W5100S Ethernet Shield User Guide

How to use the WIZnet Ethernet Library

https://github.com/Wiznet/Ethernet.git

Version 0.0.2

http://www.wiznet.io

Contents

Figure

1. Overview

For users of the Arduino Ethernet Shield, Arduino[1] includes an Ethernet Library[2] in the IDE to release. The currently released Arduino IDE is ARDUINO 1.8.7 and the included Ethernet Library is V2.0.0.

The Ethernet Library V2.0.0 supports Arduino Ethernet Shield and Arduino Ethernet Shield 2, and supports W5100 / W5200 / W5500. The Arduino Ethernet Library 2 for Arduino Ethernet Shield 2 is now available as an Ethernet Library V2.0.0, though it still only supports the W5500.

Ethernet Library V2.0.0 is developed and released in Github[3], and WIZnet Github has developed it to support W5100S, and is currently preparing to release it through pull request.

This document describes how to apply the Ethernet Library installed with WIZnet Github to the Arduino IDE installed for W5100S Ethernet Shield users before the Ethernet Library that supports the W5100S is included in the Arduino IDE.

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[1] https://www.arduino.cc/

[2] https://www.arduino.cc/en/Reference/Ethernet

[3] https://github.com/arduino-libraries/Ethernet

2. Download

The WIZnet Github has a library developed to support W5100S by forking in Arduino Ethernet Library V2.0.0. Download as below.

2.1 WIZnet Github

Connect to the following address with Internet Browser. It can be downloaded via TortoiseGit or other Git Client.
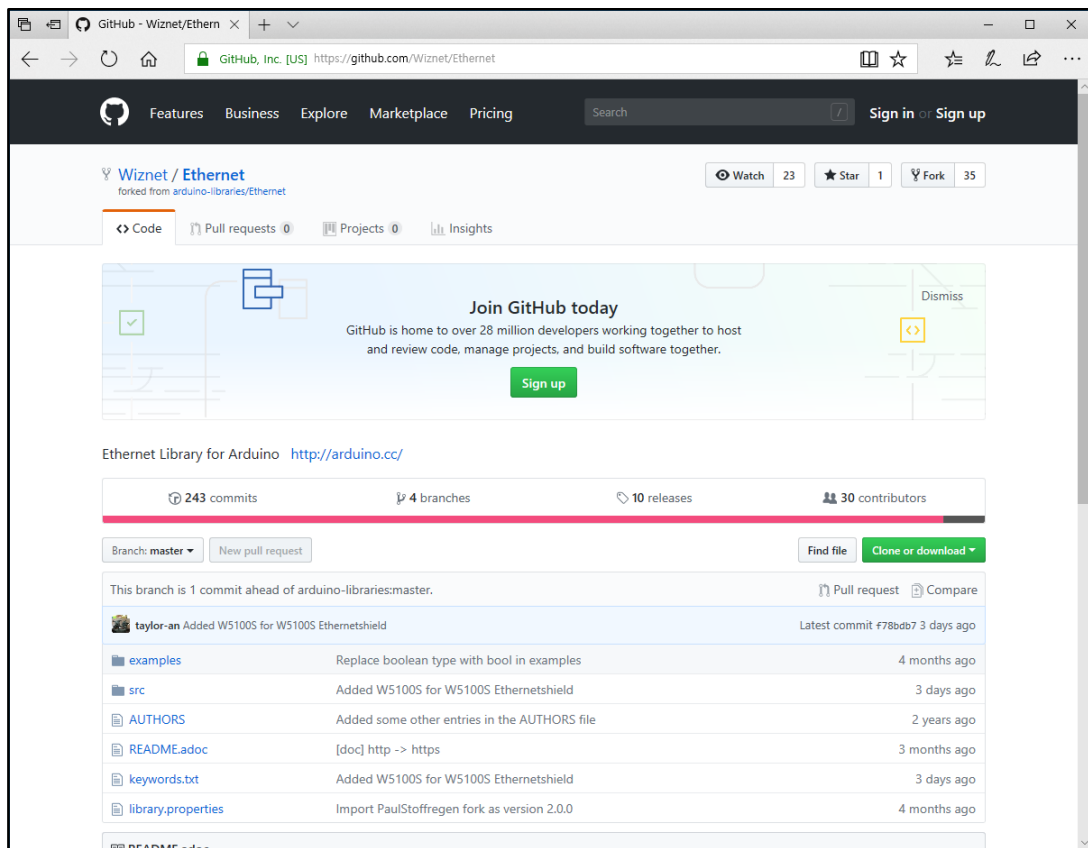
Git hub address : https://github.com/Wiznet/Ethernet

