Here's a **MicroPython script** for your **ESP32** that creates a web server and serves local HTML pages. I'll also guide you on how to deploy everything using **Thonny**.

**1. MicroPython Web Server Code (main.py)**

Save this file as main.py on your ESP32.

import network

import socket

import os

# Wi-Fi credentials

SSID = "YOUR\_WIFI\_SSID"

PASSWORD = "YOUR\_WIFI\_PASSWORD"

# Connect to Wi-Fi

wlan = network.WLAN(network.STA\_IF)

wlan.active(True)

wlan.connect(SSID, PASSWORD)

while not wlan.isconnected():

pass

print("Connected to Wi-Fi:", wlan.ifconfig())

# Read the HTML file

def read\_html(filename):

try:

with open(filename, "r") as file:

return file.read()

except:

return "<h1>404 - Page Not Found</h1>"

# Web server function

def web\_server():

addr = ("", 80)

s = socket.socket(socket.AF\_INET, socket.SOCK\_STREAM)

s.bind(addr)

s.listen(5)

print("Web server running...")

while True:

conn, addr = s.accept()

print("Connection from:", addr)

request = conn.recv(1024).decode()

print("Request:", request)

# Parse the requested file

first\_line = request.split("\n")[0]

parts = first\_line.split(" ")

if len(parts) > 1:

path = parts[1]

else:

path = "/"

if path == "/":

response = read\_html("index.html")

elif path == "/about":

response = read\_html("about.html")

else:

response = "<h1>404 - Not Found</h1>"

# Send response

conn.send("HTTP/1.1 200 OK\nContent-Type: text/html\n\n")

conn.send(response)

conn.close()

# Start the server

web\_server()

**2. Create HTML Files**

Save these HTML files on your ESP32.

**index.html**

<!DOCTYPE html>

<html>

<head>

<title>ESP32 Web Server</title>

</head>

<body>

<h1>Welcome to ESP32 Web Server</h1>

<p>This is the homepage.</p>

<a href="/about">About Page</a>

</body>

</html>

**about.html**

<!DOCTYPE html>

<html>

<head>

<title>About</title>

</head>

<body>

<h1>About This Server</h1>

<p>This is a simple ESP32 web server serving HTML files.</p>

<a href="/">Back to Home</a>

</body>

</html>

**3. How to Deploy Using Thonny**

**Step 1: Install MicroPython on ESP32**

1. Open **Thonny**.
2. Connect your **ESP32** via USB.
3. Go to **Tools > Options > Interpreter**.
4. Select **MicroPython (ESP32)** and choose the correct port.
5. If MicroPython is not installed, click **Install or Update Firmware**.

**Step 2: Upload Files**

1. Open Thonny.
2. Click **View > Files** to see the file manager.
3. Right-click in the **"Device"** section and select **"Upload"**.
4. Upload index.html and about.html.
5. Upload main.py.

**Step 3: Run the Web Server**

1. Open main.py in Thonny.
2. Click **Run (▶)**.
3. The ESP32 will connect to Wi-Fi.
4. The IP address of the ESP32 will be printed in the **Shell**.
5. Open a browser and go to **http://ESP32\_IP\_ADDRESS/**.

Now, your ESP32 is hosting a web server that serves local HTML files! Let me know if you need any changes or more features. 🚀