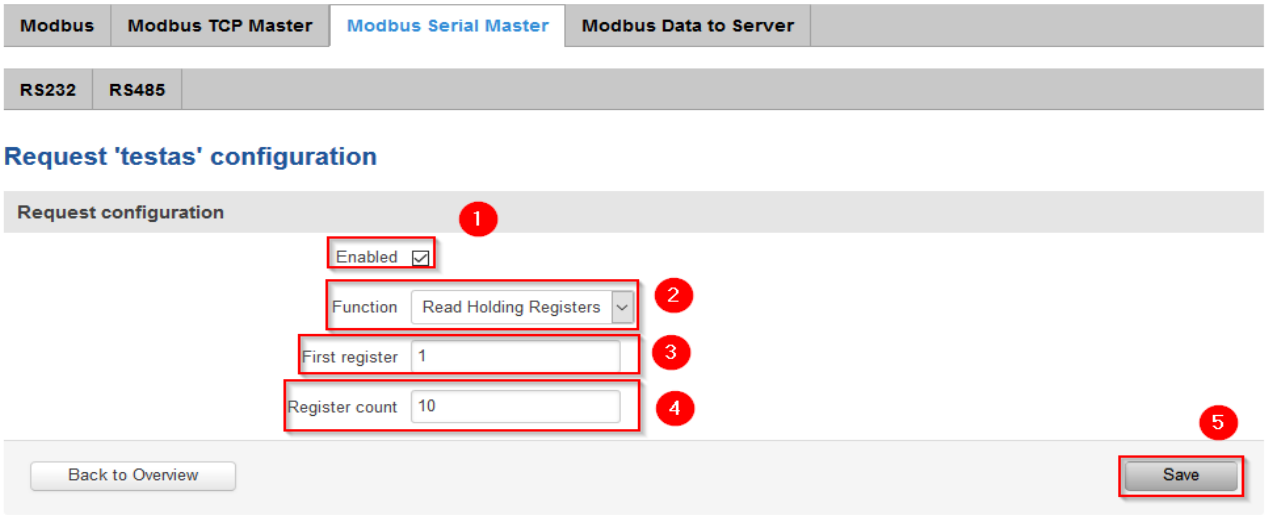




1. Check **Enable.**
2. Type in **Slave ID** (any number from 1 to 255).
3. Add **Period** (Query period).
4. Press **Save**.

Go back to the **Slave configuration** window and create **Slave request** by writing a name, pressing **Add** button. It should appear like in the example and then press **Edit**.

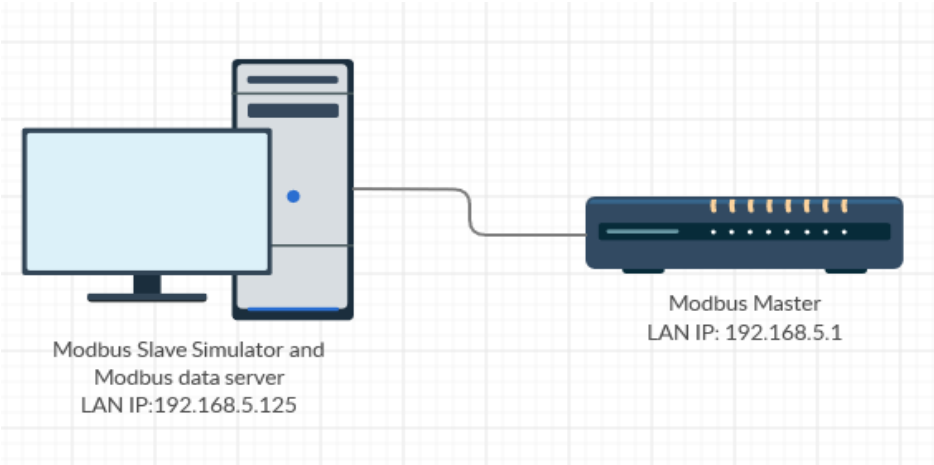




1. Check **Enable**.
2. Select **Function** (Read Holding Registers).
3. Write **First register** (1).
4. Write **Register count** (10).
5. Press **Save**.

In order to test the functionality you will need to setup **Modbus Data to Server** (you can setup server on the same computer you used as a slave simulator).

