**Project Documentation: ESP8266 MAC Address Display**

**Overview**

This project involves using an ESP8266 microcontroller to send its MAC address over WebSocket connections. A web page is used to display the received MAC addresses in real-time.

**Components**

1. **ESP8266 Microcontroller**: Sends the MAC address via WebSocket.
2. **Web Page**: Displays the received MAC addresses.
3. **Python HTTP Server**: Hosts the web page on a local static IP.

**Web Page Code**

**File Name**: WEBPAGE.html

**<!DOCTYPE html>**

**<html>**

**<head>**

**<title>ESP8266 MAC Addresses</title>**

**<script>**

**var websocketServers = ["ws://192.168.1.29:81/", "ws://192.168.1.30:81/"];**

**var webSockets = [];**

**websocketServers.forEach(function(serverUrl) {**

**var websocket = new WebSocket(serverUrl);**

**webSockets.push(websocket);**

**websocket.onmessage = function(event) {**

**var macAddresses = document.getElementById("macAddresses");**

**var newMAC = document.createElement("li");**

**newMAC.textContent = event.data;**

**macAddresses.appendChild(newMAC);**

**};**

**});**

**</script>**

**</head>**

**<body>**

**<h1>Connected ESP8266 Devices</h1>**

**<ul id="macAddresses"></ul>**

**</body>**

**</html>**

**ESP8266 Code**

**File**: espsketch.ino

**#include <ESP8266WiFi.h>**

**#include <WebSocketsServer.h>**

**const char\* ssid = "Airtel\_harm\_7181";**

**const char\* password = "air29929";**

**WebSocketsServer webSocket = WebSocketsServer(81);**

**void setup() {**

**Serial.begin(115200);**

**WiFi.disconnect();**

**delay(1000);**

**WiFi.begin(ssid, password);**

**while (WiFi.status() != WL\_CONNECTED) {**

**delay(1000);**

**Serial.println("Connecting to WiFi...");**

**}**

**Serial.println("Connected to WiFi");**

**Serial.println(WiFi.localIP());**

**webSocket.begin();**

**webSocket.onEvent(webSocketEvent);**

**}**

**void loop() {**

**webSocket.loop();**

**}**

**void webSocketEvent(uint8\_t num, WStype\_t type, uint8\_t \* payload, size\_t length) {**

**if (type == WStype\_CONNECTED) {**

**Serial.println("WebSocket connected");**

**String macAddress = WiFi.macAddress();**

**webSocket.sendTXT(num, macAddress);**

**}**

**}**

**Running the Project**

1. **Upload the ESP8266 Code**: Use the Arduino IDE to upload the ESP8266 code to your microcontroller.
2. **Start the HTTP Server**: On your computer, navigate to the directory containing index.html and start the HTTP server with the following command:

**python -m http.server 8000**

This will serve your web page on <http://192.168.1.16:8000>  
you hhave to change according to your pc ip address.

1. **Access the Web Page**: Open a web browser and navigate to http://<your\_computer\_ip>:8000 to view the list of connected ESP8266 devices and their MAC addresses.
2. **Flow for the same**: Open command prompt; navigate to directory where html file is located; run the following command; python -m http.server 8000; locate the ip address of your pc using ipconfig command; for example my ip is 192.168.1.16, then the static ip for website is http://192.168.1.16:8000/

**GITHUB  
https://github.com/anmolprokyor/esp\_mac\_webpage.git**