

Using the WiFi capabilities of the PICO W

We can set up the Pico W as a server then use it to:

Collect data from sensors attached to it and display on our browser

Send instructions from our browser to control sensor, motors attached to it

This lesson is an introduction on how we can:

1. Setup the Pico as a server using the network, socket library
2. How to get the IP address of the Pico and use our browser to connect to it
3. How to get the Pico's MAC address.

I ask ChatGPT to create a html page for me.



You

give me a simple index.html page with links to google search, and picozero documentation



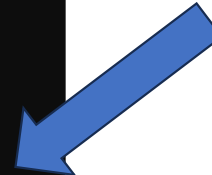
ChatGPT

Sure, here's a simple `index.html` page with links to Google Search and PicoZero documentation:

```
html
Copy code

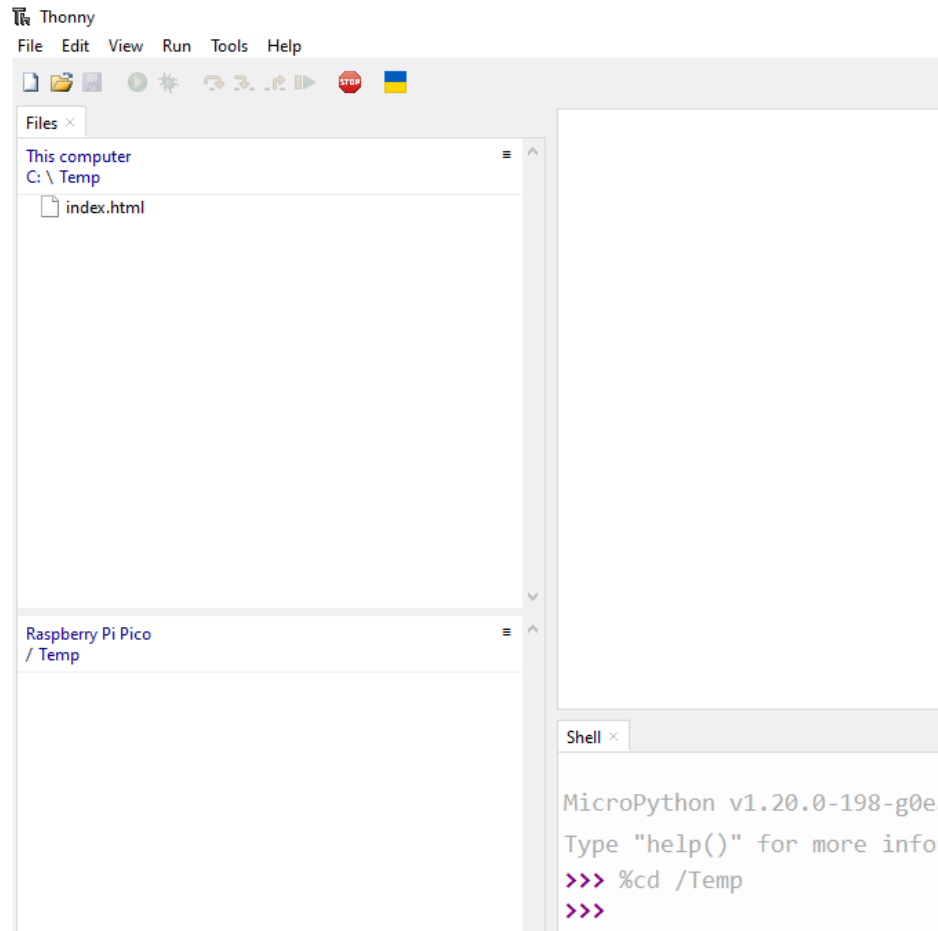
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Simple Links</title>
</head>
<body>
  <h1>Simple Links</h1>
  <ul>
    <li><a href="https://www.google.com">Google Search</a></li>
    <li><a href="https://picamera.readthedocs.io/en/latest/quickstart.html">PicoZ
  </ul>
</body>
</html>
```