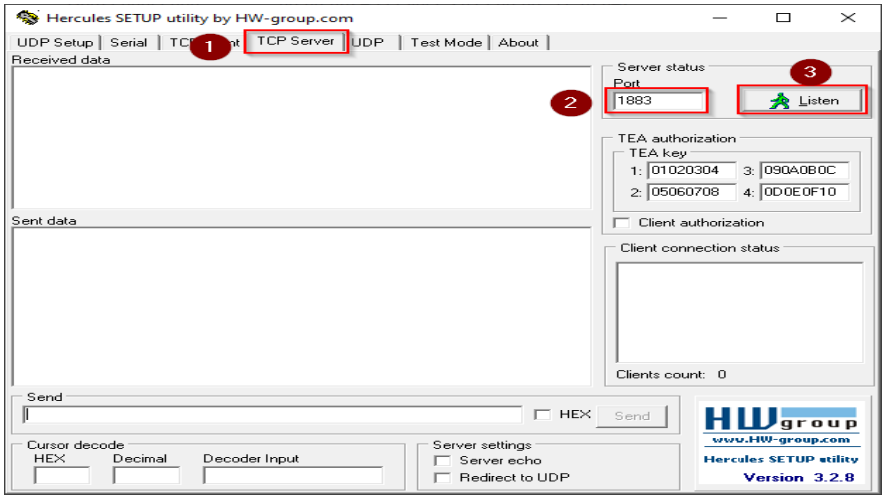
Prerequisites:
Windows Hercules app - https://www.hw-group.com/software/hercules-setup-utility



Configuring PC

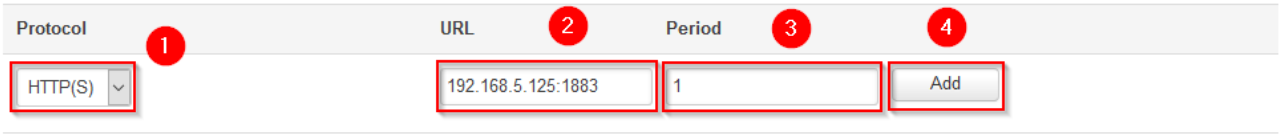
First of all download the Hercules app, install it and then open it.

