

Manual

Introduction

We will try and create a lamp turning on and off based on your Steam status. When you're online it will turn green, when you're away it will turn orange and when you're offline it will turn red.

#1 Connecting to the internet

Eventually we want to connect our ESP to the Steam Web API. To make a connection, we of course need to have access to the internet.

We want to include the following libraries in our document to make the connection:

```
#include <ESP8266WiFi.h>
#include <WiFiClientSecure.h>
```

We will also create two variables for our WiFi SSID and password.

```
// Initialize Wifi connection to the router
char ssid[] = "YourNetworkSSID"; // your network SSID (name)
char password[] = "YourNetworkKey"; // your network key
```

Now we want to add some code to the setup to make a WiFi connection and to check if we have succeeded. Go to your void setup and add the following:

```
void setup() {
  Serial.begin(115200);

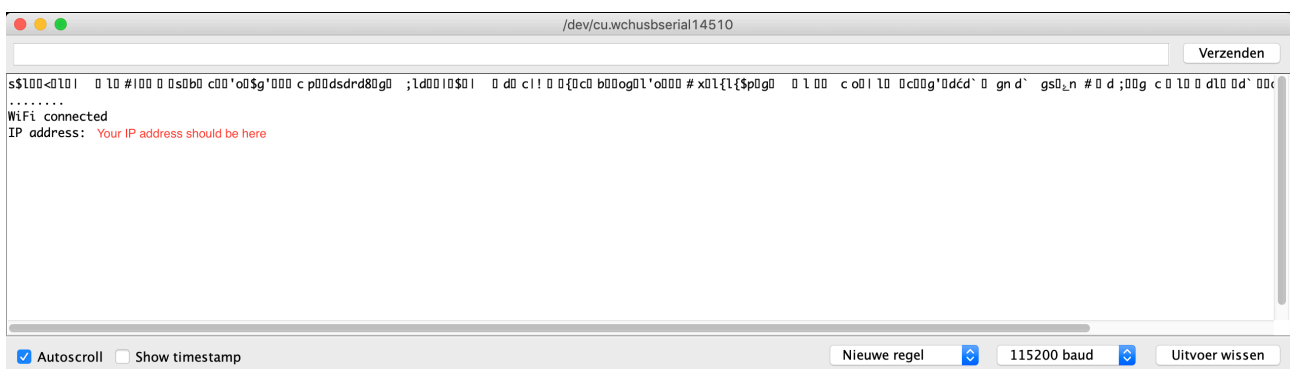
  // attempt to connect to Wifi network:
  Serial.print("Connecting Wifi: ");
  Serial.println(ssid);
  WiFi.begin(ssid, password);

  while (WiFi.status() != WL_CONNECTED) {
    Serial.print(".");
    delay(500);
  }

  Serial.println("");
  Serial.println("WiFi connected");
  Serial.print("IP address: ");
  Serial.println(WiFi.localIP());
}
```

Checkpoint:

If everything went well you will find your IP address and a line saying "WiFi connected" in your serial monitor



#2 Getting a Steam Web API key

To be able to work with the Steam Web API we need to get a key from Steam.

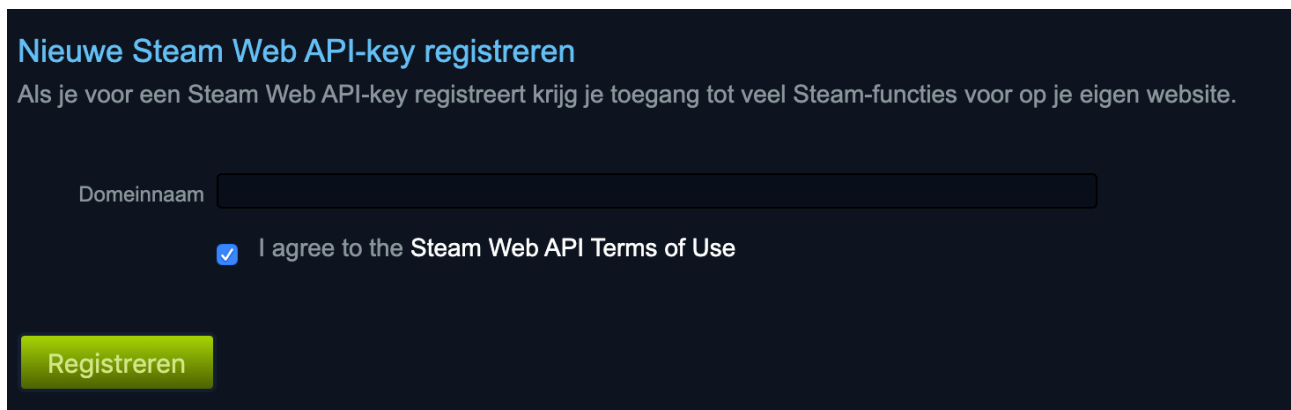
Go to this link: <https://steamcommunity.com/login/home/?goto=%2Fdev%2Fapikey>