Firgure 2-1 WIZnet Github

2.2 Clone or download

Choose Clone or download.
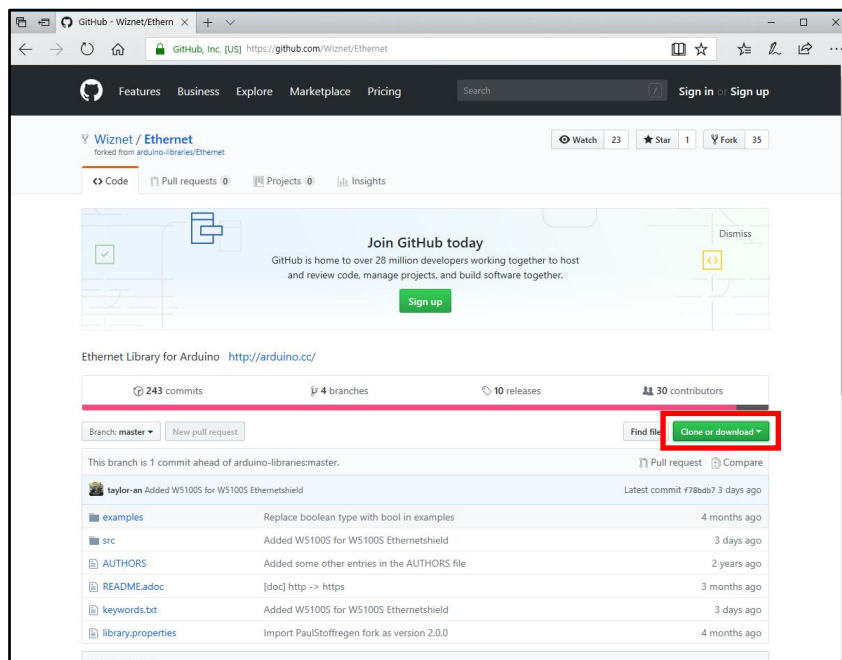
Firgure 2-2 Clone or download