1. Select **TCP Server** tab
2. Enter **port** (In this example default 1883 is used)
3. Click **Listen**

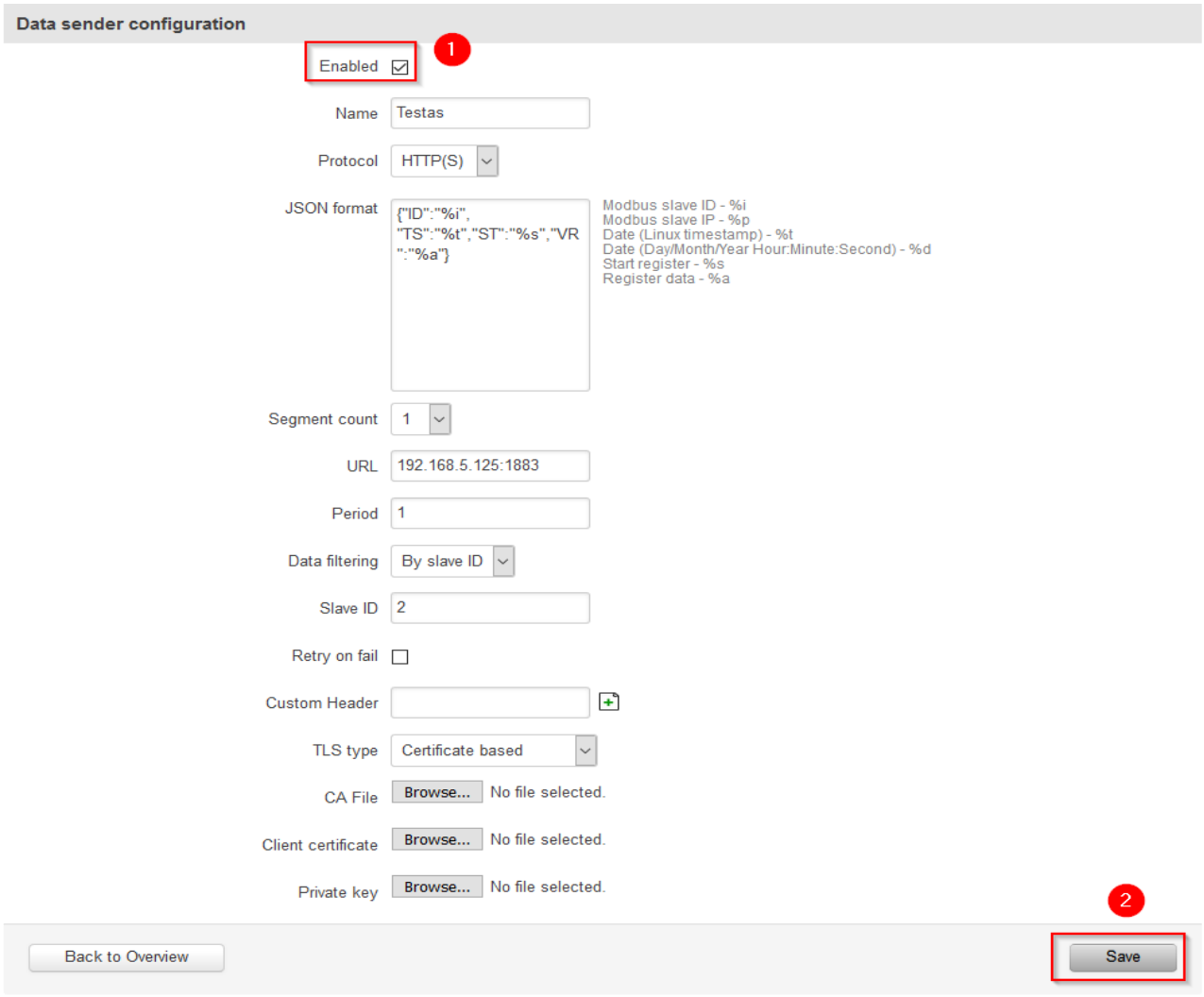


Configuring RUT955

Open router's WebUI and navigate to **Services > Modbus > Modbus Data to Server**



1. Select **Protocol** (In this example HTTP(S) will be used).
2. Enter **IP** and **port** of the PC with the Hercules software.
3. Enter **Period** (minutes, how often router should send data to server).
4. Click **ADD**.