Then I copy and paste these codes to my notepad and save it as index.html

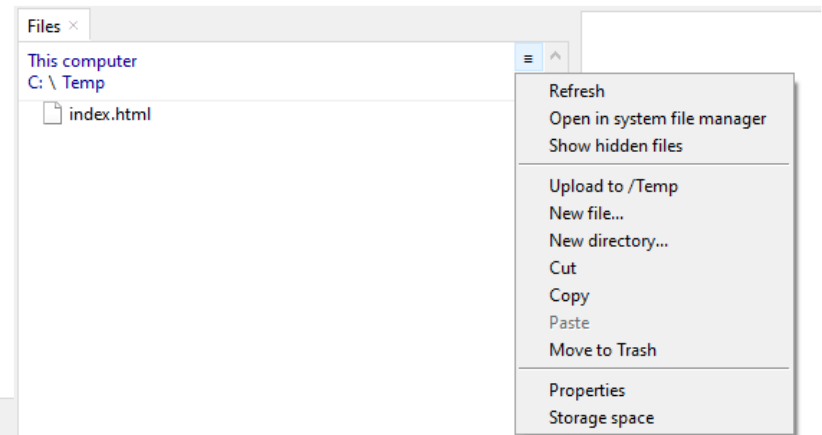


This code creates a basic HTML document with two hyperlinks, one leading to Google Search and the other to PicoZero documentation.

1. Create a temp folder in your C Drive and save the index.html page into it
2. Open Thonny with your Pico attached and create a Temp Directory for the Pico



3. Select index.html and Use the hamburger icon and Upload index.html to the Pico's /Temp Directory



Start a new page in Thonny

Navigate to the Temp Directory where index.html is

Copy and paste wifi_lesson_1.py to it

Change to ssid and pwd to the one in your home.

Connect an LED to pin 14. This will light up when wifi connection is obtained by the Pico

Run the program and you will see this on your Thonny Shell.

```
Shell x
>>> %Run -c $EDITOR_CONTENT

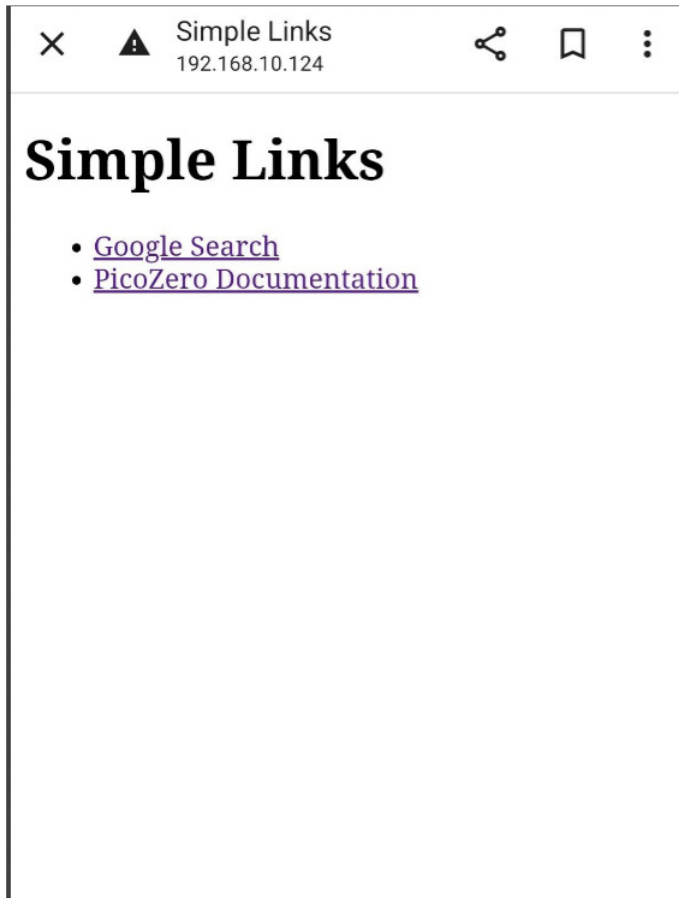
connecting to wifi...
3 wlan status 3 means connected
No.1 - Connected to the network which is a tuple of 4 addresses: ('192.168.10.124', '255.255.255.0', '192.168.10.1', '192.168.10.1')
No 2 - IP Address assigned to your Pico 192.168.10.124
No. 3 - The Mac Address assigned to your PICO e4:5f:01:f5:93:5e
listening on ('0.0.0.0', 80)
```

This ip address will not be the same as this one.

Once you get this ip address, go to your phone or another computer

Start up the browser and type in this ip address

The Pico server will serve you index.html (see next slide)



Once you see this you have successfully set up the pico as a server.

In subsequent lesson, I will explain what Each line of wifi_lesson_1.py means.

Following which, if there are sufficient participants interested to pursue this further, I will show you:

1. How to obtain data from sensors connected to the pico server
2. How to send commands to the pico server to control devices connected to it.