2.2 Download ZIP
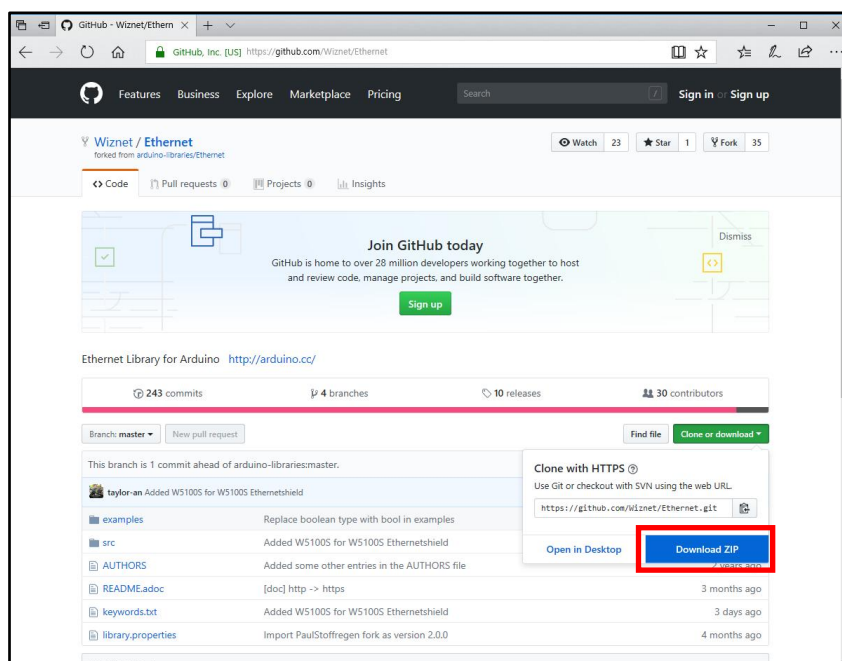
Choose Download ZIP and save source codes as a ZIP.
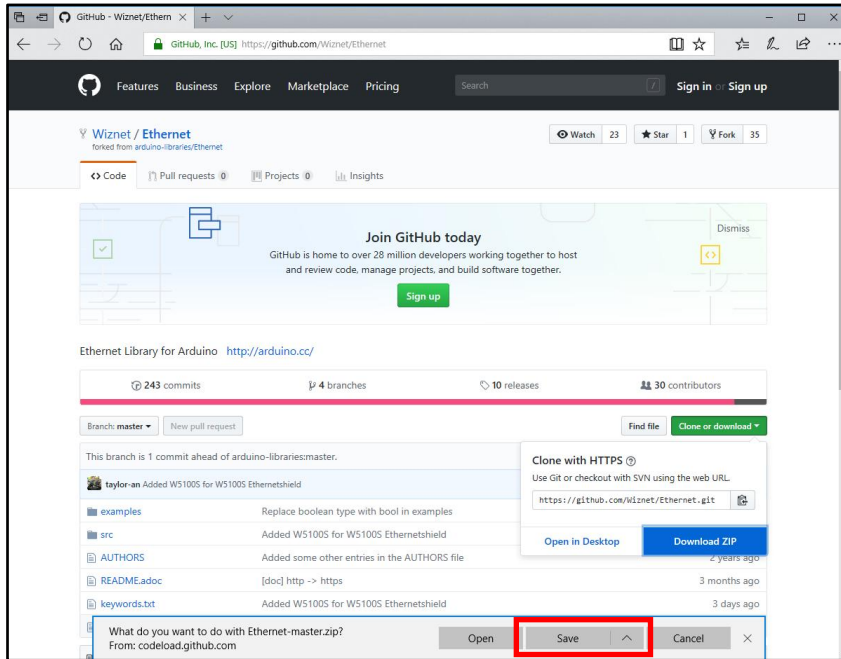

Firgure 2-3 Download ZIP

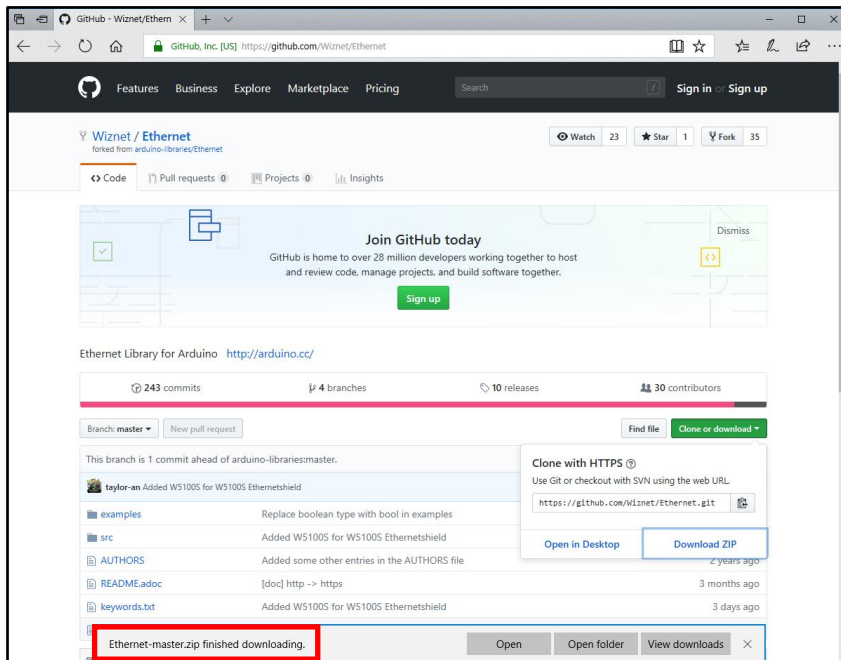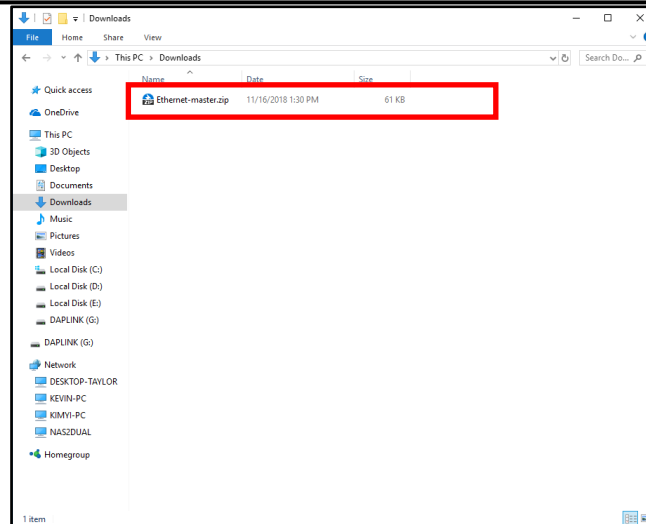**Firgure 2-4 Save**