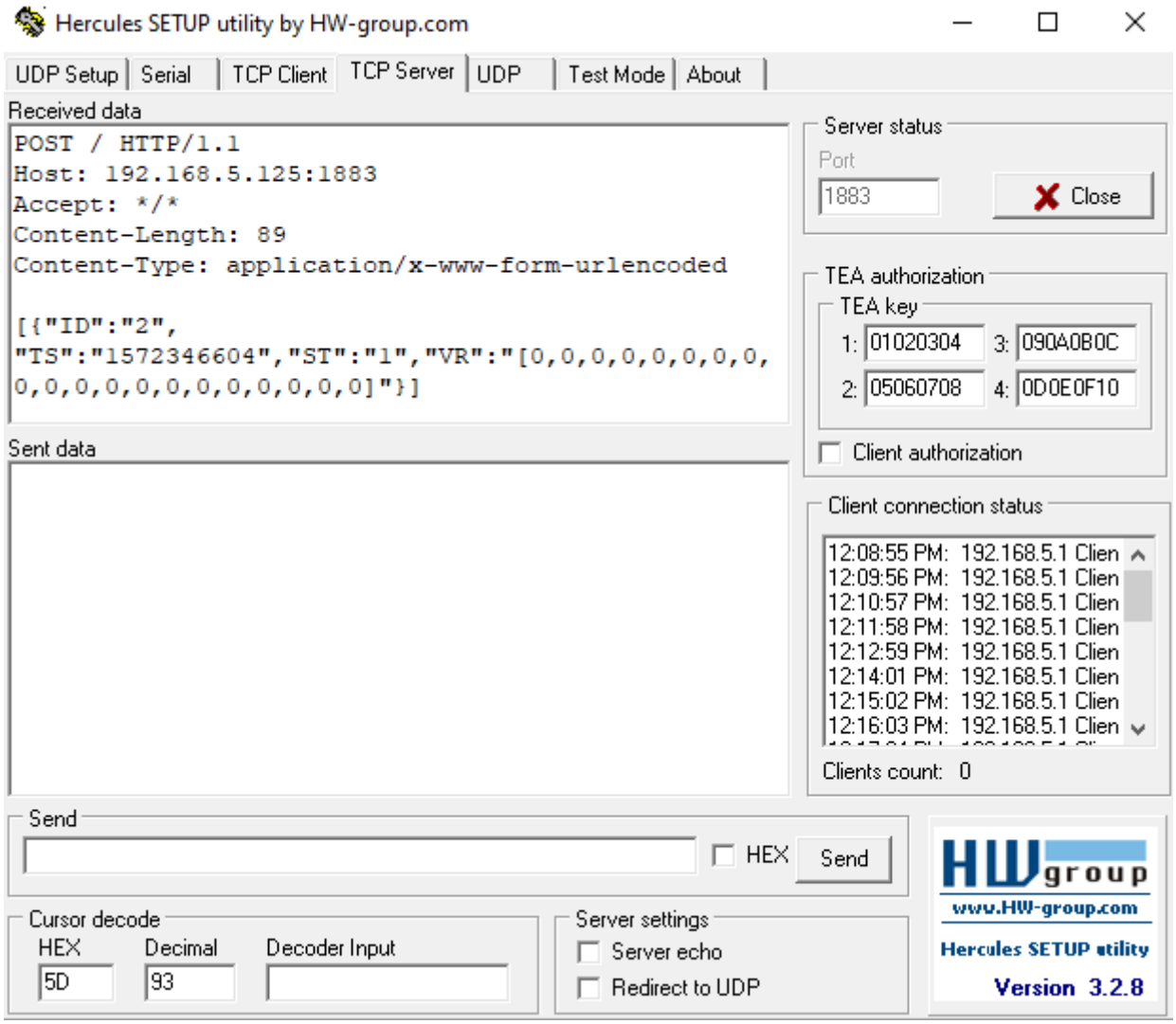


You will be redirected to **Advanced sender settings**

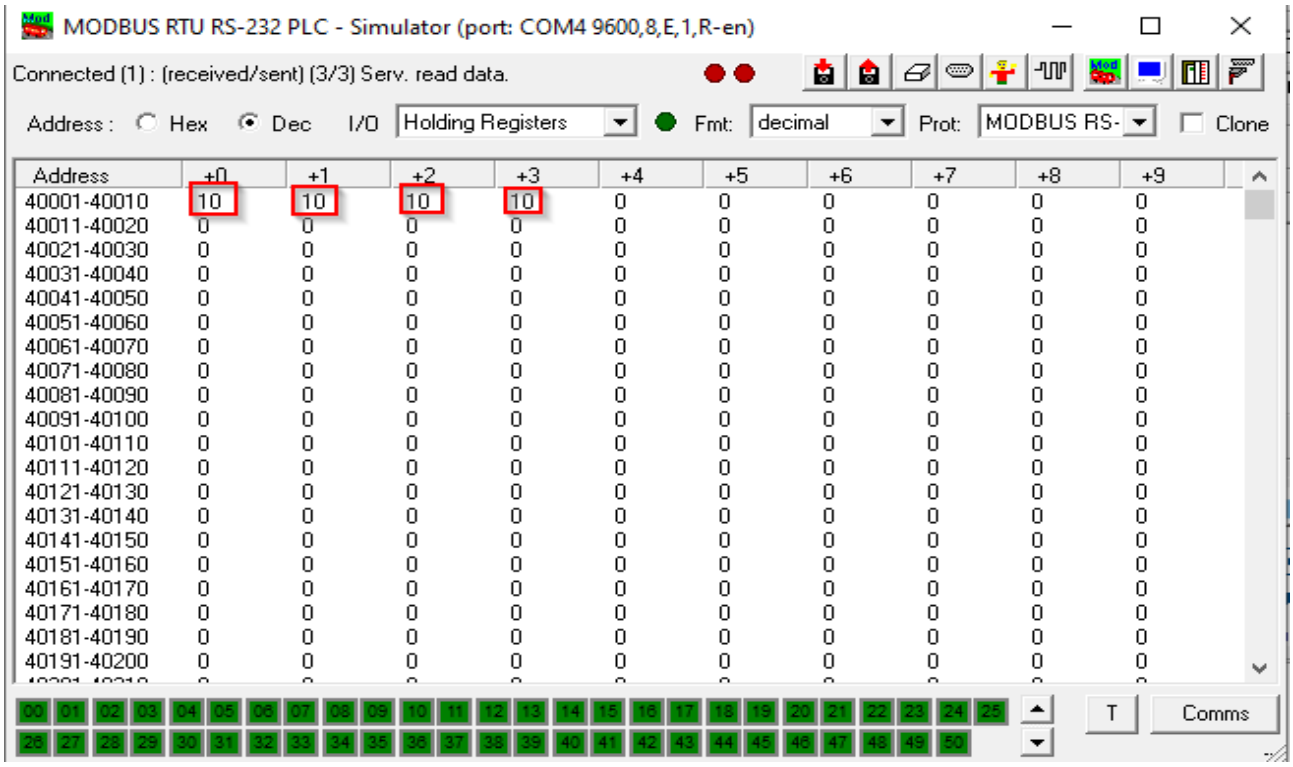
1. Enter **Name** (It can be anything you want).
2. Click **Save.**

