Node MCU ESP 8266 ARDUINO CODE

#include <ESP8266WiFi.h>

#include <ESP8266HTTPClient.h>

// Replace with WiFi credentials

const char \*ssid = "SSID";

const char \*password = "PASSWORD";

// Replace with your server details

const char \*serverUrl = "http://your server.com";

void setup() {

Serial.begin(9600);

delay(10);

// Connect to WiFi

WiFi.begin(ssid, password);

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

delay(1000);

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

}

Serial.println("Connected to WiFi");

}

void loop() {

// Check if data is available on the serial port

if (Serial.available() > 0) {

// Read the data until a newline character is encountered

String data = Serial.readStringUntil('\n');

// Remove leading and trailing whitespaces

data.trim();

// Send data to the server

sendToServer(data);

}

// Add other code or delays here if needed

}

void sendToServer(String data) {

if (WiFi.status() == WL\_CONNECTED) {

HTTPClient http;

// Construct the full URL with data

String url = serverUrl + data;

// Begin HTTP request

http.begin(url);

// Send the request and get the response

int httpCode = http.GET();

// Check for a successful request

if (httpCode > 0) {

Serial.printf("HTTP Code: %d\n", httpCode);

String payload = http.getString();

Serial.println(payload);

} else {

Serial.printf("HTTP Error: %s\n", http.errorToString(httpCode).c\_str());

}

// End the request

http.end();

}

}

Node MCU esp 8266 python code

import machine

import urequests

import time

# Replace these values with your actual Wi-Fi credentials and server URL

WIFI\_SSID = "your\_wifi\_ssid"

WIFI\_PASSWORD = "your\_wifi\_password"

SERVER\_URL = "http://your\_server\_url"

# Set up Wi-Fi connection

def connect\_to\_wifi():

import network

sta\_if = network.WLAN(network.STA\_IF)

if not sta\_if.isconnected():

print("Connecting to Wi-Fi...")

sta\_if.active(True)

sta\_if.connect(WIFI\_SSID, WIFI\_PASSWORD)

while not sta\_if.isconnected():

pass

print("Wi-Fi connected")

# Read data from serial and send it to the server

def read\_serial\_and\_send():

uart = machine.UART(0, baudrate=9600, tx=2, rx=3) # Configure UART with appropriate pins and baudrate

data = ""

while True:

if uart.any():

char = uart.read(1).decode("utf-8")

if char == '\n':

if data.strip(): # Check if the data is not empty

print("Data received:", data)

send\_data\_to\_server(data)

data = ""

else:

data += char

time.sleep(0.1)

# Send data to the server using HTTP POST request

def send\_data\_to\_server(data):

headers = {'Content-Type': 'application/json'}

payload = {'data': data} # Adjust the payload structure as needed

try:

response = urequests.post(SERVER\_URL, json=payload, headers=headers)

print("Server response:", response.text)

response.close()

except Exception as e:

print("Error:", str(e))

# Main program

connect\_to\_wifi()

read\_serial\_and\_send()