Login or create an account, since you are at this tutorial you probably already have an account.



The image shows the Steam login and registration interface. On the left, under 'Inloggen' (Login), there is a form for logging in with a Steam username and password. Below the password field is a checkbox for 'Onthoud mij op deze computer' (Remember me on this computer). A green 'Inloggen' button is at the bottom of the login section. Below the button is a link 'Wachtwoord vergeten?' (Forgot password?). On the right, under 'Maak' (Create), there is a section for creating a new free account. It includes a paragraph explaining that joining the community and becoming a member is free, and that downloading Steam is the recommended way to play PC, Mac, and Linux games. A blue button 'Lid worden van Steam' (Join Steam) is at the bottom of the registration section.

Accept the terms of use and add one of your web domains (I think you could even fill in a random name)



The image shows the 'Nieuwe Steam Web API-key registreren' (Register new Steam Web API key) page. It has a dark background. At the top, the title is in blue. Below it, a line of text explains that registering for a Steam Web API key gives access to many Steam functions for your own website. There is a text input field for 'Domeinnaam' (Domain name). Below the field is a checkbox with a blue checkmark and the text 'I agree to the Steam Web API Terms of Use'. At the bottom left, there is a green 'Registreren' button.

Checkpoint:

Right now you should have gotten your API-key. If you want to learn more about the Steam Web API you can check it here: https://developer.valvesoftware.com/wiki/Steam_Web_API



The image shows the page displaying the newly generated Steam Web API key. The title 'Je Steam Web API-key' is in blue. Below it, the key is shown as 'Key: 4BB1' followed by a redacted white box. Below the key, the domain name is shown as 'Domeinnaam: http://u451' followed by a redacted white box and '.nl/'. At the bottom, there is a button 'Mijn Steam Web API-key intrekken' (Revoke my Steam Web API key).

Add your key within this link on all the X's: <http://api.steampowered.com/ISteamUser/GetFriendList/v0001/?key=XXXXXXXXXXXXXXXXXXXXXXXXXXXX&steamid=76561197960435530&relationship=friend>. You should be getting a page with friend information of a certain someone, this means your key works. It should look something like this:

```
{
- friendslist: {
  - friends: [
    - {
      steamid: "76561197960265731",
      relationship: "friend",
      friend_since: 0
    },
    - {
      steamid: "76561197960265738",
      relationship: "friend",
      friend_since: 0
    },
    - {
      steamid: "76561197960265740",
      relationship: "friend",
      friend_since: 0
    },
    - {
      steamid: "76561197960265747",
      relationship: "friend",
      friend_since: 0
    },
    - {
      steamid: "76561197960265749",
      relationship: "friend",
      friend_since: 0
    },
    - {
      steamid: "76561197960268093",
      relationship: "friend",
      friend_since: 1251433222
    },
    - {
      steamid: "76561197960269040",
      relationship: "friend",
      friend_since: 1436934825
    },
    - {
      steamid: "76561197960270258",
      relationship: "friend",
      friend_since: 0
    },
    - {
      steamid: "76561197960270457",
      relationship: "friend",
      friend_since: 1257142334
    },
  ],
}
```

friendslist


#3 Connecting to the Steam Web API

Since we have a working key we can get back to coding. We will be including a new library into the code, the ESP8266HttpClient and the ArduinoJson library V5.13.5. This will help us make simple HTTP requests.

```
// Libraries
#include <ESP8266WiFi.h>
#include <WiFiClientSecure.h>
#include <ESP8266HttpClient.h>
#include <ArduinoJson.h>
```

If you want to use the latest version of ArduinoJson library, you need to upgrade it to version 6. You can follow the guide from here: <https://arduinojson.org/v6/doc/upgrade/>. I would recommend the V5.13.5 because the most tutorials still abide this version.