Receiving Data

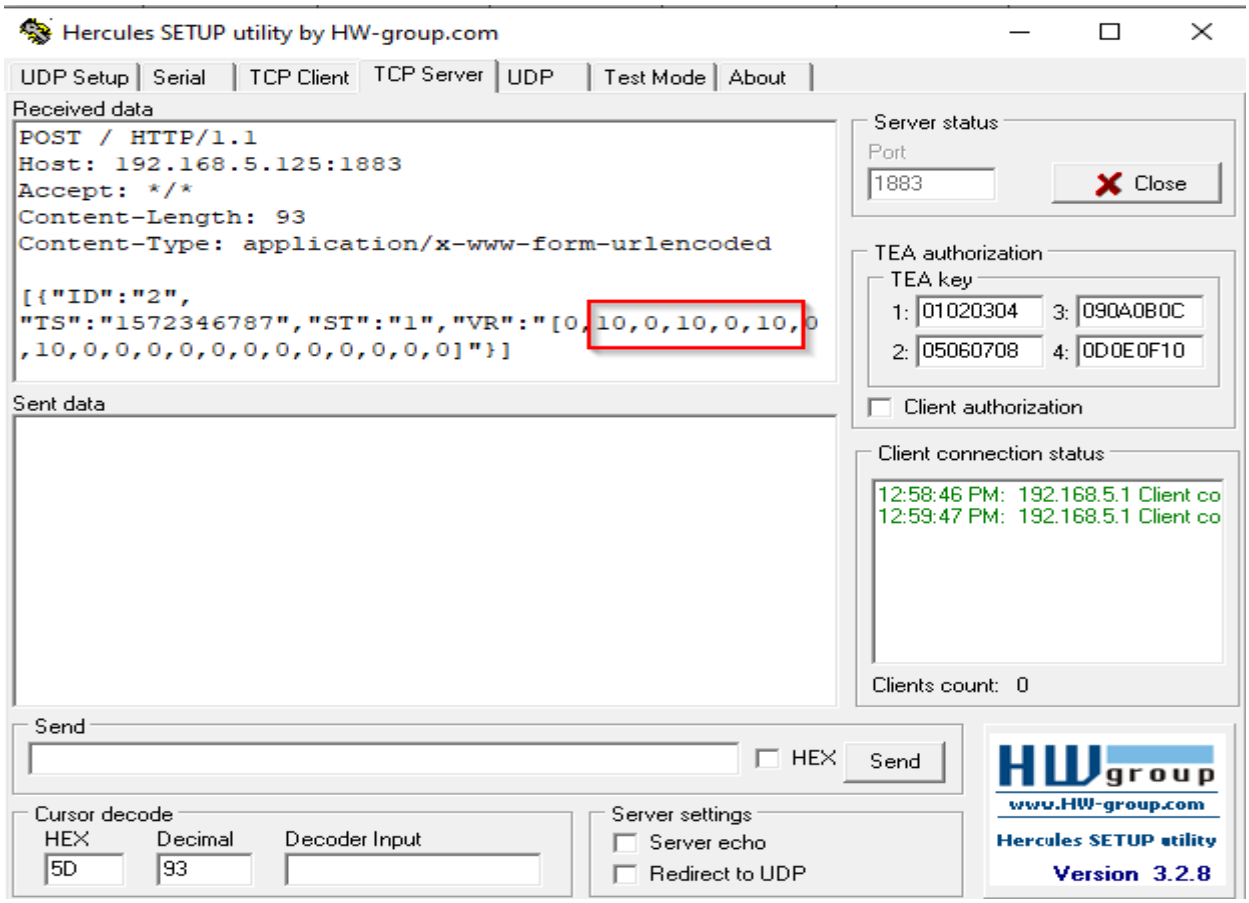
Open Hercules again, press **Listen** and you should start receiving Modbus Data messages



Try to change some data in the Modbus Slave simulator.