Firgure 2-5 Downloading

Firgure 2-6 Download Complete

3. Location

Extract the downloaded Ethernet Library Source and copy it to your Arduino Library directory.

The path is generally as follows.
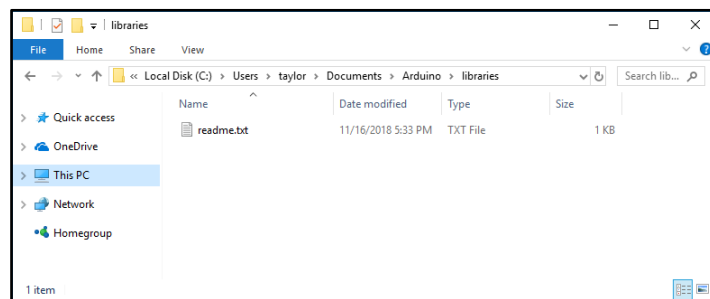
"C:₩Users₩YOURID₩Documents₩Arduino₩libraries"

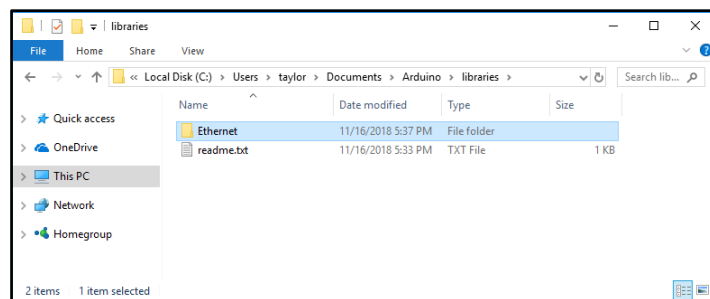**Firgure 3-1 Default user Libraries**

Firgure 3-2 Copy to default user Libraries

4. Example

The copied Ethernet Library can be confirmed by running Example in the Arduino IDE. Below is an example of ChatServer in the example of Ethernet Library running on Arduino UNO Board with the W5100S Ethernet Shield. For another example, see Arduino Site[4] (RESOURCES > TUTORIAL > EXAMPLE FROM LIBRARYIES > Ethernet Library).

4.1 ChatServer

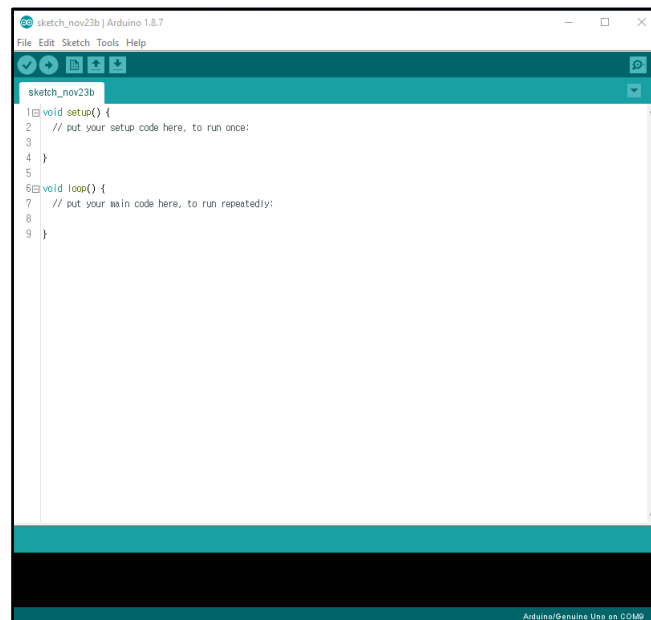Launch the Arduino IDE and click File -> Examples -> Ethernet -> ChatServer.