Now we will add three new variable strings. One variable will be the endstring, another the key and the last one will be your Steam ID. If you don't know your Steam ID you can find it by editing your profile, you can even edit it if you want.



Fr3aky » Profiel bewerken

Profielnaam

Fr3aky

Echte naam (?)

Uzumaki Naruto

Land (?)

(Niet weergegeven)

WIJZIGEN

Mijn profiel

Mijn privacyinstellingen

Aangepaste URL

<http://steamcommunity.com/id/Fr3akyBeakyLike>

The variables will be added on top again like this:

```
// Libraries
#include <ESP8266WiFi.h>
#include <WiFiClientSecure.h>
#include <ESP8266HTTPClient.h>
#include <ArduinoJson.h>

const String endpoint = "http://api.steampowered.com/ISteamUser/GetPlayerSummaries/v0002/?key="; // Link to your API
const String key = "-----"; // Add your Steam Web API key here
const String steamID = "&steamids=Fr3akyBeakyLike"; // Add your Steam ID here (can be found by editing your profile)
```

In the void loop we will be adding the following:

```
void loop() {

    String url = endpoint + key + steamID;

    if (WiFi.status() == WL_CONNECTED)
    {
        HTTPClient http; //Object of class HTTPClient
        http.begin(url);
        int httpCode = http.GET();

        if (httpCode > 0)
        {
            const size_t bufferSize = JSON_ARRAY_SIZE(1) + 2*JSON_OBJECT_SIZE(1) + JSON_OBJECT_SIZE(17) + 735;
            DynamicJsonBuffer jsonBuffer(bufferSize);
            JsonObject& root = jsonBuffer.parseObject(http.getString());

            int id = root["id"];
            const char* personastate = root["response"]["players"]["personastate"]; // Your status (1-online, offline or busy)
            const char* steamid = root["response"]["players"]["steamid"]; // Your steam id
            const char* personaname = root["response"]["players"]["personaname"]; // Your steam username

            Serial.print("Status:");
            Serial.println(personastate);
            Serial.print("SteamID:");
            Serial.println(steamid);
            Serial.print("SteamName:");
            Serial.println(personaname);
        }
        http.end(); //Close connection
    }
    delay(60000);
}
```

I'm not able to get the Steam Web API connected and get the personastate. I will still tell you what I've tried further on. Maybe you will finish it and let me know how to do it.

I have created the bufferSize using this website: <https://arduinojson.org/v5/assistant/> and following this tutorial: <https://randomnerdtutorials.com/decoding-and-encoding-json-with-arduino-or-esp8266/>.

The root is also edited by checking the last tutorial, the example code is using ethernet instead of internet. Ethernet is used by connecting two LAN computer systems. I ended with the error 'server' was not declared in the scope.

```
'server' was not declared in this scope
/Users/mikevandenhoek/Documents/Arduino/testingAPI/testingAPI.ino: In function 'void loop()':
testingAPI:54:14: error: 'server' was not declared in this scope
  if(connect(server)) {
               ^
A
testingAPI:55:28: error: 'resource' was not declared in this scope
  if(sendRequest(server, resource) && skipResponseHeaders()) {
                       ^
A
/Users/mikevandenhoek/Documents/Arduino/testingAPI/testingAPI.ino: In function 'bool readReponseContent(clientData*)':
testingAPI:173:3: error: expected ')' before 'return'
  return true;
  ^
A
Meerdere bibliotheken gevonden voor "Ethernet.h"
Gebruikt: /Users/mikevandenhoek/Library/Arduino15/packages/esp8266/hardware/esp8266/2.5.2/libraries/Ethernet
Niet gebruikt: /private/var/folders/55/168rtvd56v96wxr5q6pqnth0000gn/T/AppTranslocation/7682CFFF-8522-4900-A3C0-C9F4CB01C00F/d/Arduino.app/Contents/Java/libraries/Ethernet
Meerdere bibliotheken gevonden voor "SPI.h"
Gebruikt: /Users/mikevandenhoek/Library/Arduino15/packages/esp8266/hardware/esp8266/2.5.2/libraries/SPI
Meerdere bibliotheken gevonden voor "ArduinoJson.h"
Gebruikt: /Users/mikevandenhoek/Documents/Arduino/libraries/ArduinoJson
exit status 1
'server' was not declared in this scope
```