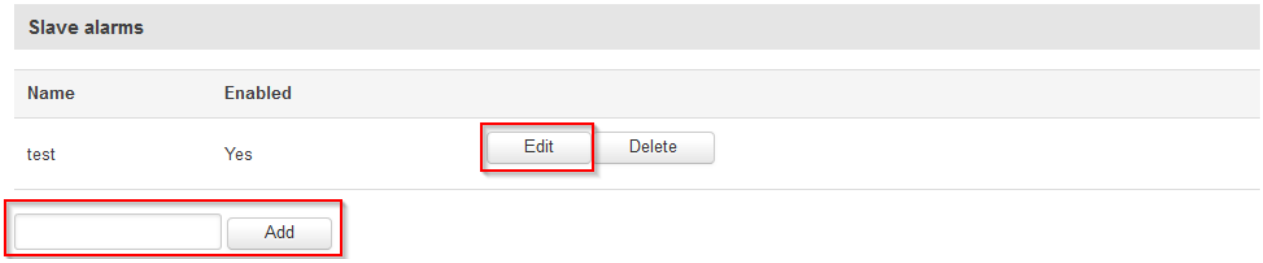
Received data should change.



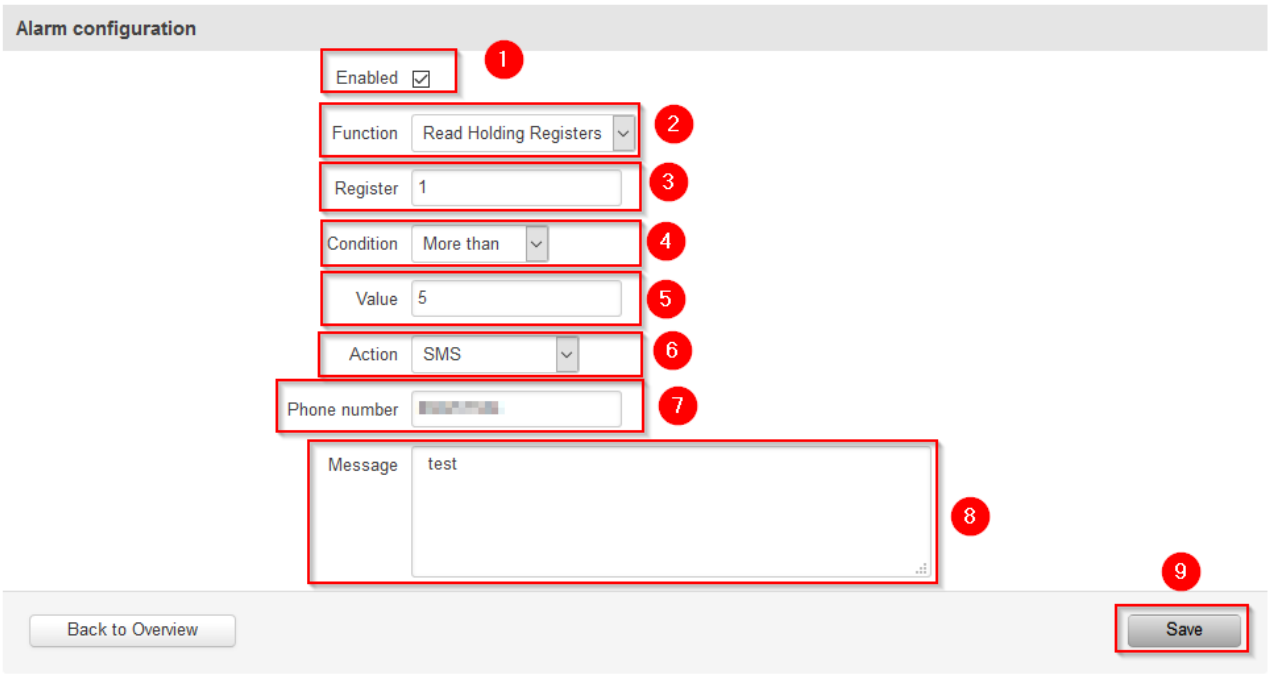
Configuring Slave alarms

(In order to perform this test sim card ir required)

Go back to **Services > Modbus > Modbus Serial Master** and press edit the same Slave configuration or create a new one. There will be section called **Slave alarms**. Create a name, then press **Add** button. When it appears like in the example, press **Edit**.