Firgure 4-1 Arduino IDE

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[4] https://www.arduino.cc/en/Tutorial/LibraryExamples

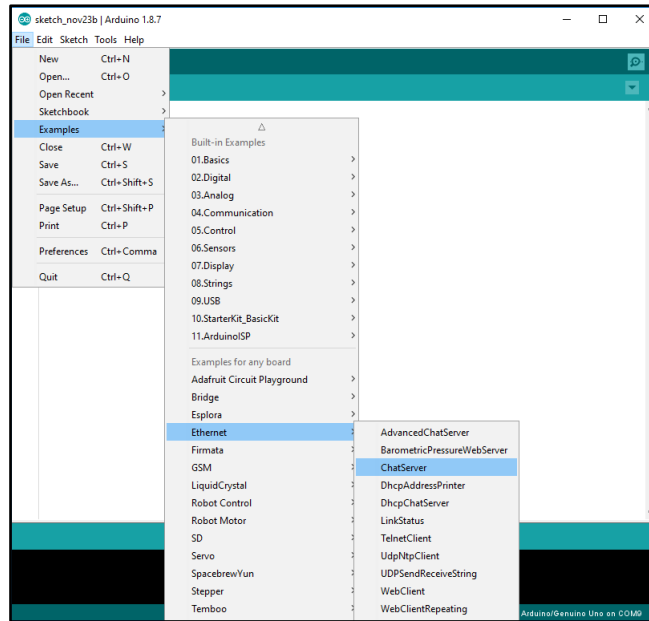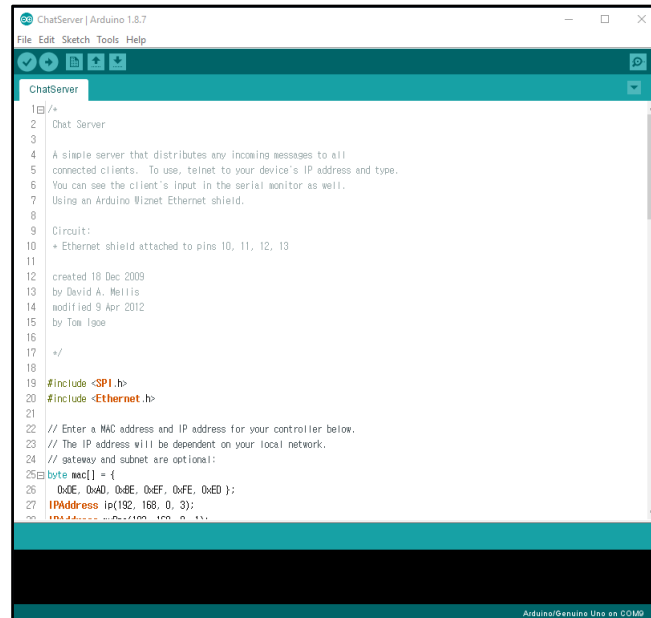W5100S Ethernet Shield User Guide Version0.0.2

Firgure 4-2 Ethernet ChatServer

4.2 Set Network

To run ChatServer Example, set the W5100S Ethernet Shield network variable(IP, DNS, GATEWAY, SUBNET, PORT) according to your PC network environment.