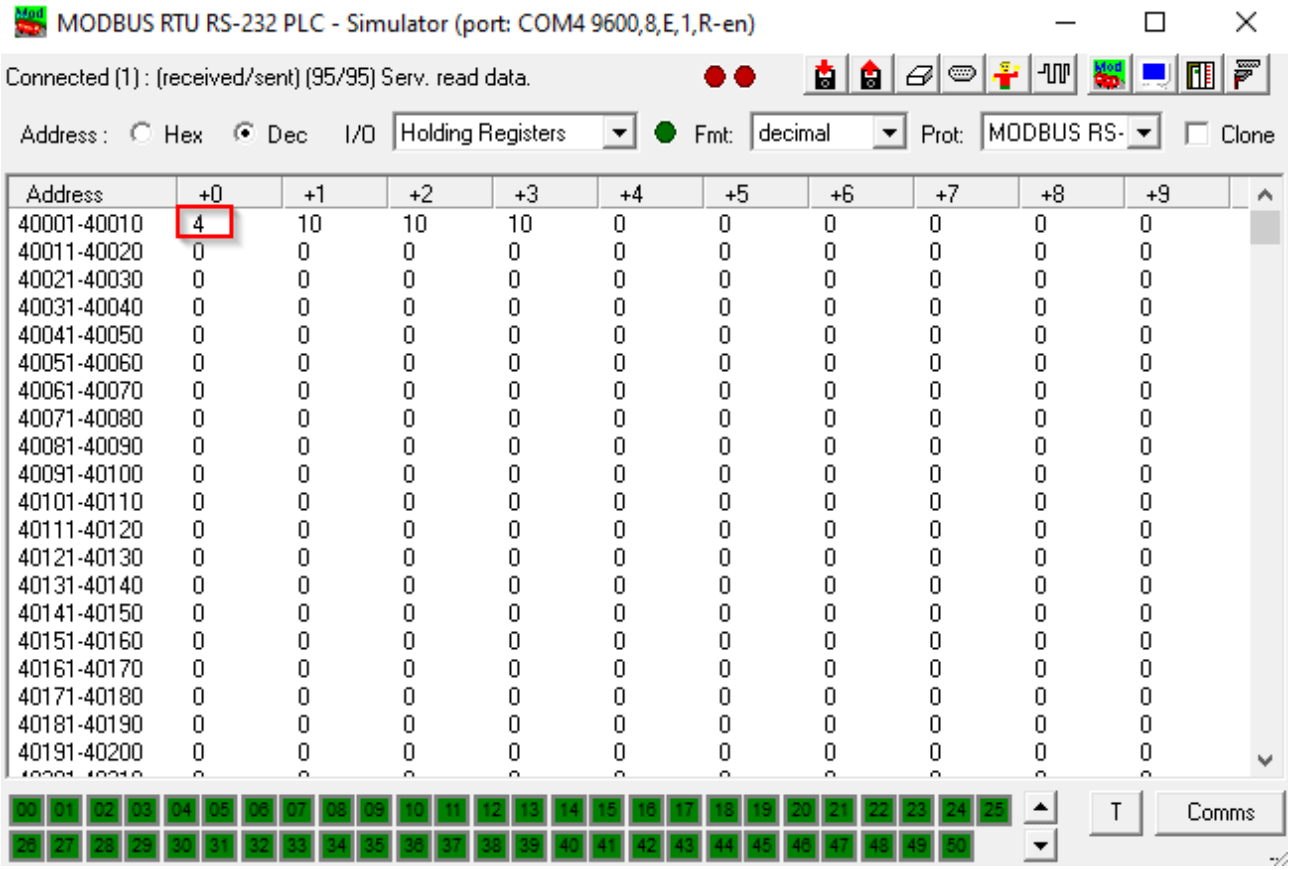


Alarm 'test' configuration



1. **Enable** instance.
2. Select **Function** (Read Holding Registers).
3. Write **Register** (1).
4. Select **Condition** (More than).
5. Write **Value** (5).
6. Select **Action** (SMS).
7. Write **Phone number** (the number you want to receive the messages to).
8. Create **Message** (type anything you want to receive).
9. Press **Save**.

Now go back to **Modbus slave simulator** and edit this window:



Change the value to anything below 5, you should not receive messages. Then change the value to anything above 5, you should start receiving messages.