Firgure 4-3 ChatServer

Firgure 4-4 Set Network

4.3 Uploading

Upload to the Arduino Board after set the W5100S Ethernet Shield network variable. You make sure that the Arduino Board is available in the Arduino IDE prior to uploading.
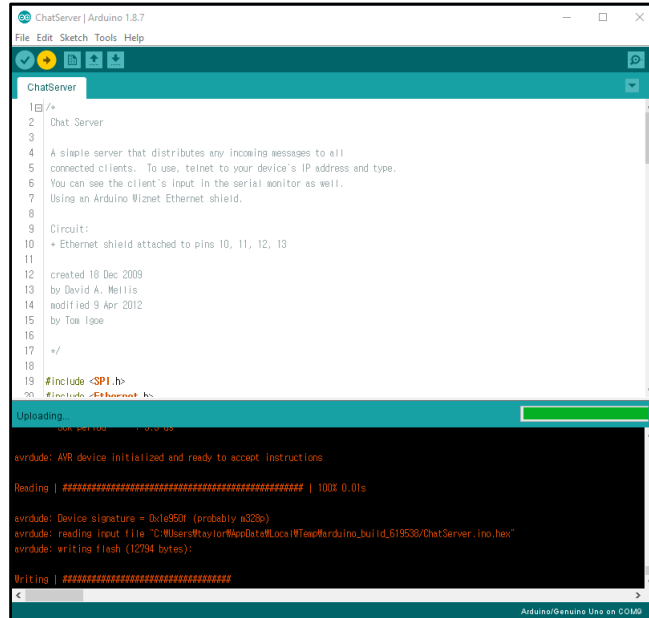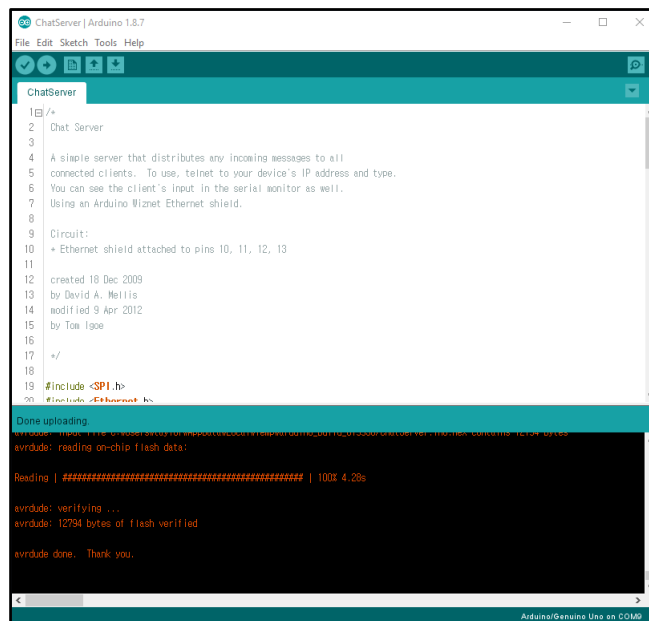

Firgure 4-5 Uploading

Firgure 4-6 Done Uploading

4.4 Run

The example ChatServer is using W5100S Ethernet Shield to output the string, received from the TCP Client to the Serial Monitor and send it back to the TCP Client. You can confirm TCP client connection and received string on Serial Monitor.

Finally execute the TCP Client and connects to the W5100S Ethernet Shield of the Arduino Board. Then you may transmit a string to the W5100S Ethernet Shield. Below is an example for connecting to the W5100S Ethernet Shield as a TCP client via Hercules and transmit a string 'Hi'.

According to 'Figure 4-4 Set Network', the Sever IP to connect TCP Client is 192.168.0.3 and Port is 23.
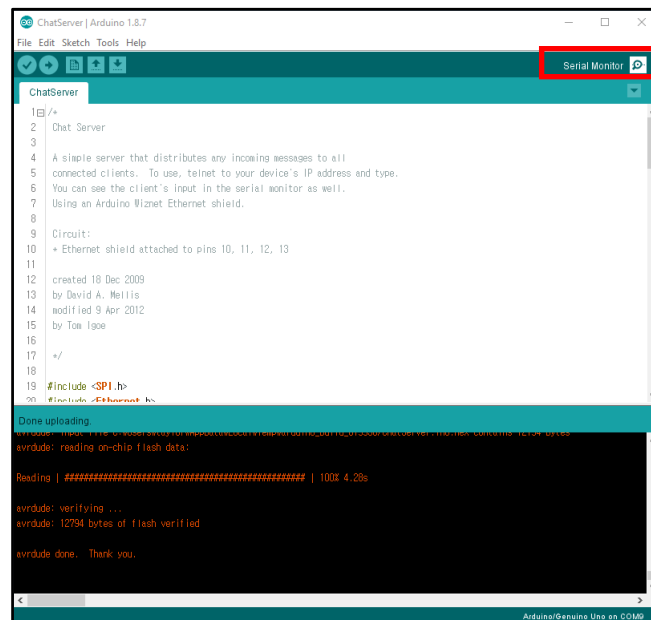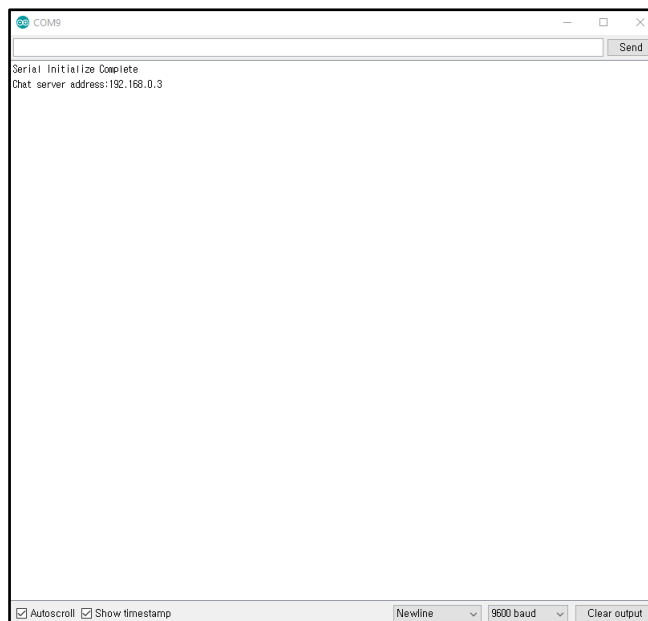

Firgure 4-7 Run Serial Monitor

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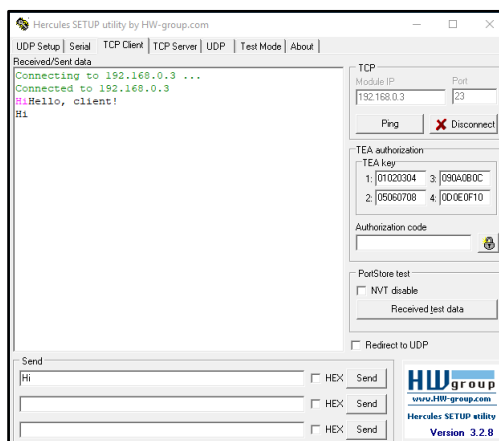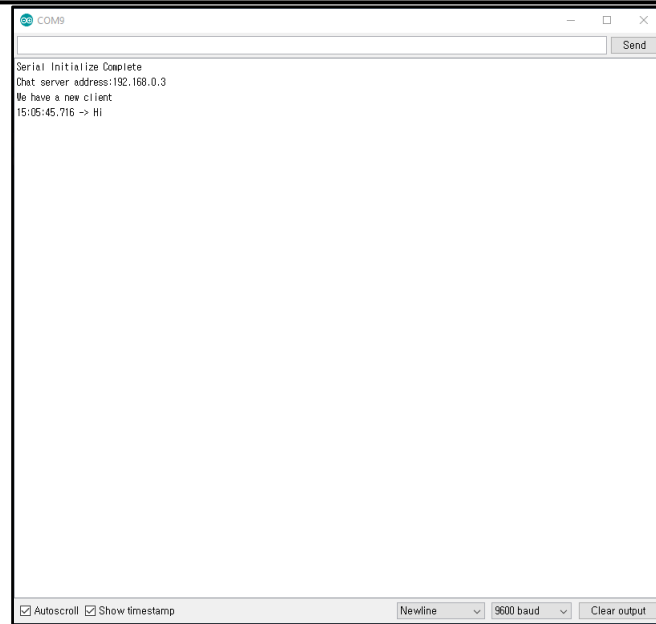
Firgure 4-8 Serial Monitor

Firgure 4-9 TCP Client mode Hercules

Firgure 4-10 String from Client

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